



**Air Quality Action Plan:**  
South Gosforth, Newcastle  
City Council

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May 2011



Experts in air quality  
management & assessment

## Document Control

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## Executive Summary

Part IV of the Environment Act, 1995, places a statutory duty on local authorities to periodically Review and Assess the air quality within their area. For each health-based air quality objective, local authorities have to consider whether the objective is likely to be achieved. Where it appears likely that the air quality objectives are not being met, local authorities 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, and develop an Air Quality Action Plan (AQAP) which sets out the local measures to be implemented in pursuit of the air quality objectives.

An AQMA for nitrogen dioxide was declared for the Gosforth Area of Newcastle in April 2008. This report constitutes the Air Quality Action Plan (AQAP) for the South Gosforth AQMA which incorporates the Blue House Roundabout, Hadricks Mill Roundabout and Gosforth High Street, which is within Newcastle City Council. It describes the processes that are in place, and sets out the measures that will be implemented, or investigated further, to deliver improvements to air quality within the AQMA. An evaluation of these measures has also been prepared. As far as possible, this document includes an analysis of the measures that will be implemented together with an initial indication of the improvements that might be expected and timescales for implementation. At this stage it has not been possible to undertake a full quantification of the measures proposed. Confirmation of timescales and funding for the measures has also been included, as far as is possible..

The Detailed Assessment undertaken in 2007 assessed concentrations of nitrogen dioxide by both monitoring and modelling. The results indicated that significant reductions in road NO<sub>x</sub> emissions would be required to achieve the annual mean objective for nitrogen dioxide. It also showed that in some locations, emissions from buses and Other Goods Vehicles make a significant contribution to the exceedences. Since the Detailed Assessment was completed, measured concentrations have declined, particularly around the Blue House Roundabout, Station Road and the Great North Road/ Church Road Junction. However, concentrations are still exceeding the objective, and concentrations along Gosforth High Street remain high.

A number of suggested actions have been included within this document under the headings of:-

- Traffic management;
- Lowering emissions;
- Promotion of alternatives;
- Planning; and
- Education and Information.

The suggested measures range from relatively straightforward actions, such as the promotion of existing sources of information that encourage behavioural change in relation to transport choice (such as the

BeAirAware campaign and branding etc), to major strategic options (such as changes to traffic management within the triangular AQMA, and implementation of UTMC across Tyne and Wear); many of these measures have been under discussion within other arenas. Once the Action Plan is implemented, progress will be determined through the ongoing monitoring strategy already in place, and reported through Review and Assessment Annual Progress Reports.

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# 1 Introduction and Aims of the Plan

## Introduction

- 1.1 Part IV of the Environment Act, 1995, places a statutory duty on local authorities to periodically Review and Assess air quality within their areas. The concept of Local Air Quality Management (LAQM) and the process of 'Review and Assessment' was established in the 1997 National Air Quality Strategy (NAQS)<sup>1</sup>. In 2000, the Government reviewed the NAQS and published the revised Air Quality Strategy for England, Scotland, Wales and Northern Ireland<sup>2</sup> (AQS). This established a revised framework for air quality objectives for seven pollutants, which were subsequently prescribed into legislation via the Air Quality Regulations 2000<sup>3</sup>. These were subsequently amended in 2002<sup>4</sup>. Since then, the UK Air Quality Strategy has been further reviewed<sup>5</sup>, but the objectives relevant for LAQM remain unchanged.
- 1.2 For each pollutant, local authorities have to consider whether the objective is likely to be achieved. Where it appears likely that an air quality objective is not being met, local authorities 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 and develop an Air Quality Action Plan (AQAP) that sets out the local measures to be implemented in pursuit of the air quality objectives.
- 1.3 Policy Guidance LAQM.PG(09)<sup>6</sup>, provides guidance on the development of Action Plans. Action Planning is viewed as the most important and significant aspect of the LAQM process, playing a key role in helping the UK 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 taking into account 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;

<sup>1</sup> DoE (1997) The United Kingdom Nation Air Quality Strategy The Stationery Office

<sup>2</sup> DETR (2000) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working together for Clean Air, The Stationery Office

<sup>3</sup> DETR (2000) The Air Quality Regulations 2000, The Stationery Office

<sup>4</sup> Defra (2002) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Addendum, The Stationery Office

<sup>5</sup> Defra (2007) Air Quality Strategy for England, Scotland, Wales and Northern Ireland. (Cmd paper No 7169). <http://www.defra.gov.uk/environment/airquality/strategy/index.htm>

<sup>6</sup> Defra (2009) Policy Guidance LAQM.PG(09). <http://www.defra.gov.uk/environment/airquality/local/guidance/pdf/lagm-policy-guidance-part4.pdf>

- clear timescales over 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.

1.4 The Policy Guidance makes clear that, 'the legal imperative to protect air quality should not be displaced with political imperatives if this means the local authority is not working towards compliance with the Air Quality Regulations (England) 2000, as amended'.

1.5 In December 2001, the Office of the Deputy Prime Minister (ODPM) 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 AQAP 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). Department for Transport (DfT) Guidance on LTP's<sup>7</sup> notes that the LTP could examine and report on options for addressing air quality problems and any risks that policies might have for achieving targets and meeting the EU limit value deadline for concentrations of nitrogen dioxide. Newcastle City Council (NCC) is responsible for the production of the AQAP. However, the air quality issues are predominantly traffic related, so measures within the Action Plan will need to be incorporated into the LTP, which is undertaken at a Tyne and Wear level. The next LTP (LTP3) will be in two Parts, with a Strategic Plan running from 2011 covering 2021 and an Implementation Plan which will follow every 3 years. There will be more flexibility in terms of timescales of future LTPs following the implementation of the Local Transport Act 2008.

1.6 Environmental Protection UK (EPUK, formerly NSCA) has also published two guidance documents entitled 'Air Quality Action Plans (2000)<sup>8</sup> and 'Air Quality: Planning for Action (2001)<sup>9</sup>. These guidance documents have also been taken into account in the development of this draft Action Plan.

### Status of this Report

1.7 This report constitutes the Air Quality Action Plan (AQAP) for The South Gosforth AQMA which incorporates the Blue House Roundabout, Hadricks Mill Roundabout and Gosforth High Street, which is within Newcastle City Council. It describes the processes that are in place, and sets out the measures that will be implemented, or investigated further, to deliver improvements to air quality within the area. An evaluation of these measures has also been prepared. As far as

<sup>7</sup>DfT Guidance on Local Transport Plans (July 2009)

<http://www.dft.gov.uk/pgr/regional/ltp/guidance/localtransportplans/>

<sup>8</sup><http://www.environmental-protection.org.uk/assets/library/documents/AQActionPlansInterim.pdf>

<sup>9</sup><http://www.environmental-protection.org.uk/assets/library/documents/AQActionPlansLAGuide.pdf>

possible, this document includes an analysis of the measures that will be implemented together with an initial indication of the improvements that might be expected and timescales for implementation. At this stage it has not been possible to undertake a full quantification of the measures proposed.

## 2 Overview of Air Quality and Transport in the Gosforth Area

### 2.1 Air Quality

- 2.1 Newcastle City Council completed an Updating and Screening Assessment in 2003, following which an AQMA was declared, based on measured exceedences of the annual mean nitrogen dioxide objective in the city centre.
- 2.2 Subsequently, a Detailed Assessment was completed in 2005 which concluded that AQMAs were also required in respect of the annual mean objective for nitrogen dioxide at the Quayside, A1058 Jesmond Road and the Blue House Roundabout/Great North Road junction. These additional AQMAs were declared in 2005.
- 2.3 A Detailed Assessment of air quality in the South Gosforth area of Newcastle was undertaken in 2007. It covered the Haddricks Mill Roundabout, including the junction of the Great North Road (B1318) and the A189, and Gosforth High Street, all of which had been identified as having measured exceedences of the nitrogen dioxide annual mean objective in 2006. Monitoring and modelling showed exceedences along Station Road (the 'canyon' like stretch to the west of the Haddricks Mill Roundabout), at the junction of Church Road and Great North Road, and marginal exceedences along Gosforth High Street, particularly at junctions, for example with Elmfield Road. In addition, the modelling (and monitoring) has confirmed exceedences at the Blue House Roundabout which has previously been declared an AQMA. An AQMA was subsequently declared in April 2008, joining up all of these areas of exceedence with the Blue House Roundabout AQMA (see Figure 1).
- 2.4 At the same time, the city centre AQMAs were amalgamated into one AQMA covering the City Centre, Quayside and Jesmond Road.
- 2.5 Source apportionment of the local road traffic emissions was undertaken within the Detailed Assessment in order to inform this Action Plan. This assessment was undertaken at six locations which were shown to be exceeding the annual mean objective (see Figures 2 and 3). This assessment identified a significant and disproportionate contribution to NO<sub>x</sub> emissions from HDVs, and in particular buses. The contribution of bus emissions is particularly high along Gosforth High Street. This highlights the importance of keeping all sources under consideration when contemplating measures to include within the Action Plan.

Boundaries of the Gosforth AQMA.  
Air Quality Management Area AQMA No5: 200804

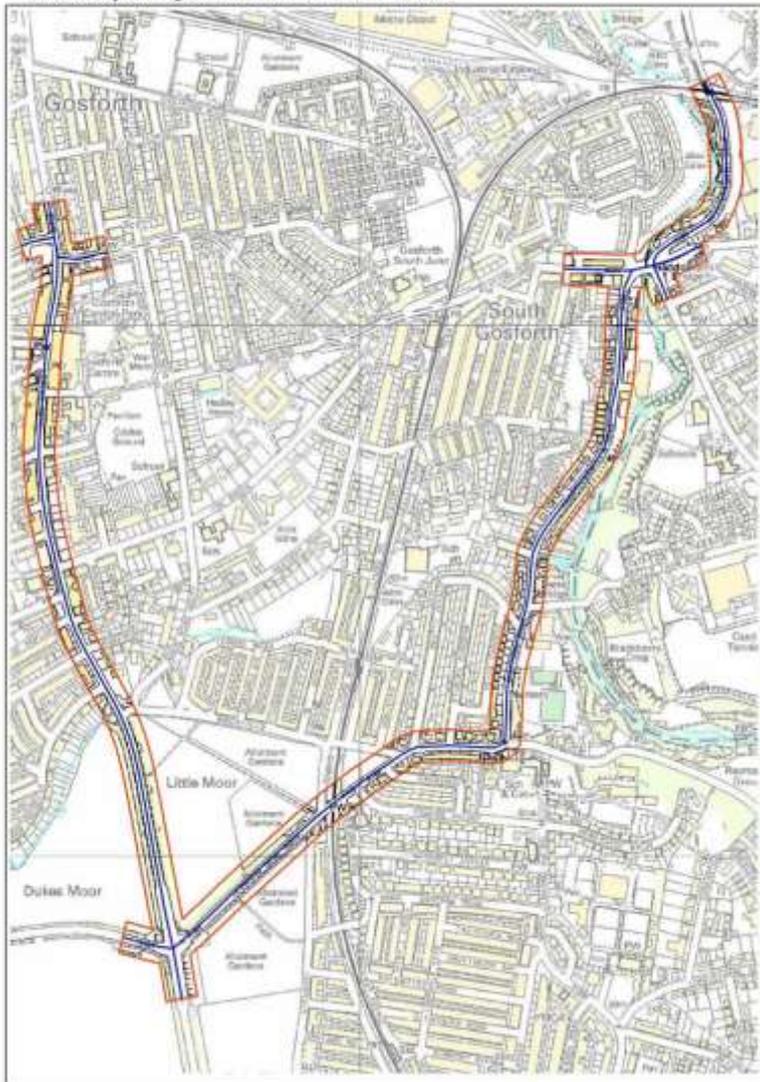


Figure 1: Gosforth AQMA

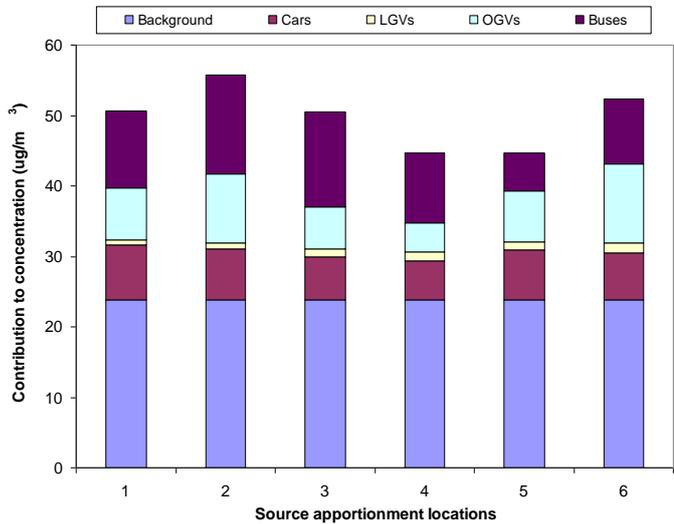


Figure 2: Source Apportionment at 6 Locations in the Study Area (2006)

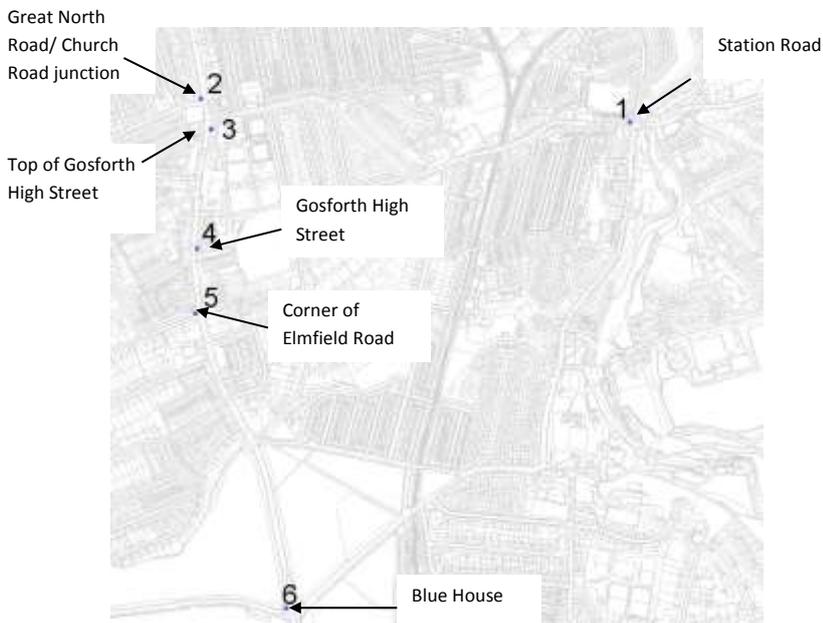


Figure 3: Source Apportionment Locations. © Crown Copyright. All rights reserved. Newcastle City Council, 1000195969, 2006

2.6 Improvements in road traffic emissions required to achieve the objectives have also been calculated at four worse-case locations (see Table 1). At the receptor with the greatest predicted nitrogen dioxide concentration (junction of Church Road and Great North Road), an improvement of 52.4% of road related emissions would be required to achieve the objective.

**Table 1: Reductions in Emissions Required to Achieve the Objectives**

	Highest NO <sub>2</sub> concentration at relevant receptor (2006)	Improvement in NO <sub>2</sub> required to achieve the objective	Estimated background (from netcen maps)	Road contribution to NO <sub>2</sub>	Equivalent NOx contribution from roads	NOx contribution from roads to achieve the NO <sub>2</sub> objective	% reduction of road NOx required to achieve the objective
Blue House Roundabout	50.1 µg/m <sup>3</sup>	10.1 µg/m <sup>3</sup>	23.8 µg/m <sup>3</sup>	26.3 µg/m <sup>3</sup>	96.1 µg/m <sup>3</sup>	53.7 µg/m <sup>3</sup>	44.1%
Station Road	49.4 µg/m <sup>3</sup>	9.4 µg/m <sup>3</sup>	23.8 µg/m <sup>3</sup>	25.6 µg/m <sup>3</sup>	93 µg/m <sup>3</sup>	53.7 µg/m <sup>3</sup>	42.3%
Great North Rd/ Church Rd junction	53.7 µg/m <sup>3</sup>	13.7 µg/m <sup>3</sup>	23.8 µg/m <sup>3</sup>	29.9 µg/m <sup>3</sup>	112.8 µg/m <sup>3</sup>	53.7 µg/m <sup>3</sup>	52.4%
Gosforth High Street	51.8 µg/m <sup>3</sup>	11.8 µg/m <sup>3</sup>	23.8 µg/m <sup>3</sup>	28 µg/m <sup>3</sup>	103.9 µg/m <sup>3</sup>	53.7 µg/m <sup>3</sup>	48.3%

2.7 Since the Detailed Assessment was completed, monitoring has shown that levels have reduced significantly at all locations (see Table 2).

**Table 2: Monitoring data since Detailed Assessment was undertaken**

	2006	2007	2008	2009	2010
Blue House Roundabout	50.1 µg/m <sup>3</sup>			41.5 µg/m <sup>3</sup>	41 µg/m <sup>3</sup>
Station Road	49.4 µg/m <sup>3</sup>			43.3 µg/m <sup>3</sup>	41.2 µg/m <sup>3</sup>
Great North Rd/ Church Rd junction	53.7 µg/m <sup>3</sup>			40 µg/m <sup>3</sup>	38.6 µg/m <sup>3</sup>
Gosforth High Street	51.8 µg/m <sup>3</sup>			47.7 µg/m <sup>3</sup>	45 µg/m <sup>3</sup>

Commented [CB1]: Ed- should we also include 2007 and 2008?

## 2.2 Transport

- 2.8 The Gosforth area has been the subject of a number of transport strategy documents. The central Gosforth Transport Strategy Summary Report (January 2007)<sup>10</sup> provides a summary of a number of technical reports in order to identify improvements required in the central Gosforth area to reduce the impact of through and development-generated traffic, and to improve accessibility for all modes of travel. A widespread consultation exercise was undertaken in November 2005, with a second consultation being undertaken in September 2006, to report back the initial findings of the study and capture the public's views of the best way forward. The results of this second stage consultation showed that the need to investigate ways to reduce traffic levels across Gosforth as a whole ranked as the most important issue to the public. Various other local issues were also highlighted by residents.
- 2.9 It was proposed that the next stage of the study should investigate a revised area-wide parking strategy for Gosforth to include resident parking, commuter parking and maximising the use of existing off street parking. This was to tie in with an area-wide review of residential parking across the city. The report concluded that central Gosforth should be treated as a priority, due to the development pressures in the area.
- 2.10 The study also identified the importance of Gosforth as a local employment centre. There were also a significant number of comments relating to the need for improved public transport in the area. It was proposed that the next stage of the study should consider an integrated transport strategy for the area, focussing on public transport accessibility for the existing and proposed major developments.
- 2.11 The Gosforth High Street & Haddricks Mill Environmental, Transit and Road Safety Enhancement Scheme (Baseline Report) was published in October 2009<sup>11</sup>. This identified some key barriers to the safe and efficient movement of buses, pedestrians and cyclists in and around the Gosforth area. It highlighted that congestion around the Gosforth network is significantly worse at the junctions that connect the three key routes. These are to be reviewed as part of the options report. In addition, a number of other junctions are highlighted as being congested which impacts the overall network performance by creating bottlenecks along the corridors. It is concluded that the Gosforth network requires consideration at a strategic level and the operation of the traffic signals should be assisted by a central control system which would provide the necessary network management tools.

<sup>10</sup>WSP (January 2007) Central Gosforth Transport Study Summary Report.

<sup>11</sup>WSP (October 2009) Gosforth High Street & Haddricks Mill Environmental, Transit and Road Safety Enhancement Scheme, Baseline report. DRAFT

- 2.12 The Options Development<sup>12</sup> report sets out a short-list of options, which were then assessed by integration into the Paramics micro-simulation model. It is concluded that the operation of the traffic signals within the Gosforth network would be greatly assisted by a central control system which would provide the necessary network management mechanisms (eg UTMC). Junction designs were modelled and this highlighted the benefits that traffic control systems such as MOVA would bring to particular junctions. Costs of implementation were also included in the report.
- 2.13 Based on this work, a major scheme funding bid was drawn up in 2009 specifically related to “Bus Corridor improvements within Tyne and Wear”. The funding bid focused on an area of Gosforth that sees a large proportion of traffic moving through it daily. The issues are with the Blue House roundabout, Haddricks Mill roundabouts and the Church Road/Salters Road junction with Gosforth High Street. The number of private vehicles using these junctions and connecting roads continues to rise, which is impacting negatively on journey times and delays.
- 2.14 The following measures have been proposed at each junction:
- 2.15 **Blue House roundabout:** slightly change the alignment of the road on three approaches and add traffic signals at the junction. This will allow for priorities to be shared according to demand at particular times. It will also allow better control of the traffic flow to surrounding roads and make road safety improvements for all users including drivers, pedestrians and cyclists.
- 2.16 **Haddricks Mill roundabouts:** change to the alignment of the road that will affect the eastern side (Benton Park Road and Killingworth Road approach) more than the western side. Given the proximity to houses and shops (Station Road and Haddricks Mill Road approach) there are limits to the changes that can be made at the western end. By moving the eastern of the two roundabouts, enlarging it and adding traffic signals to the approaches, more traffic will be able to move around it at any time. By adding traffic signals to the western approach it can be ensured that access to the roundabout is shared according to demand, rather than as it currently acts.
- 2.17 **Church Road – Salters Road junction with the High Street:** the junction would be simplified making it a more traditional crossroads. This would allow a full set of traffic lights to be eliminated so traffic can move through this junction at a more consistent and reliable rate. Pedestrian access will also be significantly improved by this change.
- 2.18 **Gosforth High Street.** Along the High Street the intention is to make the road more smooth running, as well as improve conditions for pedestrians and cyclists. The road will be reconfigured from the existing one or two lanes in each direction, to a consistent one lane of traffic in each direction. In the central focal area of the High Street outside Trinity Church and the shopping centre, the road will be narrowed to allow for easier pedestrian crossing. At both ends of this focal point, loading bays and short term parking bays will be created on street. Bus and cycle lanes with

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<sup>12</sup>WSP (October 2009) Gosforth High Street and Haddricks Mill Environmental, Transit and Road Safety Enhancement Scheme.Options Development Report.DRAFT.

bus priority at traffic lights will be put in place in the run up to these one lane areas. This will connect the current bus lanes north of the High Street with the bus lanes to the south, further improving public transport reliability and speed.

### 2.3 New developments

- 2.19 **Newcastle Great Park** is located three miles North West of Newcastle City Centre, close to the A1 road. It is a major development with land allocated for a Business Park, Housing, Town Centre, school, nursery, community facilities, open space and play areas. The scheme is being delivered by the Great Park Consortium, which includes the house builders Persimmon Homes, Taylor Wimpey and Charles Church. Parts of the development have also been built by Barratt. The early phases of the housing development, known as Melbury and Warkworth Woods are almost complete. These properties are on the East side of the A1. The largest phase of the housing development is being built on the West side of the A1 road, along with the town centre. Around 2500 homes are proposed. There is potential for this series of developments to add extra traffic on the road network in Gosforth.
- 2.20 There is also a plan to build 330 executive style houses on the **White House Farm site**, West Allotment within North Tyneside Council. The site will directly connect with the A189 which feeds onto the A188 –Killingworth Road. The development brief for the site indicates that the site should not be considered as a traditional housing development and that there will be greater level of car ownership and use.

## 3 Existing Policies and Strategies relevant to air quality

### 3.1 Local Transport Plan

3.1 The next LTP (LTP3) will be in two Parts, with a Strategic Plan running from 2011 to 2021 and an Implementation Plan which will follow every 3 years. The Strategic document sets out the vision for Tyne and Wear as follows:

*"Tyne and Wear will have a fully integrated and sustainable transport network, allowing everyone the opportunity to achieve their full potential and have a high quality of life. Our strategic networks will support the efficient movement of people and goods within and beyond Tyne and Wear, and a comprehensive network of pedestrian, cycle and passenger transport links will ensure that everyone has access to employment, training, community services and facilities".*

3.2 The strategy has been focused on ways to address challenges within the following three key areas:

- Supporting economic development and regeneration
- Addressing climate change
- Supporting safe and sustainable communities

3.3 Recognising the importance of climate change objectives and the fact that, at least in the short-term, there will be considerably less funding available than in recent years, a strategic framework based on three broad intervention types has been adopted, beginning with the lowest-cost measures that make the least impact on the environment;

- Managing demand;
- Managing and further integrating existing networks; and
- Targeting new investment at top priority challenges.

3.4 The Local Transport Plan provides the main source of investment for maintenance and improvements to Newcastle's transport networks. The three-year programme in the draft implementation plan outlines the main areas for investment. At the time of writing the draft LTP3, the outcome of the Comprehensive Spending Review was not known. Consequently, a range of funding scenarios was proposed based around 25% and 50% reductions from the indicative allocations.

3.5 Projects within each sub-theme are to be determined at the start of each year, based around a range of considerations and thorough consultation, including

- Value for money
- Members priorities

- Resident engagement and ward charters
- Sustainable Communities Strategy
- Network Management Plan and Highway Asset Maintenance Plan

3.6 Larger transport capital schemes are funded through separate funding streams from the LTP programme. Major schemes with which Newcastle City Council is involved, includes the Gosforth Transport corridor improvements.

### 3.2 Framework for Local Planning

3.7 The Local Development Framework (LDF) is the way in which the City Council will present its proposals for the use and development of land and for changes to the transportation system. From 2011, Newcastle City Council will make planning decisions with reference to its LDF. This framework will replace the 1998 Unitary Development Plan (UDP), and provides the necessary land-use and transportation planning structure for the City's development up to 2030. For the first time, Newcastle upon Tyne and Gateshead will have a joint Core Strategy with Gateshead Council for planning and transportation issues.

3.8 The current UDP regime has no saved Pollution policies<sup>13</sup>. However, the draft Core Strategy has a policy on Transport and Accessibility (Policy 5) which is relevant to the aims of this action plan and includes commitments to:

*"Promote alternative travel choices to encourage a modal shift from sole occupancy car use to more sustainable alternatives. We will:*

- *Encourage development at easily accessible locations, giving priority to sustainable forms of transport;*
- *Improve pedestrian routes and the pedestrian environment;*
- *Develop a comprehensive cycle network;*
- *Improve public transport in areas where current provision is inadequate;*
- *Improve operational conditions for bus services;*
- *Investigate potential extensions to the Metro system;*
- *Manage car parking supply and pricing strategies; and*
- *Develop park and ride facilities".*

3.9 In addition, the document commits to "require developers to:

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<sup>13</sup>[http://www.newcastle.gov.uk/wwwfileroot/regen/ldf/udp\\_pols\\_with\\_savings.pdf](http://www.newcastle.gov.uk/wwwfileroot/regen/ldf/udp_pols_with_savings.pdf)

- *Manage car parking and implement robust and measurable travel plans to minimise car trips;*
- *Improve linkages and remove barriers to sustainable travel;*
- *Incorporate measures to improve air quality;*
- *Ensure any necessary contributions to sustainable transport measures are delivered as part of proposals; and*
- *Mitigate adverse impacts on the transport network, either directly or through a financial contribution where developments have been identified as impacting on the network”.*

3.10 Consultation on this draft document was completed in March 2011.

3.11 Newcastle City Council adopted the Revised Master Plan and Supplementary Planning Document and the Sustainability Appraisal for Newcastle Great Park on the 18th May 2006. The Master Plan and SPD and provides guidance for the future development proposals for the area. In relation to pollution, it contains the following policies:

**NGP20 The developers shall undertake assessments of noise and pollution in accordance with UDP policies and submit these at planning application stage for that application site or relevant cell.**

**NGP21 The developers shall submit a strategy illustrating how construction shall be targeted at minimising pollution.** Full planning or reserved matter applications shall include an assessment of air or water borne pollution likely to be created during construction and after occupation, together with any consequent proposals for reduction in pollution levels, particularly as they affect residential properties, schools, sensitive wildlife habitats and watercourses.

### 3.3 Community Strategies

3.12 Newcastle City Council has agreed a new Sustainable Community Strategy (SCS) with its partners. This sets out a vision for developing and regenerating the City over the next twenty years, initially backed up by a Local Area Agreement (LAA), agreed with government as the basis for a three year delivery strategy setting out our priority improvement targets until 2011.

3.13 The Sustainable Community Strategy identifies five big challenges for the City:

- Driving economic competitiveness and enabling all our communities to participate in the Newcastle economy;
- Long-term demographic change and health;
- Creating opportunities from climate change;
- Housing and communities
- Addressing the causes and symptoms of child poverty

3.14 The section on *Managing Environmental Impact* focuses on climate change. It is recognised that individuals and businesses need to be supported to make smarter choices about when, where and how to travel and transport goods. One aim is to ensure that public transport is a real alternative to car use, and also to encourage people to walk and cycle more. The Urban Traffic Management Control project will help manage congestion, give buses priority over cars, and keep traffic moving. The development of smart ticketing and the use of technology to give people more information on public transport will make journeys on buses and the metro easier. Innovative solutions to improve access to transport including the development of car clubs as well as measures to support community transport are supported, as well as a potential Freight Consolidation Centre (FCC) to reduce lorry miles in the city centre, improving air quality due to fewer lorry movements and freeing up road space for public transport.

### 3.4 Economic Development

- 3.15 The Regeneration Strategy for the Newcastle upon Tyne, represented by the SCS and LAA, encompasses and enables the delivery of a number of initiatives and policies. The Strategy aims to address economic prosperity and jobs, better transport, improved health and wellbeing, better education and stronger social inclusion and cohesion. It also seeks to create thriving and sustainable communities. It aims to deliver this in a structure that is community-based and outward looking. It covers the whole City, whilst recognising the diversity of its neighbourhoods and the importance of working in partnership.
- 3.16 The Strategy has identified a number of key areas that are to be a focus of investment over the coming years. Known collectively as the Strategic Commission Areas they are focused on areas of significant need with typically high levels of deprivation, population decline, poor quality housing and environment and high unemployment.

### 3.5 Climate Change

- 3.17 Given Newcastle's commitment to the Nottingham Declaration on Climate Change it is essential that more sustainable forms of movement around the city are promoted and provided for. Newcastle's Climate Change Strategy and Action Plan is currently out for public consultation and will identify how NCC will move towards economic growth, area regeneration, and improved access for all with safe communities in a sustainable way.
- 3.18 The City Council and its partners have committed to reduce the city's carbon emissions by 34% (from 1990 levels) by 2020. Specifically in relation to transport, the City Council will prove its leadership by:
- Reducing carbon emissions from NCC buildings, services, transport fleet and staff travel;
  - Facilitating new ways of working which avoid the need to bring a private car to work and encourage more NCC staff to cycle and walk to work;

- Using low-carbon technologies across the NCC fleet of vehicles;
  - Giving all children in the City the opportunity to learn about the causes and impacts of climate change, and encourage them to take positive action to reduce carbon emissions and help create sustainable local communities;
  - Supporting the development and introduction of electric vehicles across the North East, including the expansion of charging points powered by renewable energy where practicable;
  - Promoting lower carbon methods of travel, aiming for a 4% reduction in fuel use through walking, cycling and better use of public transport by 2020.
- 3.19 All of the above commitments should also have a positive impact on NO<sub>x</sub> emissions, in particular measures to reduce fuel use.

## 4 Specific Measures for delivering air quality improvements in Gosforth

- 4.1 Potential options have been identified using professional knowledge and in discussions with a number of key officers within Newcastle City Council. The document as a whole will then be the subject of a thorough consultation exercise including relevant ward committees, via circulation to local members and information disseminated to the public through the Council newsletter. Key local stakeholders will also be consulted, including large employers (Sage, Northern Rock, Gosforth Shopping centre), schools etc.
- 4.2 Potential options to reduce emissions have been considered under the following headings, consistent with the central Newcastle Air Quality Action Plan.
- Managing the highway network
  - Emissions management
  - Information and education
  - Land-use planning
  - Promotion and provision of alternatives
- 4.3 The suggested options have then been evaluated in Chapter 5.

### Managing the Highway Network

- 4.4 In the Gosforth area, network management has been investigated in detail through various transport strategy documents, summarised in section 2.2. This Action Plan cannot add to the work already undertaken, and therefore the current proposals for managing the highway network will form the content of this section. Although the proposals have not been submitted formerly to DfT, it is planned that elements of the bid are to be taken forward in varying timescales. At this stage it is envisaged that the main way of doing this would be through the private sector, for example via developer contributions. This would potentially fund the improvements on Gosforth High Street, and other developments in North Tyneside may be used to fund improvements to Haddricks Mill Roundabout. There is currently no funding, or plans to obtain funding, for improvements to the Blue House Roundabout. The local Sustainable Transport Fund (STF) may be used to enhance improvements by trying to encourage behavioural change. The process of deciding on the STF bid is currently underway.

### Emissions Management

- 4.5 **Encouragement of low emission vehicles for individuals, businesses and council fleets.** Newcastle City Council has a large vehicle fleet of its own, and an even greater number of vehicles

operated by contract. Within its' own fleet, hybrid cars have been incorporated, as well as electric vehicles (as pool cars, transit vans, cleansing vehicles, and a coffin carrier). NCC is currently actively investigating biomethane and other alternative fuels. The Travel Office also provides an extensive alternative range of sustainable modes for business travel, and is recognised as being an example of best practice in the encouragement of sustainable travel. This work will be built on within the timeframe of this Action Plan.

- 4.6 **Encouragement of Electric vehicles.** Within NCC and regionally, electric vehicles are being encouraged. Within Gosforth, two electric vehicle charging points have been installed within the St Nicholas Avenue car park. In addition, 35 electric vehicles are being trialled by businesses under the 'Switch EV' project, which it is hoped will use the charging points. Infrastructure for Electric Vehicles will be encouraged through the planning system.
- 4.7 **Emissions standards for buses.** The introduction of increasingly stringent European emissions standards means that new buses should be increasingly cleaner. Although modelling undertaken in Newcastle City Centre AQMA showed a *significant* positive impact on concentrations at most locations, in practice since 2005, work undertaken across the UK suggests that in urban driving conditions, newer buses (Euro III, IV or V) may not be as clean as the emissions factors suggest<sup>14</sup>. This is likely to remain the case until Euro VI vehicles are introduced and where there will be a slow speed element to the test cycle. In relation to retrofitted buses (e.g. with SCR) it is important that the technology is matched to specific duty cycles, i.e. optimised to deal with lower engine temperatures. The Disability Discrimination Act 1995 provided for the completion of the Public Service Vehicles Accessibility Regulations 2000. By 1 January 2016 and 1 January 2017 all single-decker and double-decker buses respectively need to be low floor. It is likely that this will be achieved by incorporating newer buses in the fleet, which will be at least of Euro V standard. In addition, all the contracts which NEXUS enters into contain emissions requirements that buses on the routes they subsidise will meet a Euro IV requirement.
- 4.8 **Improving the efficiency of deliveries in Gosforth High Street.** Delivery vehicles in congested streets, such as Gosforth High Street can increase traffic congestion if they need to park outside the delivery location for any length of time. It is considered that delivery vehicles cause congestion along the High Street which wouldn't otherwise be there. As part of the proposed traffic management improvements, this has been addressed with the provision of loading bays (as well as a better alignment of the rest of the traffic in general). There are no plans to restrict delivery times in Gosforth.
- 4.9 **Taxi licensing system to improve emissions.** There are no specific taxi issues within the Gosforth AQMA and as such, although the use of the taxi licensing system for improving emissions

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<sup>14</sup>Carlaw et al (March 2011) Trends in NOx and NO<sub>2</sub> emissions and ambient measurements in the UK. Found at: [http://uk-air.defra.gov.uk/reports/cat05/1103041401\\_110303\\_Draft\\_NOx\\_NO2\\_trends\\_report.pdf](http://uk-air.defra.gov.uk/reports/cat05/1103041401_110303_Draft_NOx_NO2_trends_report.pdf)

will be taken forward through the city centre AQMA Action Plan, this measure will not be progressed within this Action Plan.

- 4.10 **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 such as Sweden for many years. A Low Emission Zone covering most of Greater London was designated in February 2008, within which diesel-engined lorries, buses, coaches, large vans and minibuses are required to meet specific emissions standards, or pay a daily charge. LEZs do not have to be implemented over large areas such as Greater London, or cover large numbers of vehicle types. In Oxford, an LEZ is to be introduced in 2013 to cover buses in the town centre. Norwich City Council, in conjunction with Norfolk County Council has implemented a LEZ in a restricted area by obtaining a Traffic Regulation Condition (TRC) via the area Traffic Commissioner to regulate vehicle emissions from buses. In Norwich this has been undertaken in conjunction with other measures such as eco-driving training for bus drivers and a 'switch-off' campaign. There is a potential for a similar scheme to operate within either some, or all of the AQMA covering HGVs and buses. However, caution should be noted, as outlined above, the performance of diesel vehicles in congested driving conditions may be substantially worse than the emissions factors suggest.
- 4.11 **Speed restriction.** Emissions are related to speed. At lower traffic speeds, slower speeds will generally give rise to higher emissions of NOx. 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. All residential streets all now have a 20mph speed limit. There are no plans to reduce the speed limit on roads within the AQMA.
- 4.12 **Urban Traffic Management and Control (UTMC).** Mott MacDonald has been appointed by Tyne and Wear local transport plan partners to deliver a visionary regional UTMC system for Tyne and Wear. Numerous existing transport systems such as CCTV, automatic number plate recognition (ANPR), car parks and air quality monitoring will be integrated to establish a cohesive view of the transport network across the region, all from a single regional control centre. Control room operators will have access to the common data viewer which will allow them to monitor the network and strategies for the benefit of the travelling public.
- 4.13 The UTMC project aims to deliver a system which will assist all the local authorities with network coordination and management. The system will be centred on a UTMC common database which will act as the main strategic management tool and information repository for the entire Tyne & Wear region. The UTMC is anticipated to be operational in 2011, with continuing support until 2015.

4.14 **Roadside Emissions Testing.** Poor vehicle maintenance can increase levels of emissions by ten times 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 testing scheme would further enhance public awareness of the issues and potentially decrease the numbers of excessively polluting vehicles on the road network.

**Promotion and Provision of alternatives**

4.15 **Promotion of cycling.** The potential exists for air quality improvements to be made through increasing the proportion of trips made by bicycle. Any cycling promotion will build on that already underway in Tyne and Wear. Promotion schemes will include both addressing safety perceptions and also providing infrastructure in order to make cycling more practical to more people. It is likely that the Sustainable Transport Fund bid will include elements of the promotion of cycling

4.16 The Newcastle Cycling Strategy, April 2011, has the overarching aim is to develop a cycling culture in the City where, by 2021, 20% of all trips under five miles will be undertaken by cycle. A comfortable cycling distance is usually taken as 3 to 5 miles.

4.17 The average car/van driver in the UK does a total number of 399 trips of all lengths each year. The distribution of distances among these trips is:

Under 1 mile .....	27trips
1 to under 2 miles .....	67 trips
2 to under 5 miles .....	132 trips
5 to under 10 miles ....	84 trips
10 to under 25 miles ...	63 trips
25 to under 50 miles ...	17 trips
50 to under 100 miles ..	7 trips
100 miles and over .....	3 trips

4.18 This means that 226 out of 399 trips are under five miles i.e. 57% of journeys. The Strategy is therefore trying to encourage drivers to make just over one journey a week by cycle instead of using their car. As part of The Newcastle Cycle strategy the local authority are looking at possible cycle routes from the Town Moor through Gosforth in connection with the new Great North Cycleway. This would encourage more people to access the City centre by bike.

4.19 **Quality Bus Contracts.** Quality Bus Partnerships can incorporate a variety of measures such as bus lanes, other bus priority measures, low-floor buses, more frequent services, real time information and marketing. Research has shown that increases in passenger numbers do result from the improved services and that the difference in passenger numbers is linked to the extent of

the scheme. The Local Transport Act 2008 includes provisions to support more effective partnership working between bus operators and local authorities, including through quality partnership schemes. NCC will build on existing partnerships with bus operators to improve facilities and services throughout the LTP3 period.

- 4.20 **Smart ticketing.** The new Pop card (like the oyster card in London) was launched in February 2011. Nexus is investing £15m from Government funds in smart ticketing, as part of the 'Metro: all change' modernisation programme. This will include the replacement of 225 Metro ticket machines and the introduction of gates at key stations and 'smart' validators across the system. The investment forms one part of the North East Smart Ticketing Initiative (NESTI), a project led by local councils across North East England to spread smart ticketing across all local public transport from the Tees Valley through to the Scottish border. Over the next year a phased rollout will allow more and more people to travel with a Pop card, whose functionality will develop into a full 'pay as you ride' option with stored cash balance on cards in 2012. From 2011 only traditional season tickets for different periods will be carried on the Pop Card, but in future all passengers will be able to put 'credit' on a Pop card and then use it to pay as they ride. Research on the Oyster card in London has suggested that 9% of all Oyster 'pay as you go' journeys on the Underground were generated by the ease of using the Oystercard<sup>15</sup>.
- 4.21 By 2013 Nexus wants it to be possible for public transport users to travel on local bus, Metro and local rail services anywhere in North East England using a single credit-card sized plastic smart card. The card could be used to buy tickets from a single operator or charged with cash like a pay-as-you-go mobile phone, with holders being able to buy travel in advance on the Internet. The smart card system would will allow transport operators to introduce new offers for ensure passengers, for example were offered the automatically re-calculating the best value fare for their whole day's travel as they travel, and the ability to offer more flexible discounts for part-time workers and short break visitors to the region.
- 4.22 **Travel Plans.** Travel Plans can help companies and other organisations reduce the traffic impacts of their business. Travel Plans look 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.
- 4.23 The school journey affects public transport patterns, causes localised congestion around schools and contributes to road traffic peaks at school drop off and pick up times. There are two schools in the AQMA area, both of which have travel plans in place. Particular emphasis has been placed on cycling to school for these plans.

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<sup>15</sup>Local Transport Today LTT565 25 February - 10<sup>th</sup> March 2011. P3.

- 4.24 There are some successful examples of Travel Plans being implemented in Gosforth, including Northern Rock and Sage.
- 4.25 **Car clubs.** Car clubs provide the use of a car to members without having to own a car. Car club members pay a membership fee and then have access to cars that they pay an hourly rate to use. Each car club vehicle typically replaces five cars and are generally new, regularly maintained and could be electric and therefore less polluting. There is a car club bay off Gosforth High Street, which follows on from car clubs in Newcastle city centre and elsewhere. The car club uses a very fuel efficient vehicle. There is a potential for a second car club space in South Gosforth which is currently being investigated.
- 4.26 **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 concepts behind Home Zones have been incorporated into the developments at Newcastle Great Park. 20mph zones in residential areas are now mandatory.
- 4.27 **Promotion of the metro.** Significant investment in the metro is currently underway through a £385m programme to modernise the system over the next decade. The Metro carries 41 million passengers a year and is a key part of the region's economy – but 30 years after it opened many elements are near the point of failing, and must be urgently renewed. Forthcoming works include modernisation of station facilities and comprehensive renewal of infrastructure.
- 4.28 In addition, the smart ticketing scheme which aims to bring smart ticket technology to public transport across the region is currently being progressed by Nexus in a joint project with local authorities and transport operators covering an area from Tees Valley to Northumberland (see paragraph 4.17).

### Information and Education

- 4.29 **Be Air Aware.** “Be Air Aware” launched a brand new interactive website at [www.beairaware.co.uk](http://www.beairaware.co.uk) in April 2010. The site is designed be a platform to engage Tyne and Wear residents on the issue of air quality, how it affects them, how they can make a difference and what is going on in their area to improve it. It is designed to be interactive, allowing people to submit content (moderated before it goes live) to promote a sense of inclusion. Additionally, the launch website has been accompanied with activity on social media platforms: a BAA Facebook page has been set up, along with a regular Twitter feed. Videos from the campaign have also been posted on You Tube. To coincide with the launch BAA also began a week-long campaign on Real Radio. For the

campaign, drive time presenter, Kelly Scott, spent a week living outside and travelling around the region to air-quality related events.

- 4.30 Although the direct funding for Be Air Aware ceases at the end of March 2011, the web presence and branding will continue and it is hoped can be actively taken forward outside of the current funding model.
- 4.31 **Provision of real time information at bus stops.** Real time passenger information allows passengers to know exactly when the next bus will arrive and if there are any delays. This may, along with other measures, persuade people to change their mode of travel.
- 4.32 **Health promotion.** Promotion of good health can be related to both the links between air pollution and health, and also in encouraging people to cycle and walk, especially for short journeys. There is health promotion packaged up within the Be Air Aware campaign. It is, however, judged that with the PCT functions coming under local authority control, there may be further opportunities to work with health professionals, now within local authorities on health promotion issues.
- 4.33 **One-off events.** Travel awareness campaigns such as National Bike Week, In Town without your Car Day, Smarter Travel Week and other events such as Newcastle Community Green Festival / National Environment Day can be used to raise the profile of air quality and travel choice. "Be Air Aware" branding has over the last year been used at these events, and will do in the future.
- 4.34 **Target developers.** Developers could be targeted to provide information to home buyers about transport modes (pedestrian routes, public transport, cycle paths in the area etc). Developers of large developments such as those which make up the Newcastle Great Park could also be encouraged to provide better infrastructure (cycle paths, bus routes etc.) as part of a planning obligation or condition. This has already been done in relation to Newcastle Great Park and a Park and Ride is in place for the properties already occupied.
- 4.35 **Provision of information on high pollution days.** 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. Information could be provided through text messaging services, or through doctors surgeries, pharmacies etc.

## Planning

- 4.36 **Air Quality Assessments of 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. The Tyne and Wear group of authorities use the EPUK planning and air quality guidance in order to decide when an air quality assessment is required, and to guide on what the assessment should include. This ensures a consistent approach not only across Tyne and Wear, but also with many

other local authorities who use the same guidance and approach. The EPUK guidance could be formalised through the provision of a Supplementary Planning Document for Tyne and Wear.

- 4.37 **LDF process to contain robust air quality policies.** It is imperative that appropriate air quality policies are included in all the relevant LDF documents, as new developments must be considered in relation to these policies. The presence of a suitable air quality policy, or policies, will be particularly useful where a refusal of planning permission leads to an appeal and subsequent public inquiry. With the planning system in Newcastle (and elsewhere in Tyne and Wear) under review, it is timely to ensure that the LDF process includes robust air quality policies.
- 4.38 **Develop formula for s106 contributions.** Future developments could have a significant impact on the AQMA. Therefore consideration will be given to developing a transparent and enforceable formula that could be applied for calculating contributions from developers towards the Air Quality Action Plan. Any such formula will need to comply with the recently introduced Community Infrastructure Levy Regulations 2010. Such a formula could be included within a future Supplementary Planning Document (see above).
- 4.39 **Include residential/business Travel Plans in s106 Agreements.** Newcastle City Council already requires residential or business Travel Plans to be included in the s106 Agreements for all sizeable developments. This practice will continue.

## 5 Evaluation of Measures

5.1 The identified options have been evaluated against four specific criteria:

- Air quality impact (i.e. reduction in emissions or concentrations)
- Cost of measure
- Feasibility or practicability of option (including the wider non-air quality impacts)
- Timescale for implementation

### Air quality impact

5.2 Air quality impacts have been classed as 'low', 'medium' or 'high'. For each of the measures, or package of measures, the expected reduction in annual mean NO<sub>2</sub> concentrations has been evaluated. The expected air quality impacts are based on professional judgement, drawing wherever possible on experience gained from other studies.

5.3 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<sup>3</sup> annual mean NO<sub>2</sub>, which could be shown by a modelling scenario. Improvement is not likely to be shown by monitoring due to the confounding factors of the weather.
- **High:** significant. Improvement of more than 2µg/m<sup>3</sup>. 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).

### Cost

5.4 The implementation of the measures set out in this draft action plan are dependent 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 cost and the expected improvement to air quality. The following classification has been used, which is consistent with the Action Plan for Newcastle City Centre.

- **Low** cost is taken to be <£50K
- **Medium** cost is £50K – £150K

- **High** cost if £150K – £2 million
- **Very High** cost is over £2 million

### Cost effectiveness

5.5 Cost effectiveness has been scored based on cost to the Council and the expected air quality improvement. Cost has been scored as 1 = zero, 2 = low, 3 = medium, 4 = high, 5 = very high. Air quality impact has been scored as 1 = low, 2 = medium, 3 = high. Cost effectiveness is the product of the two numbers.

### Feasibility

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

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

### Timescale for implementation

5.7 The timescale for the implementation of the measures has also been considered. The following classifications have been used;

- **Short-term** (ST) relates to those measures which could be implemented in the next 3 years (i.e. within the first delivery plan of LTP3)
- **Medium-term** (MT) relates to those implemented within 4-6 years (i.e. the second delivery plan period of LTP3).
- **Long-term** (LT) are options which are 6+ years away, (i.e. those potentially subject to feasibility studies at this stage, and, if found to be beneficial, to be implemented in due course).

## Managing the Highway Network

**Table 4: Evaluation of Measures to Manage the Highway Network**

	Effects	Cost		Cost effective-ness	Feasibility					
	AQ Impact	Cost to Council	Cost to others		Practicability	Wider impacts				Timescale
						Social	Environmental	Economic	Climate Change	
Package of measures including junction improvements, improvements to Gosforth High Street etc	M	VH	0	2	M	++ve	++ve	+ve	++ve	LT

## Summary of Measures associated with Emissions Management

**Table 5: Evaluation of Measures associated with Emissions Management**

	Effects	Cost		Cost effective-ness	Feasibility					
	AQ Impact	Cost to Council	Cost to others		Practicability	Wider impacts				Timescale
						Social	Environmental	Economic	Climate Change	
Encouragement of low emission vehicles for individuals, businesses and council fleets	L (overall)	L-M	M	3.5	H	+ve	+ve	+ve	+ve	ST
Encouragement of Electric Vehicles	L (overall)	L-M	M	3.5	H	+ve	+ve	+ve	+ve	ST
Emissions standards for buses	L-M	n/a	H	1.5	H	+ve	+ve	0	+ve	ST-MT
Improving the efficiency of deliveries in Gosforth High	L	L	M	4	M	+ve	+ve	0	+ve	MT

Street										
Taxi licensing system to improve emissions	L	L	M	4	L	+ve	+ve	-ve	+ve	ST
Low Emission Zone	M	M-H	M-H	7	M	+ve	+ve	0	+ve	LT
Speed Restriction	L	L	L	4	H	+ve	+/-ve dependent on flow	+ve	+ve/ -ve	ST
Urban Traffic Management and Control (UTMC).	L-M	M	n/a	4.5	M	+ve	+ve	+ve	+ve	ST
Roadside Emissions Testing	L	L-M	L	3.5	H	+ve/-ve	+ve	-	+ve	LT

### Summary of Measures associated with Promotion and Provision of Alternatives

**Table 6: Evaluation of Measures associated with Promotion and Provision of Alternatives**

	Effects	Cost		Cost effectiveness	Feasibility				Timescale	
	AQ Impact	Cost to Council	Cost to others		Practicability	Wider impacts				
						Social	Environmental	Economic		Climate Change
Promotion of cycling	L	L	0	4	H	+++ve	+++ve	0	+++ve	ST
Quality Bus Contracts	L	H	M	2	M	+ve	+ve	+ve	+ve	MT-LT
Travel Plans	L	L	L-M	4	H	+++ve	+ve	+ve	+++ve	ST
Car clubs	L	L	L-M	4	H	+++ve	+ve	+ve	+ve	ST
Home Zones	L	H	L	2	M-H	+++ve	+ve	+ve	+++ve	MT-LT
Promotion of the Metro	L	H	M	2	H	+++ve	+ve	+ve	+ve	ST

## Summary of Measures associated with Information and Education

**Table 7: Evaluation of Measures associated with Information and Education**

	Effects	Cost		Cost effective-ness	Feasibility				Timescale	
	AQ Impact	Cost to Council	Cost to others		Practicability	Wider impacts				
						Social	Environmental	Economic		Climate Change
Be Air Aware	L	L (funding now complete, downscaled)	0	4	M	+ve	+ve	+ve	+ve	ST
Provision of real time information at bus stops	L	M	L	3	M	+ve	+ve	+ve	+ve	MT-LT
Health Promotion	L	L	L	4	H	++ve	+ve	+ve	+ve	ST-MT
One off events	L	L	0	4	H	+ve	+ve	0	+ve	ST
Target developers	L	L	L	4	H	+ve	+ve	-ve(if development delayed)	+ve	ST
Provision of information on high pollution days	L	L	L	4	H	+ve	0	0	0	ST-MT

## Summary of Measures associated with Planning

**Table 8: Evaluation of Measures associated with Planning**

	Effects	Cost		Cost effective-ness	Feasibility				Timescale	
	AQ Impact	Cost to Council	Cost to others		Practicability	Wider impacts				
						Social	Environmental	Economic		Climate Change
Air Quality Assessments of new developments	L-M	L	M	6	H	+ve	+ve	+ve/-ve	+ve	ST
LDF process to contain robust air quality policies	L-M	L	L	6	H	+ve	+ve	+ve/-ve	+ve	ST-MT
Develop formula for s106 contributions	L	0	L-M	5	H	+ve	+ve	-ve	+ve	ST-MT
Include residential/ business Travel Plans in s106 agreements	L	0	L-M	5	H	+ve	+ve	0	+ve	ST

- 5.8 Newcastle City Council has an existing air quality strategy and emissions management plan and this continues into LTP3. The Strategy includes an extensive list of tools that are being used to improve transport related emissions. For example, beginning in 2011, work starts on a UTMC project to reduce congestion at junctions by smoothing traffic flows. In addition, the council is very proactive in reducing emission from its own vehicle fleet and has adopted clean emission standards for its own vehicles including an extensive commitment to electric vehicles. This includes installing over 130 vehicle recharging points across the City and there will be 3 charging points on Gosforth High Street as well as a car club point.
- 5.9 Nexus are encouraging bus companies to use a Euro IV emission standard. Over £7 million is being spent on clean emission buses in the City in the next 12 months. This, together with the adoption of a taxi emission strategy, should also help to reduce emissions across the Gosforth area.
- 5.10 Both Regulatory Services and Public Protection and Transport Officers are active in ensuring new development is screened to ensure there are minimal negative air quality impacts from new developments. Travel plans are routinely requested from major new developments.
- 5.11 An ambitious cycling strategy aims to reduce car journeys by 20% and will see the building of a major new cycle path to link Gosforth with the City centre. The above measures have already seen a dramatic improvement of air quality in the Gosforth area and it is hoped that these measures will continue to deliver improvements in order that the air quality objective is met.

## 6 Implementation and Monitoring

6.1 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 being low, medium and high. This Action Plan is being developed alongside, and in collaboration with, the third Local Transport Plan. Other potential sources of funding outside of the LTP process include:

- **Defra Air Quality Grants** – The 2011/12 round of grant funding will focus on supporting projects which tackle exceedances of the UK nitrogen dioxide objectives and EU limit values. All funding will therefore be targeted towards action planning, with a focus on reducing concentrations of nitrogen dioxide. More information can be found at: <http://www.defra.gov.uk/environment/quality/air/air-quality/laqm/grants/>
- **Developer contributions**—through Section 106 agreements and similar voluntary arrangements, developers can contribute to improvements which are relevant for this action Plan.
- **Sustainable Transport Fund** - The purpose of the Fund announced in 2010 is to enable the delivery by local transport authorities of sustainable transport solutions that support economic growth while reducing carbon. These solutions will be geared to supporting jobs and business through effectively tackling the problems of congestion, improving the reliability and predictability of journey times, enabling economic investment, revitalising town centres and enhancing access to employment. They should at the same time bring about changing patterns of travel behaviour and greater use of more sustainable transport modes and so deliver a reduction in carbon, and therefore emissions of local air pollutants.
- **Direct charging** - for example through workplace charging, off-street and on-street parking charges. Resident only parking schemes and low emission zone strategy.

6.2 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 in air quality. The main objective of the Action Plan is to reduce air pollution within the designated AQMA. In the short term however, this may be difficult to judge due to the effect of varying weather conditions on measured pollutant concentrations.

6.3 Measures included within 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 a short timescale (next 3 years). This is mainly for two reasons:

- 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 on planning will impact over a long timescale, even though they may be able to be implemented in the short-term
- 6.4 Newcastle City Council will monitor air quality improvements by reporting concentrations from both the real time monitor located at the Salters Road/Great North road junction, and from the network of diffusion tube sites in the Gosforth area. This will be reported within annual Review and Assessment Progress Reports required by Defra, and also, where relevant, through the LTP process.
- 6.5 The City Council will continue to maintain an extensive network of automatic and passive samplers, and it is intended that these data will be used to assess progress in other areas of the city. The monitoring network will be reviewed on a regular basis. To avoid the effect of meteorology on a year-by-year basis, long-term data sets will be reviewed where possible.
- 6.6 The following tables give an indication of when the measures will be implemented and the responsible authority.

**Table 9: Implementation of Measures to Manage the Highway Network**

Managing the Highway Network			
Proposed Measure	Target	Responsible Authority	Timescale
Improvements to Gosforth High Street Improvements to Haddricks Mill Roundabout	Investigate Funding mechanisms to implement improvements outlined by previous strategic transport studies	NCC (in partnership with T&W authorities)	2011/2014

**Table 10: Implementation of Measures associated with Emissions Management**

Emissions Management			
Proposed Measure	Target	Responsible Authority	Timescale
Encouragement of low emission vehicles for individuals, businesses and council fleets	Investigate biomethane and other alternative fuels	NCC	2011/12
	Continued support for Travel Office	NCC	Ongoing
Encouragement of Electric Vehicles	Electric Charging Points Switch EV Project	NCC NCC	Ongoing
	EV Infrastructure to be encouraged through planning system	NCC	Ongoing
Emissions standards for buses	Nexus contract to be Euro IV requirement	Nexus	Ongoing
	Push for higher emissions requirements	NCC	Ongoing
Low Emission Zone	Feasibility work to be undertaken	NCC to investigate funding through Defra grants	2011/12
Urban Traffic Management and Control (UTMC)	Integrated regional control centre	T&W authorities	2011/2015
Roadside Emissions Testing	2 days of free testing for the public	NCC	2011/12

Commented [CB2]: Ed – do we want to leave this in?

**Table 11: Implementation of Measures Associated with Promotion and Provision of Alternatives**

Promotion and Provision of Alternatives			
Proposed Measure	Target	Responsible Authority	Timescale
Promotion of Cycling	Promotion through cycling strategy – potentially funded through Sustainable Transport Fund	NCC/ T&W authorities	2011/21
Quality Bus Contracts	Build on existing partnership arrangements through LTP3 period	NCC/ T&W authorities	2011/16
Smart Ticketing	Pop card already launched	Nexus	2011
	Full pay as you ride facility		2012

Travel Plans	Assistance with company travel plans Assistance with school travel plans Promotion of travel plans through planning system	NCC	Ongoing dependent on funding available
Car Clubs	One car club space already implemented in Gosforth Currently investigating second space	NCC	2011/12
Home Zones	Concepts to be furthered through planning system	NCC	Ongoing
Promotion of the Metro	Promotion through improving infrastructure and smart ticketing (see above)	Nexus	Ongoing

Table 12: Implementation of Measures associated with Information and Education

Information and Education			
Proposed Measure	Target	Responsible Authority	Timescale
Be Air Aware	Branding to be taken forward even though funding now ceased	NCC	Ongoing
Provision of Real time information at bus stops	Inclusion within bus strategy of LTP3	NCC and Nexus	Ongoing
Health promotion	Investigate working with health professionals now within local authorities	NCC	Ongoing
One-off events	National Bike Week, In Town without your Car day, Smarter Travel Week...etc.	NCC	Ongoing
Target developers	Developers to provide information to home buyers about transport modes, and larger developments to provide better infrastructure	NCC	Ongoing
Provision of information on high pollution days	Look at feasibility of providing such a service (perhaps on T&W basis?). investigate funding sources	NCC	2011/12

Table 13: Implementation of Measures Associated with Planning

Planning			
Proposed Measure	Target	Responsible Authority	Timescale
Air Quality Assessments of new developments	Already a requirement. Investigate formalising through Supplementary Planning Document	NCC	On going
LDF process to contain robust air quality policies	Ensure LDF process has robust air quality policy	NCC	2011/14
Develop formula for S106 agreements	Investigate possibility of including a formula for funding this Air Quality Action Plan from developers contributions (e.g. through SPD mentioned above)	NCC	2011/12
Include residential/ business Travel Plans in S106 agreements	Already underway – and see above	NCC	On going

## 7 Expected Impact of the Air Quality Action Plan

- 7.1 At this stage, it has not been possible to quantify emissions reductions for specific actions. Many of the more ambitious measures (with a greater impact, for example a Low Emission Zone) will require extensive further feasibility work before a decision is made. In most cases this feasibility work will include traffic modelling, which, where relevant, will be used to assess the air quality impacts of the specific measures. Although concentrations have reduced considerably since the Detailed Assessment was completed, levels still remain high, particularly on Gosforth High Street. Based on professional judgement, and the improvements in air quality required in particular along Gosforth High Street, but also elsewhere in the AQMA, it is considered that without at least some of the more ambitious measures identified in the Action Plan, the air quality objective will not be achieved in the foreseeable future.

## 8 Conclusions

- 8.1 This Air Quality Action Plan sets out a series of suggested measures on which various stakeholders, will be consulted. These measures have been refined and prioritised and categorised into those which can be implemented and those which need further work or feasibility studies, with the aim to implement them in the longer term. The measures chosen will be implemented in partnership with key stakeholders, namely transport planners, land-use planners, Nexus and transport operators.
- 8.2 The measures highlighted in this Air Quality Action Plan should reduce concentrations of nitrogen dioxide at the relevant sensitive receptors, although it is too early to say exactly what impact they will have on improving air quality. The Council is continuing to monitor air quality at several locations within the AQMA. The results of the monitoring will be made available through the annual Review and Assessment reports along with proxy measures for quantifying improvements.

## 9 Glossary

<b>Standards</b>	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal.
<b>Objectives</b>	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides.
<b>Exceedence</b>	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations.
<b>AQMA</b>	Air Quality Management Area
<b>NO<sub>2</sub></b>	Nitrogen dioxide.
<b>NO</b>	Nitric oxide.
<b>NO<sub>x</sub></b>	Nitrogen oxides (taken to be NO <sub>2</sub> + NO).
<b>µg/m<sup>3</sup></b>	Microgrammes per cubic metre.
<b>HDV</b>	Heavy Duty Vehicles (> 3.5 tonnes)
<b>LTP</b>	Local Transport Plan
<b>NCC</b>	Newcastle City Council
<b>STF</b>	Sustainable Transport Fund