City-wide Air Quality Action Plan

Stoke-on-Trent City Council

In fulfillment of Part IV of the
Environment Act 1995
Local Air Quality Management

2014

KEY CONTACTS:

Ann Beeston | **Consumer Protection Officer**
Public Protection Division │Public Health Directorate
City of Stoke-on-Trent
Hanley Town Hall Albion Street Stoke-on-Trent ST1 1XP
01782 236575
ann.beeston@stoke.gov.uk

Derek J. Smith | **Lead Officer - Environmental Protection**
Public Protection Division │Public Health Directorate
City of Stoke-on-Trent
Hanley Town Hall Albion Street Stoke-on-Trent ST1 1XP
01782 232248
derek.smith@stoke.gov.uk

Jayne Hawe │**Environmental Protection Manager**
Public Protection Division │Public Health Directorate
City of Stoke-on-Trent
Hanley Town Hall Albion Street Stoke-on-Trent ST1 1XP
01782 232174
jayne.hawe@stoke.gov.uk

DOCUMENT STATUS: FINAL

This document has been produced by the Public Protection Division of Stoke-on-Trent City Council.

Executive Summary

Stoke-on-Trent, like other major cities, has areas where the nitrogen dioxide air quality objectives are being breached. In 2011, the existing Stoke-on-Trent Air Quality Management Area, first declared in 2006, was amended to include exceedence of both the annual mean and the 1-hour mean air quality objectives for nitrogen dioxide.

The Air Quality Management Area is not limited to the areas identified as exceeding the objectives, but applies to the whole city, to allow for the fact that future monitoring may reveal other areas that are also subject to poor air quality.

This Air Quality Management Action Plan replaces the plan prepared in 2013. It sets out a series of actions that have been identified to reduce levels of nitrogen dioxide city-wide, including actions for selected hotspots.

The measures contained within this action plan are those currently considered to be the most cost effective and appropriate for Stoke-on-Trent. Many of the actions relate to and rely on existing council policies and strategies, for example, road traffic is a major source of nitrogen dioxide and the Stoke-on-Trent Local Transport Plan[1] contains measures that will help to improve air quality. The actions proposed have been influenced greatly by and can only be accomplished through the implementation of transport related schemes.

Stoke-on-Trent City Council will continue to operate its current monitoring regime and where appropriate, subject to resources, endeavour to carry out specific monitoring to help measure the impact of each action proposed. An annual report will be produced and submitted to the Department for Environment, Food and Rural Affairs (Defra) following the implementation of this action plan which will outline progress together with the consideration of any additional actions that may be required at the time.

[1] http://www.stoke.gov.uk/ccm/navigation/transport-and-streets/local-transport-plan/

Contents

Appendices

Page

1. Introduction

1.1 Our City

Stoke-on-Trent is an amalgamation of six towns, which came into being in 1910. Affectionately known as 'The Potteries', owing to its world-class ceramics and rich industrial heritage, Stoke-on-Trent enjoys a central location between Birmingham and Manchester in the heart of central England. It is approximately 16 kilometres from north to south, 6 kilometres from east to west, with a broadly 'linear' lay-out.

Stoke-on-Trent is estimated to have a population of around 241,000, with a demographic profile typical to that of a diverse city in the Midlands. It is one of the greenest cities in the country with one third of the area being green space.

Whilst commerce has traditionally centred upon the manufacture of ceramics, much of the local production and support industries have relocated away from the area, but this proud past provides a focus for tourism. Despite the decline in these traditional industries, the city remains one of the most 'industrial' of the non-metropolitan boroughs in the country and has approximately 100 processes regulated by pollution prevention and control permits.

The occurrence of high quality coal, ironstone and clay that powered the ceramics industry has left a legacy of wide-scale mineral extraction and some dereliction of parts of the city. However, efforts are underway to secure multi-million pound investment for transformation to revitalise and realise the potential of the area. Stoke-on-Trent City Council and its partners are currently engaged in a process of regeneration and renewal to ensure that new sustainable uses are found to stimulate economic and social growth.

1.2 Air Quality Management

An overview of the United Kingdom (UK) government and devolved administrations' ambient (outdoor) air quality policy is presented in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007[2] and the relevant Policy and Technical Guidance documents. The strategy sets out a way forward for work and

[2] http://www.official-documents.gov.uk/document/cm71/7169/7169_i.asp

planning in air quality issues. It details the standards and objectives for various pollutants and suggests measures to be considered to help achieve them.

It also considers the European and wider international framework in which the UK's domestic policies are set. As a Member of the European Union (EU), the UK must achieve the requirements under European legislation.[3] Any failure by the UK to meet EU air quality objectives could result in the government being taken to the European Court and be subject to financial penalties.

Evidence to the Parliamentary Environment Audit Committee in 2010[4] indicates that poor air quality causes up to 50,000 premature deaths each year and reduces the life span of everyone in the UK by an average of seven to eight months. Studies show that the most deprived groups of the population tend to live in areas of poorest air quality. Disadvantaged people tend to contribute least to atmospheric emissions and also tend to be the group least able to take action to address them.

1.3 Local authority responsibilities

Part IV of the Environment Act 1995 introduced a framework for air quality management that requires all local authorities to annually review air quality within their boundary. Regulations under the Act prescribe air quality objectives for various pollutants and dates for achieving them. Monitoring and modelling is required to consider present and future air quality and assess the likelihood of the objectives being achieved by the prescribed time.

The pollutants that must be considered in the review and assessment process are nitrogen dioxide, fine particles (PM_{10} and $PM_{2.5}$), sulphur dioxide, benzene, 1, 3 butadiene carbon monoxide and lead. Objectives have been set for each of these pollutants that specify limit values and the dates by which these values should be achieved.

Local authorities are not required to meet the air quality objectives due to the influence of factors outside their control, but must demonstrate that they are working towards them through local actions. Periodically, each authority must also review and re-

[3] http://ec.europa.eu/environment/air/legis.htm
[4] http://www.publications.parliament.uk/pa/cm200910/cmselect/cmenvaud/229/22902.htm

assess air quality in their area and report on the findings and the outcomes from their actions.

In order to effectively discharge their duties under local air quality management regime, Stoke-on-Trent City Council is required to monitor air quality. This function is carried out by Environmental Protection, part of the Public Protection Division within the Public Health Directorate.

Where the prescribed air quality objectives are not likely to be achieved and members of the public will be exposed to the pollutant, the location must be designated as an Air Quality Management Area (AQMA). Once an AQMA has been declared there is a statutory duty, under Section 84 of the Environment Act 1995, for the local authority to produce an Air Quality Action Plan (AQAP) to pursue achievement of the relevant air quality objective(s).

The AQAP becomes the mechanism for improving the local air quality and the plan forms the statutory element of the local air quality management process.

2. Local Air Quality

2.1 Areas of poor air quality

The results of long term monitoring throughout the city generally shows an overall improving trend for air quality in Stoke-on-Trent for all of the monitored pollutants. Stoke-on-Trent complies with all of the air quality objectives except for that in relation to nitrogen dioxide. Monitoring has shown that several areas of the city continue to exceed the UK NO_2 annual mean objective and one area exceeds the UK NO_2 1-hour objective. Each of the areas consists of major roads, road junctions or narrow, busy streets lined by residential properties. However, monitoring results from 2007 to 2011 indicate a downward trend in concentration at some locations.

The whole of Stoke-on-Trent was designated as an Air Quality Management Area for nitrogen dioxide in 2006. As a consequence of monitoring results, the city-wide AQMA was amended to include the nitrogen dioxide 1-hour mean on 9 May 2011. All nitrogen

dioxide sites are within the city-wide AQMA. A copy of the current city-wide AQMA Order is shown in Appendix 1.

2.2 The pollutant of concern

The pollutant of main concern is nitrogen dioxide. Nitrogen dioxide (NO_2) along with nitric oxide (NO) is a member of the family of nitrogen oxides (NOx). Nitrogen oxides are formed at high temperature during combustion processes from the oxidation of nitrogen in the air and any nitrogenous components of the fuel or other material being burned.

Nitric oxide is not harmful to human health, but NO_2 is an irritant gas that can aggravate the respiratory system through inflammation of lung tissue and the airways. The most vulnerable groups of people for these effects are young children and asthmatics. At high concentrations, NO_2 can also cause throat and eye irritation, although it is not normally present in the air in sufficient amounts to have such serious effects.

2.3 The source of the pollution

In urban areas, such as Stoke-on-Trent, the main source of NO_2 is vehicle emissions. Away from road sources, the concentration of NO_2 is typically between 20-25 µg/m³ (micrograms per cubic metre). In the exceedence areas, where traffic is a main source, NO_2 concentrations range between 31-81 µg/m³. The contribution to NO_2 concentration from vehicles in each of the identified hotspot areas is shown in Appendix 2.

Other sources of pollution have been considered, for example the rail network in the city and industrial sources, however neither is considered significant in the exceedence areas. Domestic properties and activities also produce pollution, but again they are not considered significant with all areas of the city being subject to a smoke control order.

2.4 Achieving the air quality objective

Before drafting an AQAP it has to be estimated by how much the concentration of oxides of nitrogen (NOx) would have to be reduced, so that NO_2 concentrations would be below the objective concentration.

To do this, the monitoring site with the highest concentration of NO_2 in each hotspot area was used to calculate the equivalent concentration of NOx for that site in accordance with Defra guidance.[5] The NOx equivalent for 40 µg/m³ NO_2 was also calculated for each site and subtracted from the total NOx concentration. The result was the concentration of NOx that would need to be reduced at each site for concentrations of NO_2 to fall below the target objective. This is summarised in Table 1 for each hotspot area.

Table 1- NOx reduction calculations

Area	Monitoring site ID	Easting	Northing	2011 Monitored NO_2	2011 Total N0x equivalent of NO_2	2011 Equivalent Road NOx	NOx equivalent of 40 µg/m³ NO_2 at site	Required NOx reduction	% NOx reduction required
Burslem	2005/34	386904	349828	46.4	117.96	68.61	94.7	23.26	20%
Cobridge	2005/01	387625	348516	49.2	128.93	77.89	94.7	34.23	27%
Basford	2005/14	386270	346782	80.8	276.01	212.3	94.7	181.31	66%
Hanley	2005/22	388676	347611	42.6	103.84	56.77	94.7	9.14	9%
Stoke	2010/01	387938	345939	41.2	98.87	52.61	94.7	4.17	4%
Bucknall Bridge	1999/01	389884	347289	45.5	114.54	65.73	94.7	19.84	17%
Joiners Square	Auto	389228	345035	41.4	99.57	53.2	94.7	4.87	5%
Fenton	2005/45	389228	345035	47.4	121.83	71.87	94.7	27.13	22%
Meir (A50(T))	2005/08	392589	342576	44.2	109.68	61.65	94.7	14.98	14%
Meir (Weston Rd)	2005/23	393201	342409	47.3	121.44	71.54	94.7	26.74	22%

[5] http://archive.defra.gov.uk/environment/quality/air/airquality/local/guidance/documents/tech-guidance-laqm-tg-09.pdf

3. Policies and Strategies Relevant to Air Quality

3.1 Overview

The city-wide AQAP 2013 for NO_2 replaced the previous plan from 2009 and was proposed after initial consultation with colleagues from Planning, Regeneration, Climate Change, Transportation and representatives from neighbouring local authorities, the County Council and the Highways Agency so that due consideration for air quality is given in other policies and strategies which influence the local area.

The actions proposed in the AQAP 2013 have since been reviewed. This document is an update, recording actions that have been completed and the addition of a new action.

It should be noted that while the action plan focuses on the city, many of the factors which impact on the production, distribution and dispersal of pollution are contained within strategies which focus across the wider North Staffordshire conurbation.

3.2 Air Quality Strategy

The AQAP is made under the Stoke-on-Trent Air Quality Strategy 2013, which sets out how the council and its partners will continue to work towards improving air quality in the city. [6]

3.3 Mandate for Change

Stoke-on-Trent is facing a challenging economic period and needs a clear plan focusing on “a working city”. The Mandate for Change [7] sets out four strategic aims all underpinned by an effective and confident council, working with our partners to deliver this four-year plan to:

- Make Stoke-on-Trent the place to bring business.
- Support and develop existing business.
- Work with people to promote independence and healthy lives.

[6] http://www.stoke.gov.uk/ccm/content/environment/environmental-health/pollution/air-quality/air-quality-strategy.en
[7] http://www.stoke.gov.uk/ccm/content/council-and-democracy/knowledge-management/mandate-for-change.en

- Make Stoke-on-Trent a great city to live in.

3.4 Planning

Massive economic and community transformation projects currently affect the city with the council and regional bodies acting as a catalyst to drive forward schemes affecting the environment, housing, transportation, health, tourism, and education. Planning strategy lies at the heart of these schemes and the interactions between them. [8]

Local Development Framework: The Planning and Compulsory Purchase Act 2004 (and subsequent amendments) changed the way we plan for the future of Stoke-on-Trent. It replaced the old system, which included the Structure Plan and City Local Plan, with a new system made up of the Local Development Framework (including the remaining saved policies) and national planning guidance where relevant. These together deliver the spatial planning strategy for the City of Stoke-on-Trent.

Plan Making Programme: The keystone to the Local Development Framework is the Plan Making Programme which the city council must prepare and maintain. This management document identifies what planning policies are currently in force for the City of Stoke-on-Trent and how and when they will be replaced. Further information on the Local Development Framework is available on the website at www.stoke.gov.uk/ldf.

One of the key planning documents forming part of the Local Development Framework is the Newcastle-under-Lyme and Stoke-on-Trent Core Spatial Strategy (2006 – 2026). This was adopted in 2009 and provides the overarching planning strategy for the area.

The Core Spatial Strategy provides the basis for planning application decisions and the impacts of proposals on air quality is one such planning consideration, incorporated within the document. Criterion 8 of Policy SP3 - Spatial Principles of Movement and Access requires the developers to address… *'the environmental impacts of travel including congestion, air quality and noise pollution'.*

[8] http://www.stoke.gov.uk/ccm/navigation/planning/planning-policy/

The application of the Core Spatial Strategy during the planning application process ensures a consistent approach to the consideration of environmental impacts, including air quality and ensures that the improvement in the areas air quality is taken into account in the determination of relevant planning applications.

3.4 Regeneration

The City Council, in combination with many partners, is actively setting out to regenerate and improve many aspects of the area. The creation of higher value employment, a more diverse and aspirational housing stock, and radical improvement of the urban environment and infrastructure are all being pursued together with more traditional methods of clearance, refurbishment and new build.

Outcomes which regenerate the core of the city, support vulnerable neighbourhoods and help to restructure the social sector will all impact upon the production, distribution and dispersal of air pollution.

One example of regeneration is the new bus station which has been built as part of a multi-million pound development of the City Centre to include more shops, leisure facilities and improved parking to help rejuvenate the area. The redevelopment aims to transform the City Centre site into a premier regional shopping destination. The relocation of the bus station to a new site also means that bus routing has been changed while allowing for the further pedestrianisation of the City Centre.

3.6 Transportation

The proximity of traffic and congestion to homes is a major reason why the city's air quality management area was declared. The aims and objectives of the Local Transport Plan (LTP) are a vital element of our long term air quality action planning. [9]

There are increasing concerns that car technology is unlikely to eradicate air quality problems within the timescales originally envisaged, as a result there will be a requirement in the LTP to ensure that air quality impacts are reduced. The policies also reflect an anticipated move towards reducing the reliance on oil based transport

[9] http://www.stoke.gov.uk/ccm/navigation/transport-and-streets/local-transport-plan/

through encouraging new technology and improving the efficiency of the transport network.

Stoke-on-Trent's current Local Transport Plan, LTP 3, provides strategy and direction into 2026. The plan was developed using evidence from the North Staffordshire Connectivity Study (DaSTS Regional Study) and extensive consultation. The three key goals for the Local Transport Plan are:

- Economy; improving the local economy through increasing productivity for existing businesses and encouraging new investment by making the area more attractive;
- Environment; improving the local environment through reducing the impact of traffic (air and noise) and moving towards more sustainable transport technology and modes, coupled with improving the appearance of local areas; and
- Health; caring for local health through improving access to transport, transport safety and encouraging walking and cycling.

4. Action Planning

4.1 Aims of the 2014 Air Quality Action Plan

This is the first review since publication of the 2013 city-wide AQAP. The intention of the 2014 AQAP is to tackle air quality problems at both a city-wide level and at a practical, localised level wherever possible with the overall aim to improve air quality within the city by ensuring compliance with the National Air Quality Objectives.

It is considered essential that the actions proposed in the revised city-wide AQAP are co-ordinated with other strategies and polices that are under active development. The 2014 AQAP feeds into a range of relevant documents produced by the authority, including the LTP and the Local Development Framework.

4.2 The Air Quality Action Plan development process

The 2014 AQAP has been developed having regard to the current position of the local authority and a belief than the actions should be measurable and be effectively owned.

The lead for drafting the 2014 AQAP has been taken by Environmental Protection within the Public Health Directorate.

In the case of the 2014 AQAP it has been accepted that because the most significant source of NO_2 is from transport, little flexibility exists in terms of choosing different courses of action and the actions selected need to tie-in with the work of Transportation. Therefore the preferred method of public consultation involves making the report available on the specially designed consultation pages of the authority's web site. [10]

4.3 Identifying the actions

The 2014 AQAP has been prepared on the basis of the need to have realistic and achievable actions in the context of the government's current policy of reducing the budget deficit. It was considered essential that the actions within the 2014 AQAP should be limited to actions where the council can truly effect change.

As with most major cities, road traffic produces most of the pollution that needs to be tackled to improve air quality. The LTP covers comprehensive policies on providing sustainable transport that will help grow the economy, protect and create jobs, but also help to improve air quality and reduce carbon emissions and encourage active and safe travel. Physical and environmental changes, which if resourced and successfully implemented, are 'hard' measures which should result in longer term air quality improvements. Naturally, the development of the AQAP should be influenced by the work of Transportation.

Colleagues from Transportation shared details of their future projects, as well as feasibility material and an indication of potential source funding. The Highways

[10] http://www.stoke.gov.uk/ccm/navigation/council-and-democracy/have-your-say/consultations/

Agency was also contacted to identify if any proposed works initiated by them would be of significance. The Highways Agency reported no known actions.

Based on all the information gathered, an examination of the projects was undertaken to identify if any were connected to the known air quality hotspots in the city and if so which would be likely to have an impact on reducing NO_2 and improving air quality.

Each action has been detailed as a scheme and presented in a template to provide the same information pertinent to each; a description of the project, cost estimation, likely benefits and a target date for completion. Each of the schemes also identifies who will be responsible for owning the action and the indicators for monitoring progress.

The implementation of the actions is dependent on securing a sufficient level of funding. Financial support for many of the schemes has already been secured from the Capital Programme or available grants from Defra. To assign a broad indication of economics to each action, the following classification was used: 'Low' cost is taken to be <£50K; 'Medium' cost is £50K-£500K; 'High' cost is >£500K.

It is impossible to predict with certainty the improvements in air quality that could be attributable to the specific actions in this AQAP. No guarantees can be given that the air quality objectives will be met, but the combined effect of the actions presented in the AQAP are likely to lead to changes that may typically improve air quality. The expected improvement to air quality has been considered for each action and detailed as benefits in the template.

All of the actions presented in the 2014 AQAP can only be accomplished through the implementation of transport related schemes. It is acknowledged that the established relationship between Transportation and Environmental Protection needs to be maintained and that the success of the AQAP is also very reliant on the success of the LTP 3.

It is also recognised that some of the success in improving air quality involves life style changes and personal commitment to live, work and travel in different ways. Whilst the 2014 AQAP contains specific actions, there is on-going support for the principles to encourage less car usage, to reduce congestion and hence improve air quality.

These ‘soft’ measures are likely to be more difficult to achieve than the ‘hard’ actions proposed, but, wherever possible the authority will continue to contribute to education, travel plans, emissions reduction, the promotion of walking, cycling and the use of public transport.

5. Implementation and Monitoring

5.1 The 2014 Air Quality Action Plan

Burslem	**AQ1**
Reference	*LTP 114*
Proposed Action	Burslem Town Centre Traffic Management Improvements
Scheme Type	Network Efficiency
Scheme Description	To introduce the Traffic Management and Public Realm improvements for Burslem town centre based on the preliminary proposals developed by AECOM and as approved by the Burslem Regeneration Board & Etruria, Middleport & Burslem Steering Group.
Cost	Medium
Benefits	Improved air quality, reduced CO_2, enhanced economy. Promotes modal shift and smoother traffic flow.
Target date for implementation	Consultation expected in 2012/13
Ownership	Highways
Partners	Public Protection
Indicators	Peak period traffic flows, average congestion (miles per minute), journey times, mode share of journey, on-going AQ monitoring.

Cobridge	**AQ2**
Reference	*LTP 103*
Proposed Action	Traffic Management Improvements (including Waterloo Road Corridor)
Progress	Completed April 2013.

Fenton	**AQ3**
Reference	*LTP 106 & LTP 107*
Proposed Action	Victoria Road Corridor Improvements
Progress	Completed March 2013

Joiners Square	**AQ4**
Reference	*LTP 55*
Proposed Action	Lichfield Street Improvements
Scheme Type	Multi-modal

Scheme Description	Corridor improvement scheme aimed at reducing congestion and improving bus, pedestrian and cyclist access. These smaller scale traffic management measures will improve traffic flow along this key approach corridor into the City Centre and improve the sustainable transport offer.
Cost	Medium
Benefits	Improved air quality, reduced CO_2, less congestion, promotes modal shift, smoother traffic flow and accessibility into city centre.
Target date for implementation	Preliminary design 2012/13, Completion 2014/15.
Ownership	Highways
Partners	Public Protection
Indicators	Peak period traffic flows, average congestion (miles per minute), journey times, mode share of journey, access by public transport, bus punctuality times, on-going AQ monitoring.
Reference	*LTP 87*
Proposed Action	Leek Road / Victoria Road Junction - Safety Scheme
Scheme Type	Safe & Sustainable Travel
Scheme Description	21 road traffic incidents in last three years resulted in this scheme being assessed for possible intervention measures.
Cost	Small
Benefits	Improved air quality, reduced CO_2, less congestion, promotes modal shift and fewer accidents.
Target date for implementation	Preliminary design 2012/13
Ownership	Highways
Partners	Public Protection
Indicators	Peak period traffic flows, average congestion (miles per minute), mode share of journey, number of transport accidents, on-going AQ monitoring.
Reference	*LTP 109*
Proposed Action	City Road Corridor Improvements
Scheme Type	Highway
Scheme Description	This corridor improvement scheme will include measures to improve traffic flow, improved measures for walking/cycling and improve road safety between Leek Road & Victoria Road.
Cost	Medium
Benefits	Improved air quality, reduced CO_2, less congestion, promotes modal shift and smoother traffic flow, fewer accidents.
Target date for implementation	Preliminary design 2012/13
Ownership	Highways
Partners	Public Protection

Indicators	Peak period traffic flows, average congestion (miles per minute), mode share of journey, number of transport accidents, on-going AQ monitoring.

Stoke	**AQ5**
Reference	*LTP 58*
Proposed Action	Station Gateway, University Quarter and Uni Boulevard
Scheme Type	Multi-modal
Scheme Description	A series of traffic management schemes designed to complement works to improve College Road from Leek Road into the City Centre. Also includes signage work.
Cost	Medium
Benefits	Improved air quality, reduced CO_2, less congestion, promotes modal shift and smoother traffic flow on core bus network route.
Target date for implementation	Detailed design 2013/14
Ownership	Highways
Partners	Public Protection
Indicators	Peak period traffic flows, average congestion (miles per minute), journey times, mode share of journey, access by public transport, bus punctuality, on-going AQ monitoring.
Progress	Phase 1 Completed April 2013 Phase 2 Completed April 2013
Reference	*LTP 121*
Proposed Action	Leek Road Traffic Management Improvements
Scheme Type	Highway
Scheme Description	This is a main arterial route and links Stoke town centre to the University Quarter and the City Centre. It is also an important 'outer orbital' route for traffic to use as an alternative to the Potteries Way around the City Centre. Traffic Management Improvements will assist vehicular flow and compliment the proposed improvements to the Investment Plan project for the Station Gateway (Station Road / Winton Square / College Road).
Cost	Medium
Benefits	Improved air quality, reduced CO_2, less congestion, enhanced economy, promotes modal shift and smoother traffic flow on core bus network route.
Target date for implementation	Preliminary design 2014/15
Ownership	Highways
Partners	Public Protection

Indicators	Peak period traffic flows, average congestion (miles per minute), journey times, mode share of journey, access by public transport, bus punctuality times, on-going AQ monitoring.

Basford	**AQ6**
Reference	*LTP 77*
Proposed Action	Victoria Street / Shelton New Road Junction Improvement
Progress	Completed March 2013.

City-wide (schools)	**AQ7**
Reference	*LTP 93*
Proposed Action	Parking restrictions outside schools
Progress	Completed March 2013.
Proposed Action	Walk to School Outreach– Living Streets
Scheme Description	Stoke-on-Trent is a partner authority to the Walk to School Outreach package funded by the Local Sustainable Transport Fund. Durham County Council is the lead authority for this package working with national charity, Living Streets, to roll out an outreach programme. The bid identifies locations where the 'school run' is having a particularly significant negative impact on congestion, journey times and economic growth. The funding is being used for bespoke measures that will remove barriers to walking, along with delivery of proven school-based interventions. Schools in the south and east of Stoke-on-Trent which have large numbers of children driven short distances to school by car are being targeted.
Cost	Small
Benefits	Improved air quality, reduced CO_2, less congestion, enhanced economy, promotes modal shift for journeys to school in the morning peaks from car to sustainable modes.
Target date for implementation	2012/13 to 2014/15
Ownership	Highways
Partners	Public Protection
Indicators	Peak period traffic flow, mode share of journey, journey times, average congestion (miles per minute), number of transport accidents, on-going AQ monitoring.

Proposed Action	Access to Education - Sustrans

Scheme Description	Stoke-on-Trent is a partner authority to the Access to Education package funded by the Local Sustainable Transport Fund. This package, led by Devon County council, involves working with Sustrans to support economic growth by tackling local congestion problems caused by journeys to schools. It includes funding to promote walking and cycling to 21 primary schools and 7 secondary schools in the north and east of Stoke-on-Trent.
Cost	Small
Benefits	Improved air quality, reduced CO_2, less congestion, promotes modal shift for journeys to school in the morning peaks from car to sustainable modes.
Target date for implementation	2012/13 to 2014/15
Ownership	Highways
Partners	Public Protection
Indicators	Peak period traffic flow, mode share of journey, journey times, average congestion (miles per minute), cycling levels, on-going AQ monitoring.

City-wide (general)	**AQ8**
Reference	Stoking Employment in North Staffordshire
Proposed Action	The City Council has led a successful joint bid with Staffordshire County Council to the Local Sustainable Transport Fund. £4.9m from the fund has been secured towards a sustainable transport package that will support economic growth while reducing carbon. Significant air quality benefits are also expected.
Scheme Description	The scheme focuses on the existing and growing employment at Chatterley Valley, Etruria Valley, Trentham Lakes, the University Quarter (UniQ) and Keele University & Science and Business Park. These sites currently provide 13,700 jobs with the potential to unlock a further 8,000 jobs by April 2015. The main purpose of the package is to assist existing movement to shift to sustainable transport modes alongside improved accessibility to enable new employees into work through implementation of the elements: • Better Buses. • Smarter Choices. • Cycling and Walking This will tackle congestion, cut carbon and support economic growth.
Cost	High
Benefits	Improved air quality, reduced CO2, less congestion, enhanced economy, promotes modal shift, smoother traffic flow, improved accessibility, targeted promotion for use of sustainable transport and improved safety.
Target date for implementation	2012/13 to 2014/15
Ownership	Highways

Partners	Public Protection
Indicators	Peak period traffic flows, average congestion (miles per minute), journey times, mode share of journey, access by public transport, bus punctuality, cycling levels, change in area wide traffic mileage, on-going AQ monitoring.

City-wide (general)	**AQ9**
Reference	*WP1*
Proposed Action	A Stoke-on-Trent bid has been successfully submitted to the Department for the Environment, Food and Rural Affairs (Defra) Air Quality Grant for £30,000 to support a Clean Air Grant.
Scheme Description	WP1 will provide additional support to business for staff travel plans growing the existing Workplace Travel Plan Grant into a local Clean Air Grant. This grant will be available to workplaces and business to implement measures identified in their travel plans to increase use of low emission and sustainable transport. The grant will be administered by the Safe and Sustainable Transport Team as part of their engagement with workplaces. Applications from businesses within the urban core of Stoke-on-Trent, close to junctions with monitored congestion related air quality problems will be prioritised for measures to be funded by the Clean Air Grant. Workplaces whose travel plan monitoring and analysis shows high potential for a shift to sustainable modes will be prioritised for the funding. To receive a grant workplaces and businesses will have to commit to implement, monitor and maintain their travel plan. This will include co-ordinating with wider sustainable travel initiatives aimed at promoting low emission and sustainable transport to tackle air quality problems.
Cost	Medium
Benefits	Improved air quality, reduced CO_2, less congestion, promotes modal shift.
Target date for implementation	2013.
Ownership	Highways
Partners	Public Protection
Indicators	Monitoring data of traffic speeds and flows, accident data, journey time reliability, congestion, bus patronage and punctuality, bus passenger satisfaction, air quality monitoring
City-wide (general)	**AQ10**
Reference	Staffordshire ECO Stars Fleet Recognition Scheme
Proposed Action	Six Staffordshire Local Authorities have made a joint application for funding from the Defra Air Quality Grant to initiate an ECO Stars scheme for the Staffordshire area.
Scheme Description	The ECO Stars scheme is a proven intervention – specifically targeting commercial vehicles (HGV, vans, buses and coaches) to reduce vehicle emissions and, ultimately, air quality problems that are directly related to their contribution to road traffic.

Cost	Medium
Benefits	The key benefits of the scheme are to reduce nitrogen oxide, particulate emissions, carbon dioxide (NOX, PM10, PM2.5 and CO2) and operator costs.
Ownership	Staffordshire ECO Stars Steering Group
Partners	Newcastle-under-Lyme BC, East Staffordshire DC, South Staffordshire DC, Cannock Chase DC, Lichfield DC.
Indicators	Reduction in NOx emissions based on fuel consumption for each member organisation.

The geographical extents of the proposed actions are shown in Appendix 3.

5.2 Monitoring Progress

Responsibility for implementing the actions falls to and has been accepted by a number of council departments, primarily City Renewal and Public Health. The implementation of actions will be closely monitored and reported.

Stoke-on-Trent City Council will continue to operate an air quality monitoring regime and where appropriate, subject to resources, endeavour to carry out specific monitoring to help measure the impact of each action proposed.

Environmental Protection will take the lead in measuring improvements in air quality and ensure regular contact with colleagues in City Renewal to discuss progress, achievements and account for any deviations.

It is a requirement of the action planning process to regularly report progress and submit these to the Department for Environment, Food and Rural Affairs (Defra). Environmental Protection will take the lead in interpreting the data supplied by the action owners and present this in the format as requested by Defra.

Monitoring improvements in air quality will take time, although it is hoped that some shorter term gains will be apparent by the time that LTP 3 is due for review. Where possible, success will be monitored by looking for outputs that are indicative of changes in air quality. In addition the potential for further benchmarking of attitudes and perceptions of residents and businesses in the exceedence areas will be explored.

Regular reports will also be submitted to the Licensing and Consumer Protection Committee as part of the Division’s performance monitoring responsibilities.

6. Conclusions

This Air Quality Management Action Plan replaces the plan prepared in 2013.

The council believes that improving air quality fully supports the transformation of the city, produces a better quality of life for the people who live and work in the city or visit the area and contributes to making Stoke on Trent an attractive location for businesses.

As in other major cities, the main source of nitrogen dioxide has been identified as road transport, therefore this document sets out a series of the most cost effective and appropriate actions that have been identified to reduce levels of transport related nitrogen dioxide city-wide and at selected hotspots.

The actions proposed in this document have considered other strategies and polices that are under active development and feed into a range of relevant documents produced by the authority, including the Local Transport Plan and the Local Development Framework.

Environmental Protection will take the lead in measuring improvements in air quality and continue to work with colleagues in other council departments, partner agencies and neighbouring authorities, with the overall aim of improving air quality.

Action plan progress reports will be submitted annually to the Department for Environment, Food and Rural Affairs (Defra) and published on the Council's website. The progress reports will give consideration to any additional actions that may be required in the future.

APPENDIX 1

Air Quality Management Area Order 2011

THE CITY OF STOKE-ON-TRENT

STOKE-ON-TRENT AIR QUALITY MANAGEMENT AREA ORDER 2011

The Area is designated in relation to likely breaches of the annual mean and 1 hour mean Nitrogen Dioxide air quality objectives specified in the Air Quality (England) Regulations 2000 (as amended).

For further details see the City Council's Updating and Screening Assessment of Air Quality published April 2009.

city of stoke on trent

Adult and Neighbourhood Services
Public Protection Division
PO Box 2452
Floor 1, Town Hall
Albion Street, Hanley
Stoke-on-Trent
ST1 1XP

AUTHORISED SIGNATORY

AUTHORISED SIGNATORY

N

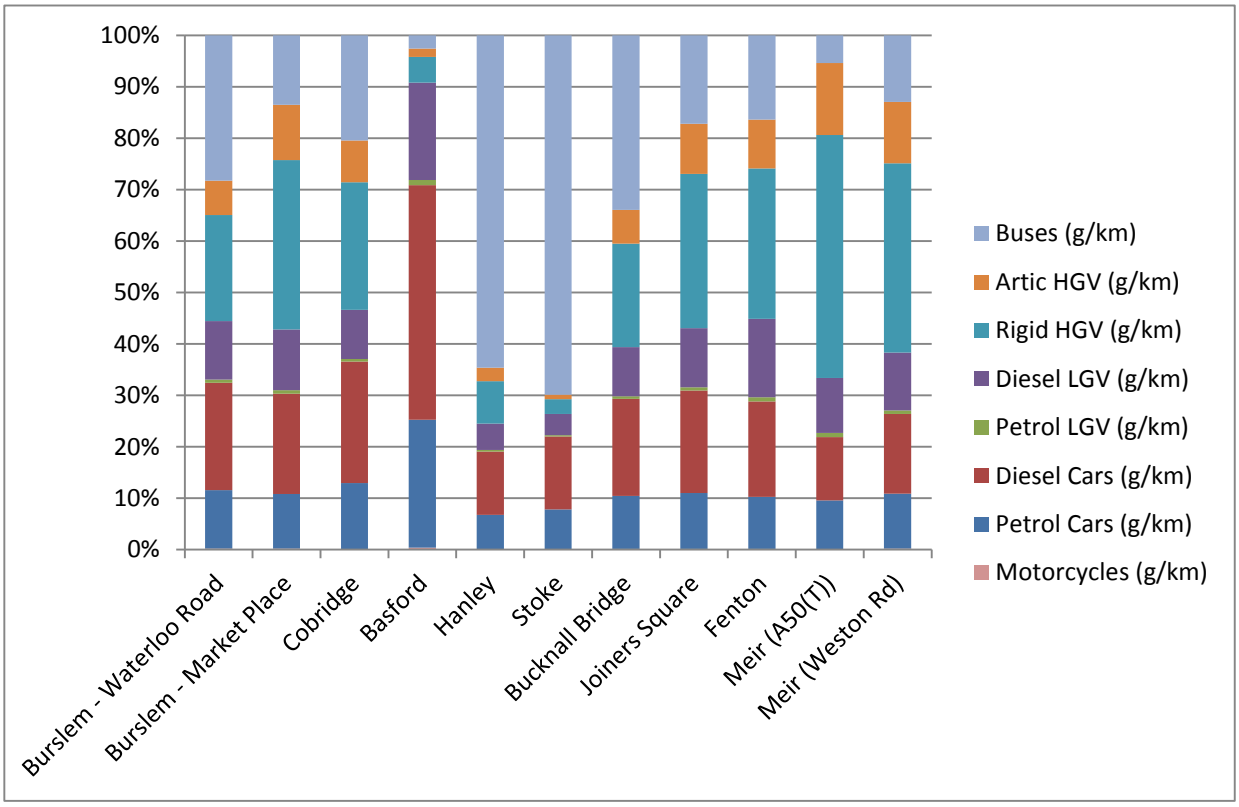
Air Quality Management Area

 Not to scale

APPENDIX 2

Source Apportionment of Nitrogen Dioxide

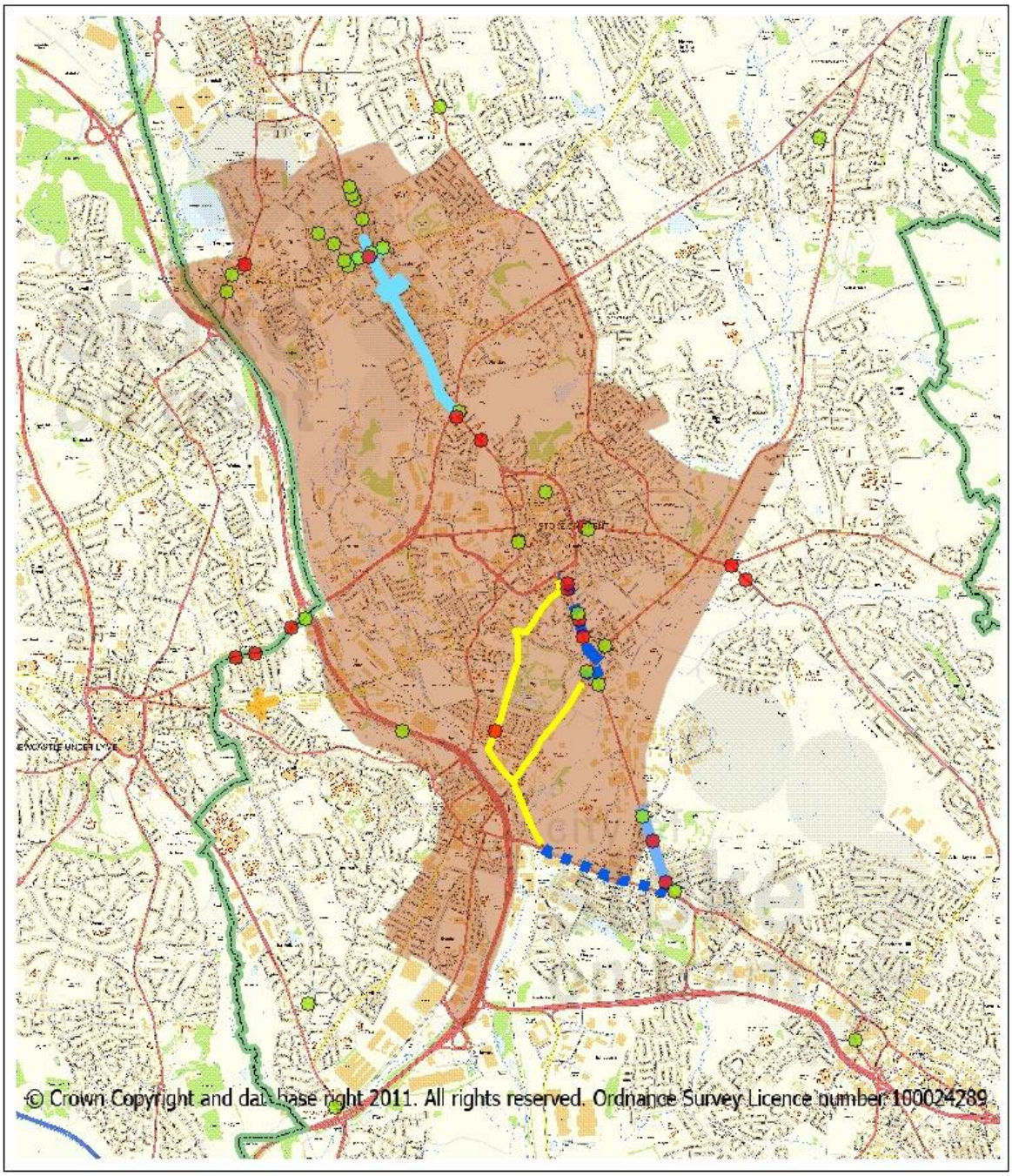
Source_Name	Pollutant_Name	Petrol Cars (g/km)	Diesel Cars (g/km)	Petrol LGV (g/km)	Diesel LGV (g/km)	Rigid HGV (g/km)	Artic HGV (g/km)	Buses (g/km)	Motorcycles (g/km)
Burslem - Waterloo Road	NOx	841	1543	46	843	1525	497	2090	15
Burslem - Market Place	NOx	704	1290	43	783	2178	710	896	13
Cobridge	NOx	1111	2037	45	823	2142	698	1767	5
Basford	NOx	1633	2995	68	1242	328	107	169	26
Hanley	NOx	683	1252	29	527	836	272	6579	8
Stoke	NOx	447	820	13	238	165	54	4038	6
Bucknall Bridge	NOx	1416	2596	72	1319	2771	903	4677	23
Joiners Square	NOx	1583	2904	91	1674	4366	1423	2508	20
Fenton	NOx	1561	2864	128	2351	4508	1469	2529	22
Meir (A50(T))	NOx	2172	2815	177	2449	10777	3207	1227	17
Meir (Weston Rd)	NOx	932	1351	59	982	3208	1044	1130	19



APPENDIX 3

Maps of Monitored Air Quality and Air Quality Actions

AQ1, AQ2, AQ3, AQ4, AQ5, AQ6 & AQ9



AQ1 & AQ2 AQ5 AQ9
AQ3 AQ6 County / Stoke-on-Trent Boundary
AQ4

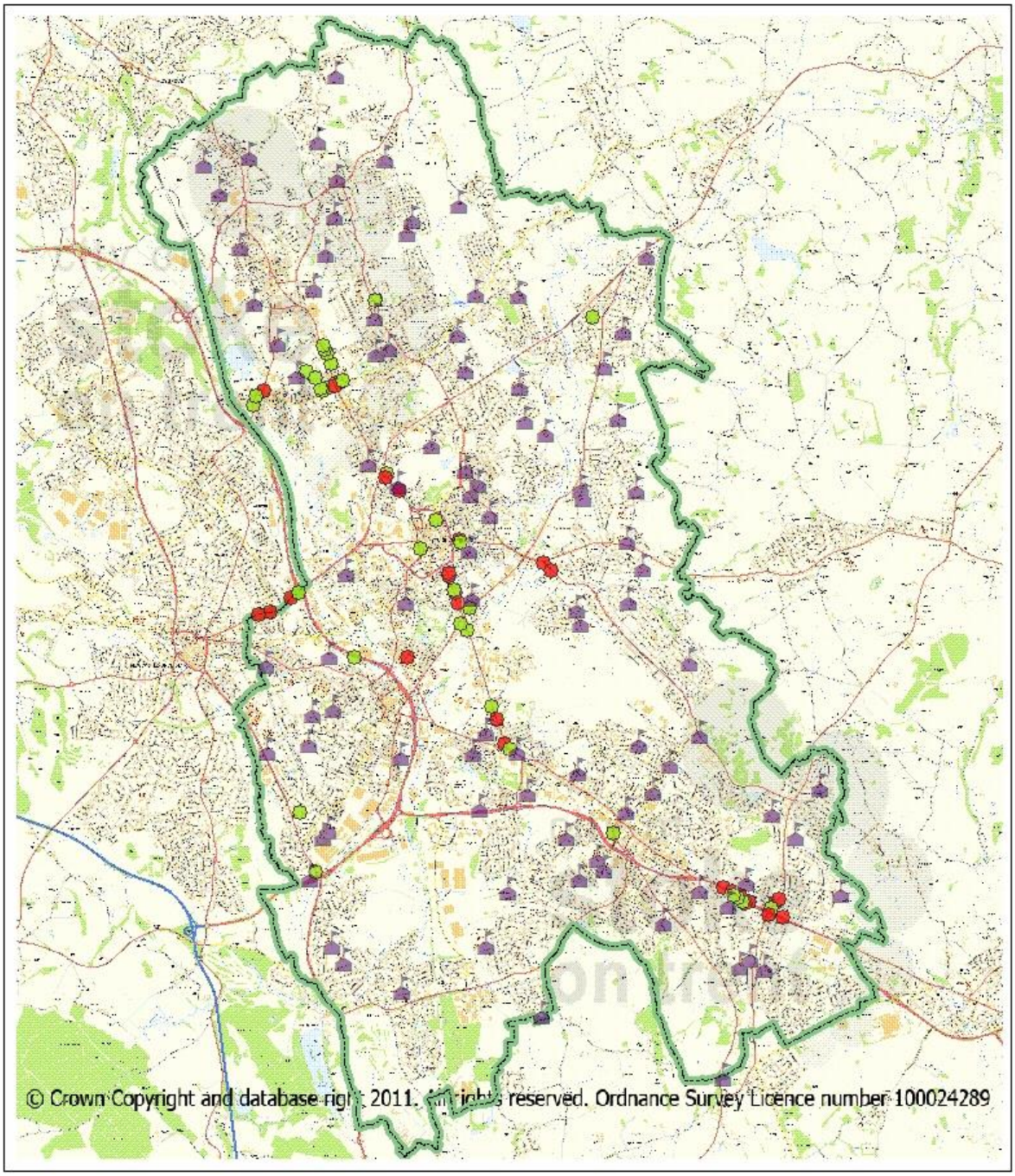
Nitrogen Dioxide Concentrations

< 40 µg/m³ > 40 µg/m³

N

1:40,000

AQ7



AQ7

County / Stoke-on-Trent Boundary

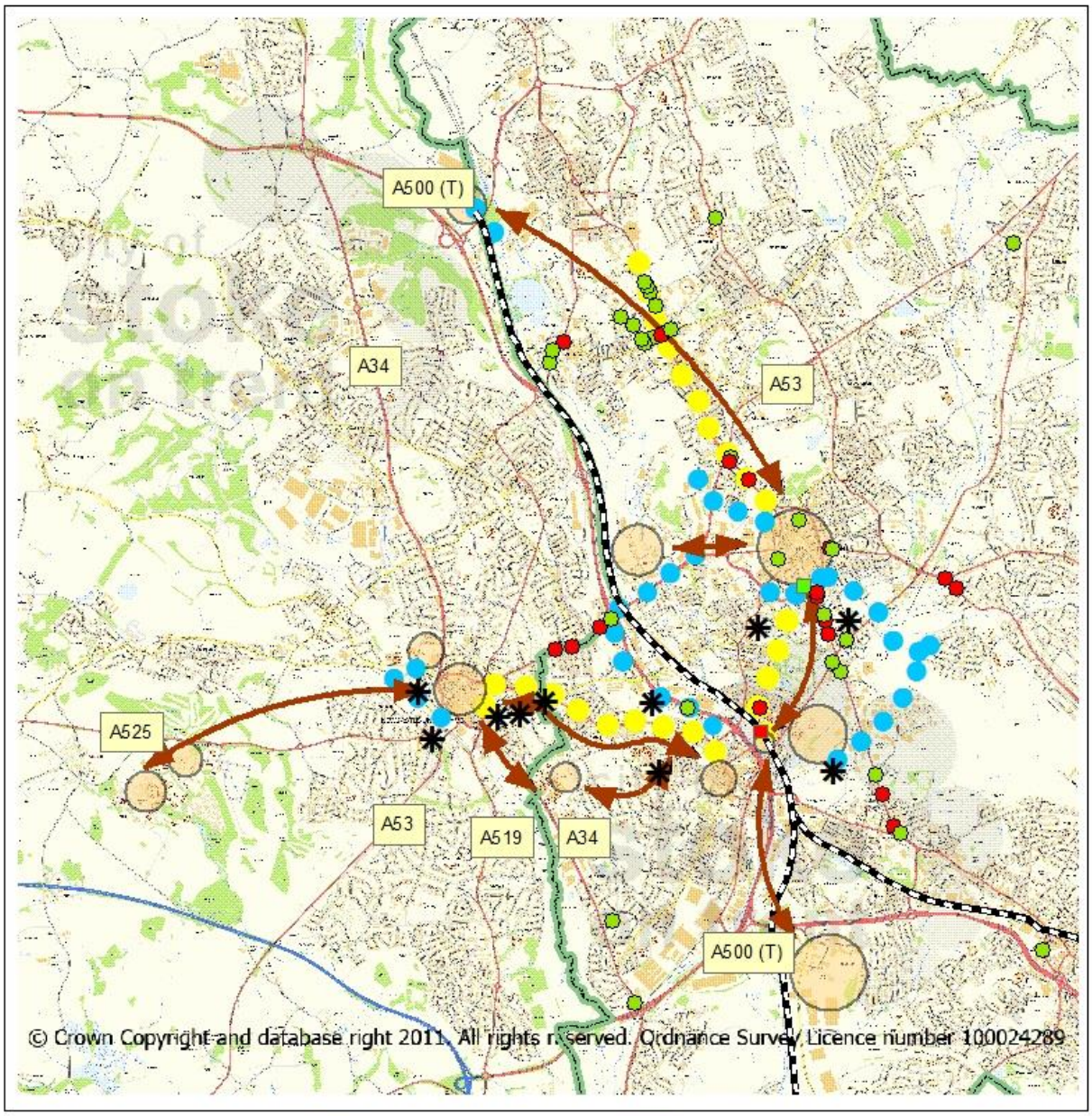
Nitrogen Dioxide Concentrations

< 40 µg/m³ > 40 µg/m³

N

1:70,000

AQ8



West Coast Main Line | New City Centre Bus Station | County / Stoke-on-Trent Boundary

Scheme Element 1

Bus Passenger Information and Service Improvements

Traffic Management and Bus Priority

Scheme Element 3

Cyling and Walking Network Connection

Scheme Element 2

Key Destinations that will be the focus of Workplace Travel Planning and Smart Choices

Focus of School Travel Plan

Rail Station Travel Plan

New City Centre Bus Station

Nitrogen Dioxide Concentrations

< 40 µg/m³ > 40 µg/m³

N

1:55,000

AQ10