

# Air quality action plan

## Progress report

June 2009



## **Introduction**

Part IV of The Environment Act 1995 places a statutory duty on all Local Authorities in the UK to periodically review and assess air quality in order to determine compliance with Government health-based objectives for a number of pollutants.

National targets for seven key pollutants are set out in the National Air Quality Strategy and the Air Quality Regulations 2000. Local Authorities that determine air quality in their area is likely to fail to meet the objectives are required to declare the exceedance area as an Air Quality Management Area (AQMA), and produce an Air Quality Action Plan (AQAP) in pursuit of the achievement of air quality standards and objectives within the designated area.

The Southampton AQAP was produced in April 2008. Local authorities which produce an AQAP are required to prepare an annual progress report on measures contained in the action plan and submit it to DEFRA by April the following year. It was agreed with DEFRA that this report be submitted in August 2009. This was because changes to Air Quality Management Areas in the city since April 2008 have meant that the AQAP needed to be reviewed to include up to date information. A number of new projects have also been brought forward which will be included in the next AQAP.

This Progress Report will give a picture of the current situation in relation to measures set out in the original Air Quality Action Plan and other trends that have emerged through monitoring of NO<sub>x</sub> emissions and data collected against a range of other intermediate outcomes.

## **New Projects**

Since the AQAP was produced, a number of new projects have been developed with an aim to reduce air pollution in the city. These will be integrated into the measures table in the revised version of the AQAP to be published later in 2009.

### **Reduce Strategy**

As part of the overall Reduce-Manage-Invest approach to transport, a Reduce Strategy is currently being developed by Transport for South Hampshire. This will identify a range of comprehensive measures to reduce the demand to travel overall, particularly by private car. This should lead to a greater proportion of journeys by public transport, walking and cycling, which would have a positive impact on air quality. It is expected that the Reduce Strategy will be presented to Transport for South Hampshire Joint Committee later in 2009.

### **AQ prediction & traffic management pilot study**

The study is intended to investigate the feasibility of reducing or relocating traffic queues in AQMA areas. Some initial studies have indicated that there is a direct correlation between the micro climate and the intensity of pollutants in the atmosphere even on days when traffic flows remain constant. In response to this, the ROMANSE team are researching the ability to collect micro climate data and traffic flow data in an attempt to identify suitable trigger points when alterations to the control of traffic maybe of benefit in the reduction in the concentration of localised emissions in the atmosphere.

To achieve this we will be developing a low cost CO or NOX sensor and a meteorological data logging device. The logging device will initially be installed in the Bevois Valley AQMA. Baseline data will be collected and aligned with data on vehicle flows, delays, speeds and queue lengths collected from the adaptive traffic control systems at ROMANSE. A traffic micro simulation model will then be created which will be used to test the potential traffic control measures which may result in the reduction of emissions concentrations in the AQMA area.

It is intended that this project will take 3 years to complete. Year 1 will be the development of logging equipment, data collection and analysis, year 2 traffic modelling and control analysis, year 3 field trials. Total costs are £8,000 over 3 years. Air quality impacts will be localised. Whilst they won't necessarily reduce air pollution they will relocate the source to an area without receptors, therefore reducing the health impact.

### **Air Alert project**

The Air Alert project is a joint venture between Southampton City Council and Southampton City PCT. The project aim is to provide Southampton residents who have an existing respiratory condition with advance warning of poor air quality and enable them to adjust their behaviour to minimise the risk of exposure to elevated levels of pollution. This will empower individuals to manage their own illnesses, and in

extreme cases will prevent admissions to hospital. The project will initially identify community clusters in 3 of Southampton's Air Quality Management Areas (AQMAs) – Redbridge Road, Bitterne Road and Bevois Valley, 2 of which are designated Priority Neighbourhoods. The project costs are relatively low and will be committed initially over a period of 2-5years. Whilst the actual air quality impact will be negligible, the objective of the project is to address the existing health impacts of residents by preventing their exposure to future incidents of poor air quality.

### **Keep the City Moving group**

The principal aims of the group are to: Coordinate, Communicate and Plan issues in relation to 'Keeping the City Moving'. The group will

- Act as the project Board for Congestion issues
- Provide a focus for and coordination of anti-congestion actions
- Coordinate the Authority's Network Management Duty
- Coordinate issues and actions from consultation groups, managers and members
- Communicate issues and solutions to the public, partners and Members
- Ensure plans are in place for events, issues and emergencies
- Facilitate actions
- Monitor actions
- Reflect the key principles of the LTP of Reduce - Manage – Invest

The group is SCC led and with officers from across relevant service areas of the council. There are sub groups on specific issues which will involve external partners where necessary, e.g. in relation to the IKEA opening. There will also be meetings with ABP, Carnival and Red Funnel as a general events management session.

**Table 1: Progress against Air Quality Action Plan measures**

	Measure	Timescale	Progress
1	School Travel Plans	2010	100% of travel plans complete and nearly all formally approved. % of children driven to school has fallen from 23.0% to 20.03%. Actions are in place to target primary schools where % is higher. Could encourage schools to install and take responsibility for NOx tubes. Need to find contact for Science curriculum in schools.
2	Investigate ways to assist staff in cycling to work and between meetings	2008	Pool bike scheme implemented, cycle storage space increased, interest free loans for staff to purchase cycles implemented, free bike doctor and road safety assessments available. No. of staff cycling to work has increased from 8.6% (2006 Staff Travel Survey) to 11.3%. Need to improve internal communications to increase use of pool bikes.
3	City Council Rail Warrant Scheme	2008	Rail Warrants made available to allow advance purchase of train tickets for work related travel. Concerns over value for money of the scheme due to high cost of each rail warrant. Investigate group rail cards for discounted tickets.
4	City Council Car Club	2008	Staff have access to Whizzgo Car Club for work related travel. Successfully in place although concerns over value for money. Need to have more consideration for how to make journeys. Calculation of cost and carbon impact should be made for each option.
5	City Council Journey Planning Service	2008	In place but requires further promotion to increase take up. Potential to link into corporate learning and development team to address opportunities for car sharing and alternative travel to training sessions e.g. Eastpoint.
6	Corporate Courier Transport Service	2008	All deliveries co-ordinated by central fleet service. 1 vehicle and 1 ft member staff saved plus reduction in overall mileage.
7	Continuous Improvement Objectives	2010-2013	Work on action plan is ongoing.
8	Improving emissions from Council's vehicle fleet	2010	Fuel consumption figures have been obtained and will provide a baseline for comparison in future years. Funding has been obtained and a modelling exercise on the increase of the entire fleet to Euro 3 or 4 standards commissioned. Currently using biodiesel (5%) on all diesel vehicles. Other biofuel options to be considered following modelling work. Eco driving training for SCC drivers to be progressed later in year.

Measure		Timescale	Progress
9	A33 Marsh Lane / Terminus Terrace Gyratory Removal	2010-2013	Preliminary investigations in progress. Outline designs have now been completed. Modelling of air quality improvements to be taken forward.
10	A33 Platform Road / Town Quay Gyratory Removal	2010-2013	Outline design completed using growth point funding. Modelling of air quality improvements to be taken forward.
11	Central Station Re-modelling	2013-2018	Upside entrance re-modelled and new waiting facilities introduced. Downside entrance and bus interchange remodelling proposed for 2010 onwards.
12	Park and Ride	2010-2013	Windhover Junction site allocated funding from Regional Funding Allocation (see also A3024 Bus/HOV lane below) - Works expected to commence 2014.
13	A3024 Bitterne Road route (bridge widening plus bus and high occupancy vehicle priority lane linked to eastern P&R site)	2013-2018	Allocated funding from Regional Funding Allocation - Works expected to commence from 2014.
14	Rail Gauge enhancement (to enable more containers to go by rail)	2010	Program of works in place - Expected to commence 2010.
15	City centre bus interchanges (2 locations)	2013-2018	Discussions as to the locations are on going. Will be considered in detail through the development of the City Centre Action Plan.
16	North South spine (continuation of scheme)	2013-2018	Re-modelling of London Road completed in 2008. Works in progress along Above Bar Street/High Street.
17	Woolston District Centre (linked to redevelopment)	2010-2013	Planning consent has been obtained. Project may be delayed due to current economic/development climate.

Measure		Timescale	Progress
18	Millbrook roundabout improvements	2010-2013	Completed.
19	Active Travel schemes (walking and cycling)	2010-2013	Walking – installation of new pedestrian crossings, programme of walk to work routes in retail/business centres, improvements to pedestrian areas in retail centres. Cycling – continued development of National Cycle Network routes within the City, installation of advance stop lines, erection of more cycle stands and development of more shared use facilities. Active Southampton initiative launched in January 2008.
20	Travel Planning initiatives (workplace)	2010-2013	30% of workplaces have a travel plan in place (target for 2010/11 is 35%).
21	Public transport improvements (citywide)	2010-2013	Real Time Information introduced at bus stops in 2007/08. Looking to extend the South Hampshire Multi Area Agreement to also include public transport to enhance integration at the sub-regional level.
22	Road Safety Improvements (citywide)	2013-2018	London Road and Millbrook Roundabout Improvements completed in 2008. 2007 was the best year on record.
23	Accessibility improvements (citywide)	2010-2013	Accessibility Forum launched to discuss and resolve accessibility issues.
24	Local planning policies (citywide)	2008	Investigating the possible use of s106 agreements to secure measures to reduce impact of AQ from new development. Core Strategy timetable has been put back – although no issues with content.
25	Targeted planning guidance to address air quality impacts of development	2010	Revised AQ guidance sent to Development Control. Sustainable Design & Construction SPD to contain AQ guidance – due for initial consultation in April 2009. Travel Plans are secured through conditions and S106 agreements. In 2008/09 56% of major planning applications approved had a condition relating to cycle storage or reduced car parking and 28% had a Travel Plan or sustainable travel vouchers secured through a s106 agreement.
26	Public awareness and information provision strategy	2010	Funding received for stand alone local AQ website. Some delay in taking forward website development due to IT issues. A business case has been put forward and working group established for a local air alert system.

Measure		Timescale	Progress
27	Emission test days (in partnership with the VOSA)	2010	VOSA already test private vehicles. No real impact as most private vehicles meet modern standards. VOSA no longer do emissions tests at roadside – only do safety checks. Cost of hiring own equipment to do testing would be prohibitively expensive.
28	Provide alternative routes from the M271	2013-2018	Preliminary investigations in progress with regard to a direct route into the Port from M271. Schemes proposed so far are at national level of funding and scale.
29	De-trunk M271	2010-2013	Schemes proposed so far are at national level of funding and scale. A proposal has been brought forward by Delivering a Sustainable Transport System (DaSTS) to extend the national road network to include the M271 and A33 from 2014 as part of the South Coast Ports to West Midlands National Corridor. The Department for Transport will lead on a study of transport issues on this corridor, to identify a programme of measures for implementation post 2014.
30	Target the freight fleet to raise engine standards	2010-2013	Preliminary investigations in progress. Transport for South Hampshire has published a freight strategy. A freight quality partnership is currently being set up.
31	Bus quality partnership	2010-2013	In place. The City's principal bus operators have begun to roll out new Euro 4 standard vehicles although some fleets still need major improvements. Looking at the case for a South Hampshire partnership through the expansion of the Multi Area Agreement, working on a sub-regional level with the South Hampshire Bus Operators Association. Funding has been obtained and modelling of the air quality benefits of an increase in the bus fleet to Euro 3 or 4 standard has been commissioned.
32	Taxi quality partnership	2010-2013	Euro 4 standard taxis are being introduced on a vehicle by vehicle basis. Funding is available for modelling of the air quality benefits of an increase in the bus fleet to Euro 3 or 4 standard.
33	Introduce fixed penalty for idling vehicles (including buses and taxis)	2010	Briefing note to be produced to implement local policy and enforcement procedures. Have written to coach operators. Will begin with discussions with parking enforcement team to approach idling vehicles with initial warning. Will investigate enabling legal powers if proves to be necessary.



Measure		Timescale	Progress
34	Review traffic calming measures	2010	Investigation has been carried out into horizontal deflections rather than vertical (e.g. speed bumps) as these do not result in sporadic engine use. Horizontal measures have been implemented at London Road and will be monitored. If successful, may be incorporated into other Highway projects. New developments required to be designed to Home Zone principles. Retro fitting schemes to existing streets is very expensive.
35	Consider changes to traffic light phasing	2010	Preliminary investigations in progress for using ROMANSE to change traffic light phasing so that queues would be moved to non-residential areas. SCOOT system in place to optimise traffic flow in certain areas. New system is in place at Hill Lane/Archers Road. If successful this will be taken forward at the Bassett cross roads – funding to be identified. The air quality traffic management system project will be taken forward initially in the Bevois Valley AQMA with possibility of roll out to other appropriate AQMAs.
36	Addressing port related issues through a package of measures	2010-2013	Work with ABP in progress to introduce a range of measures including: creating new access routes, providing alternative fuel supplies, developing freight quality partnerships & providing HGV staging areas. DP World Southampton have introduced a simplified vehicle booking system (VBS) to minimise significant peaking of lorry arrivals experienced historically. The system is used in conjunction with a method of allocation of transfer areas and slots to make more efficient use of the terminals facilities. Information about the lorries trip to the terminal is recorded on the system – this could be used for baseline data collection on vehicle trips. 2 out of 15 new straddle carrier machines fitted with hybrid technology (savings of 25-30% and estimated to eliminate 50% of carbon emissions from each straddle carrier). The remaining 13 carriers can be upgraded if the technology proves viable.
37	Shore side electricity	2010-2013	Not feasible and will not go ahead.

<b>Measure</b>		<b>Timescale</b>	<b>Progress</b>
38	Revitalising District Centres and creation of Community Hubs at Lordshill, Woolston, Bitterne, Portswood, Shirley and City Centre	2010-2013	Portswood and Shirley District Centres revitalised through new retail/service opportunities and road improvement works. Part of the Regeneration programme and Core Strategy.
39	Investigate a personal travel planning service for residents and businesses of Southampton	2010	Preliminary investigations in process. Cost issues associated with extending the existing in-house service. Need to encourage companies to set up their own advisory services. A business case has been put forward for Southampton Sustainable Travel Town initiative. 29.6% of city workforce covered by Travel Plans.
40	Integrate Air Quality Impact Assessment into all major transport projects	2010	Preliminary studies are being undertaken. Modelling of AQ impacts and benefits of SCC infrastructure schemes to be carried out. Will be integrated into LTP3 and linked to Highways/Transport Policy work programmes.
41	Research the health impacts of air pollution	2010-2013	Regular attendance of SCC representative on the Southampton Respiratory Group. Air Quality identified as a key objective in the Health & Well Being Strategy. Air Alert project is progressing with business case put forward and working group established. Air quality traffic management project (pilot study in Bevois Valley AQMA) will focus on removing the health risk of queuing traffic in areas of high foot flow.

## Monitoring of air quality improvements

Air quality monitoring data is collected every calendar year at a number of monitoring stations across the city.

- The DEFRA Automatic Urban Network Station, located on Brintons Road by Six Dials Junction.
- The mobile Unit (Groundhog) is currently sited at Bitterne Road.
- The permanent Station at Redbridge Community School was established in April 1999.
- In 2005 a permanent nitrogen oxides analyser was also installed on Onslow Road within the Bevois Valley AQMA.
- In September 2007 a small roadside monitoring station was installed at the junction with Waterhouse Lane. This is within the new Millbrook Road Air Quality Management Area.

**Table 2: Nitrogen Dioxide Monitoring Data 2008**

Monitoring Station	Nitrogen Dioxide ug/m <sup>3</sup> 2008 annual mean	Exceedance of annual mean objective (40 ug/m <sup>3</sup> )
Onslow Road	51.4 ug/m <sup>3</sup>	yes
Redbridge AMS	44.3 ug/m <sup>3</sup>	yes
Bitterne AMS	Data not yet available	N/A
Brinton's Road	36 ug/m <sup>3</sup>	no
Millbrook Road	51.9 ug/m <sup>3</sup>	yes

## Intermediate outcomes

Intermediate outcomes show a broader picture of progress towards cleaner air. They represent our choices in mode of transport, the numbers of people exposed to poor air quality on a regular basis, and the relationship between transport use and climate change. Monitoring data on these outcomes is made available every financial year. The following section will therefore look at trends in data over 2006-2007 and 2007-2008, or the most recently available data.

### **Bus patronage** ↑ (GREEN)

**Target: 20.9M**

In 2006-2007 there were 19.3M bus journeys, representing a 4.3% increase on the figure for the previous year. The increase can be attributed to the rise in the number of concessionary travel journeys made as a result of the introduction of the free scheme in April 2006. In 2007-2008 there was a further increase in bus journeys to 19.7M.

### **Number of cycling trips** ↑ (GREEN)

**Target: 2117**

In 2006-2007 the number of cycling trips exceeded the target and, at 2866, were almost double that of the previous year. In 2007-2008 cycling trips have increased again to reach a total of 3267.

### **Change in peak period traffic flows** ↓ (GREEN)

**Target: 30,784**

Using a baseline figure of the average number of light vehicles per morning peak period for the years 2002-2004 (30,784), surveys in the past two years have indicated a steady reduction in flows down to 30,275 in 2006-2007. In 2007-2008 peak period traffic flows have reduced again slightly down to 29,193.

### **Change in area-wide traffic mileage** ↑ (RED)

**Target: 1208km**

Although the number of vehicle kilometres has risen by 2.1% since 2004 (up to 1174 by 2006), the level of growth is still lower than national traffic growth figures. In 2007-2008 area-wide traffic mileage increased again slightly to 1180km, although still improves upon the target and is a lower rate of increase compared with the previous year.

### **Mode Share of school journeys** ↓ (GREEN)

**Target: none set (2006-2007 as baseline)**

In 2006-2007 the percentage of children travelling to school by car (excluding car share) was 23%. In 2007-2008 the percentage decreased to 20.3%.

### **Number of properties within Southampton AQMAs** ↑ (RED)

Following the 2005 declarations, a total of 844 residential properties were in an AQMA. With the changes to some of these AQMAs and the declaration of two new AQMAs, the number of residential properties in an AQMA in 2008 rose to 897.

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Designed, printed & produced by Southampton City Council 6/09/21752



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