



**Action Plan Progress
Report 2010:
Winchester City Council**

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Experts in air quality
management & assessment

Document Control

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Executive Summary

- 1.1 This report provides an update on progress with the implementation of the Air Quality Action Plan in Winchester. It forms part of the statutory duty placed on local government to report progress in Local Air Quality Management, under Part IV of the Environment Act 1995 and the Air Quality (England) Regulations 2000 and subsequent Air Quality (England) (Amendment) Regulations 2002.
- 1.2 The Action Plan was adopted in April 2006 following consultation with stakeholders. It outlines 21 measures aimed at improving air quality in order to work towards the relevant air quality objectives. It is recognised that the main source of the pollution within the AQMA is road traffic, in particular arising from congestion and the topography of the main streets. As such, improvement options are related to transport, in particular reducing the reliance on private car use through the promotion of alternatives (walking, cycling and public transport), trying to reduce congestion in the City Centre and lowering emissions of vehicles.
- 1.3 This Action Plan Progress Report has provided an update on the implementation of the measures included in the final Action Plan. A number of measures have now been completed, including the new Park and Ride site, and Variable Message Signs relating to car parks in Winchester and on approach roads into the city. These actions should reduce emissions in the AQMA but it is not possible at present to quantify these emissions reductions at the worst-case locations within the AQMA.
- 1.4 There are a number of ongoing actions, in particular those relating to reducing congestion (mainly to be delivered through the Winchester Town Access Plan, WTAP), encouraging public transport, cleaner vehicles and taking action to increase public awareness of air quality. These are all progressing to some extent, but future implementation is likely to depend on the progress of WTAP and the next Local Transport Plan (LTP3), and the funding made available through these processes.
- 1.5 Even with the completion of 5 of the 21 actions, and progress with most of the others, it is clear that concentrations of nitrogen dioxide are not reducing to the extent that the action plan predicted. With the Action Plan now having been in place for four years and many of the actions having progressed (some to completion), and in light of continuing exceedences of the annual mean nitrogen dioxide objective, it is considered that the Action Plan should be reviewed, with the current actions updated and more radical options considered. It is suggested this is undertaken through a full review of the Action Plan to fit in with the LTP3 and WTAP processes. It is likely that the best timing for this would be spring 2011.

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2 Introduction

Description of Local Authority Area

Purpose of Action Plan Progress Report

- 2.1 This report provides an update on progress with the implementation of the Air Quality Action Plan in Winchester. It forms part of the statutory duty placed on local government to report progress in Local Air Quality Management, under Part IV of the Environment Act 1995 and the Air Quality (England) Regulations 2000 and subsequent Air Quality (England) (Amendment) Regulations 2002.
- 2.2 This report follows on from the Council's submission of an Air Quality Progress Report in 2008 and an Action Plan Progress Report in 2007, and should be read in conjunction with the 2009 Updating and Screening Assessment (USA) and 2010 Progress Report. An AQMA was declared in 2003 for the nitrogen dioxide (annual mean) and the PM₁₀ daily mean objectives, encompassing an area within the one-way system in Winchester town centre, and including the town centre end of the major roads feeding into it. Winchester City Council produced its final Action Plan in April 2006, following consultation with stakeholders and residents of the borough.
- 2.3 This Action Plan Progress Report sets out progress with implementing the measures outlined in the final Air Quality Action Plan in the period since the last Action Plan Progress Report in 2007.

Local Air Quality Management Framework

- 2.4 The Government's most recent Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Defra, 2007) sets out a framework for air quality management, which includes a number of air quality objectives. National and international measures are expected to achieve these objectives in most locations, but where areas of poor air quality remain, air quality management at a local scale is considered the most appropriate way forward. Part IV of the Environment Act 1995 requires local authorities to periodically review and assess the current, and likely future air quality in their areas. The role of this process is to identify areas where it is unlikely that the air quality objectives will be achieved by the due date. These locations must be designated as AQMAs and a subsequent Air Quality Action Plan developed in order to reduce pollutant emissions in pursuit of the objectives.
- 2.5 The Government's Air Quality Strategy defines both standards and objectives for each of a range of air pollutants. The 'standards' are set as concentrations below which health effects are unlikely even in sensitive population groups, or below which risks to public health would be exceedingly small. They are based purely upon the scientific and medical evidence of the effects of a particular pollutant. The 'objectives' set out the extent to which the Government expects the standards to be

achieved by a certain date. They take account of the costs, benefits, feasibility and practicality of achieving the standards. The relevant objectives for the Winchester AQMA are set out in Table 1.1. The objectives for nitrogen dioxide and PM₁₀ were to have been achieved by 2005 and 2004 respectively, and continue to apply in all future years thereafter.

Table 1.1: Relevant Air Quality Objectives for Nitrogen Dioxide and PM₁₀.

Pollutant	Concentration	Measured as	Date to be achieved by
Nitrogen dioxide	40 µg/m ³	Annual mean	31.12.2005
Particles (PM₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004

- 2.6 Air quality objectives are only applicable where members of the public are likely to be regularly present and are likely to be exposed over the averaging time of the objective. For annual mean objectives, relevant exposure is focused on residential properties, schools and hospitals. For the daily mean objective, this also includes gardens of residential properties. The Local Air Quality Management Technical Guidance (LAQM.TG(09); Defra, 2009) sets out the approach to Review and Assessment. Specific Government guidance on Air Quality Action Plan Progress Reports is included in TG(09), which has been used in the preparation of this report.

Summary of Previous Review and Assessments

- 2.7 Following the first round of Review and Assessment, Winchester City Council declared an AQMA for nitrogen dioxide and PM₁₀, encompassing properties within the one-way system and alongside major roads feeding into the system in November 2003. The Action Plan, published in 2006, identified 21 actions to reduce pollutant concentrations. Subsequent Review and Assessment reports have confirmed the need for the AQMA for nitrogen dioxide, but in recent years the objectives for PM₁₀ have been met. The most recent Review and Assessment report (Updating and Screening Assessment) recommended that the AQMA for exceedences of the 24-hour mean PM₁₀ objective be revoked. For this reason, this Progress Report will focus on progress towards achieving the nitrogen dioxide annual mean objective.
- 2.8 Figure 1.1 shows the Winchester City Centre AQMA.

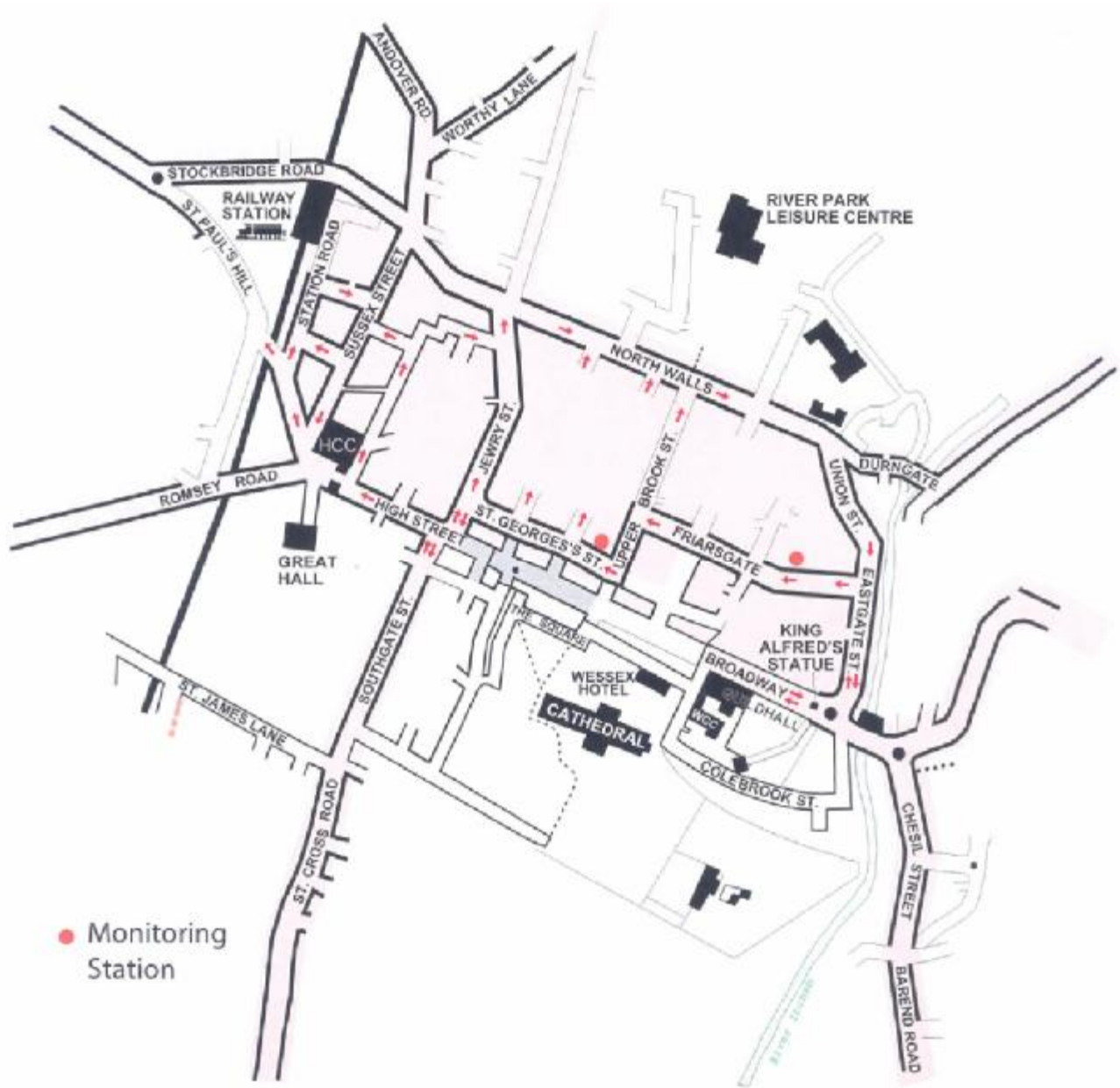


Figure 1.1: Map of AQMA Boundary

3 Action Plan Progress

3.1 The Action Plan was adopted in April 2006 following consultation with stakeholders. It outlines 21 measures aimed at improving air quality in order to work towards the relevant air quality objectives. It is recognised that the main source of the pollution within the AQMA is road traffic, in particular arising from congestion and the topography of the main streets. As such, improvement options are related to transport, in particular reducing the reliance on private car use through the promotion of alternatives (walking, cycling and public transport), trying to reduce congestion in the City Centre and lowering emissions of vehicles.

Progress on Adopted Action Plan Measures

3.2 Table 2.1 outlines progress made on each specific measure included in the original Action Plan. Many of the measures have been delivered through LTP2 and will continue to be implemented through LTP3, which is currently being developed (to be published March 2011). In addition, the Winchester Town Access Plan (WTAP; WCC, 2010a) is a long-term strategy that will set out the transport and access improvements required for Winchester. The Vision for Winchester Town considers aspirations for Winchester's future under eight themes, one of which is improving transport, access and air quality. Objectives set out under this theme include:

- promote choice and variety in the ways people come to the city;
- seek to reduce the need to travel by ensuring more services and facilities are provided locally;
- manage car parks to balance the needs of residents, visitors and businesses;
- further expand park and ride, making it a more attractive option for visitors and workers;
- promote improvements to parking at Winchester station and establish better links to and from the station, particularly from outlying areas;
- reduce levels of congestion and manage traffic to reduce vehicle emissions and improve air quality;
- provide a new high quality bus station with good links to the suburbs and rural areas;
- establish more, safer and convenient walking and cycling routes;
- promote improvements in public and community transport;
- promote workplace and school travel plans;
- reduce street clutter and champion well designed and well managed street (Winchester City Council, 2010a)

- 3.3 The Winchester Town Access Plan (WTAP) is currently in draft form, with the consultation phase due to commence in July 2010. The implementation of the WTAP will have direct influence upon progress against Action 7 (Walking and Cycling), Actions 16 + 18 (Travel Plans), Action 17 (Car Clubs), Action 10 (Parking Review), Action 1 (Monitoring of Park and Ride Sites), Action 11 (Parking Policies) and Action 9 (Public Transport).
- 3.4 The second Winchester Park and Ride Site 'South Winchester' was opened on the 19th April 2010. The new site, located near junction 11 of the M3, has 864 spaces. The first Park and Ride Site was established in East Winchester in 1994 across two locations; Barfield and St Catherine's, near junction 10 of the M3 (a total of 780 spaces). This popular service has maintained high patronage paving the way for the opening of the second site. The addition of the South Winchester site will allow many more people to make use of Winchester's Park and Ride services, with the aim of alleviating current City Centre congestion. The service has also been extended into the evening to allow increased use, with hospital staff particularly benefitting from this revision. It is planned that surveys will be carried out in approximately 6 months time to review Park and Ride patronage and changes in patterns of City Centre Parking. The entire Park and Ride service was re-tendered for with the opening of the new site. Buses which were originally Euro IV are now Euro V¹.
- 3.5 The High Street refurbishment work that is currently being undertaken in Winchester is being carried out in conjunction with a review of parking and loading restrictions. All vehicles have been moved out of the central zone and since April 2009 there has been restricted access for loading (set to certain hours) and this is being moved further out from the centre. All key approach roads into Winchester have a peak-time ban on loading. All such restrictions will be under review as part of the Traffic Management Study to be commissioned as part of the WTAP.
- 3.6 Table 2.1 outlines progress on each of the measures within the Action Plan.

¹ Euro VI and Euro V refer to the emissions standards that the buses need to meet. Euro V standards are the most recent and are more stringent than Euro IV standards.

Table 2.1: Progress on Adopted Action Plan Measures

No.	Measure	Lead authority	Implementation Phase	Indicator	Progress to date	Progress in the last 12 months	Estimated Completion Date	Comments relating to emissions reductions
1	We will work with the County Council to provide an additional Park & Ride facility to the south of Winchester.	HCC	2005/6 – 2011	n/a as now implemented	Complete. Second Park and Ride Site opened 19 April 2010 ahead of original schedule. 864 spaces in new P&R		n/a	Will reduce emissions in AQMA, especially as all buses are Euro V compliant (see action 2)
2	We will ensure that the buses on the Park & Ride service are increasingly environmentally friendly, making allowance for economic and technical considerations.	WCC	2005/6 – 2011	n/a as now implemented	Complete (see action 1). All new buses are Euro V compliant (equating to nearly half the NOx emissions of Euro IV). Opening times of both sites extended into the evenings to increase patronage (e.g. hospital staff and evening visitors to town centre).		n/a	First P&R site buses now at capacity. Survey undertaken in October 2007 on journey habits etc, but no monitoring since then. Likely to have had some impact on emissions reductions in the AQMA in the time of operation.
3	We will review the loading restrictions in the town centre and on the main approach roads to the city.	HCC & WCC	2010/2011 Financial year	Process of implementing loading restrictions in St Georges Street complete	Loading restrictions complete in High Street and semi pedestrian areas (complete April 2009)	Enhancement scheme in the square – access restrictions to be finalised in next 6 months. St Georges Street will be consulted on and moved forward in this financial year	April 2011. This action will be implemented as part of the Winchester Town Access Plan.	Potentially significant emissions reductions in St Georges Street where there are major air quality issues and HGV parking restricts traffic movements throughout the day
4	We will work with the County Council to replace the Real-Time Information systems at bus stops in and around the city and implement Variable Message Signing (VMS) for the town centre car parks.	HCC & WCC	2007/2008	n/a as now implemented	Complete October 2008. 50/50 funding from HCC and WCC. Review of car parking signage undertaken at the same time to reflect the parking strategy to encourage use of		n/a	VMS likely to reduce vehicle mileage round Winchester City Centre and hence reduce emissions. No monitoring undertaken on

No.	Measure	Lead authority	Implementation Phase	Indicator	Progress to date	Progress in the last 12 months	Estimated Completion Date	Comments relating to emissions reductions
						peripheral car parks. RTI systems on bus stops implemented, but company went into administration. Currently tendering for new provider		impact of VMS on behaviour.
5	We will support the County Council (a MIRACLES project) in the implementation and use of Variable Message Signing (VMS) on approach routes to the Town, informing travellers of journey conditions.	HCC – MIRACLES WCC		n/a as now implemented	Complete. VMS now on main approaches, which provides traffic information about diversions etc and re: information on spaces within 11 car parks in the city.		n/a	VMS on approach roads may reduce vehicle mileage round Winchester City Centre and hence reduce emissions. No monitoring undertaken on impact of VMS on behaviour.
6	We will work with the County Council to carry out an investigation of possible traffic management options and with the Highways Agency on possible measures on the Trunk Road network. The objective being to reduce town centre congestion and therefore improve air quality.	HCC WCC Highways Agency	Ongoing through LTP3	Indicator based on journey speeds??	Ongoing work within WTAP to reduce town centre congestion	Road network and traffic management study commissioned within WTAP stage 2 traffic management study commissioned – due to be completed in next 6 months	Unclear at this stage	Reductions in congestion likely to significantly reduce emissions
7	We will develop our own Walking and Cycling strategy and we will continue to work with the County Council on the development and implementation of facilities for cyclists and pedestrians and to support the MIRACLES Bikeabout initiative. This will include working	HCC & WCC PCT	Implementation through to 2011 and beyond	County wide LTP3 indicator (Cycling trips)	Winchester Walking and Cycling Strategy produced 2005/6	Bikeabout scheme now being run by WCC (rather than HCC). 35 bikes at 2 locations in the	Ongoing through WTAP – walking and cycling strategies to be implemented in	Modal shift to walking and cycling will reduce emissions within the AQMA. County-wide target for cycling moving in right direction, but unclear what specific impact this might have in

No.	Measure	Lead authority	Implementation Phase	Indicator	Progress to date	Progress in the last 12 months	Estimated Completion Date	Comments relating to emissions reductions
	with both the County Council and the Primary Care Trust to promote walking and cycling as a healthy alternative to car based travel.					city. 4 new mountain bikes recently purchased. Cycle working group have list of schemes which will attract developer contributions	Action Plan.	Winchester.
8	We will apply for Central Government powers to allow us to take action against vehicles which exceed vehicle emission standards. Long term usage of these powers to be assessed following an initial MIRACLES trial project.	HCC – MIRACLES WCC	n/a	n/a	As reported in last Progress Report, not being taken forward . Work undertaken as part of the MIRACLES project suggested that there are very few gross polluters and hence this isn't a cost effective measure. Therefore powers not applied for.		n/a	n/a
9	We will continue to support and encourage the use of an integrated Public Transport system with special emphasis on Quality Bus Partnerships to improve buses including a reduction in their emissions to the latest standards. We will bring forward measures to enhance public transport opportunities within the city.	HCC WCC PT Operators	Ongoing through LTP3	LTP indicators: BVPI102 Bus transport patronage, BVPI104 bus satisfaction and LTP5 Bus punctuality.	Quality Bus Partnership on route 1 and 5 implemented as part of MIRACLES	Frequency of routes increased to 10 minutes. All buses Euro IVs on QBP routes. Improvements to Romsey Road. 3 x long distance services (X64, 69 and 86) converted to low floor with Euro III in April 2010.	Sept 2010 for improvements for rural routes (bus stops and infrastructure)	Very new bus fleet in Winchester which is likely to provide significant emissions improvements in comparison with an 'average' fleet. For example, a Euro IV bus is half of the NOx emissions of Euro II vehicle, a Euro V is a quarter the NOx emissions of a Euro I bus.

No.	Measure	Lead authority	Implementation Phase	Indicator	Progress to date	Progress in the last 12 months	Estimated Completion Date	Comments relating to emissions reductions
						(HCC improving bus stops and infrastructure).		
10	We will continue to manage parking in the city through the Controlled Parking Zones, appropriate charging levels, enforcement and parking availability.	WCC	Up to 2011	Completion of Review of CPZs	Most of city now covered with CPZs and moved outwards to cover residential parking	Now looking to review specific areas to ensure consistency across the city	2011 for review of CPZs	Use of parking charges, enforcement etc, in conjunction with public transport improvements such as the new P&R should encourage more people onto public transport, which in turn will reduce emissions in the AQMA
11	We will keep our parking policies, availability and charges under review to maximise the use of existing and future Park & Ride facilities. We will continue to offer parking discounts to “cleaner” vehicles to encourage their use over other vehicles (a MIRACLES initiative).	WCC	Up to 2010	n/a as now implemented	Complete. 75% discount for ‘A’ rated vehicles on an annual season ticket for parking/ P&R and 50% discount for ‘B’ rated vehicles. Also discounts to large employers who bulk purchase parking spaces at the P&R. P&R season tickets now available to ensure comparability with city centre parking		n/a	See action 10. Cleaner buses on the P&R routes will also add to reductions in emissions in the AQMA.
12	We will use cleaner and alternative fuelled vehicles within our own fleet where such options are a viable alternative. We will support the promotion of cleaner vehicle technologies and cleaner fuels.	WCC HCC	Ongoing action	Proportion of alternatively fuelled vehicles in the WCC fleet	WCC and HCC fleet ongoing improvements	6 electric charging points in P&R car park with 3 to install in city centre. WCC lease cars have CO ₂ limits on vehicles (170g/km), with a slightly higher	n/a ongoing action	Emissions reductions likely to be minimal within the AQMA as low proportion of vehicles affected, but step in the right direction.

No.	Measure	Lead authority	Implementation Phase	Indicator	Progress to date	Progress in the last 12 months	Estimated Completion Date	Comments relating to emissions reductions
						allowance for cars below 130g/km.		
13	We will take action to increase public awareness of the existence and impacts of poor air quality. We will work with the County Council to develop a strategy for the dissemination of Air Quality Information.	WCC HCC	Ongoing action	Completion of a strategy for the dissemination of Air Quality Information.	Dissemination of information on the web has improved – annual summary reports on line, with data being provided to those who ask. County based forecast system contract not renewed. Public information boards re: real time information being decommissioned. Potential air quality alert system in future		n/a ongoing action	No emissions reductions likely in relation to provision of air quality information, other than where a modal shift is achieved
14	We will ensure that all existing and forthcoming plans, policies and strategies affecting the City take due account of air quality issues and the AQMA. Special regard will be paid to air quality issues in the preparation of the next Local Transport Plan for Hampshire.	WCC HCC	Ongoing action		Ongoing action. LTP3 will still ensure that air quality is included. First draft on whole strategy will take place June to Sept 2010.		March 2011 for LTP3. Ongoing in terms of planning and LDF process	Not possible to quantify over future years, but potentially significant emissions reductions in the AQMA
15	We will ensure that new developments and transport schemes take account of their effects on Air Quality and the Air Quality Management Area.	WCC	Ongoing action	Numbers of developments which successfully considered air quality (and implemented mitigation)	Ongoing action. Air Quality recognised in Core Strategy and in saved Local Plan policies. In planning terms, air quality seen as a sustainable transport issue. 2 planning applications pending which may have air quality issues – Barton Farm (2000 properties planned on the outskirts of Winchester) and Silverhill (city		n/a ongoing action	Impact on concentrations within the AQMA can be assessed through the planning system.

No.	Measure	Lead authority	Implementation Phase	Indicator	Progress to date	Progress in the last 12 months	Estimated Completion Date	Comments relating to emissions reductions
					centre development involving bus station and demolishing office blocks etc)			
16	We will encourage businesses and other organisations to implement Travel Plans and promote more sustainable travel to their staff. This will include the requirement for Travel Plans through the planning process. Winchester City and Hampshire County Councils will continue to develop their own travel plans.	WCC HCC	Ongoing action	Adoption of WCC Travel Plan and monitoring of staff travel patterns	Majority of large employers now have TPs on voluntary basis.	WCC Travel Plan needs reviewing over next 6 months	2011 for WCC Travel Plan	Impact on emissions and concentrations potentially large if commuting reduced, which could also impact on congestion. Hospital implementing measures (e.g. 4 out of 5 day parking/shuttle buses etc). Prison undertaking staff survey and trying to promote smarter choices
17	We will continue to support the Hampshire CarShare scheme and the introduction of Car Clubs.	HCC & WCC	Ongoing action through WTAP	n/a	Carshare scheme has ongoing support from HCC. Car clubs supported in principle, but not proactively.	WTAP includes an action to investigate car clubs further	2011 for WTAP investigation	Potential emissions reductions if car clubs took off. Unlikely at the moment as initial attempt to set up a car club in Winchester failed.
18	We will continue working with the County Council and local schools to increase the number of schools with Travel Plans.	HCC WCC	Ongoing action	Walking to school rates gradually increasing (32%)	86.6% of schools in Hants have school Travel Plans.	Only funding for 1 more year of Travel Plan support – unsure what will happen in LTP3	March 2011 (end of LTP2)	Any comment about school traffic within AQMA? Is it likely to be significant?

No.	Measure	Lead authority	Implementation Phase	Indicator	Progress to date	Progress in the last 12 months	Estimated Completion Date	Comments relating to emissions reductions
19	We will review the taxi licensing regime to assess whether to include additional conditions aimed at reducing vehicle emissions.	WCC	n/a	n/a unlikely to be taken forward	Taxi licensing conditions under review, but not in relation to emissions conditions. Currently, Hackney cabs need to be less than 2 years old, private hire cabs need to be in excellent condition. Compliance test with MOT emissions standards on registering and re-licensing every year.		n/a unlikely to be taken forward	Marginal emissions improvements due to relatively new taxi fleet (especially Hackney cabs)
20	We will support the County Council in its aim to achieve traffic reduction by encouraging sustainable travel and reducing the need to travel by car.	HCC & WCC	Ongoing action	Monitoring of traffic being undertaken through LTP and WTAP process	This action covers all the work which is done within the LTP and WTAP which all aims to reduce traffic and encourage sustainable travel.		n/a ongoing action	Emissions reductions and reductions in concentrations could be large if significant traffic reduction within the City Centre.
21	We will monitor the performance of the action plan and reassess the necessity & feasibility of introducing additional measures if these are shown to be necessary to meet the air quality objectives.	HCC & WCC	Ongoing action	Air quality concentrations in Winchester City Centre	This report forms part of the monitoring of the action plan. Following the outcomes of this report, WCC will assess the need for additional measures and potentially for a full review of the action plan		2011 for Review of Action Plan	n/a

4 Conclusions

- 4.1 This Action Plan Progress Report has provided an update on the implementation of the measures included in the final Action Plan. The Action Plan is being implemented through a combination of actions being undertaken by Winchester City Council, Hampshire County Council and Public Transport operators. As the source of emissions within the AQMA is road traffic, these organisations working together may be able to have a significant impact. A number of measures have now been completed, including the new Park and Ride site, and Variable Message Signs relating to car parks in Winchester and on approach roads into the city. These actions should reduce emissions in the AQMA but it is not possible at present to quantify these emissions reductions at the worst-case locations within the AQMA.
- 4.2 There are a number of ongoing actions, in particular those relating to reducing congestion (mainly to be delivered through the Winchester Town Access Plan), encouraging public transport, cleaner vehicles and taking action to increase public awareness of air quality. These are all progressing to some extent, but future implementation is likely to depend on the progress of WTAP and LTP3, and the funding made available through these processes.
- 4.3 There are two actions not being taken forward:
- Action 8, the use of Central government powers to allow WCC to take action against vehicles that exceed the emissions standards is no longer being pursued. This is as a result of the MIRACLES trial project which identified so few vehicles that exceeded emissions standards and concluded that such a scheme would not be worthwhile in Winchester. There may be some value, however, in revisiting a broader scheme of air quality information dissemination, using emissions testing as a mechanism to provoke interest and provide a starting point for further discussion of air quality issues with members of the public.
- Action 19, the review of the taxi licensing regime is unlikely to be pursued as the action is only likely to have a limited impact as Winchester's existing taxi fleet is relatively new. In particular, Hackney cabs have to be less than two years old. No specific issues have been identified in relation to taxi's in Winchester, and further conditions may result in significant costs to taxi firms but minimal air quality improvements. It should however be ensured that current conditions, including emissions testing of taxis annually, are maintained.
- 4.4 Even with the completion of 5 of the 21 actions, and progress with most of the others, it is clear that concentrations of nitrogen dioxide are not reducing to the extent that the action plan predicted. The latest monitoring results presented in the 2010 Progress Report (WCC, 2010b) still suggest widespread exceedences across the Winchester City Centre AQMA. This is likely to be due to a number of reasons, many of which are outside of the control of Winchester City Council and Hampshire County Council. Issues relating to the chemistry of NO_x and NO₂, in particular the

differing proportions of NO_x being emitted as primary NO₂ (especially for Euro IV and Euro V buses fitted with diesel particulate filters) may be influencing concentrations of nitrogen dioxide within Winchester. In addition, recent evidence is suggesting that NO_x emissions from Euro IV and Euro V Heavy Duty Vehicles may not be as low as emissions factors suggest, particularly in urban (congested) driving conditions. These vehicles may have very low emissions under a motorway driving scenario, but not within the urban driving conditions applicable in Winchester. This suggests the move to Euro IV and Euro V buses may not give rise to the expected beneficial impact on roadside concentrations.

- 4.5 This uncertainty in future emissions contrasts with the certainty of current monitoring demonstrating continuing widespread exceedences of the annual mean nitrogen dioxide objective. With the Action Plan now having been in place for four years and many of the actions having progressed (some to completion), and in light of current exceedences of the annual mean nitrogen dioxide objective, it is considered that the Action Plan should be reviewed, the current actions updated and more radical options considered. It is suggested this is undertaken through a full review of the Action Plan to fit in with the LTP3 and WTAP processes. It is likely that the best timing for this would be spring 2011.

5 References

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6 Glossary

Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal.
Objectives	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.
Exceedence	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations.
AQMA	Air Quality Management Area
HCC	Hampshire County Council
HDV	Heavy Duty Vehicles (> 3.5 tonnes)
MIRACLES	Multi Initiatives for Rationalised Accessibility and Clean Liveable EnvironmentS
NO ₂	Nitrogen dioxide.
NO	Nitric oxide.
NO _x	Nitrogen oxides (taken to be NO₂ + NO).
PM ₁₀	Small airborne particles, more specifically particulate matter less than 10 micrometers in aerodynamic diameter.
WCC	Winchester City Council
WTAP	Winchester Town Access Plan
µg/m ³	Microgrammes per cubic metre.