

APPENDIX 2

Slough Borough Council

Action Plan for Slough Air Quality Management Areas Nos. 3 and 4

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A draft of this document was subject to public consultation in August and September 2012. The Council's response to issues raised by Defra, stakeholders and the public during the consultation period is summarised in the Appendix.

Background

Air quality legislation

- 1.1. The Government's Air Quality Strategy (AQS) for England, Scotland, Wales and Northern Ireland sets objectives for individual pollutants. The objectives are health based and were advised by two committees, EPAQS (Expert Panel on Air Quality Standards) and COMEAP (Committee on the Medical Effects of Air Pollutants).
- 1.2. The Environment Act 1995 places an obligation on all local authorities to review and assess local air quality, identify any areas where the AQS objectives may be exceeded and to work towards delivering the objectives. The current AQS objectives are given in The Air Quality (England) Regulations 2000 (SI 928) and The Air Quality (England) (Amendment) Regulations 2002 (SI 3043).
- 1.3. The AQS objectives are similar to those developed by the European Union (known as 'Limit Values') for national governments of EU member states. Unlike AQS objectives, Limit Values, which are implemented in English legislation through The Air Quality Standards Regulations 2010 (SI 2010 No. 1001), are mandatory, although responsibility for compliance has not been passed on to local government.
- 1.4. The relevant AQS objectives that apply to Slough Borough Council are given in the table (Table 1) below.

Table 1. Air quality strategy objectives

Pollutant	Air Quality Objective Concentration ¹	Measured as	To be achieved by
Benzene	16.25 µg/m ³	Running annual mean	31 December 2003
	5.00 µg/m ³	Annual mean	31 December 2010
1,3-Butadiene	2.25 µg/m ³	Running annual mean	31 December 2003
Carbon Monoxide	10.0 mg/m ³	Maximum daily running 8-hour mean	31 December 2003
Lead	0.5 µg/m ³	Annual mean	31 December 2004
	0.25 µg/m ³	Annual mean	31 December 2008
Nitrogen Dioxide	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31 December 2005
	40 µg/m ³	Annual mean	31 December 2005
Sulphur dioxide	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31 December 2004
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31 December 2004
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31 December 2005

Pollutant	Air Quality Objective Concentration ¹	Measured as	To be achieved by
Particles (PM₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times a year	Daily mean	31 December 2004
	40 µg/m ³	Annual mean	31 December 2004
Notes; 1. µg/m ³ = micrograms per cubic metre (of air), where 1 microgram is one millionth of a gram in weight mg/m ³ = milligrams per cubic metre (of air), where 1 milligram is one thousandth of a gram in weight			

- 1.5. National and European legislation also exists to control emissions from industrial and transport sources. Substantial industrial emitters of air pollutants are regulated by the Environment Agency (in England and Wales) and local authorities. Emissions from transport sources are limited by legislation, reducing emissions from individual vehicles over time through mandatory introduction of improvements in fuel quality and better in-vehicle technologies.

Further information:

Details of all relevant legislation can be obtained from The National Archives and can be downloaded from the website: www.legislation.gov.uk

Details of the Air Quality Strategy can be obtained from Defra and can be downloaded from the website: www.defra.gov.uk/publications/. Details of EPQS are also available from Defra.

Details of COMEAP can be found on the website: www.comeap.org.uk

Air quality in Slough

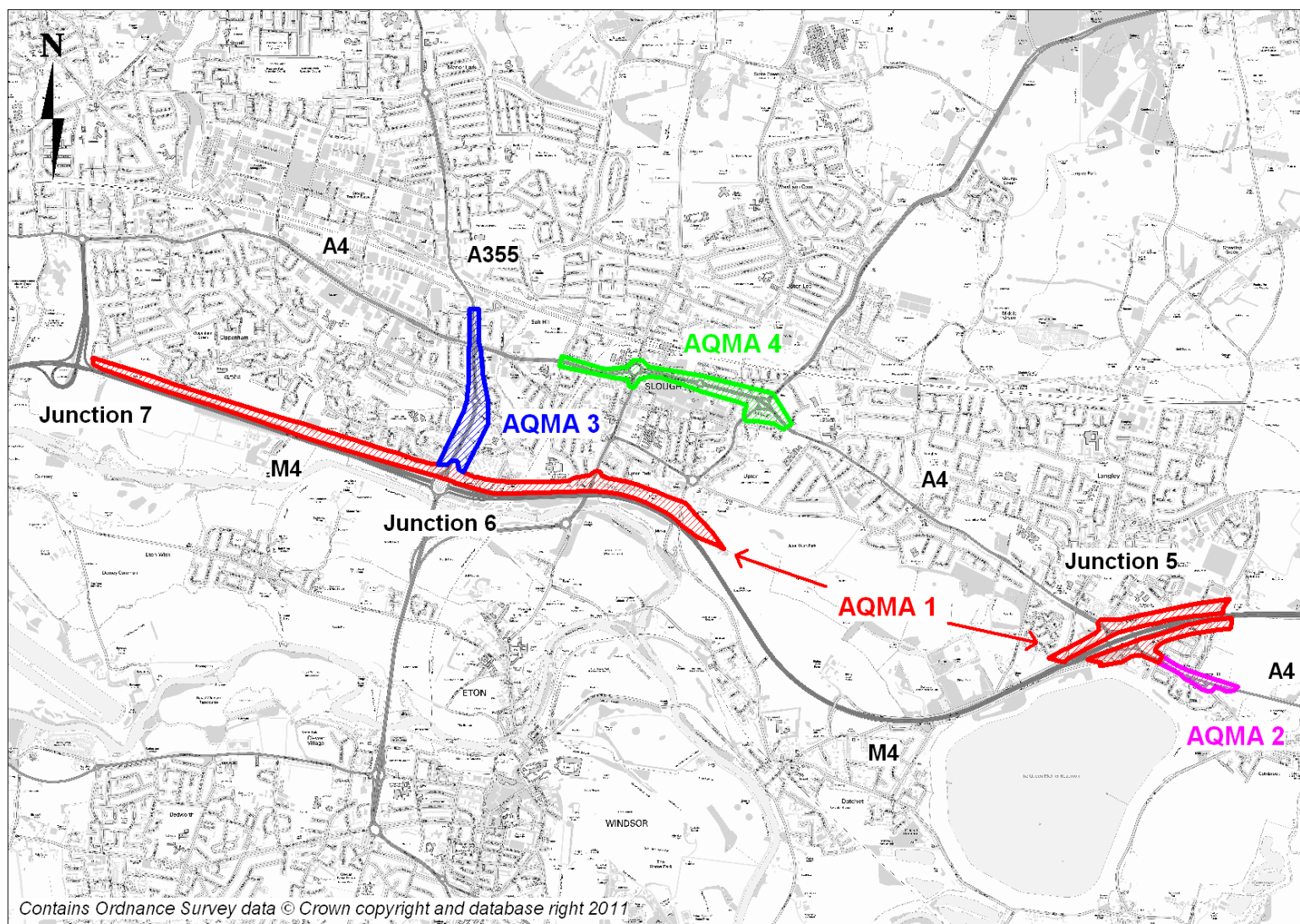
- 1.6. The conclusions drawn by Slough Borough Council on air quality within the borough are based on evidence from monitoring and modelling, undertaken as part of the review and assessment process in accordance with technical guidance published by the Department for Environment, Food and Rural Affairs (Defra). The process has been timetabled by the Government in a series of 'rounds' of review and assessment.
- 1.7. The first two rounds of review and assessment were completed by Slough Borough Council before 2006. By the end of the second round the Council had identified, through air quality monitoring and modelling, two locations as clearly having annual mean nitrogen dioxide concentrations in excess of the AQS objective. These were declared in 2005 as:
- AQMA Order 1 – M4 Corridor
The designated area incorporates land adjacent to the M4 motorway along the north carriageway between Junction 7 and Junction 5, and also the south carriageway between junction 5 and Sutton Lane.
 - AQMA Order 2 – A4
The designated area incorporates a stretch of the A4 London Road east of junction 5 of the M4 motorway up until Sutton Lane.

- 1.8. In both cases the principal cause of the exceedances was - and remains - emissions of oxides of nitrogen from high numbers of road vehicles, particularly when operating in congested traffic conditions.
- 1.9. As required for these AQMA, Slough Borough Council produced action plans to implement measures to work towards delivering improvements in air quality in these areas. These action plans were incorporated within the second Slough Local Transport Plan 2 (LPT2).
- 1.10. The second round of review and assessment also highlighted a number of locations for particular investigation where concentrations of annual mean nitrogen dioxide might routinely exceed the AQS objective, including A355 Tuns Lane and the A4 through the town centre.
- 1.11. By 2010, Slough Borough Council, within the third round of review and assessment, had concluded that two further AQMA declarations were required, due to likely exceedances of the annual mean AQS objective for nitrogen dioxide. These were declared in January 2011 as:
- AQMA Order 3 – Tuns Lane
The designated area incorporates the A335 Tuns Lane from junction 6 of the M4 motorway in a northerly direction to just past its junction with the A4 Bath Road and the A355 Farnham Road (“Three Tuns”).
 - AQMA Order 4 – A4 town centre
The designated area incorporates the A4 Bath Road from the junction with Ledgers Road/Stoke Poges Lane, in an easterly direction, along Wellington Street, up to the Sussex Place junction.
- 1.12. Figure 1 shows the locations of all four AQMA.
- 1.13. The ‘Air Quality Detailed and Further Assessment 2011’ report, which was prepared for Slough Borough Council by AEA, confirms the basis for the new AQMA declarations. As with AQMA Orders 1 and 2, the principal cause of the exceedances of the AQS objective for annual mean nitrogen dioxide has been identified as emissions from road traffic, with heavy duty vehicles (lorries and buses) generally accounting for more than half of all traffic contributed emissions.

Further information:

All review and assessment reports and details of the existing AQMA are available from Slough Borough Council along with other relevant information and can be downloaded from its website: www.slough.gov.uk/services/929.aspx

Figure 1. Slough Borough Council Air Quality Management Areas



Slough's Air Quality Action Plan for AQMA Orders 3 and 4

The need for action

- 1.14. The 2011 Further Assessment indicates that substantial reductions in road traffic emissions are required in AQMA 3 and 4 to achieve the objective at monitoring sites (based on modelled rather than actual monitored concentrations for these sites in 2009 and 2010). For example, in relation to AQMA 4, a 41.3% reduction in emissions (from a 2009/2010 baseline) will be required in the vicinity of the former William Street roundabout and a 54.4% reduction will be required at Yew Tree Road in order to meet the AQS objective for nitrogen dioxide. Measures to bring about such changes are unlikely to be viable in social and economic terms; however, measures to stabilise the situation and influence and ultimately sustain downward trends are possible through the action planning process.
- 1.15. Whilst legislated measures for air quality help to deliver improvements, there are numerous factors that can counter the effectiveness of these, including technological limitations and economic, society and cultural pressures. Indeed, recent research, published by Defra in 2011, suggests that downward trends in emissions of oxides of nitrogen from road transport sources that were originally anticipated by the Government (for example with improvements in engine technology) are not strongly evident in the actual data from monitoring of near road concentrations of oxides of nitrogen and nitrogen dioxide. This is certainly true for monitoring data from roadside sites in Slough where only weak downward trends are evident - if at all. Reliance on legislation alone to drive down air pollution in the short to medium term is therefore not an option and so action needs to be taken now to stabilise and improve the situation where the problems are evident, and to reduce the risk of further problems arising in the future – as well.
- 1.16. For measures to be successful there needs to be support and committed participation from all sections of the community. Whilst Slough Borough Council can have a direct positive influence through implementation of measures in its activities and infrastructure that come under its direct control – such as the local road network - wider participation throughout communities within Slough and the surrounding area is key for substantial improvements to happen. The majority of measures proposed in this draft action plan rely on specific or wider commitments by business, schools, workers, bus and freight operators, other stakeholders and the general public to help Slough Borough Council in its aim to achieve good air quality throughout the town so that all may benefit .

Further information:

The report commissioned by Defra entitled: "Trends in NO_x and NO₂ emissions and ambient measurements in the UK" can be downloaded from the website: <http://uk-air.defra.gov.uk/library/>

This action plan

- 1.17. This air quality action plan proposes measures relating to AQMA Orders 3 and 4 and is closely linked with the 15-year transport strategy set out in Slough's Third Local Transport Plan (LTP3). The short term measures align with those contained in the LTP3 Implementation Plan 2012/13 to 2014/15. It is additional to the action plans for AQMA Orders 1 and 2, as incorporated within LTP2, and as such does not replace them.

- 1.18. The following table (Table 2) sets out different measures that Slough Borough Council proposes to take forward with the support of the wider community to reduce NO_x emissions. Each measure is briefly described and the requirements for implementation, together with practicalities, are considered. None of the measures individually is likely to have high potential impact on annual mean nitrogen dioxide concentrations; however, the cumulative effect of a number or all of these measures together has the potential to bring about noticeable improvements and associated benefits.

Table 2. Air quality action plan measures for Slough AQMA Order 3 (Tuns Lane) and AQMA Order 4 (A4 Town Centre)

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Sustainable Land Use Planning								
Limit the amount of parking allowed in new development.	SBC maintain ceiling figure on town centre parking supply and restrictions on scale of on-site parking generally.	Low	Long term	1	Ongoing	-	SBC	Potential reductions in carbon emissions.
Require developers to prepare transport assessments of the impacts of the development.	SBC update existing guidance under 'General Development Guidance: Developers Guide Part 4'. SBC require developers to show in transport assessments based on satisfactory evidence that negative air quality impacts will be designed out.	Low	Long term	1	Ongoing	-	SBC	Potential reductions in carbon emissions and noise. Improvements in public health through fitness by provision of attractive walking and cycling routes. Achieve better links between neighbourhoods and the natural environment. Maximise road safety and personal security.
Secure financial contributions from development proposals for improving transport links (e.g. to Heathrow); developing transport hubs (in Slough town centre and the Trading Estate) and improving the borough's railway stations.	Securing s106 agreements, strengthened by third party contributions towards the LSTF <i>Smarter Travel Slough</i> project (see Note 1 at foot of table).	Low	Long term	1	Ongoing	-	S106 contributions; LSTF; SBC	Funding for additional air quality monitoring stations within the borough and traffic management improvements. Potential reduction in carbon emissions, local economic benefits from improved local transport connectivity and development of high quality public transport.

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Tackle congestion by seeking to widen travel choices and make travel by sustainable means more attractive than the private car.	Delivery of <i>Smarter Travel Slough</i> LSTF project (see 'Promoting less polluting travel' and 'School and workplace travel plans' below). BBAF project will enable programme to be enhanced.	Low	Long term	1	Ongoing	Medium/ High	LTP3; S106 contributions; LSTF; BBAF; SBC	Potential reduction in carbon emissions. Improvements in public health through fitness by provision of attractive walking and cycling routes. Public transport more accessible to disadvantaged people.
Better management of congestion and speed								
Reduce queuing, improve the reliability of journey times and promote quicker, more reliable bus journey times along the A4 corridor by reducing overall demand for travel.	Reducing travel demand through <i>Smarter Travel Slough</i> LSTF project (see 'Promoting less polluting travel' and 'School and workplace travel plans' below).	Low	Long term	1	Ongoing	Medium/ High	SBC; LTP3; S106 contributions; LSTF; BBAF	Improvement in journey time and transport choices, improving journey experience and helping Slough retain economic competitiveness. Potential reduction in carbon emissions. Facilitate development of new housing in accordance with Local Development Framework.
	Delivery of bus priorities as part of BBAF project (see Note 2 at foot of table).	Low	Long term	2	Short term: programming of action detailed in BBAF project, see Note 2 at foot of table / Medium term: LTP3 programme.	Medium/ High		

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Improve the management of traffic particularly along the A4 to reduce congestion and improve air quality through investment in Urban Traffic Management and Control (UTMC) and other Intelligent Transport Systems (ITS) developments.	Continuing investment in ITS designed to help stabilise and reduce emissions. Development of a Slough UTMC system with integration of traffic and pedestrian crossing signals within and on the approaches to the AQMAs including the A4/ A355 Three Tuns junction, A4/ A322/ B416 Heart of Slough junction, A4 Tesco/ Queensmere junction, A4/ A412 Uxbridge Road/ Yew Tree Road junction .	See Note 3 at foot of table	See Note 3	3	Short term: programming of action detailed in BBAF project, see Note 2 at foot of table / Medium term: LTP3 programme.	High	LTP3; SBC; Heart of Slough funding; S106 contributions; LSTF, BBAF	
Review strategic traffic signing and identify other ways of providing information on appropriate HGV routes.	Work with freight operators and Highways Agency to develop advisory lorry routes and map so that trips can be planned where possible to avoid AQMA 3 and 4.	Low	Medium to long term	1	Short/ Medium term	Low	LTP3; SBC Highways Agency	Improving journey experience for HGV drivers and helping Slough retain economic competitiveness.
Other traffic management measures.	SBC to consider making permanent the A4 temporary 30mph speed permanent along A4 through AQMA 4.	Low	Long term	1	Short term	Low	LTP3; SBC	Potential reductions in carbon emissions, noise and improved road safety.

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Better co-ordination of street works and event planning.	Proactive engagement with utilities companies and regular event organisers. Carrying out Traffic Management Act network duty in line with SBC network management plan and processes.	Low	Short term	1	Ongoing	Low	SBC	Reduced congestion and rat running. Potential reductions in carbon emissions and noise.
Partnership working to reduce the impact of the M4 on Slough's residents, workers and visitors. Seek ways of better managing traffic at M4 junctions, recognising that the way these junctions are managed heavily influences traffic flows along the M4 itself.	Joint working with the Highways Agency and neighbouring authorities in line with M4 AQMA Action Plan to examine ways of improving air quality without unduly affecting the M4. Implementation of 'Managed Motorway' proposals for hard shoulder running.	Low for AQMA 3 and 4	Long term	3	Medium/ Long Term: Managed Motorway scheme now being developed by Highways Agency for potential delivery post- 2015.	High	Highways Agency; SBC	Potential reductions in carbon emissions and noise.
Managing parking demand								
Restrain and reduce demand for long stay parking in the town centre to promote greater use of public transport, walking and cycling.	Maintain ceiling figure on town centre parking supply and restrictions on scale of on-site parking.	Low	Long term	1	Ongoing	Low	SBC	Potential reductions in carbon emissions. Improvements in public health through fitness by provision of attractive walking and cycling routes.

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Restrict parking provision associated with new developments as much as possible to prevent significant increases in the size of the overall parking stock.	See under 'Sustainable Land Use Planning' above							
Reduce circulating car park traffic in the town centre.	SBC to explore greater use of variable message signs and other technology to guide drivers.	Low	Long term	1	Short/ Medium term	Medium/ High	SBC; car park operators	Support economic vitality, improved road safety.
Reduce adverse impact of town centre loading and unloading.	Work with freight/ logistic operators to review town centre loading/ unloading in terms of location, size, accessibility and time limits and hours of operation.	Low	Long term	1	Short/ Medium term: programming of action to be set in consultation with Town Centre Manager, when appointed.	Low/ Medium	SBC; freight/ logistics operators	Support economic vitality, improved road safety.
	Explore with freight/ logistics operators the potential for a freight consolidation centre to cater for town centre deliveries.	Low	Long term	1	Medium/ Long term: programming of action to be set in consultation with Town Centre Manager, when appointed.	High		

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Cleaner buses, taxis and commercial vehicles								
Working with freight and logistics operators to improve the environmental performance of their lorry and van fleets and operations with greater use of cleaner technology and alternative fuels.	Partnership working through creation of a Freight Quality Partnership or forum.	Low	Long term	1	Short term: programming of action to be set in consultation with Freight Quality Partnership / forum.	Low	SBC; freight/ logistics operators	Potential reductions in carbon emissions, noise and improved road safety.
	Work with operators to assess the impact on Slough operations of TfL Low Emission Zone (LEZ) requirements. Explore ways of improving fleet fuel efficiency performance including potential introduction of ECO Stars Fleet Recognition Scheme award scheme for efficient and cleaner fleet vehicles.	Low	Long term	1		Low	SBC; freight/ logistics operators	
	Work with operators to promote Safe and Efficient Driving (SAFED) training.	Low	Long term	1		Low	SBC; freight/ logistics operators	Potential reductions in carbon emissions, noise.
	Work with operators to encourage drivers to switch off engines when stationary. Seek where necessary use of fixed penalty notices.	Low	Long term	1		Low		

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Working with bus operators to improve the environmental performance of their vehicles and operations with greater use of cleaner technology and alternative fuels.	Work through the Bus Quality Partnership (QP) and with neighbouring authorities to promote the use of low emission vehicles in the bus fleet operating in Slough.	Low	Long term	2	Short term	Medium/ High	SBC; bus operators; DfT Green Bus Fund	Potential reductions in carbon emissions, noise and improved road safety. Improving passenger journey experience
	Introduction by the operators of vehicles using alternative fuels with support from the DfT Green Bus Fund (see Note 4 at foot of table).	Low	Long term	3	Short term: programming detailed in Green Bus Fund bid, see Note 4 at foot of table.	Medium/ High		
	Work with operators to promote programmes to encourage fuel efficient driving and switching off engines when stationary.	Low	Long term	1	Short term: programming of action to be set in consultation with Bus QP.	Low		
Working with taxi operators to improve the environmental performance of their vehicles and operations	Work with the taxi trade to examine the potential for reducing vehicle emissions e.g. through promoting best practice use of ranks, improvements in engine maintenance/ technology.	Low	Long term	2	Short/ Medium term: programming of action to be set in consultation with taxi trade representatives.	Medium	SBC; Taxi operators	
	Work with the taxi trade to encourage fuel efficient driving and switching off engines when stationary. Seek where necessary use of fixed penalty notices.	Low	Long term	1	Short term: programming of action to be set in consultation with taxi trade representatives.	Low		

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
Upgrading of the Council's own vehicles.	Continue SBC policy of reducing emissions from Council vehicle fleet through maintenance, modification & where feasible replacement.	Low	Long term	2	Short/ Medium term: programming of action to be set in consultation with SBC fleet manager.	Medium/ High	SBC	
Partnership working with Heathrow Area Local Authorities (LBs of Hillingdon and Hounslow, Spelthorne BC) to identify measures for reducing nitrogen dioxide concentrations at specified hotspots in the wider Heathrow area.	Complete DEFRA- funded Heathrow Air Quality Hotspot Project into feasibility of implementing a very low emission zone (VLEZ) along with other measures. Project includes the development of an emissions model and evaluation of the performance of low-emission technologies (e.g.hybrids).	Subject to outcome of study available in early 2013.						
Promoting less polluting travel								
Promoting sustainable modes of travel as alternatives the car	Delivery of <i>Smarter Travel Slough</i> LSTF and BBAF projects to reduce car dependency and encourage modal shift (see Notes 1 and 2).	Low	Medium/ Long term	1	Short term: programming of action detailed in LSTF and BBAF projects: see Notes 2 and 3 at	High	SBC; S106; LSTF, BBAF	Potential reductions in carbon emissions (linking with work of the SBC Climate Change Partnership Delivery Group: see

LTP3 STRATEGY COMPONENTS	Requirements for implementation	NO _x reduction		Technical feasibility	Timescale for completion/ implementation	Cost	Funding	Other impacts
		Potential impact on NO ₂	Timescale of impact					
	Promotion, education and awareness raising including publicity material to promote non car modes/environmental awareness/car free days/cleaner fuels etc.	Low	Medium/ Long term	1	foot of table)/ Medium term: LTP3 programme.	High		http://www.slough.gov.uk/downloads/Slough-Climate-Change-Strategy-Summary.pdf Improvements in public health through fitness by provision of attractive walking and cycling routes (see Note 5 at foot of table)
	Provision of improved pedestrian and cycling facilities; new routes; filling in gaps in network; bike hire/ hubs; safer crossings.	Low	Medium/ Long term	1		High		
	Promotion of electric/ low emission vehicles; provision of electric vehicle recharging points in Council car parks and, where possible, in new developments.	Low	Long term	2	Short/ Medium term	Medium	SBC; S106; potential Government grants	Potential reductions in carbon emissions
	Explore potential for future town centre residents' car club.	Low	Long term	1	Medium term	Medium	SBC; car club operators	Potential reductions in carbon emissions

KEY TO TABLE 2

NO_x reduction

Potential impact

Low = measurable reduction in annual mean NO₂ likely to be less than 1 µg/m³

Medium = measurable reduction in annual mean NO₂ potentially 1 - 2 µg/m³

High = measurable reduction in annual mean NO₂ potentially >2 µg/m³

Technical feasibility

1 = relatively simple

2 = some technical challenges

3 = technically complex

Cost

Low = <£50,000

Medium = £50,000 - £250,000

High = >£250,000

Acronyms

LSTF: Department for Transport Local Sustainable Transport Fund

BBAF: Department for Transport Better Bus Area Fund

S106: developer contributions under Section 106 of the Town and Country Planning Act 1990

LTIP: SBC's Local Transport Implementation Plan

BAA: British Airports Authority

TfL: Transport for London

NOTES TO TABLE 2

1. On 24th May 2012 the DfT announced that SBC's bid to the Local Sustainable Transport Fund for the *Smarter Travel Slough* project had been successful. The project consists of a package of measures to reduce congestion by generating a shift to more sustainable modes. One of the 4 objectives is to improve the health of our residents by improving air quality and encouraging active travel; the others seek to improve the efficiency of local businesses, support retention and growth of employment and reduce CO₂ emissions from road traffic. The measures focus on the central and western parts of the Borough including AQMA nos. 3 and 4. The LSTF project represents a significant investment in the 3 years 2012/13 to 2014/15 of £10.2m (DfT £4.3m, SBC and third parties £5.9m).
2. On the 23rd March 2012 the DfT announced that SBC's bid to the Better Bus Area Fund for the *Route 78 Punctuality* project had been successful. The project forms a suite of bus priority measures, developed in consultation with First in Berkshire and aimed primarily at delivering journey time and reliability benefits to route 78 between Britwell, the town centre, Langley and Heathrow Terminal 5. The measures focus on the A355 and A4, both routes passing through AQMA nos. 3 and 4, and will also benefit other services including Heathrow '7-series' buses. The BBAF project provides investment in the two years 2012/13 and 2013/14 of just over £2m (DfT £1.41m, First and S106 contributions £0.62m).
3. SBC applied to DEFRA for a 2012/13 Air Quality Grant to assess in detail the potential impact of UTM measures in the AQMAs using microsimulation modelling, building on the VISSIM work undertaken as part of the Heart of Slough development. On the 31st October Defra announced that the bid had been successful.
4. On the 23rd March 2012 the DfT announced that funding of almost £0.9m had been awarded to First in Berkshire from the Green Bus Fund to support the introduction of 10 hybrid vehicles for the Heathrow '7-series' services, most of which pass through AQMA nos. 3 and 4.
5. To raise awareness of health issues SBC offer and promote a free air pollution alert messaging system. This alerts people to high levels of pollution via their mobile, phone or email so that they may choose to change their mode of travel. The message includes precautionary health advice. More info: www.airtext.info. SBC applied in consultation with the Director of Public Health to DEFRA for a 2012/13 Air Quality Grant to raise awareness in support of public health objectives. On the 31st October Defra announced that the bid, which builds on and supplements the behavioural change measures in the LSTF *Smart Travel Slough* project, had been successful.

Monitoring Progress

Indicators

- 1.19. The progress of action plan implementation will routinely be reviewed by Slough Borough Council on an annual basis. The indicators given in Table 3 will be used to show progress over the first four years of the LTP3 period. The indicators are categorised in two groups: transport improvements and air quality monitoring.
- 1.20. The transport improvements category covers schemes or parts of scheme that are implemented to reduce, directly or indirectly, traffic congestion through AQMAs 3 and 4. The table includes a number of LTP3 indicators, emphasising the close link between transport planning and air quality management.
- 1.21. The air quality monitoring category considers monitored annual mean nitrogen dioxide concentrations at representative sites within the AQMAs. Long term trends in concentrations will be analysed using techniques that can account for persistence in the data due to influences such as the weather.

Funding

- 1.22. Delivery of the action plan measures will depend in great part on the financial and staff resources available, especially bearing in mind current constraints on both public and private sector spending. Funding for transport projects will be available to the Borough Council from Department for Transport grant allocations and additional resources will become available from the Borough Council's successful bids to the DfT Local Sustainable Transport Fund and Better Bus Area Fund.
- 1.23. Other funding will come from regeneration and development schemes, for example the Heart of Slough and the Slough Trading Estate masterplan. Developer contributions from section 106 (Town and Country Planning Act 1990) agreements will help deliver not just measures that assist air quality management - and thus the aims of the action plan – but also pay for new monitoring sites.

Risks

- 1.24. The risks in delivering the indicator targets have been identified as:
 - Changes affecting air quality legislation, such as devolution of responsibilities for mandatory EU Limit Values for air quality to local government
 - Changes in the economy that alter peoples' transport preferences and availability of funding of measures to improve air quality
 - Improved traffic and air quality monitoring data, which may change the priorities for air quality management
 - Major new infrastructure/development in the local and wider areas that affect local and background pollution concentrations. Potential developments include but are not necessarily limited to:
 - Housebuilding in the south east region
 - Third runway at Heathrow
 - CrossRail
 - Slough International Freight Exchange
 - Changes to the Low Emissions Zone for Greater London and Heathrow
 - Changes on the Highways Agency road network that may change the nature of traffic on Slough Borough Council roads.

Table 3. Air quality action plan indicators for AQMA Orders 3 and 4

Indicator	Pre LTP3 baseline	2011/12	2012/13	2013/14	Forecast for 2014/15 with Action Plan	Comment
Transport improvements						
Wider LTP3 Indicators						
Area wide traffic flows excluding trunk roads (vehicle km) (LTP3 Indicator 2)	411 million vehicle kilometres (2009)				400	DfT estimates of traffic volumes on all roads in Borough; excludes M4, M25
Vehicles entering town centre during morning peak (LTP3 Indicator 3)	30,790 (2009/10)				28,500	SBC counts at 16 locations on approaches to town centre
Average vehicle speeds (flow-weighted), weekday AM peak (LTP3 Indicator 12)	16.2 mph (2009/10)				16.4 mph	DfT estimates of average traffic speeds on all A roads in Slough
Number of public long-stay car parking spaces in town centre (LTP3 Indicator 1)	2000 spaces in 2009/10				2000	SBC counts
Local bus passenger journeys originating in Slough (LTP3 Indicator 10)	4.9m (2009/10)				5.8m	The bulk of bus journeys begin or pass through the town centre AQMA 4 and a significant number travel along the A4 through Tuns Lane AQMA 3
Bus passenger. journeys to Heathrow commencing in Slough (LTP3 Indicator 9)	2.8m (2009/10)				3.4m	
% children travelling to selected primary schools by non-car modes (Index) (LTP3 Indicator 4a)	1.00 (2012/13)				To be determined in <i>Smarter Travel Slough</i> LSTF project	Monitors success of school travel plan activities in promoting sustainable travel and reducing impact of the 'school run'
% children travelling to selected secondary schools by non-car modes (Index) (LTP3 Indicator 4b)	1.00 (2012/13)					
Number of walking trips (4-year rolling average) (Index) (LTP3 Indicator 5)	1.00 (2008-11)				1.08 (2012-15)	Monitors success of improving facilities for pedestrians and cyclists and promoting these modes of travel as an alternative to the car
Number of cycling trips (3-year rolling average) (Index) (LTP3 Indicator 6)	1.00 (2009-11)				1.08 (2013-15)	

Indicator	Pre LTP3 baseline	2011/12	2012/13	2013/14	Forecast for 2014/15 with Action Plan	Comment
AQMA specific						
2-way AADT on A4 at ATC site 215 (Wellington Street)	39,470 (2007), 39,282 (2008), 39,003 (2009), 37,818 (2010)				< 37,000	SBC traffic count
Average peak hour delay on A4 through AQMA 4	Baseline to be set				Annual reductions	SBC journey time assessment
2-way AADT on Tuns Lane at ATC site 207	48,591 (2007), 46,299 (2008), 46,056 (2009), 61,808 (2010)				<46,000	SBC traffic count. Initial data for 2011 suggests that count in 2010 was an anomaly
Average peak hour delay on A355 through AQMA 3	Baseline to be set				Annual reductions	SBC journey time assessment
Annual mean NO₂ concentrations						
Salt Hill CMS (A4)	Concentrations below 40 µg/m ³ in recent years. Weak evidence of long term downward trend				Clear downward trend	
Princess Street diffusion tube (AQMA Order 4)	Concentrations above and below 40 µg/m ³ in recent years. Statistically significant long term downward trend (0.05 level)				Clear downward trend	
Wexham Road diffusion tube (AQMA Order 4)	Concentrations above 40 µg/m ³ . No clear trend				Clear downward trend	
Lansdowne Ave diffusion tube (AQMA Order 4)	Concentrations above and below 40 µg/m ³ in recent years. Little evidence of long term downward trend				Clear downward trend	

Indicator	Pre LTP3 baseline	2011/12	2012/13	2013/14	Forecast for 2014/15 with Action Plan	Comment
Farnham Road diffusion tube (AQMA Order 3)	Concentrations below 40 $\mu\text{g}/\text{m}^3$ in recent years. Concentrations appear stable				Annual mean <40 $\mu\text{g}/\text{m}^3$	
Tuns Lane diffusion tube (AQMA Order 3)	Concentrations below 40 $\mu\text{g}/\text{m}^3$ in recent years. No clear trend				Annual mean <40 $\mu\text{g}/\text{m}^3$	

APPENDIX: Response to Public Consultation

Issue	Response
Defra*: Indicators in Table 2 welcomed but clarification is needed on status of forecasts.	Agreed, clarification made.
To maintain momentum with the implementation of the longer term, and ongoing, measures it would be useful to define sub-actions and associated timescales for these in the short term.	Agreed, text revised.
First Group: welcomes references to role of buses in helping reduce the overall number of vehicle movements; also notes the AP's recognition that the operational performance of buses would improve with better traffic management along the A4 and better co-ordination of roadworks.	Support is welcome.
Whole of First's Slough-based bus fleet is compliant with the emissions standards of the London Low Emission Zone (LEZ) because many of our routes cross the boundary into the LEZ (Uxbridge and Heathrow Airport).	Noted. Text revised.
Reference to a study into the feasibility of a very low emission zone is noted but this would have to take account of the practicability and cost of modifying existing vehicles to comply with stricter limits.	Noted. These issues will be considered when the results of this Defra-funded study are available in 2013.
BAA: potential confusion in Table 2 (indicators) between emission (NO _x) and concentrations (NO ₂).	Agreed, clarification made
Residents: delays to vehicles at traffic lights, speed humps/ tables etc cause poor air quality: speeding traffic up could lower emissions.	The AP focuses on Intelligent Transport Systems designed to help stabilise and reduce emissions with integration of traffic and pedestrian crossing signals within and on the approaches to the AQMAs. AP also proposes better co-ordination of street works and event planning.
Resident: no mention is made of environmental costs of the additional parking provided with the Tesco and Sainsbury developments.	Comment noted. AP aims to tackle air quality problems across the AQMAs.
Resident: the 'school run' is a major cause of pollution; sustainable travel should be a priority for schools located near the AQMAs.	The LSTF project focuses on schools with high car use.
Resident: transport assessments of the impact of development proposals are not sufficiently thorough or stringent.	Noted, wording strengthened to make clear that transport assessments should identify any potential adverse impacts on air quality.

*Note: these are specific issues raised by Defra. The full Defra *Action Plan Appraisal Report* of July 2012 is available on request