

# Aylesbury Air Quality Action Plan

December 2010



Supported By:-



## **Disclaimer**

Following the impending changes in the Decentralisation and Localism Bill to be laid before Parliament in December 2010, Aylesbury Vale District Council is in the process of reviewing its housing and employment growth plans. Some elements of this document may require reassessment or updating should the Council's ongoing review (from August 2010) of housing and employment targets differ from those informing the drafting of this document.

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### 1.0 Introduction

Part IV of the Environment Act 1995 places a statutory duty on all local authorities throughout the UK to periodically review and assess air quality within their areas. This is to determine the likelihood of complying with prevailing health-based objectives for a number of pollutants. The UK Air Quality Strategy provides the over-arching themes for management of air quality in the UK.

Those local authorities that determine that the air quality in their area is unlikely to meet any of the objectives are required to declare an Air Quality Management Area (AQMA). Where local authorities have designated an AQMA they have a duty under section 84(2) of the Act to produce an Action Plan (AP). This plan must set out the measures the authority intends to introduce in pursuit of the air quality objectives.

County Councils have a duty under section 86(3) of the Act to put forward proposed actions which they can implement to work towards the air quality objectives in AQMAs.

Local authorities are not legally obliged to meet the air quality objectives but they must be able to demonstrate that they are working towards the objectives.

Action plans ultimately provide the mechanism by which local authorities, in collaboration with national agencies and others, will state their intentions for working towards the air quality objectives through the use of the powers they have available

### 1.1 Local Air Quality Management in Aylesbury

In July 2005 an Air Quality Management Area (AQMA) was formally declared along a section of the A41 Tring Road as a result of a likely exceedence of the annual mean air quality objective for NO<sub>2</sub>. As a result we were required to produce an Action Plan setting out measures the authorities intended to introduce to achieve compliance with the air quality objective.

Since this time we have declared two further AQMAs (due to a likely exceedence of the annual mean air quality objective for NO<sub>2</sub>); one in the town centre gyratory system (Stoke Road AQMA), and one where Friarage Road and Oxford Road meet (Friarage Road AQMA). We are now required to produce Action Plans to address elevated NO<sub>2</sub> concentrations in these areas.

In order to address the increase in the number of AQMAs within the town centre, and the identification of further areas with elevated concentrations of NO<sub>2</sub>, it is considered appropriate to take a 'whole town' approach to an Air Quality Action Plan, rather than just focus on sections of individual roads. As such we have created one over-arching Action Plan covering the whole of Aylesbury. This contains a number of town-wide measures for improving air quality which will indirectly affect the specific areas declared as AQMAs. The plan also contains a number of more specific measures related to the individual AQMAs where appropriate. The area covered by the action plan, and the areas covered by existing AQMAs are indicated in Figure 1.

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Figure 1: Extent of Action Plan Application and Location of AQMAs





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If additional AQMAs are declared in the future, it will only be necessary to incorporate additional specific measures within the Action Plan rather than produce a whole new plan.

The identified areas of elevated NO<sub>2</sub> concentrations within the town are related to traffic exhaust emissions. Therefore, close collaboration with the Transportation Authority , Transport for Buckinghamshire (TFB) (within Buckinghamshire County Council (BCC)) is important when seeking to improve air quality. In recognition of this, action plan measures relating to the reduction of traffic emissions have been integrated within Local Transport Plans prepared by TFB.

### **1.2 Local Air Quality Management in Buckinghamshire**

AVDC is a member of the county-wide Bucks Air Quality Management Group (BAQMG). This group has adopted a county-wide strategy for improving air quality which applies to Aylesbury and should be considered along side the Action Plan. In addition, the group seeks to undertake a number of joint initiatives for improving air quality such as working with local schools to raise awareness of air pollution.

### **1.3 Objectives**

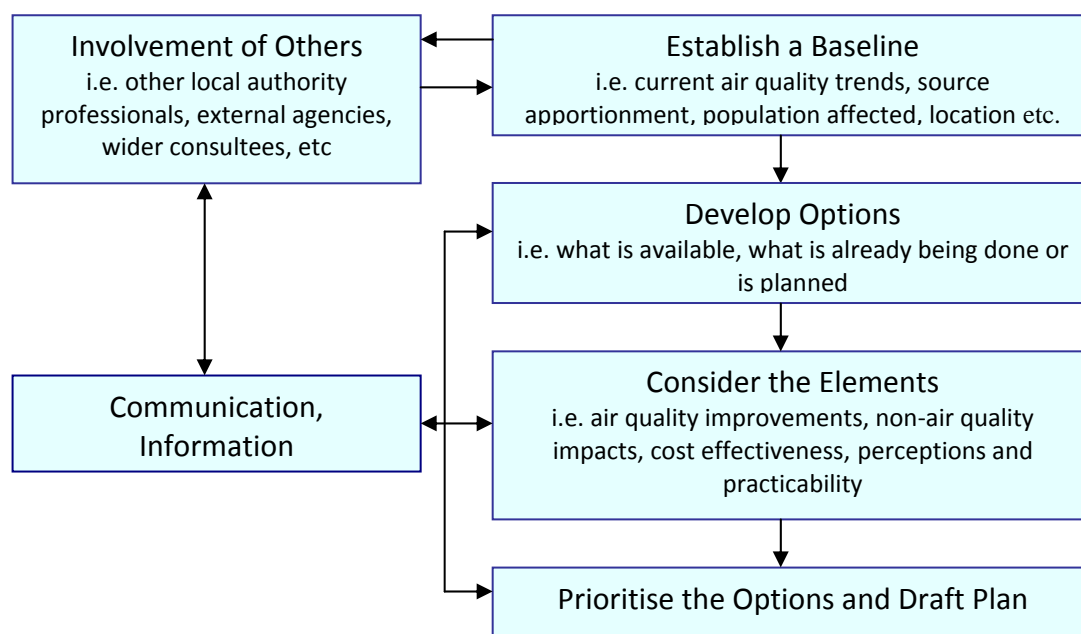
The following objectives are proposed for the Action Plan:

- Improve local air quality, in pursuit of the UK long-term air quality objective for nitrogen dioxide which is currently exceeded within the AQMAs;
- Contribute to improving the health and wellbeing of the local community by reducing air pollution in Aylesbury, and;
- Enable and encourage members of the community, where and when possible, to change their transportation mode to a more sustainable means.



## 2.0 The Action Planning Process

Figure 2 below illustrates the basic stages that were completed in order to prepare this plan.



**Figure 2: Summary of Action Planning Process (from NSCA 2001)**

### 2.1 Building on the existing Action Plan

A detailed Action Plan for Tring Road AQMA was finalised in September 2007 and has been implemented in the years since. The plan put forward a number of measures to improve air quality within the AQMA. It was produced as a result of close collaboration between district council officers from Environmental Health & Licensing and Planning Services, and county council officers from Transport Policy and Strategy.

The creation of a town-wide Action Plan has sought to build upon the knowledge and experience gained during the production and implementation of the Tring Road Action Plan, whilst introducing measures and approaches to improving air quality that are applicable to a wider area. As such, a number of measures featured in the Tring Road Action Plan have been retained for wider application and integrated into this revised plan.

### 2.2 Working Group

In accordance with NSCA (2000, 2001) guidance and best practice examples, a Working Group was established to facilitate the preparation of the plan. The Working Group included a representative from the Town Council and representatives from the following teams and departments within AVDC and Buckinghamshire County Council (BCC):

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- Air and Land Quality (AVDC);
- Sustainability (AVDC);
- Development Control & Forward Planning (AVDC);
- Parking Services (AVDC);
- School, Business and Personal Travel Planning (BCC);
- Highways & Development (BCC);
- Public Transport (BCC);
- Transport Policy (BCC)

The Working Group members shared expertise and experience in order to generate and critically evaluate potential action plan measures. This process and the outcomes will be described in greater detail in subsequent sections.

### 2.3 Generation of initial list of measures

The measures contained within the 2007 Tring Road Action Plan were revisited and reviewed, with consideration given to the appropriateness of their application to a wider area. In addition, a number of new measures were generated. All measures were generated in light of the baseline air quality and traffic conditions (discussed in detail in Section 3.0). Measures were divided into two separate 'tiers':

- Tier 1 – generic measures that apply to the town as a 'whole', and;
- Tier 2 – site specific measures (where appropriate) that apply to the particular locations covered by AQMAs.

All potential measures were presented to Working Group members for consideration and critical evaluation, along with a summary of the baseline air quality and traffic conditions .

### 2.4 Screening of initial measures and prioritisation

Each initial potential measure was considered by the Working Group members in terms of it's practicability, it's cost effectiveness and the potential non air quality benefits associated with it. General discussion was also had about the greatest priorities with respect to managing local air quality and how these could be reflected within the Action Plan. Two key priority themes were identified:

- **Obtaining a greater understanding of the NO<sub>2</sub> source from vehicle emissions within the town and the impact of targeting measures at particular vehicle types (building on the basic source apportionment exercises undertaken as part of the Further Assessments for each AQMA);**
- **Obtaining an understanding of the potential impact of the significant planned growth of the town over the next 20 years on NO<sub>2</sub> emissions, and the effect of a range of potential mitigation measures.**

It was felt that these two themes needed to be addressed to enable more targeted action plan measures to be applied in future years and prevent inefficient use of resources. The approach to the Action Plan has therefore been designed to reflect these priorities.

### 2.5 The resulting adopted approach

A large number of measures were put forward in the Tring Road Action Plan, many of which are considered appropriate for application over a wider area to encompass the whole town.

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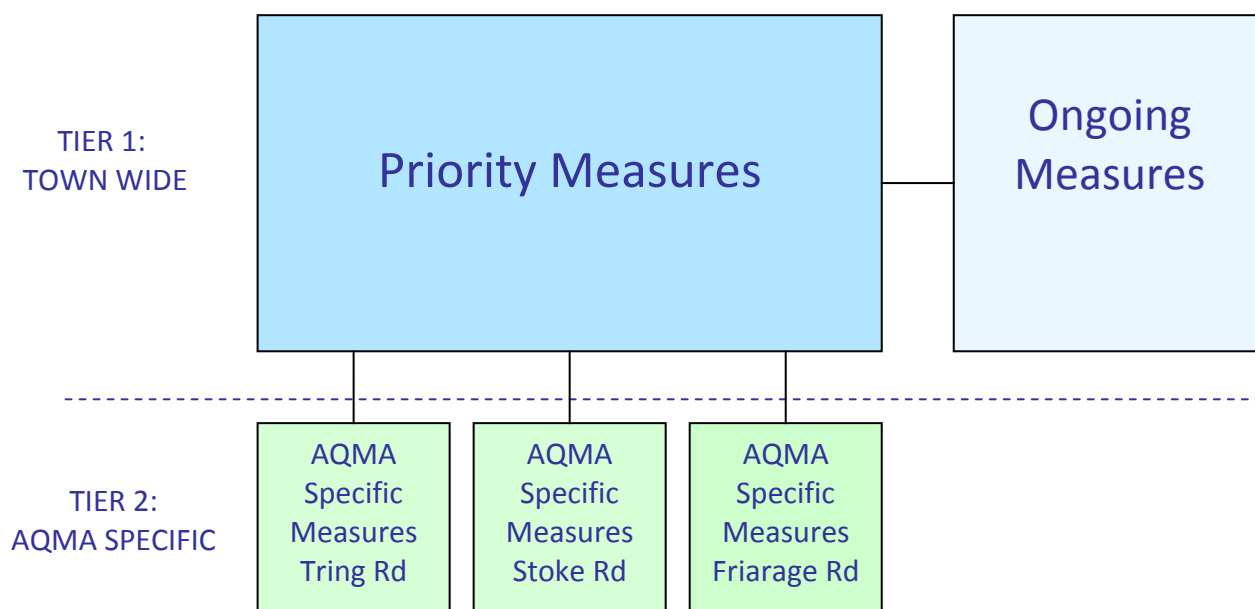
However, many of these measures are already being acted upon, or reflect ongoing work being undertaken by local authority departments in pursuit of other objectives (e.g. congestion reduction) which have an additional positive effect on air quality. It was therefore considered that whilst these measures still have an important role to play, other new 'priority' measures should be developed that could be directly implemented and/or developed by local authority officers with responsibility for air quality.

A number of **Ongoing Measures**, primarily adopted from the Tring Road Action Plan have therefore been retained and now apply to the whole town. These are contained within **Appendix 3**.

In addition to these, five **Priority Measures** have been developed, the details of which are contained within **Section 4.0**. These Priority Measures apply to the whole town area.

The **Ongoing** and **Priority Measures** are supplemented where appropriate by measures that are specific to individual AQMAs, referred to as **AQMA Specific Measures**. These measures typically represent specific highways improvements that may be possible, reflecting the traffic related emissions source of these areas. If there is a requirement to declare additional AQMAs within the town in the future, it will only be necessary to amend the Action Plan by adding additional AQMA Specific Measures. The overall Action Plan will also be subject to regular review, as outlined in Section 6.

The structure of this Action Plan is summarised in Figure 3 below:



**Figure 3: Structure of the Action Plan Measures**

### 3.0 Baseline Conditions

It is important to have a well defined baseline, describing existing conditions within the area covered by the Action Plan, upon which to base the Action Plan and against which it's success can be measured. Whilst it is important for such a baseline to contain information relating directly to air quality; for example air quality monitoring data, it is also important to contain 'indirect' information; for example relating to traffic volumes and queue lengths.

A summary of baseline conditions is provided in Figures 4 to 6 below for each of the AQMA areas. In addition, a brief description of existing conditions is provided in subsequent sections below.

#### 3.1 Air Quality Monitoring Data

Monitoring of NO<sub>2</sub> concentrations within Aylesbury using diffusion tubes has been ongoing for many years. This is supplemented by periods of continuous monitoring using a real-time analyser in areas of the town where elevated concentrations are identified.

Diffusion tube monitoring results for the last 3 years in each of the AQMAs are presented in Figures 4 to 6. All results illustrate either consistent concentrations of annual average NO<sub>2</sub> over this period, or an increase.

#### 3.2 Source Apportionment of Emissions

Following the declaration of each of the AQMAs, Further Assessments (AVDC 2006, 2009a, 2009b) were undertaken providing source apportionment exercises. These exercises assessed the contribution of different vehicle types to the NO<sub>2</sub> concentrations measured in the AQMA. A summary of the results obtained are presented in Figures 4 to 6.

The Tring Road Further Assessment was undertaken in 2006 using a simple theoretical contribution (%) calculation. The Stoke Road and Friarage Road Further Assessments were undertaken more recently (2009) using the simple spreadsheet method outlined in Box 7.1 of Technical Guidance LAQM.TG(09). Caution should therefore be applied when directly comparing the results from the two different methodologies.

The results of the source apportionment exercises for the Stoke Road and Friarage Road AQMAs illustrate similar trends. They both highlight that a significant proportion of total NO<sub>2</sub> emissions are attributable to local traffic sources. In addition, analysis of vehicle data illustrates that despite making up the most significant proportion of vehicles (approximately 85%), cars only contribute to approximately one third of the local NO<sub>2</sub> contribution. In contrast, combined emissions from buses and coaches, rigid HGVs and articulated HGVs equate to 46% and 57% of total local NO<sub>2</sub> contributions for the Stoke Road and Friarage Road AQMAs respectively. This is despite these vehicle types only representing 3.1% and 5% respectively of the total number of vehicles.

The results of the Tring Road AQMA source apportionment exercise identify a similar trend to that described above for the other 2 AQMAs. However, they suggest that cars contribute a greater proportion of NO<sub>2</sub>. It is likely that this difference is due to the different methodology used in this earlier assessment.

These results of the source apportionment assessments therefore suggest that the most effective and efficient measures to put forward within an Action Plan are likely to be those

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relating to tackling the emissions of buses, coaches and HGVs. However, there are a number of limitations with the source apportionment assessments. Technical Guidance (LAQM.TG(09)) states that the preferred approach to apportionment of local sources is to use dispersion modelling, using the model to independently predict pollutant concentrations from each source in turn. However, this approach was not feasible at the time of undertaking the Further Assessments and therefore the alternative simple spreadsheet approach was adopted instead. Whilst this simple methodology is suitable for identifying indicative trends, it is less robust and detailed than the preferred modelling approach.

In addition, the traffic data that were utilised, were only available split by vehicle type. Factors such as the age profile of bus fleets and the average queuing time and queue lengths at congested junctions will also have a significant impact on the emissions profile and contributions from different vehicle types. This information was not available at the time of undertaking the source apportionment exercises but would potentially have had a significant impact on the results.

**As a result of the limitations outlined above, it is considered inappropriate to devise specific measures to address emissions of buses, coaches & HGVs at this time. Implementation of such measures will require significant expenditure in terms of both time and money. Such expenditure must be justifiable with robust quantifiable evidence of the potential beneficial impact on local air quality (i.e. the % reduction in NO<sub>2</sub> concentrations) before such measures can be given the go-ahead. Whilst studies in other areas indicate positive effects of such measures, data specific to Aylesbury and the local conditions must be generated.**

**It is therefore proposed that a more detailed source apportionment study (as approved by DEFRA) be undertaken in order to target future action measures specifically towards particular vehicle types, if this is identified as being appropriate.**

### 3.3 Traffic Data

#### 3.3.1 Annual Average Daily Traffic (AADT)

Annual Average Daily Traffic (AADT) flow for roads within each of the AQMAs is also considered important as a descriptor of baseline conditions. AADT values for roads within the AQMAs in 2009 are provided within Figures 4 to 6.

AADT values across the 3 AQMAs range from 21365 to 27833. In 2009 the highest AADT value was identified on the section of Friarage Road within the Friarage Road AQMA. The lowest AADT value was identified on a section of the Wendover Road within the Stoke Road AQMA.

However, it should be noted that traffic flow alone may not be a suitable descriptor of baseline conditions. The extent of congestion on the identified roads is also important, in particular the presence and extent of any queuing traffic. This is illustrated by the example of Stoke Road AQMA. In this particular AQMA air Quality Monitoring results are more elevated than those obtained in the other AQMAs, despite AADT values being lower than on other roads within the other AQMAs. This AQMA covers a small gyratory system controlled

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by numerous sets of traffic lights, resulting in the presence of stationary queuing traffic throughout certain times of the day.

It may therefore be possible to improve air quality in particular areas by reducing congestion, even if the number of vehicles passing through the area (AADT) increases. As such, to refer to AADT alone as a descriptor of traffic within a baseline has the potential to be misleading. We therefore propose to include queue length as a baseline descriptor, in addition to AADT.

### 3.3.2 Queue Length

Queue length surveys at a number of locations within the 3 AQMAs (illustrated in Appendix 1) were undertaken during October and November 2010. Surveys were undertaken during a 2 hour period in the morning rush hour and repeated during a 2 hour period in the evening rush hour. A summary of the results obtained are presented in Appendix 2.

It is proposed that these surveys will now be repeated on an annual basis in order to allow comparison.

## 3.4 Meeting Air Quality Objectives in the Future

Results generated from periods of real time analyser monitoring have been used to calculate the required reduction in NO<sub>2</sub> in each of the AQMAs in order to meet the long term air quality objective. The required reductions are 7 µg/m<sup>3</sup>, 10 µg/m<sup>3</sup>, and 4 µg/m<sup>3</sup> for the Tring Road AQMA, Stoke Road AQMA and Friarage Road AQMA respectively.

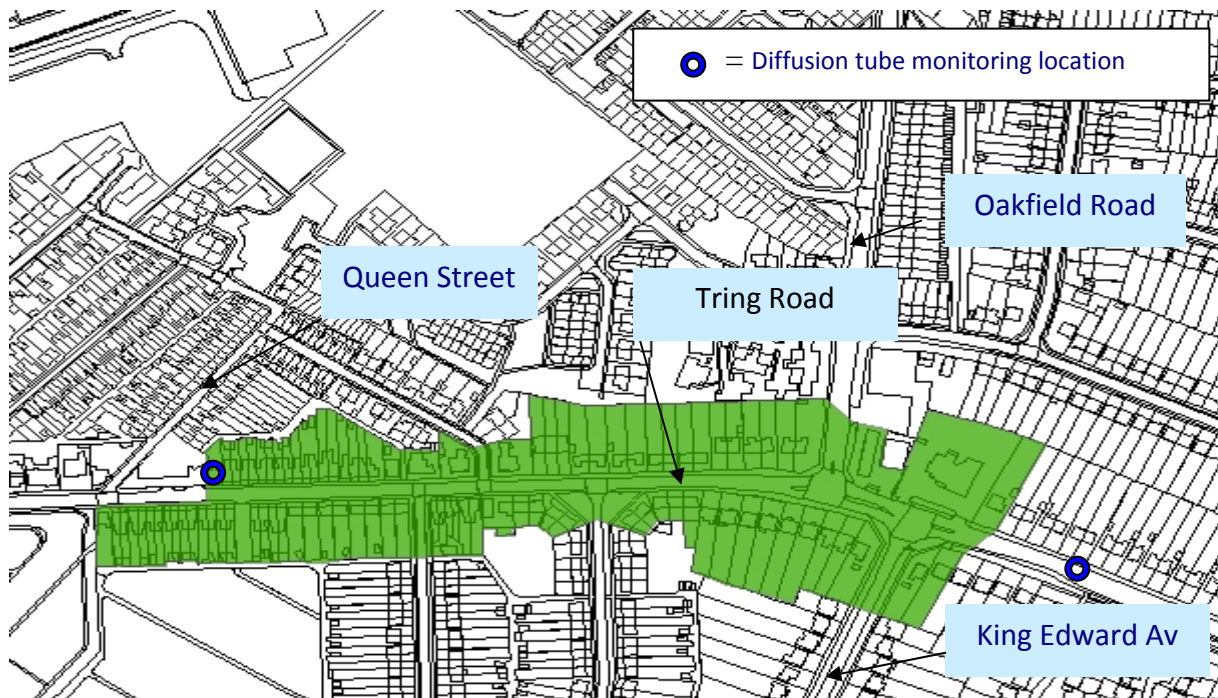
However, it should be noted that there are a number of developments already committed to within Aylesbury Town Centre (including the Weedon Hill and Berryfields Major Development Areas) which are predicted to increase traffic flow and congestion by 2013.

In addition to this, AVDC is required to deliver a significant number of additional new homes around the town by 2026. A variety of options for the location of these homes is still being considered. It is therefore not possible to comment on any specific potential impacts of the proposed development on the AQMAs at this time. However, it is acknowledged that the development of a significant number of new homes is likely to result in a general increase in traffic across the town.

The growth in housing is likely to have a significant impact on the timescale required to meet air quality objectives. It is also possible that future reporting of conditions and comparison with this established baseline may illustrate worsening conditions despite the implementation of measures put forward within this Action Plan.

**It is therefore considered important to undertake a study to establish the potential impact of the town's future growth on air quality in order to target future Action Plan measures most effectively.**

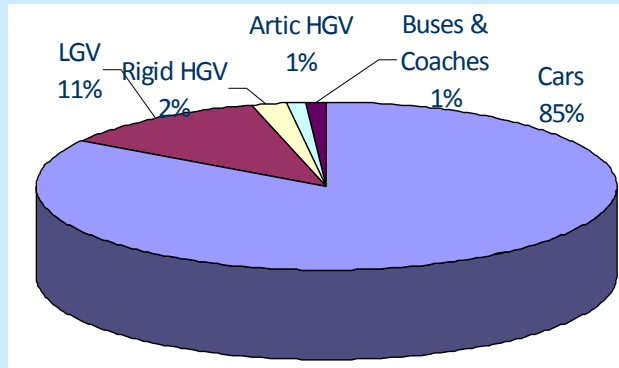
Figure 4: Tring Road AQMA Baseline Summary



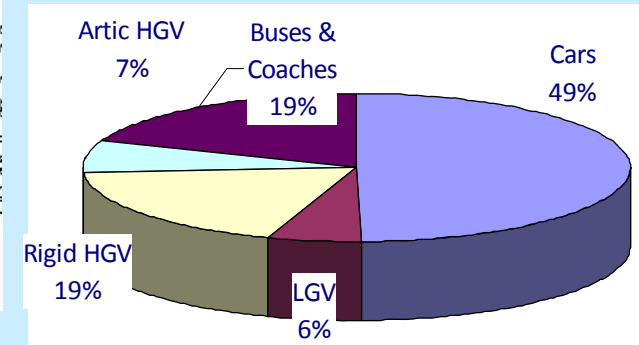
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- **Pollutant of concern:** NO<sub>2</sub> (Annual Average)
- **Diffusion tube monitoring results (bias adjusted):**  
 Tring Rd 1 - 2007: 46 µg/m<sup>3</sup>; 2008: 43 µg/m<sup>3</sup>; 2009: 45 µg/m<sup>3</sup>  
 Tring Rd 2 - 2007: 44 µg/m<sup>3</sup>; 2008: 43 µg/m<sup>3</sup>; 2009: 44 µg/m<sup>3</sup>
- **Real time analyser result (2008):** Roadside: 59 µg/m<sup>3</sup>; Receptor 47 µg/m<sup>3</sup>
- **Required reduction in NO<sub>2</sub> (based on real time analyser results):** 7 µg/m<sup>3</sup>
- **AADT 2-way (2009):** Tring Road: 21516

#### Source Apportionment:



#### A) Proportion of Vehicle Types

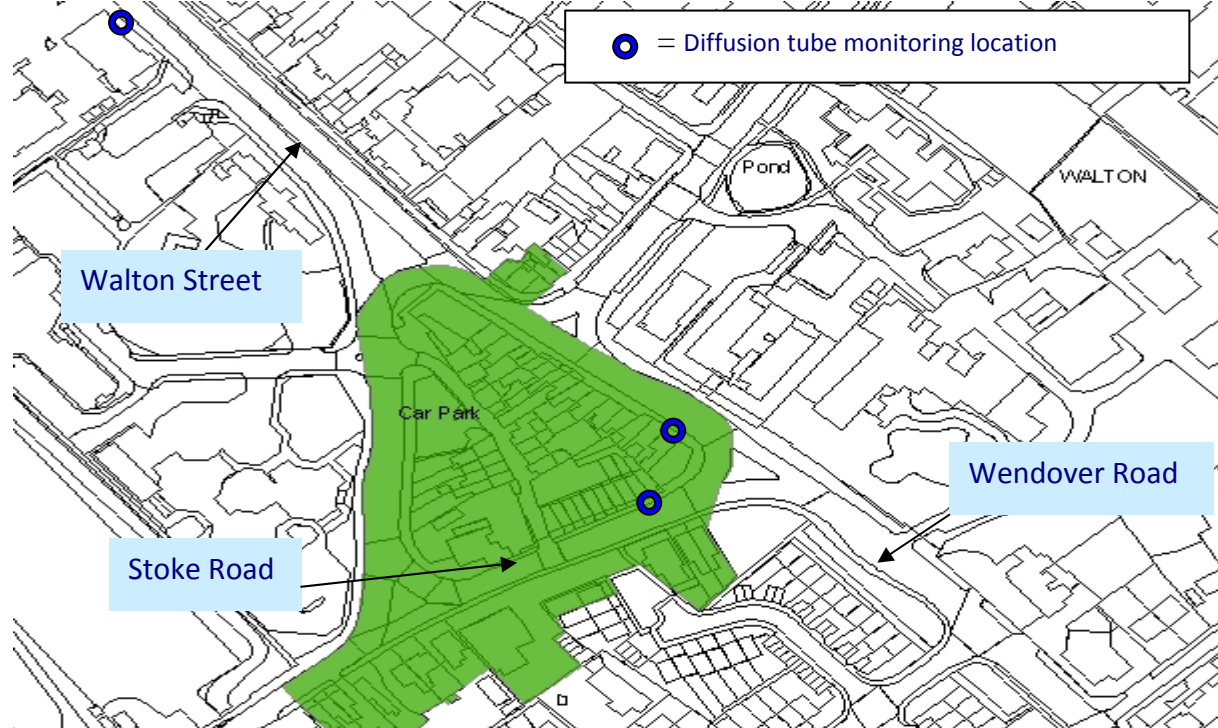


#### B) Contribution of vehicle type to total NO<sub>2</sub> emissions

(Note: different methodology used to other AQMAs)



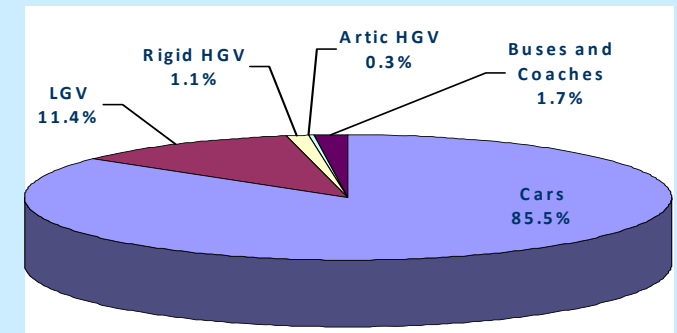
**Figure 5: Stoke Road AQMA Baseline Summary**



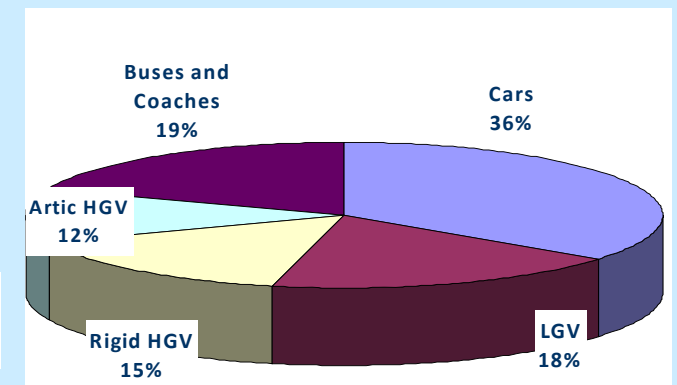
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- **Pollutant of concern:** NO<sub>2</sub> (Annual Average)
- **Diffusion tube monitoring results (bias adjusted):**  
 Stoke Rd - 2007: 59 µg/m<sup>3</sup>; 2008: 59 µg/m<sup>3</sup>; 2009: 64 µg/m<sup>3</sup>  
 Walton St - 2007: 48 µg/m<sup>3</sup>; 2008: 48 µg/m<sup>3</sup>; 2009: 49 µg/m<sup>3</sup>
- **Real time analyser result (2006):** Roadside: 53 µg/m<sup>3</sup>; Receptor 50 µg/m<sup>3</sup>
- **Required reduction in NO<sub>2</sub> (based on real time analyser results):** 10 µg/m<sup>3</sup>
- **AADT 2-way (2009):** Walton St: 24953, Stoke Rd: 21521, Wendover Rd: 21365

## Source Apportionment:



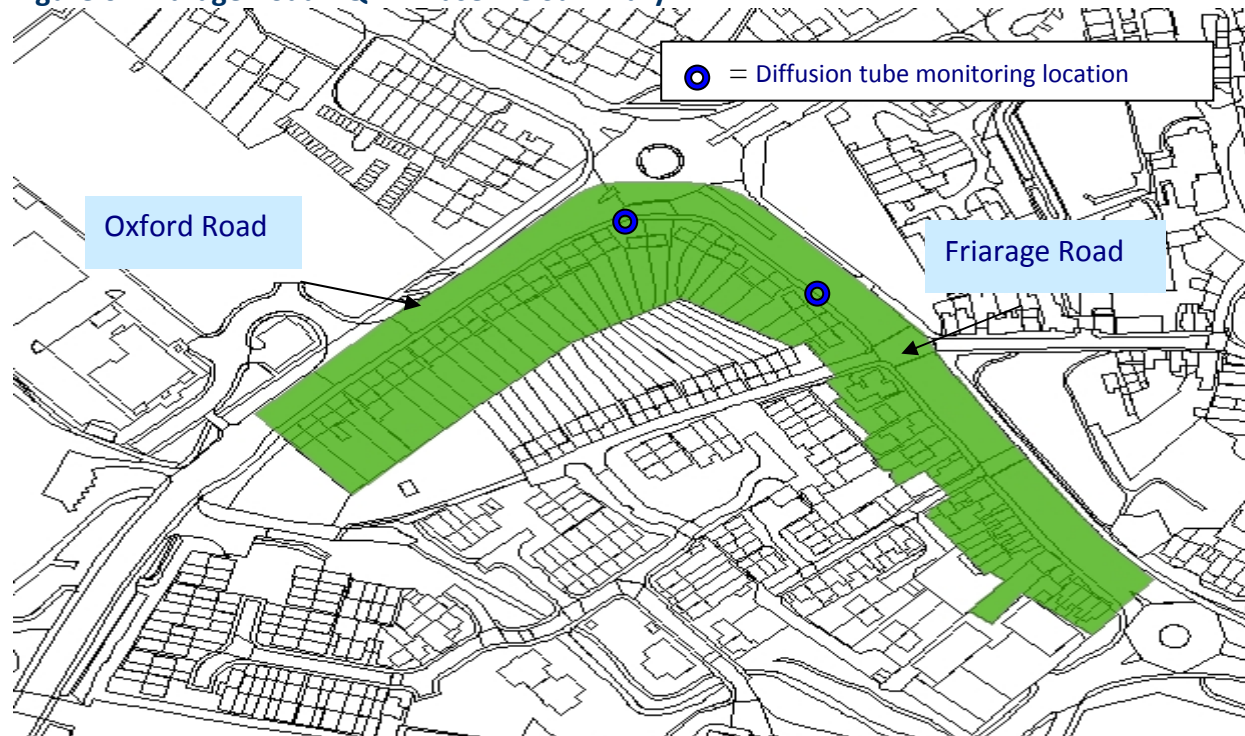
## A) Proportion of Vehicle Types



## B) Contribution of vehicle type to local NO<sub>2</sub> emissions

Local NO<sub>2</sub> contribution equals 30 µg/m<sup>3</sup> of total measured. Remaining emissions comprised of local & regional background

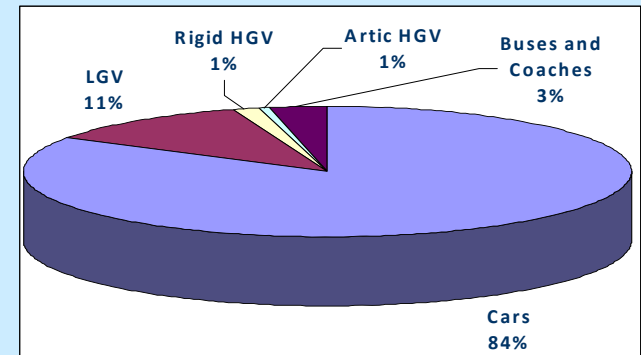
Figure 6: Friarage Road AQMA Baseline Summary



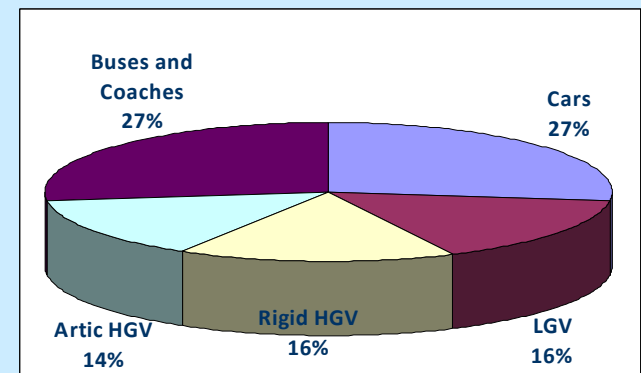
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- **Pollutant of concern:** NO<sub>2</sub> (Annual Average)
- **Diffusion tube monitoring results (bias adjusted):**  
 Oxford Rd - 2007: 45µg/m<sup>3</sup>; 2008: 44µg/m<sup>3</sup>; 2009: 45µg/m<sup>3</sup>  
 Friarage Rd - 2007: 40µg/m<sup>3</sup>; 2008: 41µg/m<sup>3</sup>; 2009: 46µg/m<sup>3</sup>
- **Real time analyser result (2005):** Roadside: 47µg/m<sup>3</sup>; Receptor: 44µg/m<sup>3</sup>
- **Required reduction in NO<sub>2</sub> (based on real time analyser results):** 4µg/m<sup>3</sup>
- **AADT 2-way (2009):** Friarage Rd: 27833, Oxford Rd: 24448

#### Source Apportionment:



#### A) Proportion of Vehicle Types



#### B) Contribution of vehicle type to local NO<sub>2</sub> emissions

Local NO<sub>2</sub> contribution equals 23 ug/m<sup>3</sup> of total measured. Remaining emissions comprised of local & regional background

## 4.0 Proposed Measures

Section 2.5 described the adopted approach to the Action Plan. In summary, 5 **Priority Measures** have been developed which apply to the whole town area. These are described in detail in Tables 1 to 5 below. These measures focus specifically on the two key priority themes identified by the Working Group, as outlined in Section 2.4.

In addition, a second tier of **AQMA Specific Measures** are described in Table 6 below. These measures relate to traffic management and / or engineering improvements specific to the roads within the AQMAs.

A number of **Ongoing Measures**, primarily adopted from the Tring Road Action Plan will continue to be implemented. However these measures will be of a lower priority than those described in Tables 1 to 6 below. Ongoing Measures are contained within Appendix 3.

## Tier 1: Priority Measures

**Table 1 WT1 Awareness, promotion and behavioural change**

<b>What?</b>	<b>Action for Aylesbury – an awareness campaign and personal travel planning initiative</b>
<b>How?</b>	<p>Funding has been secured for:</p> <ul style="list-style-type: none"> <li>○ An initial family fun day launch event to raise awareness of air pollution and sustainable travel options;</li> <li>○ The distribution of Personal Travel Packs containing information on specific sustainable travel options to 1000 residents in the vicinity of the Tring Road AQMA;</li> <li>○ The creation of a new area of the AVDC &amp; TFB (BCC) websites to support the campaign and provide associated information and links to other relevant information sources.</li> </ul> <p>Funding is also being sought to enable the campaign to be extended to encompass: Business Travel Planning Breakfast events, Schools Workshops and, a Travel Pioneers initiative.</p>
<b>Why?</b>	Encouraging the use of alternative methods of transport to the car, or the combination / reduction of trips taken, will reduce congestion and the associated vehicle emissions.
<b>When?</b>	The campaign was launched on <b>12 June 2010</b> . Personal travel packs were be distributed to the identified households following the event. The Travel Pioneers initiative will begin in <b>Spring 2011</b> . Additional funding will be sought in <b>2011</b> to support a Business Travel Planning event and continue the campaign in future years.
<b>Who?</b>	AVDC will take lead responsibility for this measure, with support from TFB (BCC).
<b>Cost?</b>	<p><b>£9K</b> has been secured for the initial launch event &amp; travel pack distribution.</p> <p><b>£15K</b> will be sought to continue and extend the campaign in future years to include interaction with local businesses and schools</p>
<b>Impact?</b>	<ul style="list-style-type: none"> <li>• Increase car sharing: achieve 225 new registrations to Bucks Car Share every year.</li> <li>• Reduce congestion: decrease queue lengths in AQMA areas.</li> </ul>

**Table 2 WT2 Land use planning and sustainable travel**

<b>What?</b>	<p><b>Monitoring the effectiveness of Travel Plans for new developments</b></p> <p>It is currently a requirement that developers submit a Travel Plan in support of a planning application for residential and commercial developments that are likely to result in the generation of significant numbers of additional journeys. Such a plan will outline measures that will be adopted to minimise single occupancy car journeys associated with the development and encourage the use of more sustainable modes of transport. However the existing mechanism for assessing the implementation and effectiveness of such plans once the development has been completed is not effective.</p>
<b>How?</b>	<p>We propose to revise the mechanism by which regular monitoring of the implementation and effectiveness of travel plans can be determined. We will also prepare a mechanism to ensure the regular review of such travel plans and a method for resolving potential issues that may be identified such as; identifying that a Travel Plan has not been implemented.</p>
<b>Why?</b>	<p>Encouraging the use of alternative methods of transport to the car, or the combination / reduction of trips taken, will reduce congestion and the associated vehicle emissions.</p>
<b>When?</b>	<p>Liaison between appropriate AVDC and BCC Officers to commence in <b>Summer 2011</b>, with a view to setting mechanisms in place by <b>Spring 2012</b>.</p>
<b>Who?</b>	<p>TFB (BCC) will take lead responsibility for this measure, with support from AVDC.</p>
<b>Cost?</b>	<p>Funding will be sought via the planning system to meet the cost of administering and monitoring the implementation of travel plans. Costs are variable and are subject to review. As such reference should be made to the current travel planning guide for developers provided by (BCC).</p>
<b>Impact?</b>	<p>Travel Plans aim to achieve a 10% reduction in car use over the first 5 years of the development.</p>

**Table 3 WT3 Transport planning to improve traffic flow**

<b>What?</b>	<p><b>Urban Traffic Management Control System (UTMC):</b></p> <p>A package of integrated traffic management tools and data sources that will:</p> <ul style="list-style-type: none"> <li>○ Permit enhanced control and co-ordination of traffic signals in the town to aid reduction of congestion;</li> <li>○ Enhance the monitoring of travel conditions in the town;</li> <li>○ Inform the travelling public of live travel conditions in town;</li> <li>○ Compliment and enhance other transport initiatives</li> </ul>
<b>How?</b>	<p>We propose to provide a real-time air quality monitoring data feed into the UTMC system. Data generated will be used to determine strategies for signing and implementation. For example: data could be used to inform VMS displays warning of poor air quality and / or advising use of Park &amp; Ride, or to inform strategies of traffic signal control which limit further traffic movements in the affected area. We also propose to support the monitoring with the development of a detailed emission inventory. Such an inventory will allow us to develop an understanding of the relationship between the specific emissions generated by vehicles in Aylesbury (particularly in queues / congestion) and the ambient air pollution concentrations measured in town. This will then allow us to target further strategies to reduce emissions, for example towards particular vehicle types.</p>
<b>Why?</b>	<p>The three existing AQMAs within Aylesbury are due to elevated emissions of NO<sub>2</sub> from vehicle exhausts, due to traffic congestion. If traffic is moving more freely, exhaust emissions are able to disperse more freely, resulting in lower concentrations at receptor locations. In addition, by gaining a greater understanding of the vehicle fleet, and the relative contribution of different types of vehicles to NO<sub>2</sub> emissions, we will be able to target our future efforts to reduce emissions more effectively. For example we may be able to identify a particular type of vehicle that contributes a significant proportion of total NO<sub>2</sub> emissions and then regulate this type of vehicle rather than targeting all vehicles.</p>
<b>When?</b>	<p>Due to be operational by April 2011.</p>
<b>Who?</b>	<p>BCC will take lead responsibility for this measure, with guidance from AVDC on the air quality component</p>
<b>Cost?</b>	<p>The estimated cost of the air quality component of the project is approximately: £70,000</p>
<b>Impact?</b>	<p>Reduction in congestion: decrease queue lengths in AQMA areas</p>

**Table 4 WT4 Provision of sustainable transport infrastructure**

<b>What?</b>	<p><b>Provision of electric vehicle infrastructure:</b></p> <p>Electric vehicles have the potential to play a significant role within a sustainable transport system. However, to use their electric vehicles, motorists need to be able to recharge them. Whilst many will be able to do this at home, publicly accessible charging infrastructure in key destinations like in work and shopping centre car parks will help drivers of electric and plug-in hybrid vehicles the ability to recharge when away from home.</p>
<b>How?</b>	<p>AVDC have joined forces with Milton Keynes Partnerships and Council to be part of the 'Plugged in Places' Infrastructure Framework which aims to create a critical mass of infrastructure in between 3 and 6 lead cities or regions in the UK. AVDC propose to install between 4 and 8 electric charging points per year, for 3 years across principal locations within the district. Proposed locations within Aylesbury include: principal Chiltern Trains railway stations, public car parks; supermarket car parks and council office car parks.</p>
<b>Why?</b>	<p>It is anticipated that by installing such infrastructure along with accompanying publicity, people and businesses will be encouraged to consider the benefits to the uptake of electric vehicles. Electric vehicles do not emit exhaust emissions that contribute to air pollution within the town.</p>
<b>When?</b>	<p>Installation will commence during 2011 and be complete by 2013.</p>
<b>Who?</b>	<p>The Project will be led by Milton Keynes Partnerships, with AVDC taking responsibility for implementation of the infrastructure development within Aylesbury.</p>
<b>Cost?</b>	<p>In February 2010 Milton Keynes Council (in conjunction with AVDC) was successful in it's application for Seed Funding for the 'Plugged in Places' scheme amounting to £2.3m for the area over 3 years. This funding will provide 50% of the installation costs of the infrastructure. Additional funding contributions will therefore need to be sought from other sources. An additional amount of £500,000 of funding from SEEDA has also been secured for installation of a small number of charging points, publicity and consultancy.</p>
<b>Impact?</b>	<p>Milton Keynes have an expectation of 1,000 Electric Vehicles on their roads by 2014. Assuming these vehicles replace existing petrol powered versions, exhaust emissions from this number of vehicles will be removed. Comparative figures for Aylesbury have yet to be calculated.</p>



**Table 5 WT5 Understanding the impact of future town growth and the potential effectiveness of Mitigation Measures**

<b>What?</b>	<p><b>Modelling the predicted impact of the town's growth on air quality and assessing the effectiveness of a range of mitigation measures</b></p> <p>AVDC has committed to delivering a significant number of new homes around the town over the next 10 to 15 years. Traffic modelling of future development scenarios highlights the potential for significant increased congestion in certain areas of the town as a result.</p>
<b>How?</b>	<p>We propose to undertake a detailed emissions inventory and dispersion modelling exercise to predict the potential future air quality conditions in the town, highlighting where areas of elevated emissions are likely to occur. We will also assess the potential impact of a series of mitigation measures to reduce the potential impact of the town's growth on air quality. Potential mitigation measures to be assessed will include: Limiting bus age; the impact of UTM (assume % reduction of congestion); limiting HGV age; the introduction of HGV only routes and delivery times, and pedestrianisation.</p>
<b>Why?</b>	<p>By identifying the areas of the town that are likely to be subject to elevated air pollution in the future we will be better placed to target our resources and effort prior to the growth taking place, rather than react after. In particular, by identifying mitigation measures that have the potential to reduce impacts of growth on air quality, we will be in a position to incorporate these into the planning and/or Local Air Quality Management process in advance of the growth taking place. Such measures can not be implemented without a detailed quantitative assessment providing robust evidence of the likely resulting reduction in air pollution concentrations.</p>
<b>When?</b>	<p>In February 2010 we submitted a funding application to undertake the above work. If successful it is envisaged that the work would commence as soon as an appropriate consultant was engaged and could be completed within 6 months. However, the completion timescale may be dependent on the generation of a robust dataset by the UTM (see Action WT3 above)</p>
<b>Who?</b>	<p>AVDC will take lead responsibility for this measure, with data provision support from TFB (BCC).</p>
<b>Cost?</b>	<p>The anticipated cost of undertaking the above assessment work is: £39,000</p>
<b>Impact?</b>	<p>No direct impact on air quality will arise from this assessment work. The work is required to enable us to identify, justify and implement effective emissions reduction strategies in future and identify the most effective measures to take. Once completed, the study will quantify the potential reduction in emissions that could be achieved. In this way, this assessment underpins all potential future emission reduction strategies.</p>

Table 6: Tier 2: AQMA Specific Measures

Ref	Action	Responsibility <sup>1</sup>	Cost <sup>2</sup>	Time scale for Completion	Potential AQ Impact (reduction in NO <sub>2</sub> ) <sup>3</sup>	Non AQ Impacts
<b>Tring Road AQMA</b>						
TR1	<b>Primary Public Transport Corridor (PPTCs)</b> – Development of Tring Road as a PPTC. See WT15.	BCC	££££	2016	Negligible	Reduced congestion& CO <sub>2</sub>
TR2	<b>Bus priority scheme</b> – Likely to consist of a westbound (i.e. towards town) bus lane ending at new traffic signals east of King Edward Avenue. As well as assisting bus priority, these signals could be used to create gaps in the flow of traffic into Oakfield road. Delivery dependent on the development of the Aston Clinton Road business park which is currently on hold.	BCC	££££	2016	Low - Moderate	Reduced congestion& CO <sub>2</sub>
TR3	<b>Pedestrian crossing review</b> – Undertake an investigation into the impact of reviewing the type of pedestrian crossing ( Zebra to Puffin) on Tring Road near to Tesco's roundabout. Delivery requires funding to be secured.	BCC	£	2016	Low	Reduced congestion& CO <sub>2</sub>
TR4	<b>Eastern Links Road Scheme</b> – being delivered by the Eastern Growth Arc and will relieve Tring Road of some through traffic. Tring Road Park and Ride – will relieve Tring Road of some through traffic.	BCC	££££	2016	High	Reduced congestion& CO <sub>2</sub>
<b>Friarage Road AQMA</b>						
FR1	<b>Promotion and facilitation of public transport</b> – working with operators to increase use of public transport on this route.	BCC	£	2016	Negligible - Low	Reduced congestion& CO <sub>2</sub>
<b>Stoke Road AQMA</b>						
SR1	<b>Carriageway Widening &amp; Bus Priority Scheme</b> – Preliminary proposals have been developed for the widening of the carriageway and the introduction of a bus lane along Stoke Road and Walton Street between Court Close and Walton Green.	BCC	££££	2016	Moderate	Reduced congestion& CO <sub>2</sub>

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Ref	Action	Responsibility <sup>1</sup>	Cost <sup>2</sup>	Time scale for Completion	Potential AQ Impact (reduction in NO <sub>2</sub> ) <sup>3</sup>	Non AQ Impacts
	Intended as part of a project to replace the existing Stoke Road bridge over the railway line.					
SR2	New Strategic Road Links delivered by the eastern growth arc offers the potential for through traffic to be reduced on Stoke Road.	BCC	££££	2016	High	Reduced congestion & CO <sub>2</sub>
SR3	Gyratory improvements – Design work underway to identify measures to improve traffic flow and reduce congestion	BCC	££££	2016	High	Reduced congestion & CO <sub>2</sub>

**Notes:**

1) Responsibility defined as the organisation with primary responsibility for undertaking the measure;

2) Cost defined as: : £= <100k, ££= 100 – 500K, £££= 500k – 1million, and ££££= >1million;

3) Air Quality Impact (as potential reduction in annual mean NO<sub>2</sub>): High = 2 µg/m<sup>3</sup>; Moderate = 1-2 µg/m<sup>3</sup>; Low = 0.2 – 1 µg/m<sup>3</sup>; Negligible = <0.2 µg/m<sup>3</sup>. It should be noted that the impact criteria provided for each measure are based on estimates in the absence of any predictive quantitative data.

## **5.0 Consultation and Public Awareness**

### **5.1 Methodology**

The draft version of the Action Plan was submitted to DEFRA for comment in July 2010. Following the receipt of positive feedback and approval of the draft document, a one month wider consultation period was undertaken during October and November 2010. This was comprised of the following elements:

- Distribution of the Draft Action Plan to the relevant statutory bodies and local organisations, requesting their feedback;
- Distribution of a summary booklet and questionnaire to residents within AQMAs;
- Provision of summary information and a feedback questionnaire on AVDC's website.

Statutory bodies and local organisations contacted included:

- Transport for Buckinghamshire (The Highways Authority for the area);
- The Highways Agency;
- The Environment Agency;
- Buckinghamshire Primary Care Trust;
- Aylesbury Town Council;
- Wycombe District Council;
- South Bucks District Council;
- Chiltern District Council
- Bucks Air Quality Management Group;
- Support Aylesbury Vale's Environment (SAVE)

### **5.2 Feedback from Statutory Consultees & Local Organisations**

Feedback obtained from statutory consultees and local organisations supported the measures outlined in the draft Action Plan. The responses acknowledged the existing constraints faced by AVDC and TFB and welcomed the proposed whole-town approach to tackling air quality issues.

### **5.3 Feedback from Local Residents**

Local residents provided feedback in the form of a questionnaire. All respondents indicated that they understood the objectives and the reasons for the draft Action Plan. In addition, respondents welcomed the whole-town approach to addressing air quality improvements, rather than focussing on small sections of specific roads.

However, many respondents felt that the measures contained within the plan did not go far enough and suggested a number of additional measures to be considered. A summary of the common suggestions received and our response to these is contained within Appendix 4.

## **6.0 Evaluation, Monitoring & Progress Reporting**

The effectiveness of the Action Plan will be assessed at various stages in it's implementation.

### **6.1 Finalisation of Baseline Conditions**

In order to complete the preparation of a robust set of baseline conditions, traffic queue length surveys were undertaken on appropriate junctions within the AQMAs during October and November 2010. It is proposed that these surveys will be repeated on an annual basis.

### **6.2 Progress against Baseline Conditions**

An annual progress report will be submitted summarising the progress of implementation of the measures contained within the Action Plan. The report will also contain a comparison of current air quality and traffic conditions with the established baseline.

### **6.3 Action Plan Review**

It is proposed that the Action Plan will be reviewed in **2013**. It is anticipated that at this time, the 5 Priority Measures identified will have been completed / implemented, providing a greater understanding of source apportionment and the impact of the town's future growth. With this increased knowledge, it will be possible to establish new Priority Measures for reducing NO<sub>2</sub> from vehicles, for example targeting emission reduction of particular vehicle types.

## References

Aylesbury Vale District Council (2006). Tring Road AQMA Further Assessment 2006

Aylesbury Vale District Council (2007). Tring Road AQMA Action Plan 2007

Aylesbury Vale District Council 2009a. Friarage Road AQMA Further Assessment 2009

Aylesbury Vale District Council 2009b. Stoke Road AQMA Further Assessment 2009

NSCA (Formerly National Society for Clean Air and Environmental Protection, now Environmental Protection UK) (2001). *Air Quality: Planning for Action*

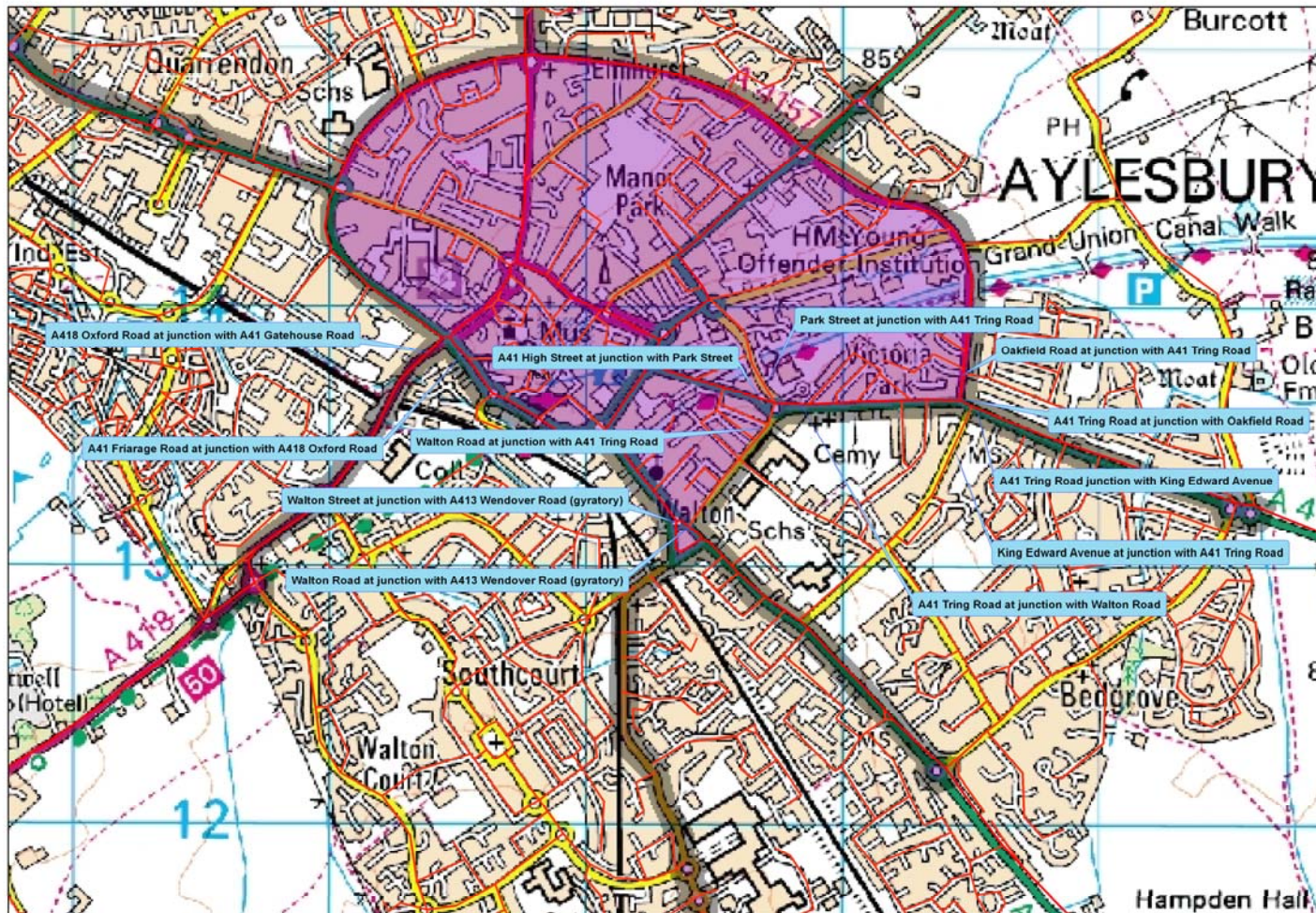
NSCA (Formerly National Society for Clean Air and Environmental Protection, now Environmental Protection UK) (2000). Air Quality Action Plans: Interim Guidance for Local Authorities

DEFRA 2009. Local Air Quality Management Technical Guidance LAQM.TG(09)

## Appendices



## Appendix 1 – Queue Length Survey Locations



## Appendix 2: 2010 Queue Length Survey Results Summary

JUNCTION	AVERAGE QUEUE LENGTH (M)							
	AM				PM			
	07:30-08:00	08:00-08:30	08:30-09:00	09:00-09:30	16:30-17:00	17:00-17:30	17:30-18:00	18:00-18:30
<b>A418 Oxford Road at junction with A41 Gatehouse Road</b>								
Left Lane	4	6	4	6	7	1	8	2
Centre Lane	6	11	3	14	20	45	58	12
Right Lane	9	13	15	32	6	19	16	9
<b>A41 Friarage Road at junction with A418 Oxford Road</b>								
Left Lane	0	13	102	1	0	9	0	0
Right Lane	18	69	189	117	9	39	29	3
<b>A41 High Street at junction with Park Street</b>								
Left Lane	0	11	75	1	3	2	6	1
Right Lane	0	0	3	1	0	0	0	0
<b>Park Street at junction with A41 Tring Road</b>								
Left Lane	1	8	35	1	8	17	12	8
Right Lane	0	16	48	5	10	15	20	6
<b>Walton Road at junction with A41 Tring Road</b>								
Centre Lane	1	4	3	2	3	8	5	4
<b>A41 Tring Road at junction with Walton Road</b>								
Left Lane	2	3	18	2	2	4	2	3
Right Lane	7	44	53	9	2	1	2	0
<b>A41 Tring Road junction with King Edward Avenue</b>								
Left Lane	15	33	5	5	4	2	2	5
Right Lane	11	48	30	7	10	2	3	5
<b>King Edward Avenue at junction with A41 Tring Road</b>								
Centre Lane	3	54	20	101	12	17	23	13
<b>Oakfield Road at junction with A41 Tring Road</b>								
Left Lane	94	54	27	18	16	27	14	3
Right Lane	0	1	0	0	1	1	0	0
<b>A41 Tring Road at junction with Oakfield Road</b>								
Left Lane	30	73	130	31	92	54	131	70
Right Lane	1	12	48	6	29	17	56	27

JUNCTION	AVERAGE QUEUE LENGTH (M)							
	AM				PM			
	07:30-08:00	08:00-08:30	08:30-09:00	09:00-09:30	16:30-17:00	17:00-17:30	17:30-18:00	18:00-18:30
<b>Walton Road at junction with A413 Wendover Road</b>								
Left Lane	17	21	15	16	16	19	17	100
Right Lane	2	7	1	1	1	3	1	5
<b>Walton Street at junction with A413 Wendover Road</b>								
Left Lane	5	6	5	2	3	4	9	10
Centre Lane	67	103	32	18	48	98	196	114
Right Lane	8	14	4	9	14	32	117	29

### Appendix 3 : Ongoing Measures

Additional measures that are ongoing initiatives, or initiatives that partners have already committed to that will have a positive effect on reduction of air pollution.

Ref	Action	Lead Responsibility <sup>1</sup>	Cost <sup>2</sup>	Start Date <sup>3</sup>	End Date	Non AQ Impacts
WT6	<b>Travel Plans: Workplace –</b> <ul style="list-style-type: none"> <li>Build upon existing progress of delivering programme of initiatives to promote the health and commercial benefits of changes to travel habit. Target businesses within and around AQMAs;</li> <li>Ensure new commercial developments provide suitable travel plans in support of their planning applications</li> </ul>	BCC AVDC	£	2010	Ongoing	Reduced congestion & CO <sub>2</sub> , +ve health / well-being
WT7	<b>Travel Plans: Schools –</b> Increase the existing number of schools in Aylesbury with active travel plans in place.	BCC	£	2010	Ongoing	Reduced congestion & CO <sub>2</sub> , +ve health / well-being
WT8	<b>AVDC &amp; BCC Travel Plans:</b> Continue to implement measures within the existing active Travel Plan to encourage modal shift to low and zero polluting modes of travel <ul style="list-style-type: none"> <li><b>AVDC staff –</b> Achieve 10% reduction in single occupancy car use for travel to and from work by 2011</li> <li><b>BCC staff –</b> Achieve 40% single occupancy car use for BCC staff travel.</li> </ul>	AVDC BCC	£	2009	Ongoing	Reduced congestion & CO <sub>2</sub>
WT9	<b>National Indicators –</b> Seek to achieve improvements in NI194 (reduction in NOX and PM10 emissions), NI198 (transport mode by which children travel to school) and NI186 (per capita reduction in CO <sub>2</sub> emissions in the LA area) against established baselines.	AVDC & BCC	£	2009	Ongoing	Reduced congestion & CO <sub>2</sub>

Ref	Action	Lead Responsibility <sup>1</sup>	Cost <sup>2</sup>	Start Date <sup>3</sup>	End Date	Non AQ Impacts
WT10	<b>Primary Public Transport Corridors (PPTCs) (2016)</b> – First PPTC introduced along the A418 Oxford Rd in 2004 & included provision of new bus lane & priority measures. 5 further PPTCs being developed; subject to developer contributions <ul style="list-style-type: none"> <li>○ Bicester Road corridor (taking priority) ;</li> <li>○ Buckingham Road corridor;</li> <li>○ Tring Road corridor;</li> <li>○ Mandeville Road corridor.</li> <li>○ Birtton Road corridor</li> </ul>	BCC	££££	2016	unknown	Reduced congestion & CO <sub>2</sub>
WT1	<b>Use of cleaner vehicles in AVDC &amp; BCC fleets</b> – consider the environmental impact of future vehicle purchases prior to purchase.	AVDC & BCC	££	2010	Ongoing	Reduced CO <sub>2</sub>
WT12	<b>Car Share</b> – <ul style="list-style-type: none"> <li>○ BCC: Continue to promote existing Bucks Car Share scheme. Seek to achieve 225 new registrations per year;</li> <li>○ AVDC: Develop new ways of promoting scheme within AVDC.</li> </ul>	BCC	£	2007	Ongoing	Reduced congestion & CO <sub>2</sub>
WT13	<b>Park and Ride schemes</b> – Ring of Four Bus Based sites, proposed. To include: <ul style="list-style-type: none"> <li>○ Aylesbury Vale Parkway Station – interim park and ride opened early 2009;</li> <li>○ Weedon Hill – site identified adjacent to housing development;</li> <li>○ A41 Aston Clinton Road – site identified to support MDA</li> <li>○ A418 Oxford Road – site identified</li> </ul>	BCC	££££	2015	Not Known	Reduced congestion & CO <sub>2</sub>
WT14	<b>Cycleways</b> – Following success of initial Cycling Demonstration Town (CDT) initiative, funding secured from second tranche (Ends March 2011) to undertake <ul style="list-style-type: none"> <li>• Berryfields to Aylesbury cycle link</li> <li>• Cycle crossing Exchange Street</li> </ul>	BCC	££	2010	2011	Reduced congestion & CO <sub>2</sub> , +ve health / well-being



Ref	Action	Lead Responsibility <sup>1</sup>	Cost <sup>2</sup>	Start Date <sup>3</sup>	End Date	Non AQ Impacts
	<ul style="list-style-type: none"> <li>Extension to “Sapphire” cycle route</li> <li>Cycle parking – Aylesbury College and Stoke Mandeville hospital</li> </ul> Cycle promotion					
WT15	<b>Car clubs / pools</b> – If the scale of development (or combined new developments) permits; include the requirement for a car club within Section 106 aspirations aimed at mitigating against air pollution and climate change.	BCC & AVDC	££	2009	Ongoing	Reduced congestion & CO <sub>2</sub>
WT16	<b>School Signage</b> – Idling engines – Raise awareness of impact of idling engines through targeted campaigns to specific categories of drivers or in areas where vehicles found idling unnecessarily (e.g. taxi ranks and school drop-off / pick-up areas;	BCC & AVDC	£	2002	Ongoing	
WT17	<b>Cycle to school</b> – Provision of a cycle training scheme to school children and commitment to cycling within School Travel Plans.	BCC	££	2009	Ongoing	Reduced congestion & CO <sub>2</sub> , +ve health / well-being
WT18	<b>Website development</b> – Develop live air quality data website in association with UTM. Maintain & improve existing AVDC air quality web pages.	BCC & AVDC	£	2008	Ongoing	

**Notes:**

1) Responsibility defined as the organisation with primary responsibility for undertaking the measure;

2) Cost defined as: : £= <100k, ££= 100 – 500K, £££= 500k – 1million, and ££££= >1million;

**Appendix 4**  
**Response to Resident Feedback Questionnaire**

Suggested Measure	Comment / Justification for Not Pursuing
Enforce the Smoke Control Areas that cover residential areas either side of Tring Road	The burning of particular types of fuel results in smoke generation. The predominant constituent of this smoke that affects air quality is particulate matter (PM). Assessment of particulate matter concentrations in Aylesbury has identified that levels are significantly below the associated Air Quality Standards. The Action Plan is concerned with tackling concentrations of Nitrogen Dioxide (NO <sub>2</sub> ). Enforcement of the Smoke Control Areas is not likely to have a direct impact on concentrations of NO <sub>2</sub> . However, we acknowledge the concern that not all residents may be aware of the restrictions imposed by the presence of the Smoke Control Areas and will seek to address this as an issue outside of the Action Plan.
Introduce double yellow lines to the whole of Tring Road from the Town Centre to the Holiday Inn in order to improve traffic flow	Parking is currently allocated to residents on some stretches of Tring Road at present. Without this residents would be unable to park near their own homes. Double yellow lines have been used where practicable to aid flow along Tring Road.
Make Exchange Street pedestrian access only	There is limited capacity on current roads within Aylesbury with many running at or near capacity. The reduction of capacity resulting from the closure of Exchange St. would result in additional congestion and air quality problems in other areas of the town centre, although air quality improvement may be seen on Exchange Street.
Ban HGVs from travelling down Tring Road both ways from the junction of Oakfield Road with Tring Road to the bottom of the High Street	Tring Road is a key strategic East-West freight route within Buckinghamshire and the most suitable road route currently available for freight movement for East-West movement. Further information relating to this issue can be found in the Bucks Freight Strategy which



	<p>has now been published.</p> <p>Whilst it may not be feasible to ban HGVs on this stretch of road, Action Plan measures WT3 and WT5 will assess the potential beneficial impact of regulating HGV emission classes ( and buses) on certain roads within the town (i.e. only allow access to HGVs with 'clean' exhausts). Such an assessment is required to provide robust quantitative evidence of any potential improvement before taking such action can be justified.</p>
Re-instate a roundabout at the junction of Elmhurst Road and Buckingham Road to improve flow	<p>The improvements have been made here based on extensive traffic modelling of traffic flows across the town centre. The junction has been designed to be resilient to future forecast traffic growth in the town.</p>
Ban through traffic, especially HGVs from the inner ring road, send them round the outer ring road.	<p>Access for some HGVs to the town centre is necessary as these serve businesses. In addition, re-routing HGVs in this way will potentially result in the outer ring road becoming more congested as it will not have capacity to deal with additional traffic flows. Further information</p> <p>Further information relating to this issue can be found in the Bucks Freight Strategy which has now been published.</p> <p>Whilst it may not be feasible to re-route HGVs on this stretch of road, Action Plan measures WT3 and WT5 will assess the potential beneficial impact of regulating HGV emission classes ( and buses) on certain roads within the town (i.e. only allow access to HGVs with 'clean' exhausts). Such an assessment is required to provide robust quantitative evidence of any potential improvement before taking such action can be justified.</p>

Introduce a proper ring road	Current lack of funding means that at present not a viable option.
Introduce more Park and Ride facilities	A current lack of funding means that at present this is not a viable option. However, when funding becomes available it is a policy we would pursue.
Address the emissions from trains which also contribute to the gyratory air pollution as well as traffic	We will work with train operators to encourage them to address emissions from trains. However, it should be noted that one of the predominant constituents of train emissions is particulate matter (PM). Assessment of particulate matter concentrations in Aylesbury has identified that levels are significantly below the associated Air Quality Standards. The Action Plan is concerned with tackling concentrations of Nitrogen Dioxide (NO <sub>2</sub> ).
Engage with companies that provide our public transport to ensure that solutions put in place are integrated and sustainable	We already have a strong working relationship with public transport operators to ensure public transport in Aylesbury is maximised within funding constraints. In addition to the existing work we are doing, Action Plan measure WT5 will assess the potential positive impact of regulating bus exhausts in certain areas of the town (i.e. only allow access to buses with 'clean' exhausts). Such an assessment is required to provide robust quantitative evidence of any potential improvement before taking such action can be justified.
Council should be more proactive in it's attitude to infrastructure and planning	We acknowledge the importance of a proactive approach and are seeking to apply this in relation to the town's future growth. Action Plan measure WT5 seeks to gain a thorough understanding of the potential impacts of the town's growth on air quality before the growth happens and establish what mitigation measures would be best to incorporate into the growth plans, rather than try and deal

	with the likely increased traffic pollution after the growth has occurred. Such an assessment is required to provide robust quantitative evidence of any potential improvement before taking such action can be justified.
Improve public transport to areas other than Milton Keynes or London. Make public transport attractive.	We actively work with public transport providers to promote and enhance all commercially operated routes to key destinations inside and outside of Bucks e.g. line 280 Oxford to Aylesbury.
Why spend money on VMS displays as part of the UTMC to tell people how bad the traffic and air pollution is, when you can see this visually? Why not spend the money on actually improving the traffic problem?	The VMS signs are used to influence travel patterns and therefore proactively address issues in real-time. They form only a small component of the UTMC project, which also uses the real time information generated to alter and co-ordinate traffic control signals to optimise the flow of traffic as it changes throughout the day.