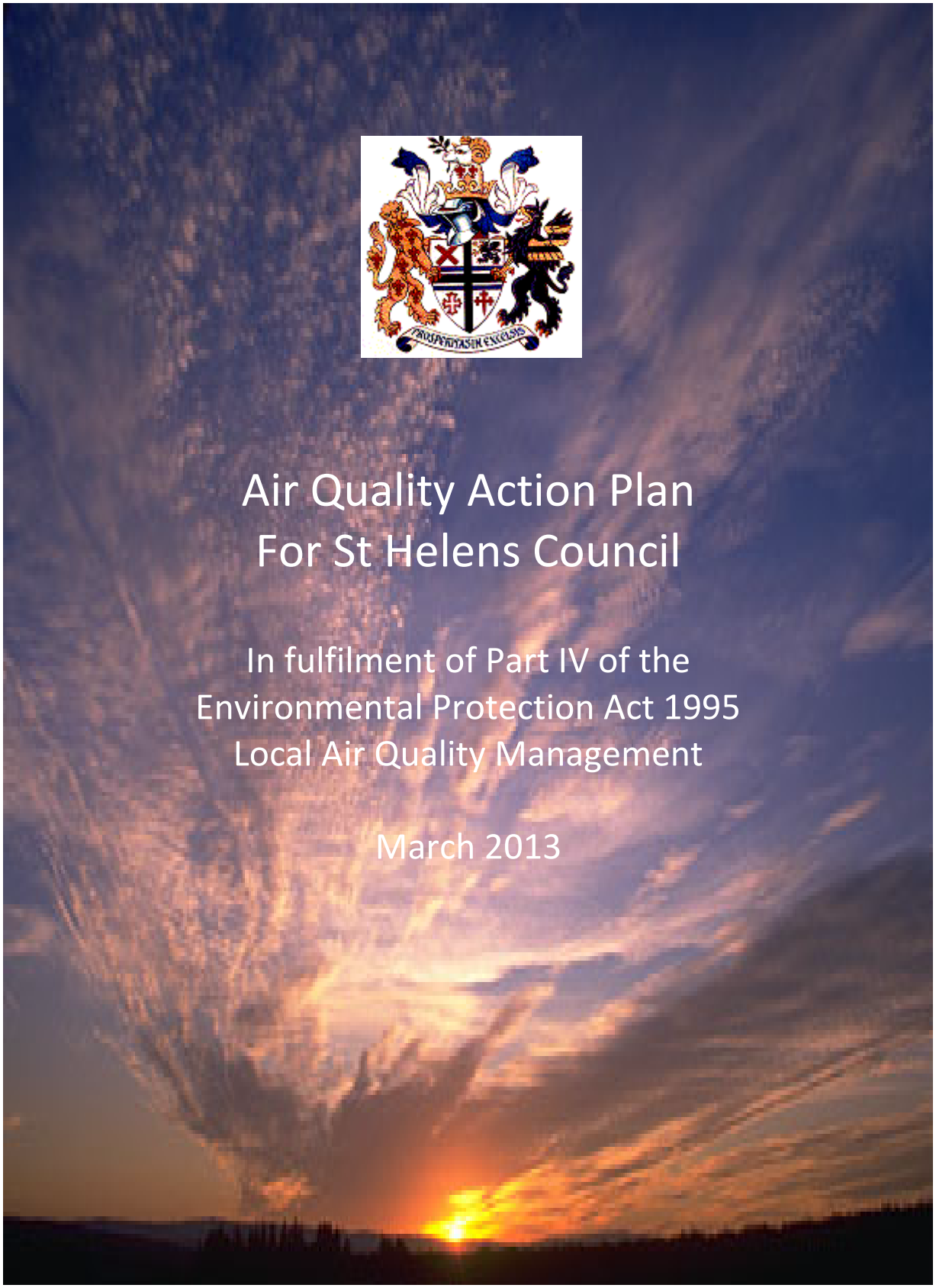

Air Quality Action Plan For St Helens Council

In fulfilment of Part IV of the Environmental Protection Act 1995 Local Air Quality Management

March 2013

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1. Introduction

This Action Plan has been developed in recognition of the legal requirement on the Local Authority to work towards air quality objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part.

Local Authorities are not legally required to meet the objectives set out in the Air Quality Regulations, they do however, have to demonstrate that they are working towards the objective.

Action Plans are ultimately the mechanism by which the Local Authority, in collaborations with national agencies and others will outline their intentions for working towards achieving the air quality objectives, through the use of powers that are available to them.

1.1 Local Air Quality Management in St Helens

After identifying breaches of the air quality objectives for the annual mean nitrogen dioxide objective, two Air Quality Management Areas were declared by St Helens Council in 2009. The first of these was along a section of the M6, running through the Borough. The second encompassed a section of the A49 High Street in Newton-le-Willows. This required us to produce an Action Plan designed to set out the measures that the Local Authority intend to introduce to achieve compliance with the air quality objectives.

Since this time we have undertaken Further Assessment for both these locations and the findings of this agreed with the boundaries of the existing AQMAs and found that the exceedences were as a result of road traffic pollution sources. We have also declared two further AQMAs, one on the A58 in the town centre (Linkway AQMA) and the other on the A58 Borough Road (Borough Road AQMA).

In this report we will look at measures to reduce NO_2 concentrations specific to the individual AQMAs where appropriate. As both AQMAs are situated within the town of Newton-le-Willows and this is where most exposure is, it will also include town-wide measures that will indirectly affect both of the AQMAs by reducing background concentrations of NO_2.

As the elevated levels of nitrogen dioxide are primarily related to road traffic sources, we will aim to work closely with the Transport Planning Department and also with the Highways Agency as the M6 is under their control. Where possible we will aim to integrate the action plan measures relating to transport planning, integrated into the Local Transport Plans.

1.1.1 Merseyside Local Transport Plan

Local Transport Plan 3 2011 to 2026

The Third Local Transport Plan for Merseyside became active from 1st April 2011. The plan sets out the implementation plans in the short term to 2015 and looks to the longer term strategy for 2024 on how to improve transport in Merseyside.

The Third Local Transport Plan has six goals;

- One - Help create the right conditions for sustainable economic growth by supporting the priorities of the Liverpool City Region, the Local Enterprise Partnership and the Local Strategic Partnerships.
- Two - Provide and promote a clean, low emission transport system which is resilient to changes to climate and oil availability.
- Three - Ensure the transport system promotes and enables improved health and wellbeing and road safety.
- Four - Ensure equality of travel opportunity for all, through a transport system that allows people to connect easily with employment, education, healthcare, other essential services and leisure and recreational opportunities.
- Five - Ensure the transport network supports the economic success of the city region by the efficient movement of people and goods.
- Six - Maintain our assets to a high standard. (Please note all goals have equal status).

1.2 Local Air Quality within Merseyside

St Helens MBC is an active member of the Merseyside Air Quality Action Group. Members of this group have sat on the Steering Committee for the Action Planning stage. We have also liased with members of the Parkside Action Group and Newton-le-Willows residents Association during the consultation period.

1.3 Objectives

The objectives of this Action planning Guidance are outlined below:

- To reduce the levels of nitrogen dioxide and improve the local air quality in pursuit of the UK annual objective for nitrogen dioxide which is currently exceeded in the AQMAs.
- Contribute to the health and well being of the local community by reducing air pollution in St Helens
- Engage the community and raise more awareness of air quality issues and the impact that the local community can have during their everyday activities
- Enable and encourage the public to utilise a more sustainable transport mean whenever possible.

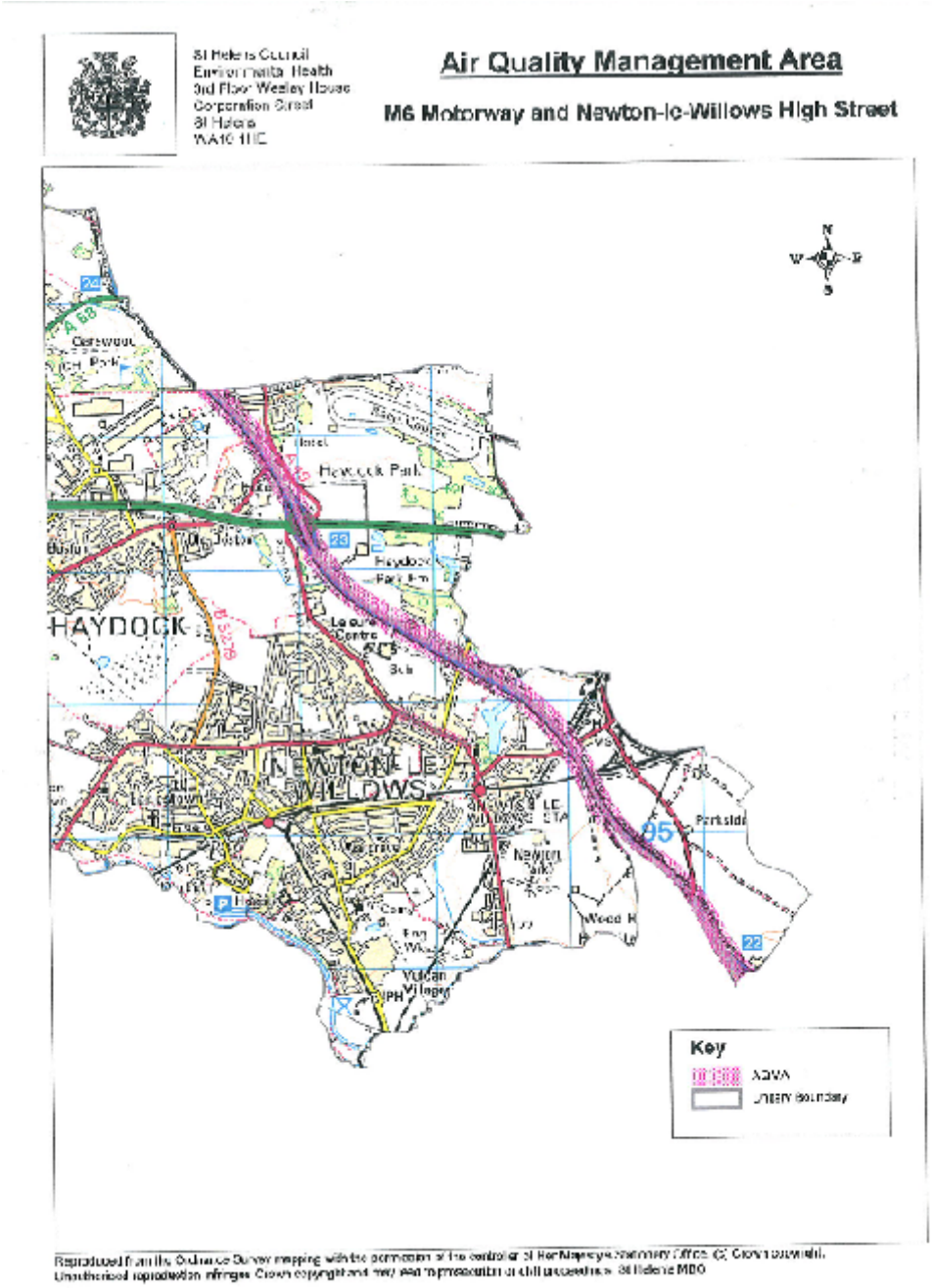

Fig 1.1 Locations and extent of AQMAs within Newton-le-Willows

2.0 The Action Planning Process

St Helens Council has used the NSCA (2001) Guidance to prepare the Action Plan.

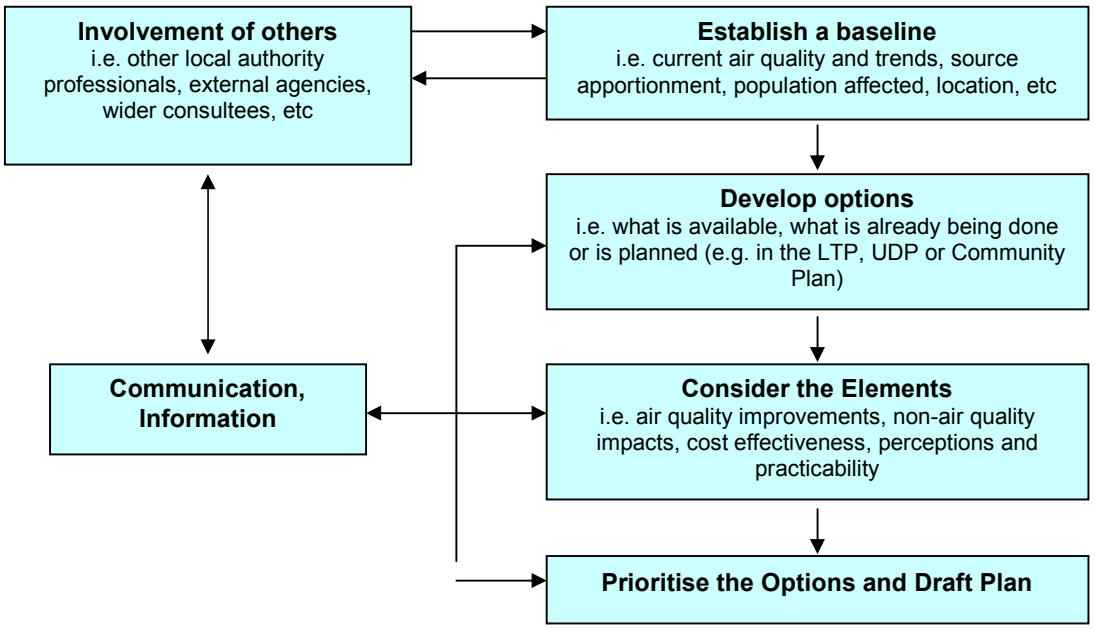

Figure 2.1 The basic stages in Action Planning (NSCA, 2001)

2.1 Steering Group

In line with the NSCA guidance a steering group was formed to represent all the stakeholders. Their engagement in the action planning was extremely important as many of these professionals or agencies will be required to successfully implement the actions as they may be out of the direct control of St Helens Council, for example, the M6 is under the control of the Highways Agency.

Below is a list of the Steering Group attendees:

Peter Brett Consultants
Highways Agency
Chamber of Commerce
Wigan MBC (Air Quality)
Warrington MBC (Air Quality)
Chair of Merseyside Air Quality Management Group
Traffic Engineering (SHMBC)
Transport Policy (SHMBC)
Urban Regeneration (SHMBC)
Environmental Protection (SHMBC)

The Steering Group members shared their expertise and experience to draw up a list of measures and critically evaluate them. Section 2.3 describes this process in more detail.

2.2 Generation of initial measures

At the first Steering Group a summary of the baseline air quality conditions the AQMAs was presented, along with additional information on source apportionment and traffic conditions. A list of measures to were generated and presented to the members relating to the reduction of nitrogen dioxide. The majority of these were based around the reduction of traffic emissions. There were two tiers of measure.

Tier 1 – related to Newton-le-Willows and St Helens as a whole
Tier 2 – related to the specific AQMA areas.

All potential measures were presented to the Steering Group members and discussions were undertaken to evaluate the potential merits, success and implementation of each to the measures.

2.3 Screening of initial measures and prioritisation

Each potential measure was taken in turn and discussion undertaken on the effectiveness of the measure in terms of nitrogen dioxide reductions, cost effectiveness, practicability and any potential additional benefits that were not associated with air quality.

As the Steering Group consisted of varied professions, each was able to give a different viewpoint of the effectiveness and practicality of the options. Additional information on existing and potential initiatives was also exchanged within the group.

2.4 The resulting adopted approach

A number of measures were considered for the two areas to reduce overall air quality within the Borough. Many of these are ongoing within other Local Authority Departments as part of other schemes, i.e. congestion reduction. St Helens Council was part of the Major Merseyside bid for funding under the LSTF and was awarded a portion of the £19.9 million for sustainable travel improvements across Merseyside.

These Borough wide initiatives are in addition to the **AQMA specific initiatives** that are targeted within the AQMA areas and road network running through them. These initiatives will be discussed more within Section 4. If further AQMAs are declared in the future then it will only be necessary to amend the action plan to include more AQMA specific initiatives to the new AQMA areas.

3.0 Establishing a baseline

In order to measure the success of the action plan it was important to have a well-established baseline for the AQMA areas. As well as monitoring information, the baseline will include additional 'indirect' information such as vehicle counts.

A summary of the baseline conditions is outlined in section below. And discussed in more depth within the following subsections.

3.1 Air Quality Monitoring

The M6 AQMA has had a continuous monitor in place since 2006; therefore it has a very good baseline. There are also several locations along the length of the M6, within the AQMA, which have passive diffusion tubes to supplement the real-time data. The High Street AQMA has been monitored with diffusion tubes since 2006 and with a continuous monitor since 2011.

Both diffusion tube and continuous monitoring results are displayed in tables 3.1.1 to 3.1.2 Monitoring will continue during and after the implementation of the action plan to ascertain if the actions are helping to reduce the nitrogen dioxide levels.

Site ID	Site Type	Valid Data Capture for period of monitoring %	Valid Data Capture 2011 %	Annual Mean Concentration µg/m^3				
				2007	2008	2009	2010	2011
AQMA 1 Southworth Road	Roadside	99	99	**48**	**48.7**	**65.5**	**60.44**	**56**
AQMA 2 High Street	Roadside	99.9	75.3	-	-	-	-	35.4 (126.8)

Table 3.1 Continuous monitor results 2007 – 2011

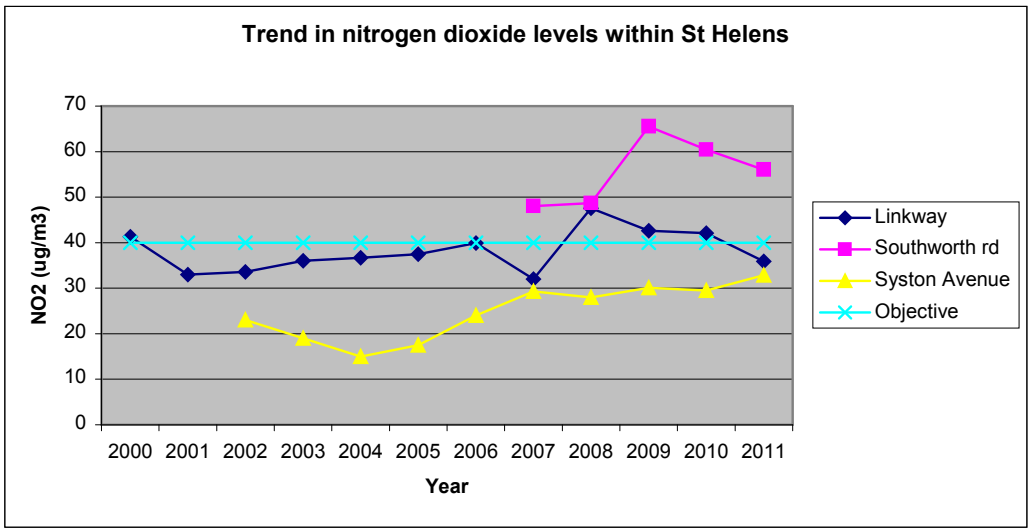

Figure 3.1 Comparison of Annual Means

The annual mean at Southworth Road hit a peak in 2009, since this time the monitored levels of NO2 have been declining, this trend will hopefully continue over the next few years due to improvements in the Euro Class, more innovative technologies and improvements in the road network. However you can see that the urban background (Syston Avenue) monitored data, shown by the yellow line, has been increasing steadily over time. This shows that a range of measures is required to tackle the background pollution levels as well as the measure targeted specifically at the AQMA.

Site ID	Location	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) µg/m^3				
				2007 (Bias Adjustment Factor = 0.9)	2008 (Bias Adjustment Factor = 0.82)	2009 (Bias Adjustment Factor = 0.83)	2010 (Bias Adjustment Factor = 0.84)	2011 (Bias Adjustment Factor = 1.01)
T1	Southworth Rd Lamppost	Urban Background	N	**46.3**	**45.5**	**61.6 (66%)**	-	-
T7	Southworth Rd Lamppost	Motorway	N	**46.3**	**49**	**48.4**	-	-
T8	Kerb side High Street	Roadside	N	**40.6**	39.0	40.1	-	-
T10	Southworth Rd Lamppost	Motorway	N	53.7	**48.1**	54.7	-	-
T14	High St / Rob Lane	Roadside	N	-	**40.6**	**40.0**	-	-
T15	Parkside Cottages	Motorway	N	-	**49.6**	**47.8**	-	-
T30	170 Southworth Road	Motorway	Y	-	-	-	37.4	**46.19**
T31	160 Southworth Road	Motorway	Y	-	-	-	**48.9**	**58.74**
T32	160 Southworth Road	Motorway	Y	-	-	-	**49.7**	**56.82**
T34	2 Park Cottages	Motorway	Y	-	-	-	39.3	**45.23**
T35	157 High Street	Roadside	Y	-	-	-	35.4	36.54
T36	19 High Street	Roadside	Y	-	-	-	**52.5**	**49.48**
T43	19 High Street	Roadside	Y	-	-	-	-	**50.45**

Table 3.2 Diffusion Tube results 2007 – 2011

The required reduction for the M6 is 16µg/m^3 (28.5%) to achieve the 40µg/m^3 objective or 20µg/m^3 (35.7%) to achieve (36µg/m^3) based on the results generated from periods of real time analyser monitoring during 2011. The real time analyser results for the High Street were below the objective at 35.4µg/m^3 so the reduction at was calculated from the passive diffusion tubes located at 19 High Street. From the averaged data of the two co-located tubes, the required reduction is 10µg/m^3 (20%) to achieve the objective and 14µg/m^3 (28%) to achieve the desired level of below 36µg/m^3.

3.2 Apportionment of emissions

Peter Brett Consultants using ADMS Roads dispersion model carried out the source apportionment on behalf of St Helens Council. More Information regarding the modelling can be found in the Further Assessment document available at http://www.sthelens.gov.uk/media/288577/aqma_1_2_further_assessment.pdf.

Source apportionment in the Further Assessment (2009) identified that the oxides of nitrogen (NOx) from traffic within the AQMA were the important source of emissions that may be reduced. Emissions from industry were not the major contributing source in this instance. The results of the source apportionment for NOx are shown in Tables 3.2.1 and 3.2.2 below and use the same numbering as the Further Assessment for continuity.

The following sources were considered:

- Local Background (LB)
- Regional Background (RB)
- Light duty vehicles (LDV – comprising cars, vans and motorcycles)
- Heavy duty vehicles (HDV – comprising buses, articulated and rigid HDVs)

3.2.1 Traffic data and Source apportionment

Receptor number	Receptor name	Location Description	LB (%)	RB (%)	LDV (%)	HDV (%)	Trains (%)
FA1-1	1 Park Cottages	Near Junction 23 of M9	39	8	15	38	0
FA1-2	Highfield	North of SW Road	51	12	11	26	0
FA1-3	3 Waterworks Cottages	West of M6	51	12	12	24	1
FA1-4	Southworth Road		50	12	14	23	1
FA1-5	87 Southworth Road		53	12	14	20	1
FA1-6	94 Southworth Road		59	14	10	16	2
FA1-7	160 Southworth Road	East of Southworth Road	35	8	19	38	0
FA1-8	164 Southworth Road		40	9	17	34	0
FA1-9	168 Southworth Road		43	10	16	31	0
FA1-10	170 Southworth Road		46	10	15	28	0

Table 3.3 Source apportionment for the M6

Table 3.3 shows that the local background concentrations contribute most to the NOx concentrations along the M6, accounting for between 35 and 59%. Regional background concentrations account for an average of 11% of the total NOx concentrations. HGVs are the largest local contributor with between 16-38%.

Receptor number	Receptor name	LB (%)	RB (%)	LDV (%)	HDV (%)
FA2-5	158-160 High Street	35	10	22	33
FA2-6	173 High Street	37	11	21	31
FA2-7	135-139 High Street	36	10	23	31
FA2-8	119 High Street	36	10	23	31
FA2-9	101 High Street	34	10	24	32
FA2-10	83 High Street	33	9	25	33
FA2-11	52 High Street	34	8	25	33
FA2-12	42 High Street	34	8	25	33
FA2-13	24 High Street	34	8	25	33
FA2-14	13 High Street	43	10	20	27
FA2-15	16 High Street	38	9	23	30
FA2-16	5 High Street	47	11	18	24
FA2-17	8 Church Street	65	15	8	12

Table 3.4 Source apportionment for the High Street

Table 3.2 shows that local background concentrations again contribute the most to the NOx concentrations, accounting for between 34% and 65%. Regional background concentrations account for an average of 11% of the total NOx concentrations. HDVs are the greatest local contributor between 12 and 33%.

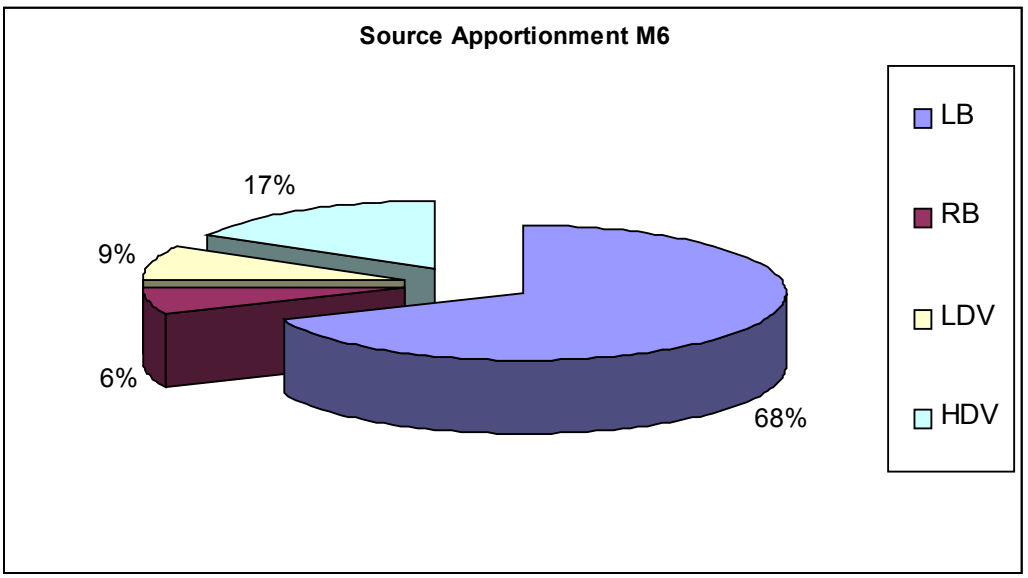

Figure 3.2 Source apportionment for M6

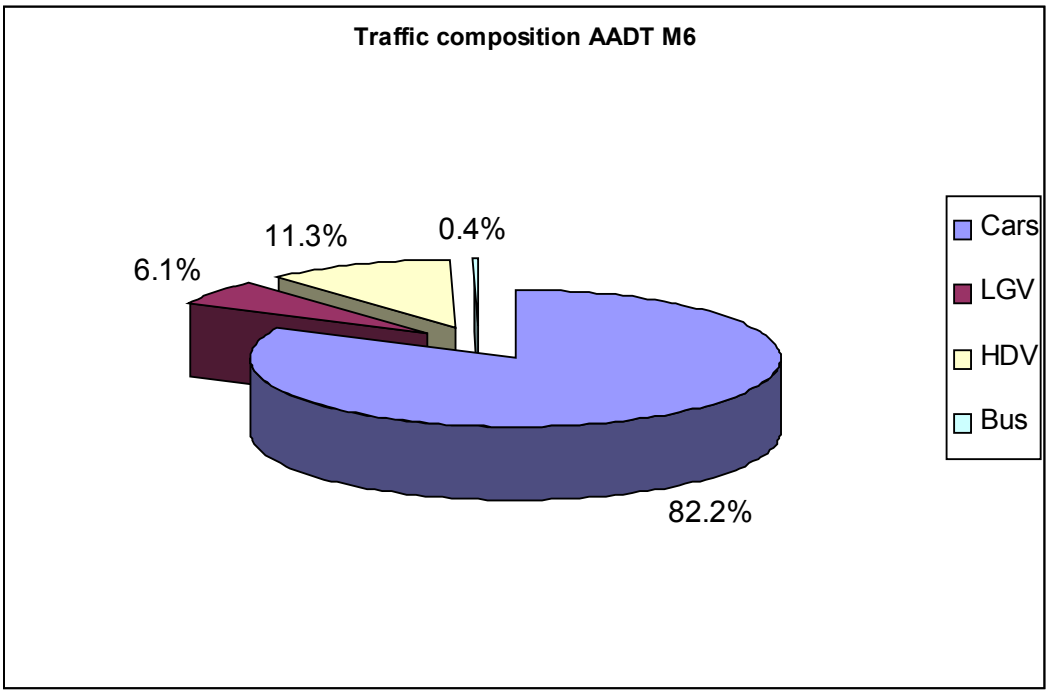

Figure 3.3 Traffic composition for M6

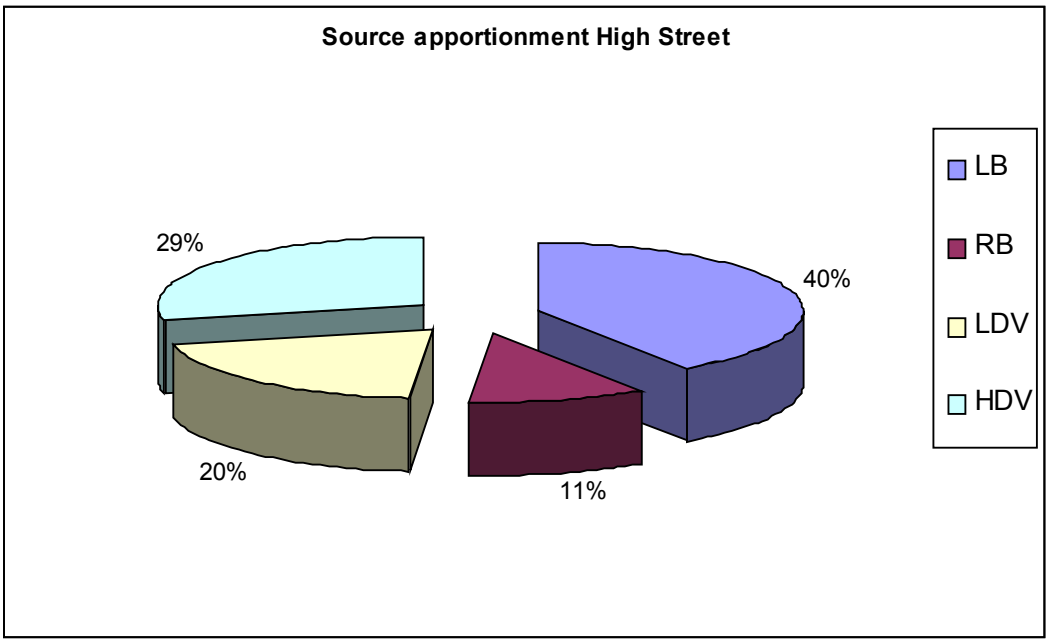

Figure 3.4 Source apportionment for High Street

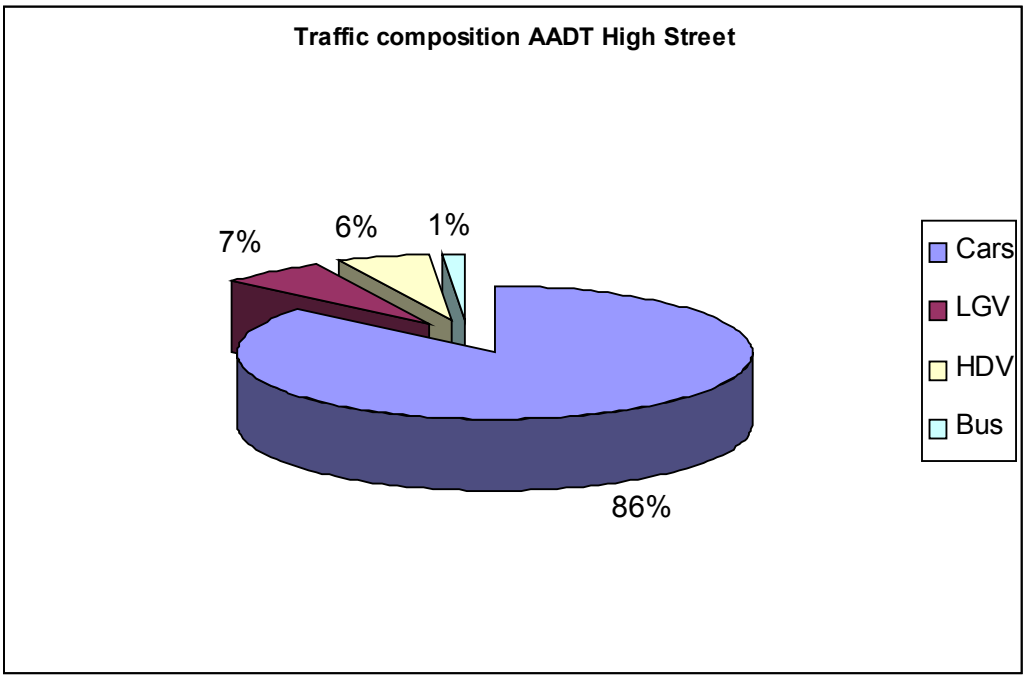

Figure 3.5 Traffic composition for High Street

The source apportionment highlights that the local background concentration is often the predominant source of NOx. Of the local transport sources, HDVs are contributing disproportionately to the concentrations of NO_x.

On the M6 AQMA HDVs contribute approximately 11% of the AADTF but represent 17% of the total emissions. On the High Street AQMA HDVs and Buses make up 7% of the AADTF but proportionately they contribute 29% of the total NO_x emissions.

From this we can determine that small reductions in the percentage of HDVs would bring big improvements in NOx concentrations. Results from scenario modelling undertaken during the further assessment indicated that reducing HDV traffic by 30% could potentially reduce predicted concentrations by 4-6$\mu g/m^3$ at the worse affected receptors.

Reducing both LDV and HDV traffic by 30% has a significant impact on reducing predicted concentrations by up to 8$\mu g/m^3$ at the worse affected receptors.

From the source apportionment it can be seen that although the exceedence within the AQMA can be attributed to traffic emissions, the biggest contribution is from HDVs. In addition, one of predominant sources is the local background concentration. Therefore although we require some actions to look at traffic volume, type of vehicle, and speeds. A wider theme will be to consider actions that reduce the local background.

3.2.2 Annual Average Daily Traffic Data

The Annual Average Daily Traffic (AADT) counts are important baseline factors when considering the AQMAs. The AADT is included in table 3.2.3 showing baseline conditions at High Street and the M6.

Link name	AADT				Total
	Cars	LGV	HGV	Bus	
M6 Northbound J23-24	46143	0	9451	0	55594
M6 Southbound J24-23	38665	0	8488	0	47153
M6 Northbound J22-23	49054	0	8657	0	57711
M6 Southbound J23-22	47852	0	8445	0	56297
M6 Slip on SB J23-22	44475	8445	2815	563	56298
M6 Slip off NB J22-23	45038	9570	1126	563	56927
A49 Lodge Lane	6260	1330	156	78	7824
A572 Southworth Road	9173	1949	229	115	11466
A49 High Street	10342	1658	511	255	12179

Table 3.5 Annual Average Daily Traffic Data

The Traffic is highest Northbound between Junction 22 and 23, which is the route along which the continuous monitor is positioned. As well as the high traffic volume the congestion also affects the level of air pollution. As can be seen from Figure 1.1.1, the highest year of nitrogen dioxide concentrations was 2009 when a large amount of roadwork taking place on the M6 was noted.

3.2.3 Queue length

As well as the AADT, the congestion on the Roads was considered as this could lead to elevated concentrations of NO_x. During the traffic counts, queue length was not thought to be a problem at the High Street locations, however queues were noted on Ashton Road and Crow Lane East.

Link Name	Queue Length (m)
Crow Lane East	28.0
Ashton Road	32.0

Table 3.6 Queue length

3.3 Meeting Air Quality Objectives in the Future

The reductions of NO2 in each of the AQMAs required to meet the air quality objectives have been calculated. The required reduction for the M6 is 28.5% to 35.7% to achieve the objective of 40$\mu g/m^{-3}$ and 36$\mu g/m^{-3}$ respectively. For the High Street AQMA averaged data of the two co-located tubes, gave a required reduction 20 to 28% for the two objectives.

There are no large new developments planned in these areas. The Parkside application for a rail-freight terminal at the disused Parkside Colliery that would have bought major changes to the M6, including a new junction, has been withdrawn and no new application has been submitted at present.

No major new developments are proposed for the High Street, Newton-le-Willows or immediate surrounding area.

4.0 Proposed measures

As described within section 2.2 the measures have been divided into two tiers:

Tier 1: AQMA specific initiatives are targeted within the AQMA itself and aim to reduce the pollutant at source or change variables within the AQMA to ensure that the higher levels do not impact on the local receptors.

Tier 2: Borough-wide initiatives are more general measures that may individually have a small impact on air pollution but collectively have a larger benefit and aim to reduce the higher background levels within the surrounding area. These measures fall into the broad categories of traffic management improvement, land use planning, sustainable transport measures and other miscellaneous options.

All the proposed measures that were consulted on are outlined in the Table 4. The consultation process is discussed in Section 5.0. Some of the proposed measures were then dismissed due to practicality, cost or effectiveness. These are highlighted in red.

Option	Measure	Description	Lead/Key Organisation	Air Quality Impact	Timescale to implementation	Non-Air Quality Impact	Cost	Cost-effectiveness	Ranking
Tier 1: AQMA Specific Initiatives									
M6 AQMA Measures									
1	Acoustic/ AQ Barrier on M6 flyover	Install a 3m high, 80m long acoustic barrier ion the M6 passing over Southworth Road AQMA to increase turbulence and disperse NOx	SHMBC/ Highways Agency	MEDIUM	SHORT	Visual Impact to residents	£££	6	8
2	Use of hard shoulder running (M6 J21a to J24)	Have a managed traffic system so during times of congestion the hard shoulder can be used as an extra lane to increase capacity and reduce queuing.	Highways Agency	HIGH	LONG	Reduce journey times. Has been found to reduce accidents in trial	£££££	4	11
3	Compulsory purchase	Purchase X households on Southworth Road and Parkside cottages to remove receptor	SHMBC	HIGH	MEDIUM	Displace residents. Visual impact of empty houses	£££££	4	12
A49 High Street AQMA Measures									
4	Traffic Regulation Order on A49 High Street	Restrict HGVs travelling along A49 High Street to reduce emissions from HGVs.	SHMBC / Police	HIGH	SHORT	May take traffic along other small roads as alternative routes. Hard to enforce.	£££	12	1
5	Vehicle Idling	Crackdown on vehicle idling on A49 High Street	SHMBC/ Police	LOW	SHORT	Economic benefit to drivers. Revenue source if fines are imposed	££	8	5
6	Optimise flow on key routes	Use of the SCOOT system to be implemented on 4	SHMBC	MEDIUM	SHORT	Shorten journey times	££££	6	6

		key routes; A570, A580, A572 and A58 (meeting with A49). Better phasing of traffic lights. Use of VMS for alternative routes.							
Tier 2: Borough-wide Initiatives									
7	Travel awareness campaign	Cycling and walking Promotion. Public transport information and marketing. School travel planning. Workplace travel planning.	SHMBC	MEDIUM	MEDIUM	Positive impact borough-wide. Help people find employment through more accessible transport. Increase health.	£££	9	3
8	Freight Quality Partnership	Working with Freight companies in the Merseyside area to reduce emissions through better logistics and reduced emissions.	Merseyside Air Quality Group and SHMBC	MEDIUM	LONG	Increase links with local businesses. Cost savings for local businesses through reduced fuel consumption	££	12	2
9	Green Council Fleet	Continue to upgrade council fleet. Encourage Eco-driving within Council. Encourage staff to use greener transport methods.	SHMBC	LOW	LONG	Long term economic benefit – reduce fuel consumption	£££	6	7
10	Green Taxi Fleet	Use the council powers of licensing to encourage change in the taxi fleet to a higher Euro Class.	SHMBC	LOW	MEDIUM	Long term economic benefit – reduce fuel consumption	££	4	10
11	Supplementary Planning Guidance	Outline Council Policy on Air Quality as a material Planning consideration.	SHMBC	LOW	MEDIUM	Looks to the future, will be a long term	££	8	4

		Detail when an air quality assessment is required and what is expected. Standardise the procedure and make it more transparent.				strategy to reduce AQ impact of developments			
12	Raise awareness of air quality	Through a number of initiatives: education in schools, use of variable message signs	SHMBC	NEUTRAL	LONG	Encourage children to consider air quality and a young age make better choices as adults.	££	4	9

Table 4.1.1 Proposed action planning measures

The merits of the actions were graded using the criteria outlined in Appendix A. It should be noted that the impact criteria provided for each measure and based on the best estimate in the absence of any quantitative data. Measure 3, the compulsory purchase of affected houses was ruled out due to public opinion and the ranking in the cost effectiveness measures.

4.1 Tier 1 – AQMA Specific Measures

Option 1 – Acoustic/AQ Barrier on M6/Southworth Road
What? An 80 metre acoustic barrier is proposed for installation on the M6 flyover with Southworth Road. **How?** Funding has been applied for through the DEFRA air quality grant. Talks will continue with the Highways Agency, although at present there is no funding stream for such a project. **Why?** It is a challenge to mitigate the effect of traffic emissions on motorways; therefore alternative solutions have to be sought. In similar cases roadside structures such as noise barriers have been installed to disrupt the airflow and cause pollutants to lift and vertically mix therefore reducing pollutant concentrations at ground level in the nearby, populated area. Research has found this technique to be effective in several trials, however each case is different and it is difficult to quantify what the effect will be, this particular location is a flyover and therefore the practicalities of installing the barrier have to be considered. Software modelling of the potential effects of the barrier is also built into the bid. **When?** It is anticipated that the project would be completed in 2013/14 **Who?** To be implemented by St Helens Council and the Highways Agency **Impact?** The barrier should disrupt the airflow and cause vertical mixing, therefore reducing the concentrations of NO2 at the local properties on Southworth Road.

Option 2 – Active Traffic Management

What? Active traffic management or smart lanes is a method of increasing peak capacity and smoothing traffic flow on busy major highways. Techniques include variable speed limits, hard shoulder running and ramp-metering controlled by overhead variable message signs.

How? The Highways Agency has an ongoing programme of upgrading roads to active traffic management systems. The M6 between junctions 21a and 24 is currently not within this programme. In conjunction with other Local Authorities it is planned to lobby the Highways Agency to plan some improvement to the section of the M6 running through our Boroughs.

Why? Reducing traffic on motorways is simply not within a Local Authorities powers. Although we can try to influence the Euro class of fleet vehicles within our Borough it is impossible secure a reduction in pollutant concentrations through a reduction in motorway traffic. Therefore we have to think of innovative ways to secure these reductions. Congestion and queuing increase the amounts of fuel used and in turn increase emissions, by implementing active traffic management on a motorway we can smooth the traffic flow and therefore limit emissions from vehicles using the motorway.

When? The current projects for the HA are scheduled until2014/15. This would therefore be a long-term aim.

Who? The Highways Agency in conjunction with St Helens, Wigan and Warrington Borough Councils

Impact? Reduce emissions from vehicle congestion, therefore reducing local emissions. Additional benefits seen on the active traffic managed M6 motorway in Birmingham include a reduction in accidents.

Option 4 – Traffic Regulation Order

What? A Traffic Regulation Order to be placed on the A49 High Street and subsidiary roads to restrict HGVs.

How? Sections 1,6 and 9 of the Road Traffic Regulations Act 1984 give authorities extensive powers to make traffic regulation orders. These can prohibit restrict or regulate traffic or particular types of vehicle and can be in force all the time or for specified periods. The TRO would have to be built in to the SHMBC Highways schedule of works.

Why? The source apportionment on the A49 High Street shows that although HDVs make up only 6% of the total traffic on the A49 High Street, they contribute 29% of the overall NOx concentration. Taking the highest diffusion tube reading of 50.45ug/m3, this could account for approximately 15ug/m3 of nitrogen dioxide. . If the weight of vehicles was limited on this road and the HDV level decreased by 100% the overall emissions to 35ug/m3. In practice this may not be feasible as deliveries are required to service the businesses, however even decreasing HDVs by 75% would still reduce the total NO2 by approximately 11%.

When? It is anticipated that the project would be completed in 2013/14

Who? To be implemented by St Helens Council Highways Department and to be policed by Merseyside Metropolitan Police Service.

Impact? The impact would be to reduce NO2 emissions from HDVs along the A49 High Street. It would serve to reduce total NO2 emissions to within acceptable limits. This additional HDV traffic would have to be distributed along other road networks. The impact of this diverted traffic would have to be investigated.

Option 5 – Vehicle Idling campaign

What? A crackdown on vehicle idling within the commercial area of the A49 High Street. The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002 enable local authorities to issue fixed penalty notices of £20 to any driver running their engine unnecessarily when parked and who refuses all reasonable requests to turn the engine off.

How? An idling vehicle is one whose engine is running when it is parked or not in use. Begin with an Anti-idling awareness campaign within Newton-le-Willows to highlight the issues related to vehicle idling, fuel consumption and emissions using leaflets within prominent areas and speaking to drivers. The second part of the campaign could be to use the Councils powers to fine drivers who are idling within the AQMA area. The powers could be provided to officers patrolling the streets such as Parking Attendants and Police Community Support officers.

Why? Idling of vehicles uses unnecessary fuel and causes localised increases in air pollution

When? It is anticipated that the project would be completed in 2013/2014

Who? To be implemented by St Helens Council Highways Department and the Metropolitan Police service

Impact? On its own it is not a measure that will have a very significant impact on air quality, however it will contribute to lowering air pollution and raise awareness and show how seriously the Local Authority are taking the issue.

Option 6 – Optimise traffic flow
What? Use of SCOOT (Split cycle offset optimisation technique) to monitor traffic flow and adjust signal timings to reduce unnecessary delays and improve traffic flow. **How?** Funding has been secured through the Major Merseyside bid to the Local Sustainable Transport Fund to make create more sustainable transport corridors along four key routes through St Helens. These are the A580 East Lancs, A570 Linkway, A58 Bus corridor and A572 between A58 and A49. The scheme includes minimise network delays and optimising traffic signalling using the SCOOT system. **Why?** To try and reduce congestion and smooth traffic flow through the SCOOT system. This should reduce vehicle emissions from queuing vehicles **When?** Implementation of the SCOOT system is planned for financial year 2012/2013. Some of the VMS signs are already in situ but not connected to the real-time air quality monitors. **Who?** To be implemented by St Helens Council Transport Policy and Transport Engineering **Impact?** Reduce the emissions from vehicles by reducing congestion and decreasing queue length, leading to an improvement in air quality.

4.2 Tier 2 – Borough-wide Initiatives

Option 7 – Travel Awareness Campaign

What? The travel awareness campaign will include several initiatives aimed at increasing the uptake of alternative methods of transport. The initiatives include:

- Cycling and walking promotion.
- Improvements to cycle paths
- Public transport information and marketing.
- School travel planning.
- Workplace travel planning

How? The funding has been secures through the Major Merseyside Bid to the Local Sustainable Transport Fund

Why? The LSTF bid was aimed at increasing the uptake of sustainable transport options within the St Helens and wider Merseyside region. The integration of action plan with Local Transport Plans will provide a systematic way to join up air quality management with transport planning.

When? The work funded by the LSTF is planned for the year 2012/2013.

Who? St Helens MBC Transport Policy and Transport Engineering Departments will undertake the work in conjunction with Merseytravel.

Impact? By increasing the awareness of transport options and making sustainable travel more accessible it is hoped to increase uptake of bus services, and cycling and walking routes it will encourage modal shift and therefore decrease emissions from personal vehicles. By providing personal travel planning it is hoped it can increase employment by making the workplace more accessible.

Option 8 – Freight Quality Partnership

What? Engage with freight operators in the Merseyside region to encourage the upgrade or retro-fitting of fleet to a better Euro-class and to provide logistical solutions

How? St Helens Council is sits on the Merseyside Freight Partnership and the Merseyside Air Quality Freight Partnership.

Why? According to the source apportionment emissions from freight are a major contributor to pollution within the AQMAs. By engaging with Freight operators and working in partnership with them through these forums we can provide advice to businesses on increase fuel efficiency and cost savings, encourage fleet changes to better Euro Class of vehicles, engender partnership working and increase efficiency through improvements in logistics.

When? The first meetings of the Merseyside Air Quality Freight Partnership are planned for Autumn 2012.

Who? St Helens Council in conjunction with other Merseyside Local Authorities

Impact? The costs associated with this would lie predominantly with the businesses that join up to the partnership. It is unfeasible to calculate the total costs to businesses in upgrading their fleets. Many of the improvements will result in cost savings. Reduce pollutants at source by improvements in HGV fleets and vehicle movements.

Option 9 – Green Council Fleet

What? Adopting and implementing a 'Green Fleet' policy to reduce carbon dioxide and other pollutants through fuel efficiency programmes, green fleet management and driver awareness training. Continue to choose 'greener' fleet options, such as hybrid and LPG, or better Euro Standard vehicles. Encourage staff to choose more sustainable transport options.

How? Implement fleet changes through procurement procedures, including services that are contracted out. A bid for funding has been applied for from DEFRA's Air Quality Grant to fund the in-house eco-driver training.

Why? Take a wider approach to reducing NO2 background emissions across the whole borough. Take a lead on implementing Green fleet policies and set an example to other businesses within the community. Experiences can then be shared with the wider community.

When? Some 'greening' of the fleet has already taken place within the Environmental Health Department. We need to build on this across the council to ensure that when changes are made to the fleet, they are the most sustainable and cost –effective choice. The council have already produced a green buy laws guide when procuring products and services.

Who? St Helens Council Procurement Department.

Impact? Set an example to the wider community and pass on experiences to other businesses. Help to reduce the background concentrations within St Helens.

Option 10 – Green Taxi Fleet

What? Upgrade the taxi fleet within St Helens to a better Euro Standard vehicle to cut emissions.

How? Working with taxi drivers through the licensing system to upgrade the taxi fleet within St Helens.

Why? St Helens licenses 700+ taxis that operate throughout St Helens and the wider area. By targeting taxi drivers through the licensing procedure we can set emissions standards for taxis and encourage drivers to upgrade their vehicles to a better Euro Standard. Include hybrid/electric and low carbon vehicles in our approved vehicle lists. Promote cleaner fuels and eco friendly/economic driving and offer incentives to taxi drivers that use cleaner technologies.

When? The project is anticipated to begin in 2014/15.

Who? St Helens MBC will undertake the project.

Cost? The cost to St Helens Council would be minimal as much of the work on licensing the taxis is scheduled. However the cost to the taxi companies and drivers themselves would have to ensure their vehicles comply with the vehicle emissions.

Impact? The impact will be to reduce polluting emissions from taxi fleet.

Option 11 – Supplementary Planning Document
What? A planning authority may prepare Supplementary Planning Documents (SPDs) to provide greater details on the policies of its development plan documents. **How?** Sets out the council's requirements for improving air quality in development, conversions and change of use. The AQ SPD will supplement regional and national planning policy, and in particular Planning Policy Statement 23: Planning and Pollution Control. **Why?** Provide guidance for planners and developers on the way that St Helens Council will deal with air quality and air pollution issues within the planning system. It will set out guidelines on when an Air Quality Assessment is required, what is expected of developers **When?** Scheduled for 2014 **Who?** St Helens Council Environmental Protection and Planning Service. **Impact?** Will ensure that air quality issues will be given due consideration and ensure that new developments have adequate measures to mitigate air quality impacts. If mitigation is not possible it would outline compensation in line with the modelled impact of the development to be spent on achieving the aims of the action plan. This may have an impact on the types and numbers of developments within the St Helens Region, and therefore the option of undertaking SPD guidance within the Merseyside region will be explored.

Option 12 – Raise Awareness of Air Quality
What? Ensure that the general public within St Helens are aware of the impacts of poor air quality on health. Provide information on eco-driving, public transport, and other relevant issues to try and help them make better decisions on modes of travel, unnecessary journeys, etc. **How?** Provide information on the website, via VMS at the roadside, and during events. **Why?** Encourage people to take control of their own actions and make small changes to reduce their impact on the environment. Provide information on website and publicise in local press and on VMS boards. **When?** To take place during 2013/2014 **Who?** St Helens Council **Impact?** Aim to reduce the background concentration within the Borough to have a positive effect on air quality in the AQMAs. It is not possible to quantify the impact that this initiative may have.

5.0 Consultation and Public Awareness

The public consultation was undertaken for an eight-week period as informed by the minimum timescales set out in the Local Air Quality Management Policy Guidance (PG09). A summary of information on the Action Plan was displayed on the Council Web page and questionnaires were distributed to residents of the Air Quality Management Areas and were also made available to all residents through an online consultation.

Two drop-in sessions were also held in local libraries for residents gain more information and to ask any queries. The Consultation was publicised on the main page of the council website, in the local press and in Council magazines. Some of the information gathered will be used to inform the actions contained within the Action Plan.

Results of the questionnaire are contained within Appendix B.

Generally the measures proposed within the action plan were supported. Some respondents suggested additional measures to be considered. A summary of these suggested measures is included below and our response to these.

6.0 Evaluation, Monitoring and Progress Reporting

The effectiveness of the Action Plan will be assessed at various stages of its implementation.

6.1 Finalisation of Baseline Conditions.

The final set of baseline conditions will be the monitored air quality results from 2012. These are not yet finalised and therefore cannot be included in this report but will be reported to DEFRA in the 2013 Progress report and will form the baseline.

6.2 Progress against Baseline Conditions

An annual progress report will be submitted as an Addendum to the normal annual progress report submitted to DEFRA. This will summarise the progress of implementation of 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 be reviewed in 2016. Some of the Actions are due to begin in 2013 and will be implemented by the year-end. Therefore we will be in a position to collect 2 years data to compare with the baseline data and determine which measures are achieving reductions in the pollutant levels. The measures can then be rolled out to other areas or other priority measures can be developed for example, ones that are targeted towards reducing emissions from a particular type of vehicle.

7. References

Detailed Assessment for Southworth Road, St Helens Council (2008)

Detailed Assessment, St Helens Council (2011)

Further Assessment for AQMAs 1 & 2, St Helens Council (2011)

Updating and Screening Assessment, St Helens Council (2012)

Air Quality Management Areas: Turning Reviews into Action, NSCA (2001)

Local Air Quality Management: Technical Guidance LAQM (TG09), DEFRA (2009)

Local Air Quality Management: PG09, DEFRA (2009)

Appendix A: Grading System for Cost Effectiveness Matrix

Cost	
0-10,000	£
£10 – 30k	~~£~~£
£30 – 60k	~~£~~£~~£~~
£60 – 100k	~~£~~£~~£~~£
£100k +	~~£~~£~~£~~£~~£~~

Table A1: Cost Grading

Impact	
No Impact	Neutral
<1 µg/m^3	Low
1–3 µg/m^3	Moderate
>2 µg/m^3	High

Table A2: Air Quality impact grading

Cost AQ Impact	~~£~~£~~£~~£~~£ (1)	~~£~~£~~£~~£ (2)	~~£~~£~~£ (3)	~~£~~£ (4)	£ (5)
Neutral (1)	1	2	3	4	5
Low (2)	2	4	6	8	10
Medium (3)	3	6	9	12	15
High (4)	4	8	12	16	20

Table A3: Cost Benefit chart

Appendix B: Public Consultation Responses.

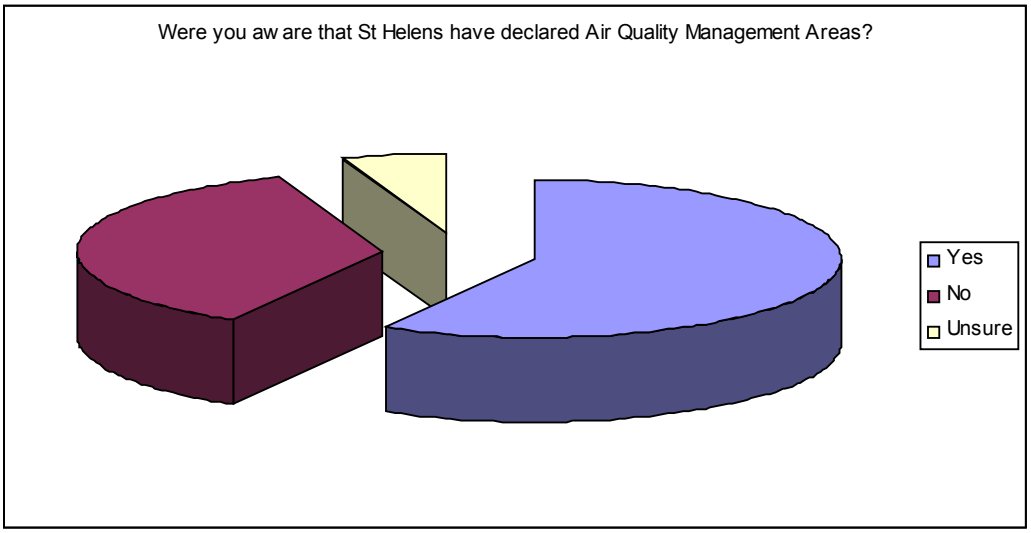

Table A1: AQMA awareness

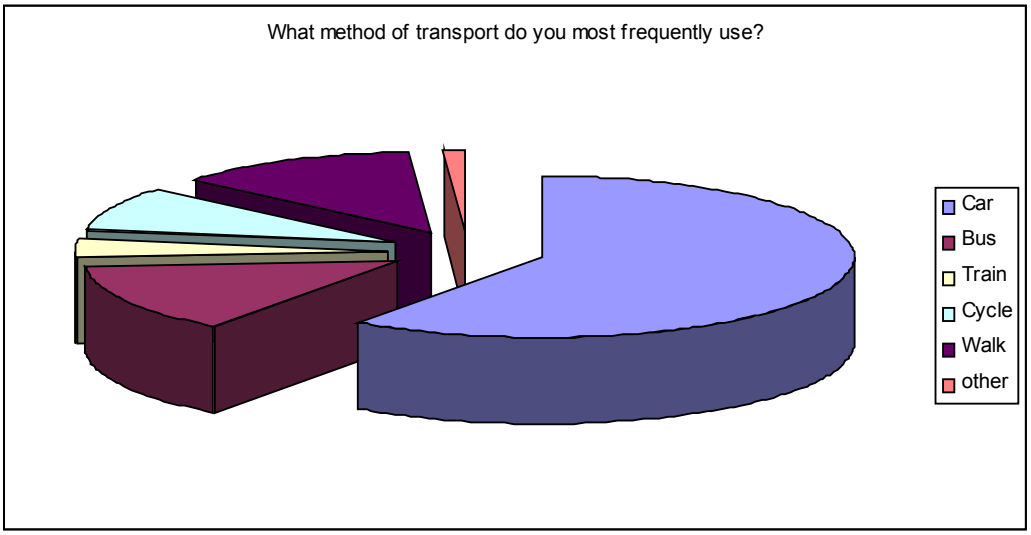

Table A2: Transport methods

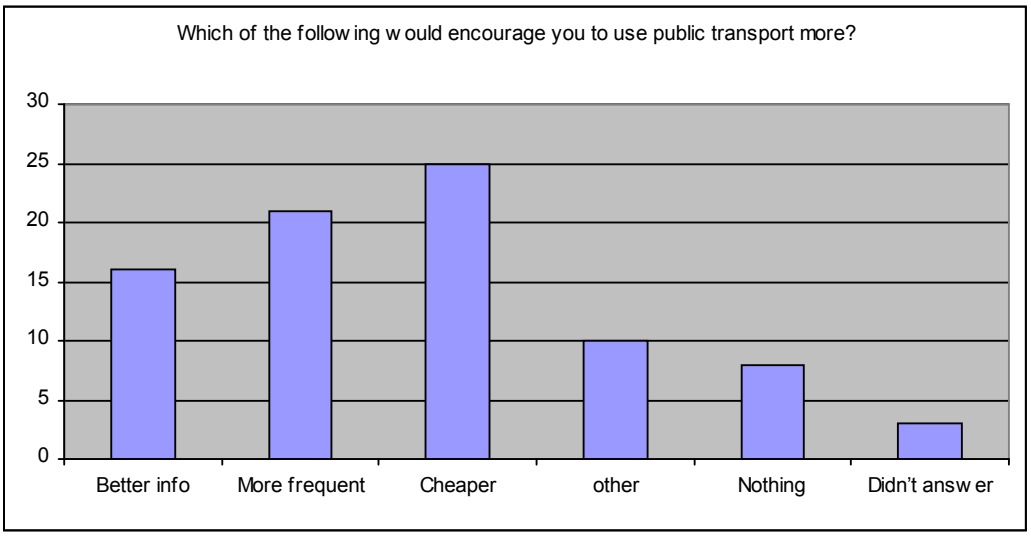

Table A3: Encouraging public transport use

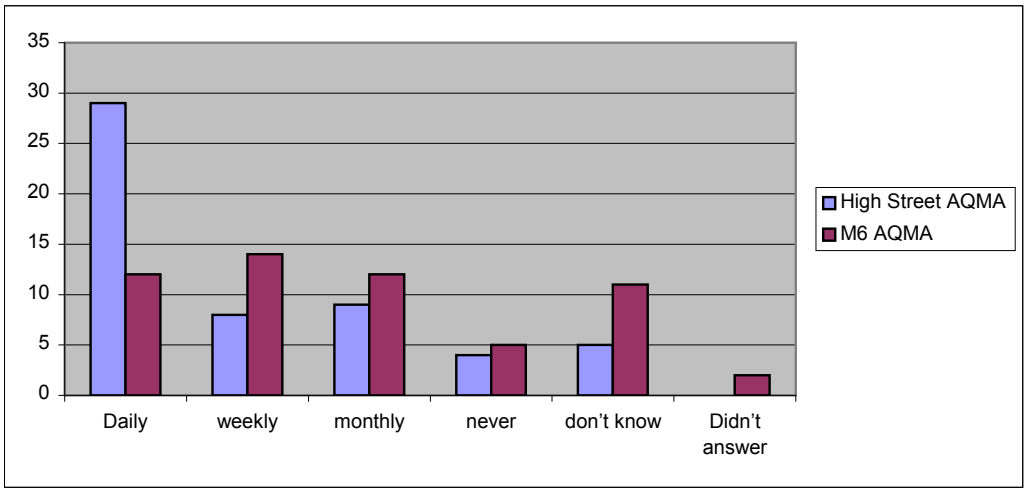

Table A4: How often do you travel through AQMAs?

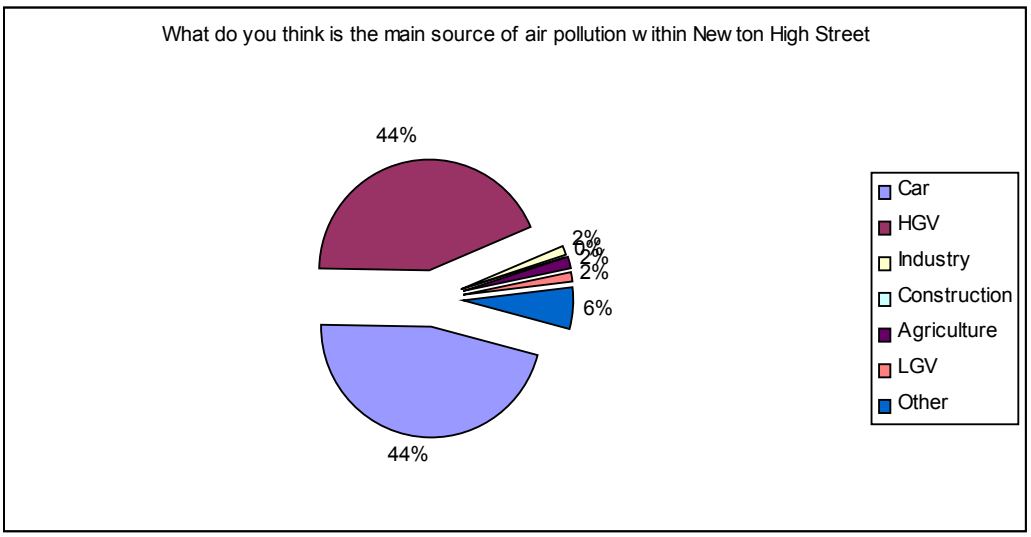

Table A5: Sources of air pollution

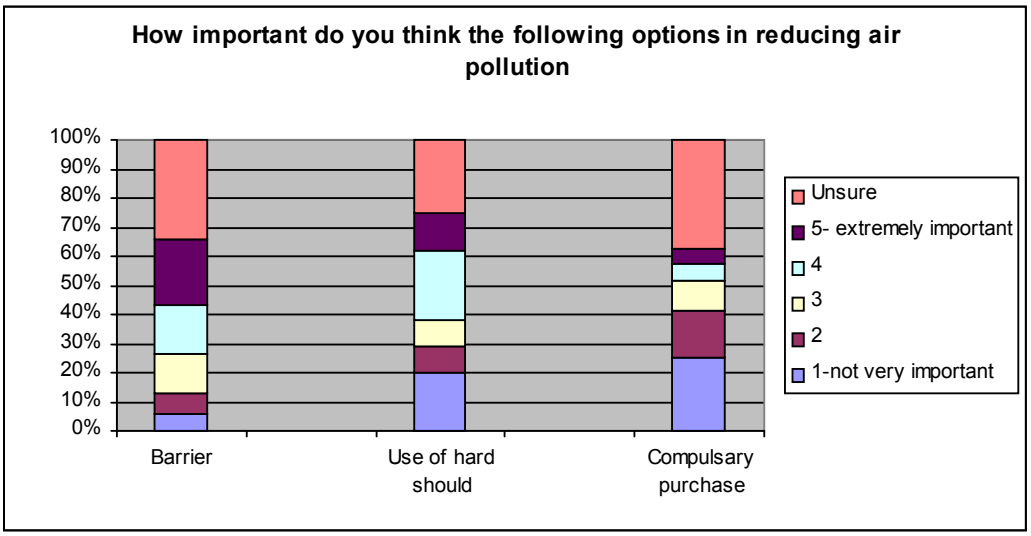

Table A6: Reducing pollution

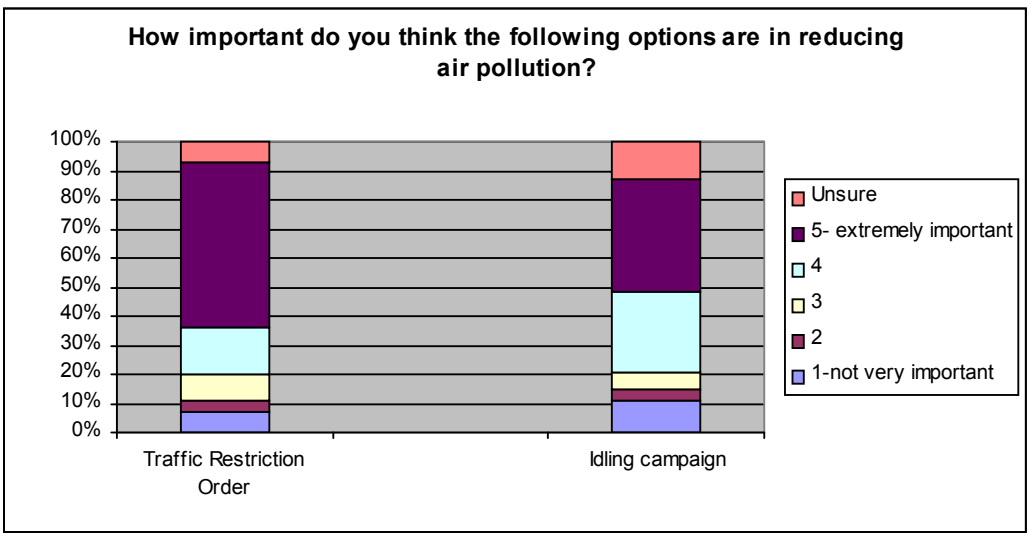

Table A7: Reducing pollution

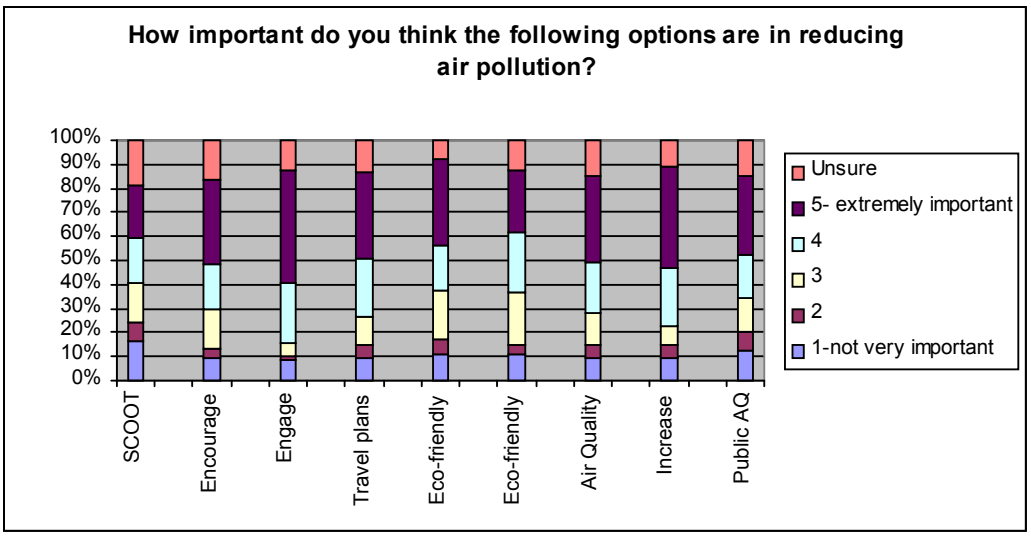

Table A8: Reducing pollution

Appendix C: Response to public suggestions

Public suggestion	Response
Make it much cheaper to buy electric vehicles and create a lot more points in the borough were people can charge their vehicles.	St Helens Council has cannot influence the price of electric vehicles, the price of will decrease in response to demand over future years. The Government have attempted to subsidise the purchase of electric cars by the Plug-in car grant, which entitles purchasers to a grant of 25% or the purchase price of the car, up to £5,000. With regards to the charging points, this can be achieved through the planning process and will be something to the investigated further in the supplementary planning guidance.
Tree planting to screen from motorway	Tree planting could be a more attractive alternative to a noise barrier or other fixed screen. However there are already trees in many of the locations and limited space next to the motorway in areas where screening would be required. It would be very close to housing and we could not achieve a high planning density as required for maximum effect. It was shown that the greatest benefits could be achieved by two or three rows of trees with a relatively high planting density (Jim and Chen, 2008). Screening by a single tree alone has been estimated to reduce PM concentration by 15-20 % immediately behind the tree (Bealey et al., 2007; Mitchell and Maher, 2009). Further work and liaison with the HA is required to determine if this would be a feasible option
The council should also consider grants for air purification devices on household windows this has been introduced in AQMA's in other areas of the country.	It is assumed that this relates to non-opening windows and mechanical ventilation and air filtration systems, which have been utilised in planning conditions on developments within AQMAs. These are normally only requirements used on new developments and not on existing housing as they would be expensive to retrofit and it would be at a cost to the Council and would have to be with the homeowner's permission. It is considered better to try and improve the air quality in this situation.
A 20 mph limit in High Street could also encourage HGV drivers visiting Earlestown to use the designated route to the M6 and A 580.	Reducing the speed limit is not certain to encourage drivers to use the M6/A580 route. Modelling undertaken during the further assessment showed that reducing the speed limit to 20mph does not have a significant impact and results in higher annual mean nitrogen dioxide at some receptors.
Variable speed limit designations on various lanes from overhead gantries in an effort to smooth traffic flows and keep traffic moving and avoiding the stop-start conditions.	This would be a decision for the Highways Agency. Projects are already planned until 2014/15 and nothing is planned for this area, during 2012 it was stated that no funding is available for projects on the stretch of the M6 concerned. These are major projects and are ongoing throughout the country. Through the Working Group and liaison with the Highways Agency any possible project will be explored.