Air Quality Progress Report

April 2008

Environmental Health Service

EASTLEIGH BOROUGH COUNCIL

CONTENTS

APPENDICES

FIGURES

Executive Summary

Eastleigh Borough Council Environmental Health Service is responsible for implementing the air quality responsibilities under the Environment Act 1995. The Environment Act 1995 requires Local Authorities to assess local air quality against objectives set out in the Air Quality Regulations 2000 (as amended). As part of this responsibility the service has produced this report to provide information on levels of carbon monoxide, benzene, 1,3-butadiene, lead, nitrogen dioxide, sulphur dioxide and particulate matter at sensitive locations (residential properties, schools etc) in the Borough.

The objective of this 'Progress Report' is to provide an update on air quality in Eastleigh (including new monitoring data collected in 2007) following on from the 'Updating and Screening Assessment' carried out in 2006. New monitoring data for the pollutants nitrogen dioxide and particulate matter (PM10) are presented and discussed in the report. Consideration is also given to other pollutants included in the air quality regulations as well as radiation monitoring, also carried out by Eastleigh Borough Council.

Eastleigh Borough Council has declared three 'Air Quality Management Areas' (AQMA) and progress is provided for each of the 'Air Quality Action Plans' required for these areas. Monitoring has shown that there is a requirement to continue work with the other AQMA's, M3 motorway and Hamble Lane, and their action plans. The monitoring results also show that there are areas of concern that need further detailed assessment which include the High Street in Botley.

Continuity of the air quality position during the year was lost for a period of time, unfortunately pushing key targets back by ~3 months.

For further information, including the adopted Eastleigh AQMA area action plan, see details on our website www.eastleigh.gov.uk, alternatively please contact

Eastleigh Borough Council
Environmental Health
Civic Offices
Leigh Road
Eastleigh
SO50 9YN

Telephone 02380 688339

mark.beeston@eastleigh.gov.uk

SECTION 1: INTRODUCTION

The objective of this report is to provide an update on air quality in Eastleigh following the 'Updating and Screening Assessment', published in 2006. Local Authorities are required to carry out an assessment of air quality on an annual basis. There are three types of Assessment which can be carried out. An 'Updating and Screening' Assessment (USA) is required by all Local Authorities every 3 years. Many Local Authorities are required to carry out a 'Detailed Assessment' (DA) the following year if the results of the USA indicate that this is required (if monitoring results are close to or exceeding an objective). Where a DA is not required a 'Progress Report' is carried out. In the final year all Local Authorities are required to carry out a Progress Report before the process begins again. This Progress Report contains information on air quality monitoring undertaken, provides an update on progress with the Air Quality Action Plans (AQAPs), as well as other forms of monitoring such as radiation monitoring.

Eastleigh Borough Council has declared three Air Quality Management Areas (AQMAs) in the Borough. All three AQMAs were declared for exceedences of the 2005 nitrogen dioxide annual mean objective and cover the following areas:

1. A335 – Leigh Road (from the junction with Bournemouth Road, Chandler's Ford to the junction with Romsey Road, Eastleigh) Romsey Road, Southampton Road and Wide Lane (to the junction with the motorway spur road/Southampton Parkway rail station).
2. M3 - junctions 12 to 14
3. Hamble Lane, Bursledon – between the junctions with Portsmouth Road and Jurd Way.

Further details are given on the AQMA's and respective Action Plans later in this Progress Report. They can also be viewed on the Borough Council's website www.eastleigh.gov.uk and by following the links in clean and green. Archived paper copies are also available on request.

1.1 Sources of Pollution in Eastleigh

Nitrogen dioxide is the main pollutant of concern in the Borough. The primary source of all pollutants (as detailed in Figure 1 below) is road traffic. Eastleigh is a recognised transport hub with significant goods movement by road. There are two major motorways, the M27 and M3, running through the Borough, and the main route through to Eastleigh town centre, the A335 is often affected by accidents on these with traffic using it to divert. There are also a number of large industrial estates around central Eastleigh. There are as a result a significant number of HDV's travelling through the town, slowing traffic flow and adding to congestion.

There are a small number of Part A(1) processes licensed by the Environment Agency, one Part A(2) and thirty one Part B prescribed processes licensed

and conditioned by Eastleigh Borough Council. The emissions details we have on these processes shows that they do not make a significant contribution to air pollution.

1.2 Monitoring of Pollutants

There are 3 continuous monitoring sites in Eastleigh. These are located (at The Point, at the corner of Leigh Road and Romsey Road), Southampton Road and Steele Close. Oxides of nitrogen are monitored at all three sites and particulates are also monitored at Steele Close.

The table below shows the air quality objectives for each of the seven pollutants and the dates by which they have to be achieved.

Figure 1 Table Showing Objectives of the Air Quality Regulations 2000 and Air Quality (England) (Wales) (Amendment) Regulations 2002.

	AIR QUALITY OBJECTIVE		
POLLUTANT	**Concentration**	**Measured as**	**Date to be achieved by**
Benzene	16.25μg/m^3	running annual mean	31/12/2003
	5μg/m^3	annual mean	31/12/2010
1, 3 - Butadiene	2.25μg/m^3	running annual mean	31/12/2003
Carbon monoxide	10mg/m^3	maximum daily running 8-hour mean	31/12/2003
Lead	0.5μg/m^3	annual mean	31/12/2004
	0.25μg/m^3	annual mean	31/12/2008
Nitrogen dioxide	200μg/m^3 not to be exceeded more than 18 times a year	1 hour mean	31/12/2005
	40μg/m^3	annual mean	31/12/2005
Particles (PM_{10}) gravimetric	50μg/m^3 not to be exceeded more than 35 times a year	24 hour mean	31/12/2004
	40μg/m^3	annual mean	31/12/2004
	50μg/m^3 not to be exceeded more than 7 times a year	24 hour mean	31/12/2010
	20μg/m^3	annual mean	31/12/2010
Sulphur dioxide	350μg/m^3 not to be exceeded more than 24 times a year	1 hour mean	31/12/2004
	125μg/m^3 not to be exceeded more than 3 times a year	24 hour mean	31/12/2004
	266μg/m^3 not to be exceeded more than 35 times a year	15 minute mean	31/12/2005

μg/m^3 (micrograms per cubic metre)
mg/m^3 (milligrams per cubic metre)

SECTION 2
MONITORING OF AIR POLLUTION

This section presents new nitrogen dioxide and particulate matter monitoring data for 2007 alongside the data for 2004, 2005 and 2006. Section 3 provides a discussion and conclusion of these results.

2.1 Nitrogen Dioxide

Oxides of nitrogen (NOx) are found naturally in the atmosphere; natural sources include lightning, forest fires, bacterial activity in the soil and plant metabolism. Non-natural sources are produced through the reaction of nitrogen and oxygen during combustion processes. The majority of non-natural sources arise from road vehicle emissions (around 1 million tonnes per annum – EPAQS, 1996), and power stations as well as other combustion sources e.g. aircraft, trains.

2.1.1 Monitoring of Nitrogen Dioxide – Diffusion Tubes

Monitoring of nitrogen dioxide is carried out by diffusion tube. These are small plastic tubes open at one end. At the closed end is a piece of absorbent gauze which absorbs the nitrogen dioxide. The tubes are exposed on lampposts around the Borough for 4 or 5 weeks at a time. They are then collected and sent to a laboratory for analysis. The diffusion tubes are supplied by Gradko and analysed by Kent Scientific Services and the preparation method used is 20% TEA in water.

The following table (figure 2) shows the current locations of all diffusion tube and continuous monitoring locations. Continuous monitoring locations are indicated in red and in brackets. There are 24 sites within the Borough, 12 roadside, 4 urban background and 1 kerbside. The remaining are specials to monitor the effects of the two major motorways, M27 and M3, passing through the Borough. Diffusion tubes are co-located with the automatic NO2 analysers at Steele Close, The Point and Southampton Road.

Figure 2 Table Showing Locations of All Current Nitrogen Dioxide Diffusion Tube and Continuous Analyser Monitoring Locations, Grid References, Site Types and Distance from Kerb

LOCATION	GRID REF.	TYPE OF SITE	DISTANCE FROM KERB/CARRIAGE WAY (ROADSIDE/MOTORWAY SITES)
BELMONT ROAD, CHANDLER'S FORD	443773 119300	M3 Motorway	38
LEIGH ROAD/J13 M3, EASTLEIGH	443877 119526	Roadside	2.7
LEIGH ROAD/PLUTO ROAD, EASTLEIGH	444864 119174	Roadside	1.5
MEDINA CLOSE, CHANDLER'S FORD	444231 120060	M3 Motorway	40.7
ASHDOWN DRIVE, CHANDLER'S FORD	443292 122841	Urban background	1.5
HADLEIGH GARDENS, BOYATT WOOD	445347 120367	Urban background	1.5
THE POINT, CORNER ROMSEY ROAD/LEIGH ROAD, EASTLEIGH (also oxides of nitrogen analyser)	445311 119149	Roadside	8
SOUTHAMPTON ROAD/CHESTNUT, EASTLEIGH	445438 118119	Roadside	2.3
SOUTHAMPTON ROAD/MISSENDEN, EASTLEIGH (also oxides of nitrogen analyser)	445490 118230	Roadside	2
CHESTNUT AVENUE 1, EASTLEIGH	445352 118098	Roadside	2.3
CHESTNUT AVENUE 2, EASTLEIGH	444080 118164	Roadside	12.5
HIGH STREET, BOTLEY	451430 113025	Kerbside	2.5
BISHOPSTOKE ROAD, BISHOPSTOKE	446618 119146	Roadside	2.2
FAIR OAK ROAD, BISHOPSTOKE	447439 118781	Roadside	5.5
HAMBLE LANE, BURSLEDON	447716 110363	Roadside	1.4
HAMBLE LANE 2, BURSLEDON	447766 110562	Roadside	1.4
STEELE CLOSE, EASTLEIGH (also oxides of nitrogen and particulate analysers)	443958 119676	M3/Urban background	56.5
PORTEOUS CRESCENT, CHANDLER'S FORD	444656 120776	M3	27.7
DOVE DALE, EASTLEIGH	443557 118753	M3	16.8

UPMILL CLOSE, WEST END	445827 115377	M27 Motorway	50.5
OXBURGH CLOSE, EASTLEIGH	444542 120188	M3/Urban background	122
UPPER NORTHAM CLOSE, HEDGE END	448084 112632	M27 Motorway	93
WESSEX NUFFIELD HOSPITAL, CHANDLER'S FORD	445122 122183	M3 Motorway	48
CHESTNUT CLOSE, CHANDLER'S FORD	443055 118964	Roadside	8

Data from tube monitoring carried out by Eastleigh Borough Council in 2007 is presented below. The results for 2004, 2005 and 2006 are also shown below in tabular and graphical formats.

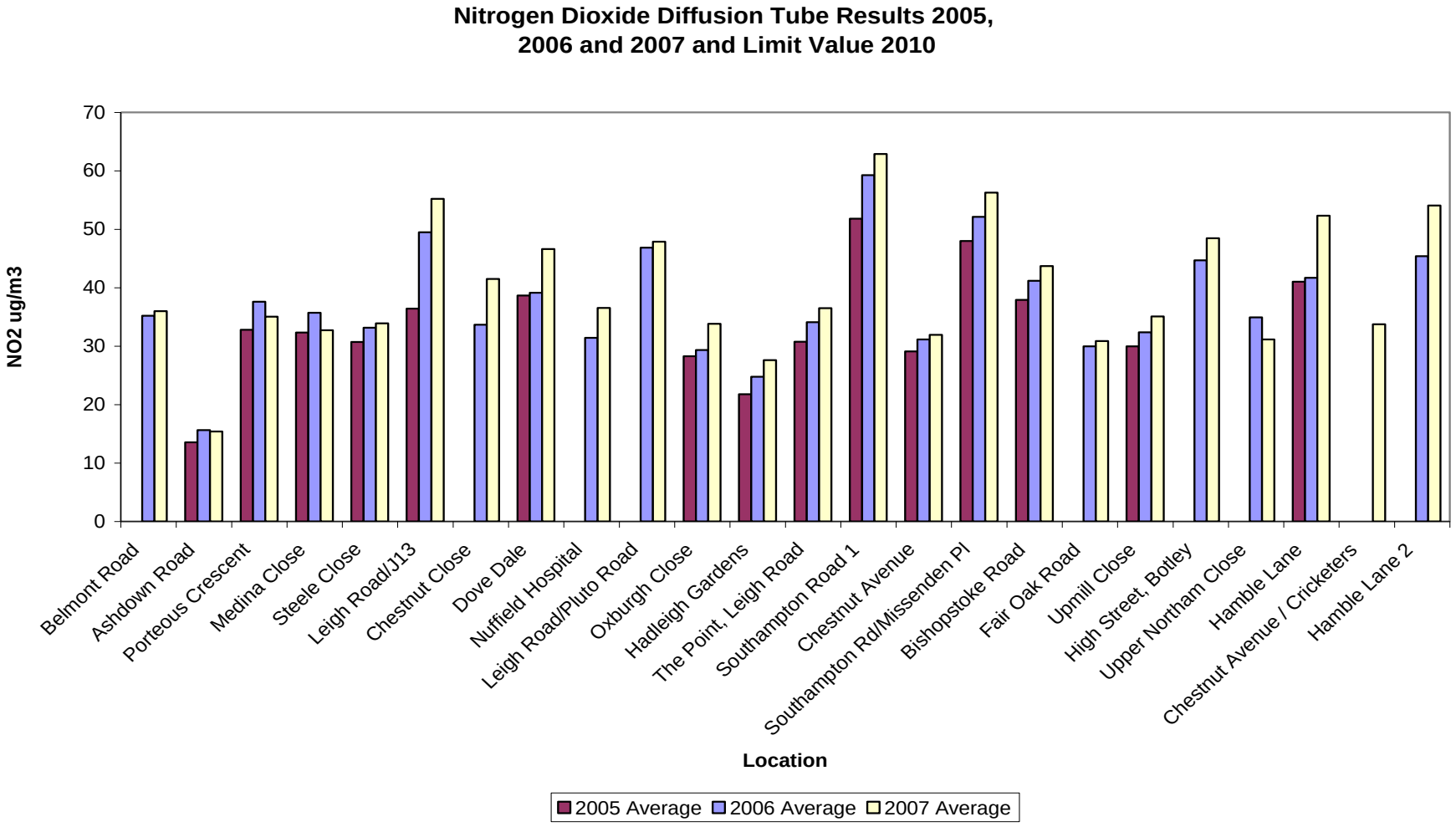
All data has been ratified. The results for all the years are bias corrected by using a locally generated bias correction factor using the procedure detailed in the DEFRA guidance document Technical Guidance LAQM TG(03) as amended by supplementary guidance. This was calculated by co-locating 3 diffusion tubes alongside the real time analysers at Southampton Road and The Point and comparing the results. The bias correction calculated for 2007 was 1.044.

The figures shown in the table, highlighted in grey, show where the annual mean nitrogen dioxide objective and 2010 limit value have been exceeded.

Figure 3 Table Showing Diffusion Tube Monitoring Results 2004, 2005, 2006 and 2007 (in μg/m^3)

Location	2004 Average	2005 Average	2006 Average	2007 Average	AQMA Declared	Objective 2005/10
Belmont Road	n/a	n/a	35.18	35.97	--	40
Ashdown Road	16.62	13.53	15.63	15.39	--	40
Porteous Crescent	38.56	32.78	37.61	35.05	--	40
Medina Close	34.84	32.31	35.71	32.73	--	40
Steele Close	35.05	30.7	33.16	33.88	√	40
Leigh Road/J13	n/a	36.41	49.49	55.20	√	40
Chestnut Close	n/a	n/a	33.68	41.51	X	40
Dove Dale	46.88	38.66	39.15	46.63	√	40
Nuffield Hospital	n/a	n/a	31.43	36.55	--	40
Leigh Road/Pluto Road	45.92	n/a	46.85	47.87	√	40
Oxburgh Close	32.36	28.27	29.35	33.80	--	40
Hadleigh Gardens	24.75	21.77	24.78	27.58	--	40
The Point, Leigh Road	40.09	30.74	34.1	36.48	√	40
Southampton Road 1	63.66	51.8	59.24	62.88	√	40
Chestnut Avenue 1	n/a	29.1	31.15	31.94	--	40
Chestnut Avenue 2	41.1	n/a	n/a	33.75	--	40
Southampton Rd/Missenden Pl	54.58	48	52.12	56.26	√	40
Bishopstoke Road	47.67	37.91	41.2	43.71	X	40
Fair Oak Road	n/a	n/a	29.95	30.87	--	40
Upmill Close	34.84	29.97	32.38	35.06	--	40
High Street, Botley	n/a	n/a	44.67	48.47	X	40
Upper Northam Close	n/a	n/a	34.91	31.15	--	40
Hamble Lane	50.49	41.02	41.68	52.34	√	40
Hamble Lane 2	n/a	n/a	45.4	54.05	X	40

Figure 4 Graph Showing Nitrogen Dioxide Diffusion Tube Results from 2005 to 2007



The table and graph above show the 2005, 2006 and 2007 annual mean nitrogen dioxide levels across the Borough. The table shows exceedences of the 2005/2010 annual mean objective/limit value at locations within the Air Quality Management Areas (AQMA), namely Leigh Rd/Jnc 13, Leigh Rd/Pluto Rd, Soton Rd 1 and Soton Rd/Missenden Place, Dove Dale and Hamble Lane. Areas which are outside of the AQMA's and are showing exceedences are Bishopstoke Road, High Street Botley, Hamble Lane 2 (just north of the existing AQMA) and Chestnut Close.

The table and graph below show the predicted annual mean nitrogen dioxide concentrations for 2010. As can be seen from the data, Leigh Road (close to junction 13 of the M3), Southampton Road 1 and Southampton Road / Missenden Place are predicted to remain above the 2010 annual mean limit value. The predicted annual means at Leigh Road (with the junction of Pluto Road), High Street Botley and Hamble Lanes are very close to the annual mean limit value and it is therefore possible that there will be an exceedence of the limit value at these locations also.

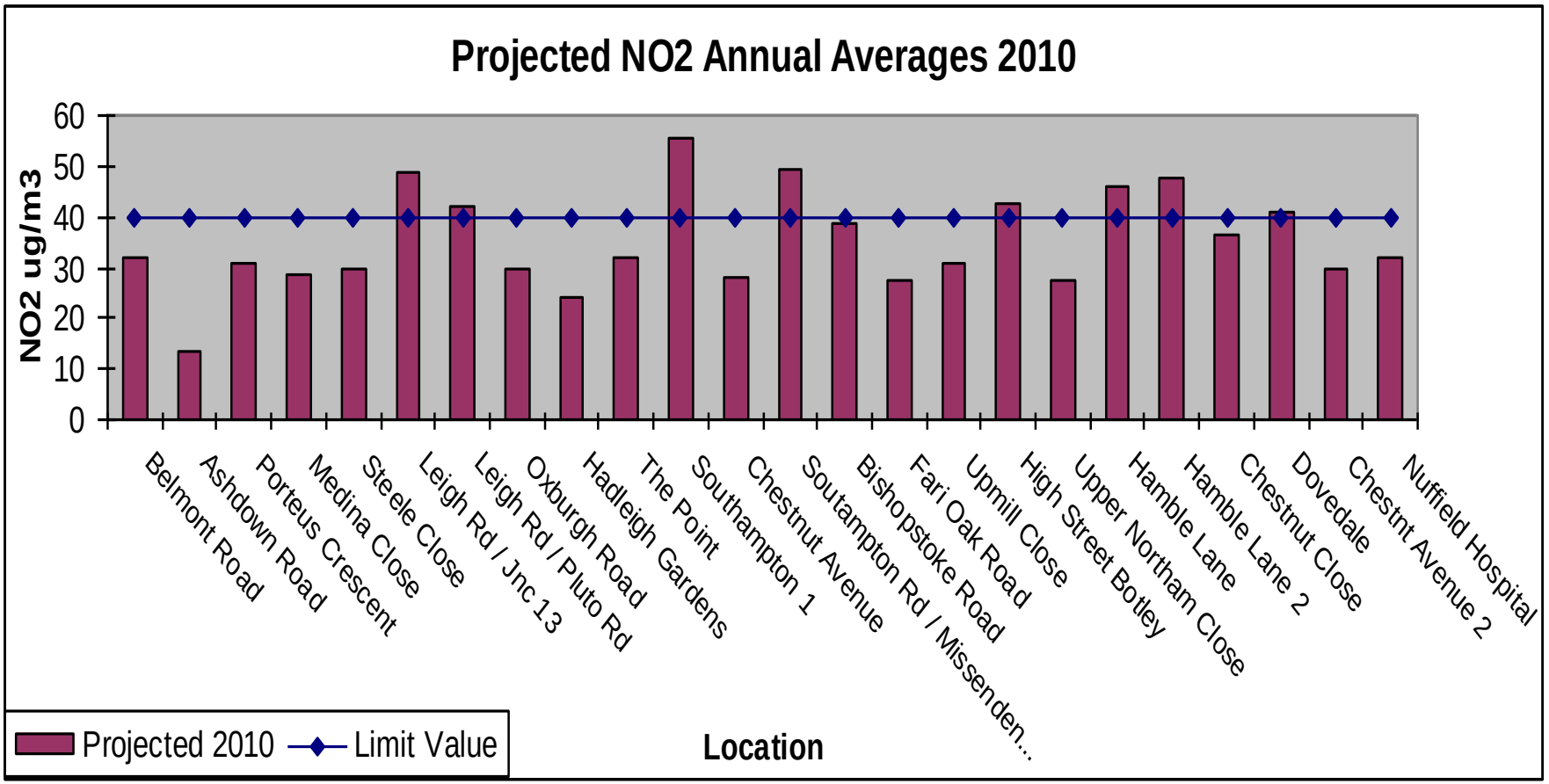
However, as will be discussed later in Section 3, Air Quality Action Plans will be in place in these locations shortly and it is hoped that the annual means can be reduced to below the level of the limit value before 2010 in most locations.

For Bishopstoke Road it has been concluded that there is no relevant public exposure at this site and therefore there is no requirement to investigate this further, and this is also backed up by the predicted value for 2010 being below the human health objective.

Figure 5 Table Showing Nitrogen Dioxide Diffusion Tube Projected Annual Means 2010

Location	Projected 2010 (ug/m3)	Limit Value 2010
Belmont Road	31.7	40
Ashdown Road	13.57	40
Porteous Crescent	30.91	40
Medina Close	28.87	40
Steele Close	29.88	40
Leigh Road/J13	48.69	40
Leigh Road/Pluto Road	42.22	40
Oxburgh Close	29.81	40
Hadleigh Gardens	24.33	40
The Point	32.18	40
Southampton Road 1	55.46	40
Chestnut Avenue	28.17	40
Southampton Road/Missenden Place	49.62	40
Bishopstoke Road	38.55	40
Fair Oak Road	27.23	40
Upmill Close	30.92	40
High Street, Botley	42.75	40
Upper Northam Close	27.47	40
Hamble Lane	46.16	40
Hamble Lane 2	47.67	40
Chestnut Close	36.61	40
Dove Dale	41.13	40
Chestnut Avenue 2	29.77	40
Nuffield Hospital	32.24	40

Figure 6 Graph Showing Nitrogen Dioxide Diffusion Tube Projected Annual Means 2010



2.1.2 Monitoring of Nitrogen Dioxide – Continuous Analysers

Monitoring of nitrogen dioxide is also undertaken using continuous analysers. There are three continuous analysers all located in Eastleigh. An analyser has been located at The Point at the corner of Leigh Road and Romsey Road since 1998. This was replaced with a brand new analyser towards the end of 2006. Two new analysers were purchased at the end of 2003 and located at Southampton Road (1.6 metres from the road), and Steele Close (85 metres from the M3). All of these monitoring locations are shown on the maps presented in the appendices to this report.

There have been no changes to the real time monitoring equipment or procedures.

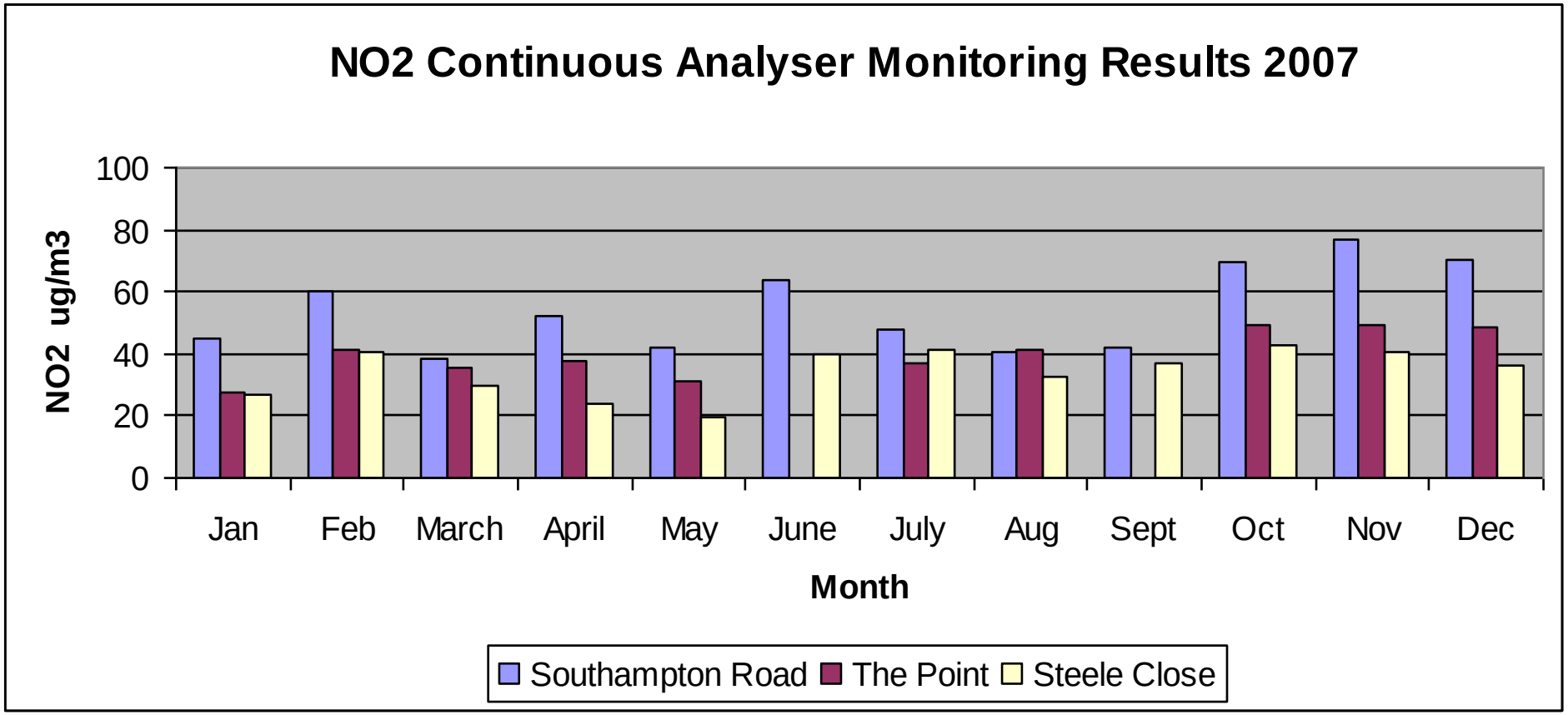
All analysers are chemiluminescence analysers and are serviced at six monthly intervals followed by six monthly audit visits to calibrate the analysers and check calibration gases. Calibration gases are AEA Energy and Environment Ltd accredited and are replaced on an annual basis to ensure their stability. All results have been zero and span corrected with zero and span readings taken every two weeks in accordance with the DEFRA technical guidance.

Figure 7 Table Showing Nitrogen Dioxide Analyser Monitoring Results – Southampton Road, The Point and Steele Close 2007

	Southampton Road (ug/m3)	The Point (ug/m3)	Steele Close (ug/m3)	2010 Limit Value
January	44.92	27.39	26.90	40
February	59.90	41.48	40.68	40
March	38.29	35.37	29.80	40
April	52.3	37.84	24.18	40
May	42.12	31.05	19.85	40
June	63.98	n/a	39.82	40
July	47.53	36.98	41.03	40
August	40.76	41.01	32.46	40
September	42.09	n/a	37.13	40
October	69.56	49.29	43.08	40
November	76.87	49.14	40.55	40
December	70.58	48.21	36.20	40
Average	**54.08**	**39.78**	**34.31**	40

As can be seen from the table above and graph below, only the measured level of nitrogen dioxide at Southampton Road currently exceeds the annual mean nitrogen dioxide limit value to be met by the end of 2010.

Figure 8 Graph Showing Results of Nitrogen Dioxide Continuous Analyser Monitoring During 2007.



2.2 Particulate Matter

Particulate matter is fine particles derived from a variety of natural and non-natural sources. The main sources of particles are from:

- Combustion - mainly from road traffic (particularly diesel vehicles) as well as power generation
- Natural – soil, dust, fungal spores, pollen and sea salt (particularly in coastal areas)
- Construction activities

2.3 Particulate Matter Monitoring

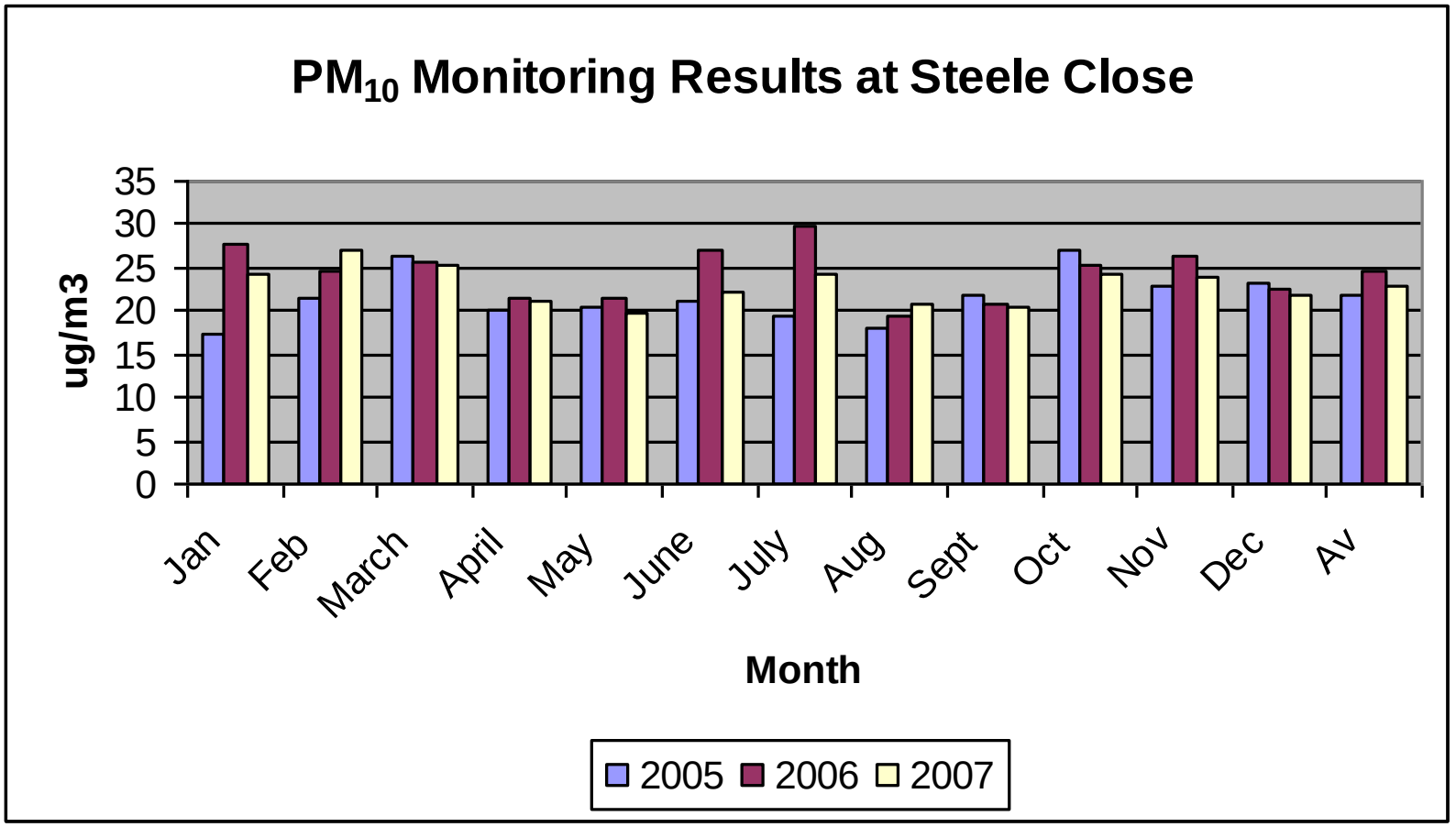
Particulate matter monitoring has been carried out at Steele Close, Eastleigh since June 2004 and previously at Eastleigh College Annex, Desborough Road, Eastleigh since 1999. Eastleigh College Annex was a background monitoring site and Steele Close is near to the M3 motorway. The monitoring results from Steele Close for 2005, 2006 and 2007 are presented below. The data has been corrected by a factor of 1.3 to give the gravimetric equivalent.

Figure 9 Table Showing Particulate Matter (PM_{10}) Monitoring Results at Steele Close 2005, 2006 and 2007

	2005 (ug/m3)	2006 (ug/m3)	2007 (ug/m3)	2004 Objective
January	17.24	27.81	24.13	40
February	21.61	24.44	26.87	40
March	26.36	25.79	25.14	40
April	20.24	21.56	21.23	40
May	20.51	21.47	19.84	40
June	20.98	26.95	22.34	40
July	19.40	29.65	24.16	40
August	18.16	19.26	20.73	40
September	21.89	20.72	20.39	40
October	27.17	25.14	24.41	40
November	22.82	26.19	23.81	40
December	23.20	22.46	21.93	40
Average	**21.88**	**24.72**	**22.92**	**40**

As can be seen from the above table and the graph below, the measured levels of PM_{10} are well below the 2004 annual mean objective. There have been no exceedences of the 24 hour objective, during 2005, 2006 and 2007.

Figure 10 Graph Showing Particulate Matter (PM_{10}) Monitoring Results at Steele Close 2005, 2006 and 2007



2.4 Other Pollutants

Eastleigh Borough Council does not currently monitor any of the other pollutants listed in figure 1.

2.6 Radiation Monitoring

Eastleigh Borough Council carried out continuous monitoring of background gamma radiation until the end of 2006, unfortunately due to an equipment breakdown this is now unable to continue. Data from other monitoring sites in the local area and around the country are also available. The results of this monitoring can be viewed at www.weatherprobe.co.uk (select the desired area from the dropdown menu and then click 'draw graph' to view the current readings).

The Council are members of SERMG (Southern England Radiation Monitoring Group). The Environmental Health Service collects samples of food; seaweed and sediment; and grass and soil on an approximately six weekly basis. The samples are sent to Southampton University for analysis. This information is useful to provide background levels of gamma radiation. Should there be an incident either locally or internationally samples can then be collected and compared to the background levels.

SECTION 3
DISCUSSION OF AIR QUALITY MONITORING RESULTS

3.1 Nitrogen Dioxide Trends

A trend for the NOx tube results 2004 through 2007 is difficult to establish with increases and decreases in values and a majority of them stabilising out. However, looking at the NOx tubes that show an increase in levels highlights areas where there are ongoing plans of actions and emphasises the need to continue with these.

3.1.1 Eastleigh AQMA Results

The NOx tubes that cover the Eastleigh AQMA are detailed as follows –

NOx Tube Location	% difference in NO2 2004 through 2007.	% difference compared to human health objective of 40 ug/m3
Steele Close	-3.3	-15.3
Leigh Road / Jnc 13	+28.1	+38.0
Leigh Rd / Pluto Rd	+4.2	+19.6
The Point, Leigh Rd	-9.0	-8.8
Southampton Rd 1	-1.3	+57.2
Southampton Rd / Missenden Place	+3.1	+40.6

Although there is a general stabilising of the values there is not a trend that could be reasonably be expected to give conformity with the 2010 human health objective and this is shown by the projected 2010 values.

The Leigh Road / Jnc 13 NOx tube result suggests there is a more localised effect here and this will be looked at in more detail over the following year. The action plan updates for the whole AQMA are given later in the report.

3.1.2 Hamble Lane AQMA Results

The NOx tube that covers the Hamble Lane AQMA shows a 3.6% increase over the period 2004 through 2007. As part of a further assessment, to establish the extent of the issue, a second nitrogen dioxide diffusion tube monitoring site has been placed to the north of the AQMA on Hamble Lane and data from this monitoring indicates that the annual mean objective is also being exceeded at this location. This tube has shown an increase of 19%,

both tubes are 32% above the 2010 human health objective. We are looking at the potential of extending out the AQMA pending the results from the detailed assessment being carried out by AEAT. A grant is in the process of being applied for from DEFRA to include this additional extension within the detailed assessment.

3.1.3 M3 Motorway AQMA Results

The NOx tubes that cover the M3 motorway AQMA are detailed as follows –

NOx Tube Location	% difference in NO2 2004 through 2007	% difference compared to human health objective of 40 ug/m3
Medina Close	-6.0	-18.2
Porteus Crescent	-9.1	-12.5
Dove Dale	-0.5	+16.5
Nuffield Hospital	----------	-8.5
Oxburgh Close	+4.4	-15.5

The tube that remains well above the target level, Dove Dale, is the closest of the NOx tubes, in the AQMA, to the M3 motorway, although this should not account for the large difference between it and the other NOx tubes. Looking at the topography and makeup of the motorway at this point, there is a height difference for the NOx tube of +5 metres and an incline on the motorway giving rise to slower traffic. The area around the tube is ‘dead space’ ie at the end of a cul-de-sac surrounded by trees. Given this, there is a Highways Agency NOx tube 150 metres away at a similar distance from the M3 and this also is giving measured values similar to those at Dove Dale, giving a degree of certainty to the results. As part of the current detailed assessment being carried out for the whole AQMA particular attention is being put on this area and we await the final results.

3.1.4 Other Results of Note

The remaining results, not in an AQMA, that show an increase in NO2 levels and are above the human health objective are those at the High Street, Botley, Chestnut Close and Bishopstoke Road.

For Bishopstoke Road, as discussed earlier, it has been concluded that there is no relevant public exposure at this site and therefore there is no requirement to investigate this further and this is backed up by the predicted value for 2010 being below the human health objective.

Chestnut Close is a recent addition to the data from NOx tubes. With only twenty months of data it has shown an increase. At this stage the situation will continue to be monitored. Again though the predicted 2010 value is well below the target.

High Street, Botley has shown an increase again over a short period of time, 22 months. Further NOx tube placement has recently taken place to assess the extent of the area affected. This further data will help to determine whether it will be necessary to declare an AQMA. Again a grant is being applied for from DEFRA to aid in this process.

The data from the continuous analysers compares well with the collected collocated NOx tube data.

Location	Type Of Measurement	NO2 ug/m3
Southampton Road	Analyser	54.08
	Tube	56.26
The Point, Leigh Road	Analyser	39.78
	Tube	36.48
Steele Close	Analyser	34.31
	Tube	33.88

Overall, the monitoring results support the need to continue with the current AQMA's and that there should be further detailed assessment work with regard to a further two areas.

3.1.5 Public Exposure Within AQMA's

The following table gives the estimated number of people exposed to the exceedance of NO2. It also gives the maximum concentration within the AQMA.

AQMA	Estimated No. of people	Maximum concentration (ug/m3)
Eastleigh	Between 2-3000	83
M3	250	57
Hamble Lane	14	71

SECTION 4
DEVELOPMENT IN EASTLEIGH

4.1 Current and Future Development

Due to it's location in the south of England, Eastleigh is currently experiencing a high volume of residential development in order to meet targets set by central government.

As reported in previous Review and Assessment reports there are a number of particularly large developments, most notable is the Pirelli/Park 21 development in central Eastleigh where around 700 properties have recently been completed, and a development at South Street, Eastleigh where over 400 properties was started in January 2008. There are also other smaller developments of up to 200 properties in Eastleigh.

In addition to these housing developments there are two 'Area Action Plans' (AAP) that are being developed for the Eastleigh town centre and an area known as the 'South Hampshire Strategic Employment Zone' (SHSEZ). Both AAPs are looking at how the areas can be developed. For example in the town centre the Council wishes to expand the shops and services available, provide new office and residential accommodation and possibly move the location of the bus station. For the SHSEZ area there are a number of possible options, all of which will include the Chickenhall Lane Link Road (CLLR). The options principally feature employment and some options also include residential development.

Planning permission has been granted for a cinema and leisure complex (including bowling alley, bars and cafes) in the town centre adjacent to the Swan Shopping Centre. At the time of writing, work on building the cinema and leisure complex has begun and is well on course for completion by November 2008.

All of these developments will add to the already congested town centre, however it is hoped that the CLLR will help to ease congestion in the town centre.

4.2 Chickenhall Lane Link Road

The Chickenhall Lane Link road will connect the M27 junction 5 with the B3037 Bishopstoke Road east of Eastleigh town centre. It is approximately 4km in length. North of the M27 junction 5 the scheme deviates from the A335 near to Southampton Airport Parkway Station crossing the railway line via a proposed new flyover then running adjacent to and north of Southampton International Airport runway through the Alstom railway yards and crossing the railway via a second new bridge connecting with the existing Chickenhall Lane cul-de-sac with a proposed new road bridge at the northern end..

The scheme will facilitate environmental and air quality benefits through the reduction of traffic and associated levels of nitrogen dioxide on existing local roads in the AQMA in particular the A335 Southampton Road in central Eastleigh. It will provide a more appropriate route for heavy commercial vehicles which currently pass through the town centre to access the industrial and commercial areas at Chickenhall Lane and will redirect traffic away from the town centre and the AQMA. The link road will also provide an alternative route for traffic heading from the A335 Southampton Road to Bishopstoke, Fair Oak and beyond which also currently passes through the town centre.

It is expected that the CLLR will be the only AQAP initiative which can improve air quality in Eastleigh. Other initiatives may improve air quality but the CLLR is the only initiative that has the potential to improve air quality that in association with other measures could bring the annual mean below the human health objective. However, modelling of the impacts of the CLLR are unable to be determined due to the fluid nature of the land use which has yet to be decided.

The Hampshire County Council Full Local Transport Plan 2006-2011 lists the CLLR as one of three major schemes, and makes the following comment:

6.183 “Construction of the CLLR as a major scheme has the potential to overcome some of the town centre congestion issues and improve access to the airport and proposed new development area. The route is being considered in the context of the transport infrastructure that will be required to enable development arising from the SEP’

The scheme will be funded from a variety of public and private sector sources and will be developed and progressed in tandem with the AAP. Delivery is likely to be in stages with the sections at the M27 junction 5 and Bishopstoke Road being implemented in advance of the central sections. A significant amount of work has been undertaken with feasibility designs on topographical, geotechnical and design surveys having been completed. Due to the scale and location of the scheme there are onerous statutory requirements to be undertaken, including traffic, environmental, economic and sustainability appraisals. Much of this is underway and nearing completion during this forthcoming year. A preferred route has been established and discussions are continuing about land use.

4.3 Industrial Processes

There has been no major industrial process (A1, A2 or B) commencing operation or making significant changes, in or near the Borough during 2008. No new processes are expected in the near future, which are likely to have an impact on local air quality. Figure 15 at the end of this report details all of the permitted processes within the Borough.

4.4 Landfills and Quarries

There have been no new landfill sites or quarries commencing operation in the Borough or making major changes to their operation during 2008.

SECTION 5
AIR QUALITY MANAGEMENT AREAS AND AIR QUALITY ACTION PLANS

5.1 Air Quality Management Areas

Local Authorities are required to declare an AQMA where it is unlikely that the objective of any pollutant will be met in areas where there is relevant public exposure for the particular objective. For example for a 1 hour objective, a location where members of the public could be expected to be regularly present for 1 hour or more would be a relevant location.

As stated earlier in this report Eastleigh Borough Council has declared three Air Quality Management Areas (AQMAs) during 2005 and late 2006. The first AQMA to be declared by the Council covers Leigh Road (from the junction with Bournemouth Road, Chandler's Ford to the junction with Romsey Road, Eastleigh), Romsey Road, Southampton Road and Wide Lane (to the roundabout joining the M27 spur road). The Eastleigh AQMA was declared, as it is unlikely that the annual mean objective for the pollutant nitrogen dioxide will be met by the target date of 31st December 2010 in certain parts of it. As the CLLR is a major part of the conformity with this target and the deliverance of this is somewhat unpredictable and certainly is a long term project, the other actions for improving the air quality are now being considered and added to. However because it is currently uncertain how the effect of the CLLR will be in terms of air quality it is proposed that once a scheme for the land has been finalised a predictive modelling project will be implemented to ascertain this. This will be the subject of an application for a grant from DEFRA to fund this assessment.

An AQMA was declared in late 2006 covering the M3 motorway between junctions 12 and 14. Again this AQMA was declared due to an exceedence of the 2005 nitrogen dioxide annual mean objective.

Finally an AQMA was declared covering a small area of Hamble Lane, Bursledon between the junctions of Portsmouth Road and Jurd Way, again due to an exceedence of the 2005 nitrogen dioxide annual mean objective.

Consultation has been undertaken with affected residents for all three AQMAs. The consultation was in the form of a letter and leaflet giving information on the AQMA and the reasons for declaration, as well as information on what the public could do to comment on the designation and how they can help improve air quality themselves.

At the present time, the Further Review and Assessment and Action Plan have been carried out for the Leigh Road/Romsey Road/Southampton Road AQMA. The Action Plan was approved by the council on 17th May 2007. The Further Review And Assessments for the remaining two AQMA's are being completed and are due to be reported in June 2008. The Action Plans will then be ready for consultation and Council approval in August 2008. Work is also under way to enable these action plans and associated targets to be included in the future updates of the Hampshire County Council Local Transport Plan.

5.2 Eastleigh Air Quality Action Plan

Following the declaration of an AQMA Local Authorities are required to prepare an Air Quality Action Plan to improve air quality in an AQMA. This is the most important aspect of air quality management as this is the opportunity to actually introduce measures and policies to improve air quality. There are a number of actions that can be taken, some of which are considered to be fairly drastic, however these are the measures most likely to provide the required improvement, for example congestion charging. This may however be unsuitable for a town like Eastleigh. Less drastic measures include improvements to public transport, green travel plans etc.

Eastleigh Borough Council has an Air Quality Working Group made up of members from the Environmental Health Service, Planning Policy, Transport Planning, Sustainability, Development Control as well as a representative from Hampshire County Council Transport Planning and invitations are also extended to a representative of the Highways Agency.

We also attend the following forums, the Civic Office Travel Plan, Eastleigh Town Centre Area Action Plan, South Hampshire Strategic Employment Zone, Hampshire County Council Transport Liaison Group, Hampshire Air Quality Sub Group and Hampshire PPC sub group.

As part of the Town Centre Area Action Plan and HCC Local Transport Plan meetings have been held through out the year to discuss ways of improving the town access and in particularly improving the traffic flow along Southampton Road, as traffic queuing and backing up out of the town centre is a major contributing factor to poor air quality in that area. As part of this there has also been discussed possible use of preferred routes for HDV's coming from the two motorways.

As mentioned above the Action Plan for the Leigh Road/Romsey Road/Southampton Road AQMA has been completed and the final version was approved by the Council on 17th May 2007. The Council consulted on the Action Plan between October 2006 and January 2007 by delivering leaflets to the affected residents and by holding a drop in session for local businesses.

The actions contained within the Action Plan are presented below along with an update of the progress made on all 27 actions detailed. However the concentration, taking out the CLLR, is on the following measures which are thought would be, in combination, the better of the options to reduce the air pollution along Southampton Road

- Increasing the flow of traffic along Southampton Road
- Loading / unloading restrictions
- Available car parking signage
- Preferred HDV routes to the local industrial estates from the motorways
- Cleaner vehicle incentives
- Awareness through vehicle emission testing

KEY

COST	
£	Less than £100,000
££	£100,000 to £500,000
£££	£500,000 to £1 million
££££	Greater than £1 million

IMPACT	REDUCTION IN NO_2
NEGLIGIBLE	Less than 0.2 µg/m^3
LOW	0.2 to 1 µg/m^3
MEDIUM	1 to 2 µg/m^3
HIGH	Greater than 2 µg/m^3

FUNDING	
A	Additional required
S	Funding secured
W	Within existing funds
T	Third party funded

Figure 14: Air Quality Action Plan for Leigh Road, Romsey Road, Southampton Road and surrounding area.

Rank	Action	Description	Lead role	Timescale	Current Position
1	Chickenhall Lane Link Road (CLLR)	Link Road from Wide Lane to Chickenhall Lane, bypassing town centre and opening up access to land for industrial development. Remove traffic from Southampton Rd and reduce congestion in town.	HCC	2010 / long term	See Section 4
2	Increase use of public transport, walking and cycling	Encourage use of public transport and other transport methods rather than private car.	EBC/HCC/ Central Government	Ongoing	Council cycling strategy adopted including walking aims.
3	Continue to encourage school travel planning	23 completed 10 in progress and 7 yet to be started. Discourage use of car for journey to school. Reduce congestion around schools	EBC Engineers with HCC	2010 for all schools.	33 now completed with 4 more in progress
4	Implement workplace travel plan scheme for existing businesses	Investigate park and ride scheme for larger employers in the area. Investigate bus service between Eastleigh rail stations and Chandler's Ford industrial estates. Reduce number of trips to businesses. Discourage use of car for whole journey to work.	EBC Engineers/ Environmental Health	Travel planning ongoing (mostly as part of planning applications). Bus service to be investigated by end 2007.	Travel plans established for 6 major Eastleigh employers. Established planning condition now in place for travel plans on new developments.
5	HDV restrictions along Leigh Road and Southampton Road during certain periods of the day (excludes buses)	Restrict movement of HGV's between certain hours; for example 0700 – 0900 and 1600 – 1800.	HCC/EBC Engineers	2009/10	On going discussions as part of the town centre area action plan which is due out in May 2008 and as part of PPC permit inspections carried out.

Rank	Action	Description	Lead role	Timescale	Current Position
6	Install HCV/LGV route signage from M3 and M27	Ensure that HCV/LGV traffic follows a designated route. To be carried out as part of the Central Eastleigh Transport Strategy	HCC/EBC	2009	Funding in place as part of the HCC LTP. Also on going discussions as part of town centre area action plan and PPC inspections
7	Review Town Centre Delivery Strategy	Prepare a strategy to prevent deliveries between certain hours and encourage certain preferred routes. Could be carried out as part of the Town Centre Redevelopment Action Plan	EBC	2008/09	Included as part of Town Centre area action plan
8	Freight Quality Partnerships	Freight Quality Partnerships can be used to encourage more environmentally sensitive and efficient freight transport. Unlikely to be brought in until the CLLR has been fully opened.	EBC/HCC	2010	Talks on going with two freight operators. Difficult to engage but this has recently changed with the increase in fuel costs
9	Install variable message signs and improve signage for car parking	May prevent traffic entering Eastleigh Better distribution of traffic Lower congestion Prevent driving around eg looking for parking space	HCC/EBC	2010	Matrix signs installed on local motorway network and local parking messaging included in the Town Centre Action Plan.
10	Improve parking at Southampton Parkway Station to encourage rail use (planning permission approved)	Encourage use of train for journey to work (less of a local improvement, more regional/national)	South West Trains	2009	Subject of a planning application currently being considered.
11	Improve cycle network	Make cycling a more attractive option	EBC Engineers/HCC	On going.	Council Cycling Strategy formally adopted.

Rank	Action	Description	Lead role	Timescale	Current Position
12	Continue to promote sustainable, low vehicle housing developments	Encourage new home owners who have no/one car or to use public transport/walk/cycle	EBC Planning Policy/Central Government	Ongoing	As part of carbon emissions drive and planning strategy, conditioning developments under BREEAM
13	Work with Southampton Airport to reduce airport related traffic	Encourage passengers to use pubic transport to get to airport. Reduce traffic flow around M27 junction 5 and to a lesser extent in Eastleigh town. Surface Access Strategy due end 2006.	EBC/BAA	Ongoing	Airport Surface Access Strategy Plan now completed including an airport workplace travel plan BAA Southampton have now formally adopted an Air Quality Strategy.
15	Introduce bus service between Eastleigh rail stations and Chandler's Ford Ind. Estates	Discourage use of car for journey to work. Reduce number of vehicles on local routes. Reduce congestion. Red Rocket D introduced Feb 2007.	EBC/HCC	Fully implemented by 2011	Actions within the Civic Offices travel plan. Bus Service available between station and Ind. Estate
16	Review car parking signposting in town centre	Prevent circling looking for space	EBC	2008	Included as part of the Town Centre Area Action Plan due May 2008
17	Car clubs – investigate expanding Southampton car clubs(s) into Eastleigh.	Can be used by the public or businesses to hire cars for as little as one hour at a time for a fee of around £5 per hour.	EBC	2008	Costings and availability Included within the Civic Offices Travel Plan

Rank	Action	Description	Lead role	Timescale	Current Position
18	Review of car parking charges	Discount on parking for alternative fuel vehicles? Take away free parking. Pay on foot car parking Discourage long stay commuter parking – make public transport cheaper alternative Encourage use of alternative fuel vehicles	EBC	2008 – Possible to link to Swan Centre/cinema development	Swan Centre redevelopment due to be completed in November 2008, charges to be reviewed once reopened.
19	Continue to improve the EBC workplace travel plan	Encourage car sharing, cycling, walking etc and provide incentives to staff. EBC staff set example to other businesses	EBC Engineers	Completed	Civic Office Travel Plan Adopted in Feb. 2008
20	Continue to support 'HCC Car Share' scheme and promote in other local businesses	Encourage less car use within Council and other businesses Set example	EBC	Ongoing	Support on going with promotion of the scheme on the internal Council website
21	Continue to work with VOSA to carry out emission testing	Highlight to public problem of vehicles not meeting emission limits	EBC	Ongoing	Emission testing carried out in April 2007 near to Eastleigh town centre, plans in place to repeat in Aug/Sept 2008
22	Increase public awareness of the air quality problems in Eastleigh and of the transport options open to them.	Improve knowledge of air pollution problems in Eastleigh Encourage public to use public transport / walk / cycle whenever possible	EBC EH/ Engineers (transport options)	Ongoing	Continued improvement of literature and links on the Council website. Discussions about possible dedicated website for air quality. Made local PPC permit holders aware of their impacts.

Rank	Action	Description	Lead role	Timescale	Current Position
23	Keep air quality monitoring data under review and take action as soon as possible in areas where the objectives may be exceeded.	Helps to spot problems early and take action	EBC EH	Ongoing	New monitoring positions started to monitor new effect of recent new housing development and of the current SHSEZ area.
24	Lobby central government for greener forms of transport/reducing traffic/improving public transport	Help to reduce background air pollution Central government policy will have high impact	EBC EH	Ongoing	
25	Fleet management/ alternative fuels for HDV's	Encourage local businesses to improve fleet and use alternative fuels Reduce number of HDV's on the road Improve emissions of the fleet	EBC EH	Ongoing	Included within discussions with local freight companies and during permit inspections under the PPC regulations.
26	Town centre street scene improvements: Re-paving of Leigh Road between Romsey Road and town centre. Road improvements to slow vehicles.	Improve street scene, encourage more pedestrians, discourage cars	EBC Planning Policy/Engineering	On going	Further enhancements completed during 2007 as part of the completion of nearby housing development encouraging walking connection within the Town Centre.
27	Council biodiesel trial (fleet vehicles e.g. refuse collection)	Reduce vehicle emissions, set good example	EBC Direct Services/ Sustainability	On going	Initial trial worked well and this has been extended out to rest of the fleet.

5.3 M3 Motorway and Hamble Lane, Bursledon Further Review and Assessments and Air Quality Action Plans

Following the successful application for a grant from DEFRA, the Further Review and Assessments for the M3 and Hamble Lane AQMA's are now on-going and due for completion in June 2008 and the Action Plan's are due following consultation and council approval in August 2008.

Work has also begun on the Action Plans for both AQMAs. Meetings have been held throughout the year to discuss the possible actions within the current action plan and the draft Action plans with the Council's Engineering Unit, Sustainability Co-ordinator, Planning Policy and Design Unit, Hampshire County Council Transport Policy and the Highways Agency. Possible actions have been discussed for each, the current AQMA actions detailed in the table above. For the Hamble Lane AQMA it is felt that the junction of Hamble Lane and Portsmouth Road (where the traffic on the southbound Hamble Lane queues to turn right onto Portsmouth Road) could be improved and this could lead to the removal of the AQMA designation.

For the M3 Motorway the actions are more difficult to formulate. Discussions with the Highways Agency have continue with discussions including:

1. making more use of the variable message signs to encourage drivers to turn off engines when stationary
2. signage to warn drivers they are in an AQMA and to again turn off engines when stationary
3. variable speed limits to increase road user space
4. multiple occupancy vehicle lanes
5. Use of 'pollution absorbing paint' on street furniture and fencing

The Highways Agency has confirmed that they will give consideration to these options and any other options they see fit. We are still continuing to participate in the HA NOx monitoring program with two tubes alongside the motorway.

Matrix signage has now been completed for this section of the M3.

It is envisaged that the Council will be in a position to consult on the draft action plans later in 2008.

5.4 Other Air Quality Actions

5.4.1 Beacon Status

Eastleigh Borough Council has recently been awarded Beacon Status under the banner of Tackling Climate Change. The Council has set itself an ambitious target to become carbon neutral, in its key business activities, by 2012. As part of its submission in attaining this prestigious award, air quality was cited as being a working example of the ways in which this can be attained. There is a close synergy between air quality and climate change and this is to be built on by closer working with the Sustainability section to bring forward the key targets within the Action Plan relating to the Councils operations.

5.4.2 Civic Office Travel Plan

An important and recognised way of raising the profile of air pollution is by leading by example. In February 2008 the Civic Offices Travel Plan was adopted by the Council. Within this there are six key measurables, one of which is ‘to improve the air quality of Eastleigh in accordance with the Eastleigh AQMA’. By having this statement at the heart of the plan it ensures that the aims of it are kept in focus and draws on other areas of expertise to deliver key parts of the Action Plan. The plan includes an extensive survey of employees travel habits and explores, with costings, ideas and ways to increase more sustainable means of travel.

5.4.3 Work Place Travel Plans

Work place travel plans have now been completed in the following significant Eastleigh employers

- Hampshire Fire And Rescue
- B & Q Head Offices
- Ford Motor Company in conjunction with Southampton City Council
- Southampton Airport
- Those businesses on Tollgate Business Park
- Hampshire Corporate Park
- Hamble Group

5.4.4 Cycling Strategy

The cycling strategy was approved by the Council in February 2007. The main aims / objectives of this are

- Increase modal share of cycling and walking
- Continually improve the cycling infrastructure
- Increase safety and security for cyclists

Continued encouragement from cars to other modes along with improved routes into the centre of Eastleigh along the routes of the Eastleigh AQMA.

5.4.5 Hampshire County Council Local Transport Plan

This was adopted in 2006 with the following focus on the Eastleigh Borough in terms of air quality.

'To seek reductions in the level of NO2 in the Eastleigh AQMA so that it can be withdrawn within the LTP period and by 2011 at the latest.'

Intermediate outcome targets were set as following

- To not exceed 1% annual traffic growth between 2004 and 2011, for all motor vehicle traffic within the AQMA
- To increase the proportion of people working within Eastleigh town centre covered by a travel plan to 49% by 2011 from a baseline of 34% in 2005
- To reduce the proportion of school journeys in Eastleigh made by car (alone) to 20% by 2011 from a 2005 baseline of 22%, with an associated increase in non-car (alone) journeys.

The capital programme has specifically allocated £400,000 for 2009/10 towards improvements to Eastleigh town centre and the AQMA. The continuing actions to drive this forward are reported in figure 14.

Specifically the work travel plan progress has meant the headline figure for people working in Eastleigh town centre has risen to 38% and with the completing of all of the town centre schools travel plans this will mean a decrease in the lone car journeys.

5.4.6 Local Development Framework and Supplementary Planning Guidance

Work has continued to include more robust guidance and conditions within the framework to raise the profile of air quality and to enable potential developers to include measures within there proposals. With this in mind it, work has started on a supplementary planning document specifically for air quality / air pollution to sit alongside the LDF.

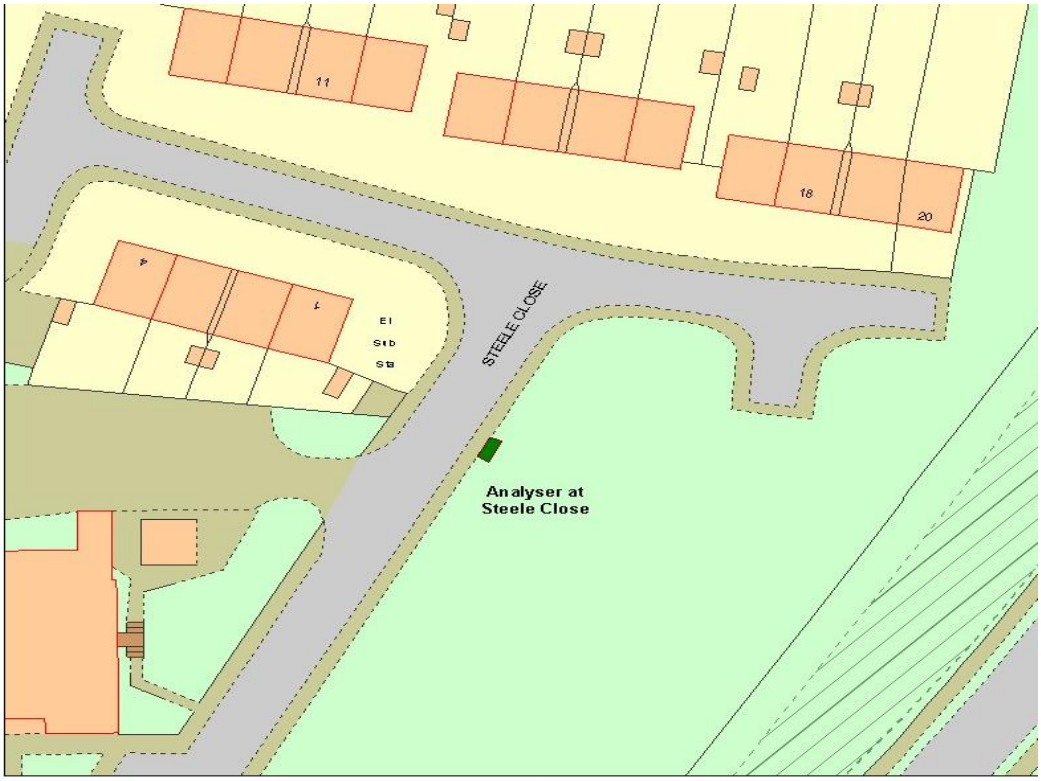
Figure 15. Table of Environmental Permitting Regulation Permits, formerly Pollution, Prevention And Control Permits.

PROCESS TYPE	PROCESS OPERATOR	PROCESS ADDRESS			DATE ISSUED	PROCESS NUMBER
ANIMAL FEED COMPOUNDING	DUKES & BOTLEY AGRICULTURE LTD	WILDERN MILL	CHARLES WATTS WAY	SOUTHAMPTON	12/31/93	AFC1
CONCRETE BATCHING	HANSON QUARRY PRODUCTS EUROPE LTD	SCHOOL LANE	CHANDLERS FORD	HANTS	11/27/92	CBP1A
HOT DIP GALVANISING	WESSEX GALVANIZERS LTD	TOWER INDUSTRIAL ESTATE	TOWER LANE	HANTS	10/19/95	HDG1
MOBILE CRUSHING PROCESS	K & B CRUSHERS	BOXWOOD HOUSE	WINCHESTER ROAD	EASTLEIGH	09/29/94	MCP1-3
RUBBER PROCESS	PIRELLI CABLES LTD	PO BOX 30	CHICKENHALL LANE	HANTS	01/17/94	RP1
RECOATING OF ROAD VEHICLES	HARTWELL SOUTHAMPTON	WINCHESTER HOUSE	SCHOOL LANE	EASTLEIGH	09/16/93	RRV2
COATING PROCESSES	VICTORIA FORGE (SOUTHAMPTON) LTD	UNIT 8	BARTON PARK IND. EST.	EASTLEIGH	12/04/97	RRV9
STORAGE, LOADING & UNLOADING OF PETROL AT TERMINAL	BP OIL UK LIMITED	HAMBLE LANE	HAMBLE	SOUTHAMPTON	12/30/98	SLUPT1
UNLOADING OF PETROL AT SERVICE STATION	ASDA STORES LTD	BOURNEMOUTH ROAD	CHANDLERS FORD	HANTS	12/23/98	UPSS1
UNLOADING OF PETROL AT SERVICE STATION	CHICKENHALL SERVICE STATION	BISHOPSTOKE ROAD		HANTS	12/08/98	UPSS2
UNLOADING OF PETROL AT SERVICE STATION	JET SERVICE STATION	69-73BISHOPSTOKE ROAD		HANTS	12/10/98	UPSS4
UNLOADING OF PETROL AT SERVICE STATION	SAINSBURY'S SUPERMARKETS LTD	TOLLBAR WAY	HEDGE END	HANTS	12/10/98	UPSS5
UNLOADING OF	TESCO STORES	HAMBLE LANE	BURSLEDON	HANTS	12/21/98	UPSS6

PETROL AT SERVICE STATION	LIMITED					
UNLOADING OF PETROL AT SERVICE STATION	MONKSBROOK SERVICE STATION (TOTAL)	147-149 PASSFIELD AVENUE	EASTLEIGH		12/23/98	UPSS7
UNLOADING OF PETROL AT SERVICE STATION	EASTLEIGH SERVICE STATION (TEXACO)	SOUTHAMPTON ROAD		HANTS	03/24/98	UPSS8
WASTE OIL BURNER	SPARSHATTS OF BOTLEY LTD	BROAD OAK	BOTLEY	HANTS	12/14/92	WOB4
MOBILE CRUSHING	A & J BLAKE LTD	7 TYRELL ROAD	CHANDLERS FORD	HANTS	07/28/99	MCP4
UNLOADING OF PETROL AT SERVICE STATION	ROWLES PICADOR LTD	95-101 BOURNEMOUTH ROAD	CHANDLERS FORD	HANTS	12/21/98	UPSS11
UNLOADING OF PETROL AT SERVICE STATION	CHANDLERS FORD SERVICE STATION	130 WINCHESTER ROAD	CHANDLERS FORD	HANTS	12/21/98	UPSS12
UNLOADING OF PETROL AT SERVICE STATION	TESCO EXPRESS	WINCHESTER ROAD	FAIR OAK	HANTS	12/21/98	UPSS13
UNLOADING OF PETROL AT SERVICE STATION	TESCO STORE LTD	138 TWYFORD ROAD		HANTS	12/21/98	UPSS14
UNLOADING OF PETROL AT SERVICE STATION	SOMERFIELD SERVICE STATION	SWAYTHLING ROAD	WEST END	HANTS	12/17/98	UPSS15
UNLOADING OF PETROL AT SERVICE STATION	SOMERFIELD SERVICE STATION	GRANGE ROAD	BOTLEY	HANTS	12/17/98	UPSS16
METAL COATING	HI-TECH SURFACE TREATMENTS LTD	UNIT B DEACON TRADING ESTATE	CHICKENHALL LANE	HANTS	7/2/05	CMP3
RECOATING OF ROAD VEHICLES	HANTS AND DORSET PAINT	UNIT 4J BARTON PARK INDUSTRIAL ESTATE	CHICKENHALL LANE	HANTS	7/9/06	LAPPC030
DRY CLEANER	JOHNSONS DRY CLEANERS	46 MARKET STREET		HANTS	1/10/07	LAPPC031
DRY CLEANER	PETER BRYANT, HEDGE END	1 ST JOHNS CENTRE	HEDGE END	HANTS	1/10/07	LAPPC032
DRY CLEANER	PETER BRYANT, CHANDLERS FORD	109 WINCHESTER ROAD	CHANDLERS FORD	HANTS	1/10/07	LAPPC033
DRY CLEANER	ATHERLEY DRY CLEANERS	7 FRYERN ARCADE	CHANDLERS FORD	HANTS	1/10/07	LAPPC034
DRY CLEANER	CREST DRY CLEANERS	UNIT B SMITH BRADBEER HOUSE	WELLS PLACE	HANTS	1/10/07	LAPPC035
DRY CLEANER	A TOUCH OF CLASS	103 WINCHESTER ROAD	CHANDLERS FORD	HANTS	1/10/07	LAPPC036
UNLOADING OF PETROL AT SERVICE STATION	HORTON HEATH FILLING STATION JET	BOTLEY ROAD	HORTON HEATH	HANTS	19/9/98	UPSS10

Real Time Analyser at The Point, Romsey Road.

Real Time Analyser at Southampton Road



Real Time Analyser at Steele Close.