

NEWTOWNABBEY BOROUGH COUNCIL
Environmental Services Department

**AIR QUALITY ACTION PLAN FOR
NEWTOWNABBEY**

December 2010



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1 INTRODUCTION AND AIMS OF THIS PLAN

1.1 Background

Newtownabbey Borough Council declared an Air Quality Management Area (AQMA) for the Antrim Road, Elmfield in January 2008. The AQMA was declared because assessments of air quality predicted exceedances of the annual mean objective for nitrogen dioxide. Following a Detailed Assessment the AQMA was amended in June 2009 to extend the AQMA to other residential properties and include exceedances of the hourly objective.

1.2 Legislative Background

The Environment (Northern Ireland) Order 2002 introduced a statutory obligation on local government to review and assess the air quality in their areas from time to time to determine whether the air quality objectives are likely to be met. Local Air Quality Management Policy Guidance is designed to help local authorities with their Local Air Quality Management (LAQM) duties under Part III of the Environment (NI) Order 2002 and LAQM PGNI(03) sets out the legislative framework for the system of local air quality management. This system is an integral part of delivering the air quality objectives set out in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland, published in January 2000.

The Air Quality Regulations (NI) 2003 provides the statutory basis for the LAQM system and set out the air quality objectives (Appendix 1)

For each air quality objective, local authorities have to consider whether the required level of pollution concentration is likely to be achieved by the due date. Where it appears likely that the air quality concentration (ie the amount of pollution) is going to be higher than the limits a local authority must declare an Air Quality Management Area (AQMA). Following the declaration of an AQMA, the authority must then carry out a detailed assessment of existing and likely future air quality. Under Article 12(2) Environment (NI) Order the local authority must then develop an Air Quality Action Plan which sets out the local actions that can be taken to work towards

improving air quality and meeting the objectives. This document forms the Air Quality Action Plan for Newtownabbey Borough Council.

1.3 Scope of the Action Plan

Policy Guidance LAQM PGNI(03) provides guidance on the development of Air Quality Action Plans (AQAP). The AQAP is expected to include the following:

- Quantification of the source contributions to the predicted exceedances of the objectives, to allow the action plan measures to be effectively targeted;
- Evidence that all available options have been considered on the grounds of cost-effectiveness and feasibility;
- How the local authority will use its powers and also work in conjunction with other relevant authorities in pursuit of the air quality objectives;
- Clear timescales in which the district council propose to implement the measures within its plan;
- Details of proposals and implementation timetables submitted by other relevant authorities;
- Quantification of the expected impacts of the proposed measures and, where possible, an indication as to whether the measures will be sufficient to meet the air quality objectives;
- How the district council intends to monitor and evaluate the effectiveness of the action plan.

1.3.1 Contents and Layout

Chapter 2 provides the background to air quality within Newtownabbey Borough Council, sources of pollution and their potential impacts on human health and the amount of improvement required to meet the objectives for pollution concentrations.

Chapter 3 provides a brief summary of the main Plans and Policies relevant to the Plan.

Chapter 4 describes the various options available to the Council to implement in and around the AQMA, and generally across Newtownabbey. This includes options that will need to be progressed by other relevant authorities and organisations, which the Council can support. A list of suggested actions is set out in this Chapter.

Chapter 5 contains the option assessment tables, whereby the list of actions that can be undertaken are assessed in relation to cost and impact, including wider impacts.

Chapter 6 outlines how the measures will be implemented and monitored.

Chapter 7 sets out the details of the consultation carried out on the Plan.

2 AIR QUALITY MANAGEMENT IN NEWTOWNABBEY

2.1 Summary of Review and Assessment

Part III of the Environment (NI) Order 2002 places a statutory duty on local authorities to periodically review and assess the air quality within their area. Local authorities assess air quality against a number of Air Quality Objectives, which are set by Government through the Air Quality Regulations (NI) 2003

The first round of local air quality review and assessment has included:

- Stage 1 Review and Assessment of Air Quality (March 2001)
- Stage 2/3 Review and Assessment of Air Quality (August 2004)
- Stage 3 Domestic Fuel Combustion (PM10) (August 2004)
- Declaration of AQMA for PM10 (October 2004)
- Stage 4 Air Quality Review and Assessment PM10 (November 2005)
- Air Quality Progress Report (April 2005)
- Revocation of AQMA for PM10 (November 2006)

The second round of local air quality review and assessment has included:

- Air Quality Updating and Screening Assessment (USA) (May 2006)
- Air Quality Progress Report (August 2007)
- Declaration of 3 Air Quality Management Areas for Nitrogen Dioxide (Jan 2008)
- Air Quality Progress Report (August 2008)
- Air Quality Detailed Assessment Nitrogen Dioxide (April 2009)
- Amendment of AQMA, Antrim Road, Elmfield (June 2009)
- Air Quality USA (August 2009)
- Air Quality Progress Report (May 2010)

All the above documents are available for viewing on the website or copies available from the council offices.

This AQAP only covers the AQMA 3, Antrim Road, Elmfield as the USA Report August 2009 indicated that the other two AQMAs will be revoked in the Progress Report 2010 because automatic monitoring has not shown exceedances of the nitrogen dioxide annual mean objective.

2.2 Air Quality Management Area, Antrim Road, Elmfield

Newtownabbey Borough Council declared an Air Quality Management Area for the Antrim Road, Elmfield in January 2008 (Appendix 2). This was based on monitoring results from diffusion tubes which indicated that the annual mean objective for Nitrogen Dioxide would not be met. A continuous automatic monitor was placed as close to the relevant locations in the AQMA in January 2008 and a Detailed Assessment (DA) was carried out by AEA from November 2007 to April 2008. The purpose of this DA was to redefine the AQMA and designate any new exceedances through intensive monitoring and modelling as well as assessing the contribution of various sources to NO_x concentrations (source apportionment).

As a result of the DA the AQMA was amended in June 2009 to include other residential properties and exceedance of the hourly objective (Appendix 3).

The AQMA declared at Antrim Road, Elmfield is located between the traffic light junction at Antrim Road/ Glengormley Park/Collinward Park and the traffic light junction at Antrim Road/O'Neill Road (Figure 1) and contains a mixture of terraced properties and a new apartment block situated on the O'Neill Road. The Antrim Road (A6) is a main arterial route for road traffic moving from Belfast City Centre to Glengormley and onto the Sandyknowes roundabout. It is also a major bus route. The flow of traffic along this road is very busy during off peak and peak times being at its maximum during the school run and commuting times. Some Heavy Goods Vehicles move along this route serving businesses and industrial estates.

Figure 1 *Photographs of AQMA Junction Looking South along Antrim Road*



2.3 Results of Automatic Monitoring for Nitrogen Dioxide in AQMA

Table 1 provides Nitrogen Dioxide continuous monitoring data collected since the analyser was installed in 2007. Exceedances of the 40 $\mu\text{g}/\text{m}^3$ annual mean nitrogen dioxide objective are highlighted in bold and are shown in Figure 2.

Table 1 *Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective*

Location	Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$)		
	Permitted Annual Mean	2008	2009
Antrim Rd, Elmfield	40.0	56.0	68.0

Figure 2 *Trends in Annual Mean Nitrogen Dioxide Concentration Measured at Automatic Monitoring Site*

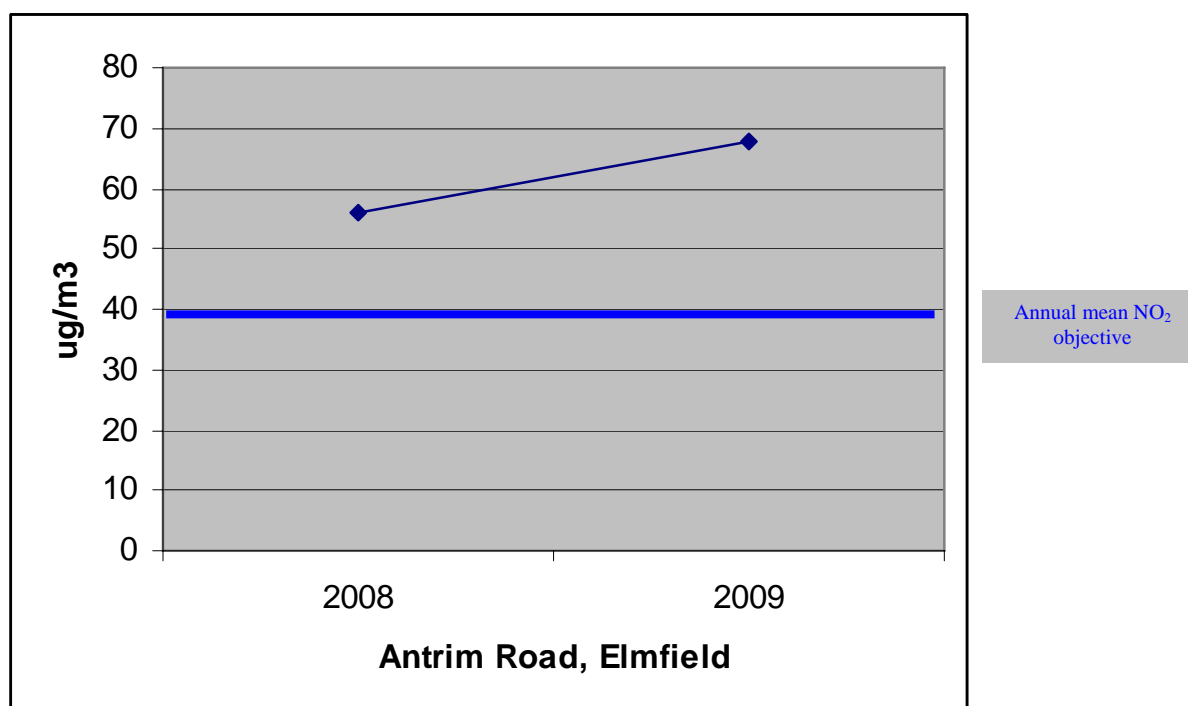


Table 2 compares the results of the automatic monitoring data with the 1 hour Mean Objective. Cases where there are more than the permitted 18 exceedances of the 200 µg/m³ 1-hour mean nitrogen dioxide objective are highlighted in bold.

Table 2 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective

Location	Number of Exceedances of hourly mean (200 µg/m ³)		
	Permitted No of Exceedances	2008	2009
Antrim Rd, Elmfield	18	55	11

2.4 Potential Impacts of Nitrogen Dioxide on Human Health

The World Health Organisation (WHO) Air quality and Health Fact sheet N°313, 2008 states the following for Nitrogen Dioxide:

Guideline Values:

40 µg/m³ annual mean **200 µg/m³ 1-hour mean**

Definition and Principle Sources

As an air pollutant, NO₂ has several correlated activities:

- At short-term concentrations exceeding 200 µg/m³, it is a toxic gas which causes significant inflammation of the airways.
- NO₂ is the main source of nitrate aerosols, which form an important fraction of PM_{2.5} and, in the presence of ultraviolet light, of ozone.

The major sources of anthropogenic emissions of NO₂ are combustion processes (heating, power generation, and engines in vehicles and ships).

Health Effects

Epidemiological studies have shown that symptoms of bronchitis in asthmatic children increase in association with long-term exposure to NO₂. Reduced lung function growth is also linked to NO₂ at concentrations currently measured (or observed) in cities of Europe and North America.

2.5 Sources of Emissions and Improvement Required in AQMA

2.5.1 Source Apportionment

The Defra guidance LAQM TG(09) (section 7.09) states that source apportionment allows district councils “to identify the extent to which different sources contribute to the air quality exceedances that have been identified in the air quality monitoring results”. Source apportionment helps the Council “to correctly target the most important sources and to focus the principle measures within the Action Plan”.

The source apportionment work was carried out by AEA as part of the Detailed Assessment Report, April 2009 and the main findings are summarised in Table 3.

Table 3 Percentage Contributions of NO_x Concentrations from Different Sources in Antrim Road (Source: Detailed Assessment Report, April 2009)

Percentage of NO _x Concentrations, Antrim Road, Elmfield								
Area	Total	Rural Background	Modelled Background	Local Roads	Local HDV	Local LDV	Moving Vehicles	Stationary Vehicles
157 Antrim Road, Elmfield (R8)	100	8.9	14.0	77.1	73.6	26.4	65.0	35.0
202 Antrim Road, Elmfield (R9)	100	8.6	13.4	77.9	73.6	26.4	64.9	35.1
190 Antrim Road, Elmfield (R10)	100	5.9	9.4	84.7	73.6	26.4	65.1	34.9
178 Antrim Road, Elmfield (R11)	100	5.2	8.2	86.6	73.5	26.5	65.6	34.4
147 Antrim Road, Elmfield (R12)	100	4.0	6.3	89.8	73.5	26.7	67.4	32.6

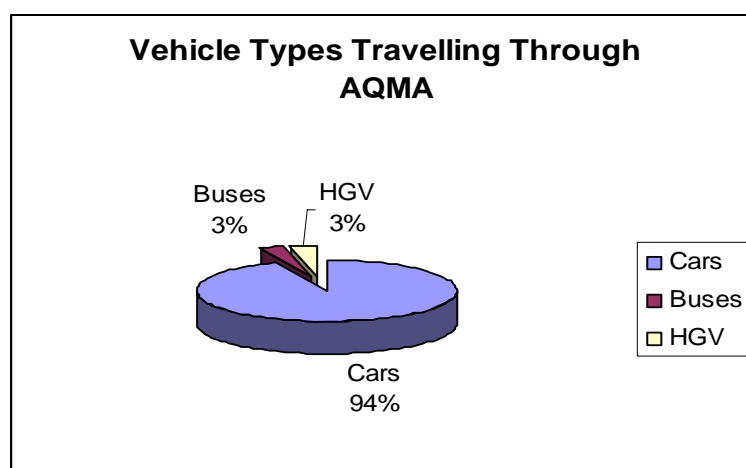
It can be seen from the table the contribution to the NO_x concentrations in Antrim Road, Elmfield are:

- 7% (on average) – rural background
- 10% (on average) – modelled background
- 83% (on average) – local roads

This confirms that the exceedances of NO₂ in Antrim Road, Elmfield are due to road traffic.

A survey of the vehicle types travelling through the AQMA was also carried out during the DA and the breakdown is shown in Figure 3 below:

Figure 3



Contribution by HGV

A further survey was completed between 25 October and 22 November 2010 to ascertain the number HGV through the AQMA at peak times and the results shown in Table 4 indicate that the number of HGV's travelling through the AQMA at peak and times is insignificant.

A further survey was completed between 17 February and 25 February to ascertain the number of HGV through the AQMA at off Peak times and the results shown in Table 4 indicate that the number of HGV's travelling through the AQMA at off peak times is also insignificant, therefore it is not necessary to investigate the contribution of HGV any further.

Table 4 **Average Number of HGV's travelling through AQMA**

Peak times

Direction travelling through AQMA	Average Number of HGVs between 07:00-10:00	Average Number of HGVs between 16:00 – 18:00
Towards Glengormley	3	1
Away from Glengormley	3	1

Off Peak Times

Direction travelling through AQMA	Daily Average Number of HGVs between 10:00-16:00
Towards Glengormley	4
Away from Glengormley	4

2.5.2 Required Reductions in NO₂

A key part of the action planning process is to first ascertain the minimum reduction of NO₂ required to meet the AQS objective limit inside the AQMA.

In this reduction estimation study the monitoring data from the analyser at Antrim Road for 2008 was used and the information was put into a NOx calculator on the UK Air Quality website, <http://www.airquality.co.uk/laqm/tools/>.

Information

Year of interest is 2008.

Site location is Antrim Road (145395, 537245).

Concentration measured at location is 56µg/m³.

3 RELEVANT PLANS AND POLICIES

3.1 Regional Development Strategy

The Regional Development Strategy (RDS) is a strategy to guide the future development of Northern Ireland to 2025. The RDS will influence the future distribution of activities throughout the region and recognises that development policies will have a significant impact on the environment and the health of individuals. Chapter 5 (the Spatial Development Strategy) and Chapter 11 (Developing a Regional Transportation System) are key in relation to this Action Plan.

3.1.1 Spatial Development Strategy for Northern Ireland

The Spatial Development Strategy (SDS) guides the physical development of the Region to 2025. The SDS will contribute to meeting a number of key regional challenges emerging from the significant local, national and international forces, which will drive change over the next 25 years, including:

Transport:

- Promote a change in travel culture and particularly manage the effects of a possible 100% growth in the number of vehicles by 2025;
- Contribute to the creation of a modern, sustainable, safe transportation system for the Region, meeting the travel needs of all groups in society;
- Accommodate the growing volume of freight moving to and from the regional gateways; and
- Strengthen the regional gateways to handle the increasing flow of people and goods in and out of the Region.

Environment:

- Accommodate future development growth while protecting and caring for the environment;
- Reduce the consumption of resources;

- Continue to maintain or, where needed, improve the quality of air, water and land resources within the Region;
- Seek to maintain local landscape character and to conserve cultural assets; and
- Take particular care to sustain and, where required, to enhance the biodiversity of the Region, its natural habitats, high quality landscapes and built heritage.

3.1.2 Developing a Regional Transportation System

Creating an upgraded and integrated transport system, built around the Regional Strategic Transport Network of the key transport corridors with their main public transport services providing the framework for future development is recognised as one of the key assets to accommodate growth. Strategic planning guidelines relating to the development of a Regional Transport System (RTS) are as follows:

- **SPG-TRAN 1:** To develop a Regional Strategic Transport Network (RSTN), based on Key Transport Corridors (KTCs), to enhance accessibility to regional facilities and services.
- **SPG-TRAN 2:** To extend travel choice for all sections of the community by enhancing public transport, including the strengthening of the regional bus network (including the promotion of public transport routes and Park and Ride schemes) and the regional rail system;
- **SPG-TRAN 3:** To integrate land use and transportation to provide a much better range of travel choices for all, and reduce the demand for travel; and
- **SPG-TRAN 4:** To change the regional travel culture and contribute to healthier lifestyles, such as giving greater priority to encouraging more walking and cycling.

3.2 **Regional Transportation Strategy**

The Regional Transportation Strategy (RTS) for Northern Ireland 2002- 2012 identifies strategic transportation investment priorities and considers potential

funding sources and affordability of planned initiatives. The RTS focuses on three geographic areas and one overlying Network. These are as follows:

- Belfast Metropolitan Area (BMA), containing the continuous area comprising Belfast City Council and the built-up areas within the Council areas of Carrickfergus, Castlereagh, Lisburn, **Newtownabbey** and North Down;
- Other Urban Areas (OUAs): collectively those towns described as main or local hubs in the RDS;
- Rural Area – the remainder of Northern Ireland; and
- Regional Strategic Transport Network (RSTN) comprising the complete rail network and all motorway and trunk road links (including the Key Transport Corridors and Link Corridors).

The RTS is a “daughter document” of the Regional Development Strategy (RDS), which sets out the spatial development framework for Northern Ireland up to 2025. Implementation of the Strategy will be through three Transport Plans covering the Regional Strategic Transport Network (RSTN), the Belfast Metropolitan Area (BMA), and the Sub-Regional Transport Plan (SRTP).

3.3 Regional Strategic Transport Network Transport Plan

The Regional Strategic Transport Network (RSTN) Transport Plan prepared by the Department for Regional Development (DRD) covers the complete rail network, five Key Transport Corridors (KTCs), four Link Corridors, the Belfast Metropolitan Transport Corridors and the remaining trunk network across Northern Ireland. The Plan is based on the guidance set out in the Regional Development Strategy (RDS) and the Regional Transportation Strategy (RTS), as described in Sections 3.1 and 3.2, above.

The RSTN Transport Plan consists of proposals for transport schemes and measures for the maintenance, management and development of the RSTN until 2015. The

RSTN Transport Plan also includes a number of measures for rail, bus, roads, walking and cycling.

3.4 Sub-Regional Transport Plan 2015

The Sub-Regional Transport Plan (SRTP) was prepared by the Department for Regional Development (DRD) and completed in 2007. The SRTP is based upon the guidance provided by the Regional Development Strategy (RDS) and the Regional Transportation Strategy (RTS).

4 PROPOSED MEASURES TO DELIVER AIR QUALITY IMPROVEMENTS

4.1 Identification of Options

A range of options may be available to Newtownabbey Borough Council and its partners for working towards improved air quality in its AQMA at Antrim Road, Elmfield. As discussed previously, a significant proportion of the NO₂ pollutants emitted within the AQMA is attributable to road transport. The responsibility for managing the road network lies with the DRD Road Service and the provision of public transport is carried out mainly by Translink. Both these organisations therefore have a very important role in the Action Planning process to ensure a reduction in NO₂ levels.

4.2 Options Considered for Improving Air Quality

A range of options have been identified, which have been organised under five themes:

1. Managing the network;
2. Improving vehicle emissions;
3. Promotion and provision of alternatives to vehicles;
4. Information and awareness; and
5. Land-use and non-transport measures.

4.2.1 Managing the Network

Changes to the road network can have a significant impact on vehicle emissions. This might be by changing the route of a road, changing junction layouts or traffic signalling.

➤ Optimisation of Traffic Control Systems

Traffic lights are present at the Glengormley Park/Collinward Park and Antrim Road Junction where traffic tends to queue back at peak times. Antrim Road/Glengormley

Park operates under a fixed time plan during both AM and PM peak periods as follows:

AM cycle time is 100 sec with Antrim Rd getting a minimum of 67 secs. If the other stages (Glengormley Park and Pedestrian Crossing) are not called the unused time goes to Antrim Road.

PM cycle time is 90 sec with Antrim Rd getting a minimum of 56 secs. If the other stages (Glengormley Park and Pedestrian Crossing) are not called the unused time goes to Antrim Road.

During AM and PM periods this junction is co-ordinated with adjacent ones at O'Neill Road and Church Road to ensure smooth traffic movements with minimal delay/stops.

During off peak times the junction operates under Vehicle Actuation (VA - where the signals operate dependent on the traffic volumes) and Glengormley Park would run to, on average, 10 sec.

The junction is also linked with adjacent junctions at O' Neill Rd and Church Rd to ensure smooth traffic movements with minimal delays/stops.

DRD have suggested that it is theoretically possible to increase the green time in the PM peak from 56 secs to 66 sec, ie an increase of 10 sec in order to flush more traffic heading north through the junction on each green stage. However, they are concerned that the change will have the following implications:

- The pedestrians will have to wait longer to cross the road.
- Traffic on other legs of the junction will have to wait longer. This will impact traffic emerging from Glengormley Park the most as this is the only exit from the Collinbridge area.
- Changing the timing arrangement at this junction may have detrimental effects on adjacent junctions.
- There is also no guarantee that giving traffic an extra 10 sec would improve the situation.

DRD are therefore satisfied that Traffic control at Antrim Road/Glengormley Park junction is currently optimised for the most efficient throughput of traffic.

➤ **Changing the Lane Configuration**

DRD considered changing the lane configuration at the Antrim Road/Collinbridge/Elmfield junction so that the northbound lane 1 was for left turning traffic only and lane 2 was for straight-ahead traffic only. It is estimated that the left turning traffic makes up only 15-20% of the north bound traffic.

If the lanes were split as suggested then it is anticipated that the queues on the approach to the signals will be twice as long as they are at present and there will be queues created during off peak times when currently there would be no queues present. These queues would be further exacerbated by any vehicles wishing to turn right into Elmfield as this would then completely block straight-ahead movements.

Another concern with the proposed lane configuration is that this junction is linked with O'Neill Road junction (downstream) and Church Road junction (upstream) to ensure efficient traffic progression and to minimise queuing/stationary traffic. The increased queues resulting from the proposed change in lane arrangement would mean that the queuing vehicles will back up through the downstream junction and will severely compromise this traffic progression.

Therefore the DRD does not feel this option is viable.

4.2.2 Improving Vehicle Emissions

Options to reduce emissions from individual vehicles can contribute to improved air quality both within the AQMA and across the Borough

➤ **Newtownabbey Borough Council Fleet**

Newtownabbey Borough Council currently operates approximately 100 vehicles of various types and sizes. All vehicles are diesel fuelled with some being still from the Euro I – III classification, however all new vehicles purchased must comply with Euro

V classification in line with our procurement specification. The Council is also currently investigating options for moving to cleaner fuels eg Electricity and LPG.

Action 1 Newtownabbey Borough Council will continue to investigate options for moving to cleaner fuels and purchase vehicles that comply with the prevailing EURO standard.

➤ **Bus Fleet**

Buses play an essential role in providing public transport alternatives to the car, and an efficient use of road space and fuel when operating efficiently.

Public Transport buses and trains in Northern Ireland are operated by Translink. Their overall corporate vision is to provide integrated travel solutions that are attractive, sustainable and good value. Within that the organisation is trying to get more people on to public transport and away from the private car, and therefore improving air quality.

Initiatives within the Bus Division of Translink include:

- Specification of vehicle
- Technological solutions
- Driver training

Specification of Vehicle

Provision of seated transport for children has taken on a very high priority as the safety benefits have been highlighted over the past few years. As such, Translink has been involved in close liaison with vehicle manufacturers to design vehicles that maximise seating capacity whilst retaining good accessibility for passengers with disabilities.

Maximising seating capacity improves efficiency in terms of operational costs, whole-life footprint and fuel usage, as the number of vehicles required to provide transport to a given number of people reduces. Whereas a typical low-floor single deck bus

has a seated capacity of approximately 44, high capacity single-deck vehicles designed to Translink's unique criteria have seated capacities of between 55 and 63 depending on variant.

Translink have also increasingly specified double-deck vehicles, where seating capacities are at least 75. Whilst these vehicles may use more fuel than typical low-floor single deck buses, the increase in capacity represents a significant efficiency gain.

Technological Solutions

New vehicles procured by Translink now meet Euro 5 emissions standards. As well as representing a significant reduction in NOx emissions compared to Euro 3 vehicles, Euro 4 and 5 vehicles show fuel efficiency savings. This is due to a combination of factors including Automatic idle shut down.

Driver Training

Translink has commenced a programme to train 80 Mentor Drivers throughout the network who will in turn encourage other drivers to drive in a fuel efficient manner. Training focuses on avoiding unnecessary acceleration, reading the road ahead and driving accordingly.

This programme will be delivered in-house using Translink's Driving School. The programme is reinforced by a CPC-accredited course delivered to all drivers which explains the theory of fuel efficient driving.

The programme will be reinforced by equipping some vehicles with monitoring devices that record various parameters. These devices are similar in concept to the Economy Advisory Display that is under development for Class 4000 trains. The recorded parameters, particularly braking and acceleration rates, indicate whether fuel-efficient driving is being employed or not. Drivers receive indication that they have exceeded these parameters, and a web-based report provides further details to enable monitoring, reward schemes, focused training etc. The systems measure

vehicle fuel usage, so before/after training sessions are enabled. A similar system is already in operation in our Infrastructure Support Vehicles.

Bus Fleet in AQMA

The total number of buses through the AQMA on a daily basis is 481:

Outward – To Glengormley

05:00-09:30	09:30-12:30	12:30-15:30	15:30-18:30	18:30-21:30	21:30-24:00
36	51	49	60	24	10

Daily Outward Total = 230 Buses

Inward – From Glengormley

05:00-09:30	09:30-12:30	12:30-15:30	15:30-18:30	18:30-21:30	21:30-24:00
80	48	50	48	19	6

Daily Inward Total = 251 Buses

Metro Fleet

Newtownabbey has one of the newest Translink's fleets. There are 47 buses in total in the Metro fleet in Newtownabbey and they are all either Euro 2, 3 or 4. The vast majority of these buses are double decker.

Depot	Number of Vehicles Allocated	Euro Class Percentage					
		Pre Euro	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5
Newtownabbey	47	0.00%	0.00%	8.33%	66.67%	25.00%	0.00%

Ulsterbus Fleet

There are 38 Ulsterbus buses in the Newtownabbey fleet with 20 Ulsterbus buses servicing the local schools. These school buses meet the Euro 5 Standards

Depot	Number of Vehicles Allocated	Euro Class Percentage					
		Pre Euro	Euro 1	Euro 2	Euro 3	Euro 4	Euro 5
Newtownabbey	38	13.16%	15.79%	0.00%	31.58%	21.05%	18.42%

Bus Stops

There are no bus stops in the AQMA

Action 2 Translink will continue to improve their fleet by providing Eco-Driving Training and installing Driver Monitoring devices

Translink will continue the current practice of cleaning up the fleet as part of the planned fleet renewal

➤ **Freight Quality Partnership (FQP)**

There are benefits to be gained from local authorities and industry working together and gaining a better understanding of freight distribution needs and the impact of actions by either organisation. The key aim is to develop a working relationship between local authority and industry to ensure that both the need for efficient movement of goods is met, supporting local and regional economies, and the environmental, safety and noise considerations of local communities are taken into account.

In some areas Freight Quality Partnerships have been used to address specific issues however having completed a comprehensive survey during peak hours in the AQMA (see 2.3.1 Table 4) implementation of a Freight Quality Partnership cannot be justified because of the low volume of HGV passing through the AQMA.

➤ **Vehicle Emission Testing**

Newtownabbey Borough Council currently carries out joint roadshows with the Road Safety Committee twice a year where vehicle emission testing is carried out and vehicle owners are provided with information about responsible car ownership.

Action 3 Newtownabbey Borough Council to continue to carry out vehicle emission testing

4.2.3 Promotion and Provision of Alternatives to Vehicles

Good alternatives to private car use are essential. Travelling to work or leisure activities by public transport, walking and cycling for a slightly greater proportion of the time could have a major impact on congestion, reducing transport emissions and therefore improving air quality.

➤ **Park and Ride**

DRD Roads Service has identified a suitable site for a Park and Ride Scheme at Ballyhenry Road to offer commuters an alternative to using the private car. A planning application has been lodged but there has been significant objection. It is noted that this is well outside the AQMA but would have an impact on the overall air quality in the Borough.

Action 4 DRD Roads Service to introduce a Park and Ride Scheme at Ballyhenry Road

➤ **Cycling and Walking Promotion**

There are many opportunities to walk and cycle within Newtownabbey Borough. This includes the Newtownabbey Way, a 4-mile, high quality dedicated walking/cycle path, which takes you from the shoreline path at Hazelbank, up to Mossley Mill and Global Point. The Council's many parks also offer walking and cycling opportunities,

in particular the Valley, Threemilewater and Sixmilewater Parks. The Roads Service has also provided dedicated cycle lanes along some roads within the Borough, including the O'Neill Road and A8 Larne Road.

4.2.4 Information and Awareness

➤ **Car Sharing and Travel Plans**

Travel plans and travel awareness campaigns aim to reduce the negative impacts of car journeys, particularly single occupancy vehicle travel, through initiatives that lessen their impact and encourage modal shift eg. car sharing, encouraging public transport, cycling, walking. Travel plans can also be successful in reducing the levels of car use.

Travelwise NI is the Department for Regional Development's initiative to encourage people to choose sustainable transport options such as walking, cycling, public transport or car sharing. Travelwise NI is an integral part of DRD Transportation Policy Division and delivers its programmes in partnership with Roads Service, the Department of Education, DOE Road Safety Branch, Sustrans, the Public Health Agency and Translink.

Travelwise NI's main promotional activities are directed towards three groups of road users:

- Schools
- Commuters
- Employers

The main objectives of Travelwise NI include the promotion of:

Sustainable Modes to Schools – Travelwise NI Schools Co-ordinators visit schools across NI to provide support and advice to teachers and pupils on walking and cycling to school. The Schools Co-ordinators work closely with Roads Service Divisions on the Safer Routes to Schools programme, to provide infrastructure improvements which will encourage sustainable choices for the "school run". Other

Travelwise Schools programmes include WOW (promoting walking/wheels once a week) and Walk to School Week.

Sustainable modes to commuters – Travelwise NI encourages commuters to walk or cycle to work, to car share, or to use public transport. Travelwise NI works closely with Translink to promote use of public transport. Highlights of the high profile media promotions include Bike Week and Travelwise Week (European Mobility Week).

Sustainable modes to employers – Travelwise NI engages with businesses in the private, public and voluntary sectors to facilitate development of Workplace Travel Plans and other specific initiatives.

Action 5 **Promote sustainable modes of transport to Newtownabbey Borough Council employees, residents/commuters within the AQMA and St Bernard’s Primary School**

Action 6 **Newtownabbey Borough Council to develop a Green Travel Plan for the Borough**

➤ **Education Initiatives**

Newtownabbey Borough Council has developed an 'Air Quality Schools Initiative' for Primary Schools which is aimed at providing children with knowledge to establish the habit of travel by foot and bike at an early age. An information pack with practical tips for parents and children to improve air quality is given to every child.

Action 7 **Newtownabbey Borough Council to deliver 'Air Quality Schools Initiative' to St Bernard’s Primary School**

Action 8 **Newtownabbey Borough Council to organise an Information Event for residents in the AQMA to raise awareness of air quality**

Action 9 Newtownabbey Borough Council to provide information on the Council Website to encourage people to change their travel behaviour

4.2.5 Land Use and Non-Transport Measures

➤ **Air Quality in Planning**

New developments have the potential to affect local air quality particularly where they are proposed in or in close proximity to AQMAs.


Action 10 Newtownabbey Borough Council to comment on planning applications to ensure that all relevant air quality issues are highlighted and mitigation measures are considered wherever possible.

5 IMPACT ASSESSMENTS

In order to evaluate the proposed measures we have assessed each measure in terms of:

- Potential air quality impacts (reduction in emissions or concentrations)
- Cost of the measure
- Wider, non-air quality impacts

The following table has been used to score the cost and impact as well as determine the timescale (Chapter 6)

Costs		Beneficial Impact on Air Quality		Timescale*	
Score	£			Years	
7	<100k		Highest	Short (S)	1 – 2
6	100 – 500k				
5	500k – 1 million				
4	1 – 10 million				
3	10 – 50 million			Medium (M)	3 – 5
2	50 – 100 million				
1	>100 million			Long (L)	6+
		1			

Measure	Impact	Wider Impacts	Cost Score	Impact Score	Cost Effectiveness (Cost x Impact)
1. To investigate options for moving to cleaner fuels and purchase vehicles that comply with the prevailing EURO standard	Cleaner vehicles, reduced emissions	+ CO2 savings +increased fuel efficiency - potential capital costs	7	1	7
2.To continue to improve the bus fleet by providing Eco-Driving Training and installing Driver Monitoring Devices To continue the current practice of cleaning up the bus fleet as part of the planned fleet renewal	Reduced bus emissions	+ Accessibility + Acceptability of Public Transport	7	1	7
3. Carry out vehicle emission testing	Reduced Vehicle Emissions	+identification of highly polluting vehicles	7	1	7
4. Introduce a Park and Ride Scheme at Ballyhenry Road	Reduced cars, reduced emissions, increased use of public transport	+ increases the options for commuters travelling into Belfast + promotes the wider use of public transport - requires ongoing maintenance and dependant on motorists wishing to make use of it	6	2	12
5. Promote sustainable modes of transport to Newtownabbey Borough Council employees, residents/ commuters within the AQMA and St Bernard's Primary School	Increased use of sustainable modes	+ Health benefits +Cost savings -reluctance to give up car use	7	2	14

6. Develop a Green Travel Plan for the Borough	Reduced cars, Reduced emissions, increased use of public transport	+ Health benefits +Cost savings	7	2	14
7. Deliver 'Air Quality Schools Initiative' to St Bernard's Primary School	Reduced cars travel to school, increased cycling/walking	+Health benefits	7	2	14
8. Organise an Information Event for residents in the AQMA	Increased use of sustainable modes	+Co- ordination with other organisations +Health benefits	7	2	14
9. Provide information on the Council Website to encourage people to change their travel behaviour	Increased use of sustainable modes	+ Health benefits + Cost savings	7	2	14
10. Comment on planning applications to ensure that all relevant air quality issues are highlighted and mitigation measures are considered wherever possible	Reduces impact of poor air quality and reduces possibility of having to declare more AQMAs	+ Ensure adequate transport links are put in place	7	1	7

6 IMPLEMENTATION AND MONITORING

Information with respect to implementation of the proposed measures along with the appropriate timescales and lead authority is contained in the tables below. They also include information with respect to how the effectiveness of the measures will be assessed and any ongoing monitoring programmes.

Measure	Lead Authority	Timescale	Implementation	Impact/Effectiveness measurement	Review Date
1. To investigate options for moving to cleaner fuels and purchase vehicles that comply with the prevailing EURO standard	Newtownabbey Borough Council	March 2012 & Ongoing	No of vehicles purchased in compliance and cleaner fuels being used	Ongoing air quality monitoring	March 2011
2.To continue to improve the bus fleet by providing Eco-Driving Training and installing Driver Monitoring Devices To continue the current practice of cleaning up the bus fleet as part of the planned fleet renewal	Translink	Ongoing	No of drivers trained and devices fitted	Ongoing air quality monitoring	March 2011
3. Carry out vehicle emission testing	Newtownabbey Borough Council	October 2011	No of Vehicle Emission Testing Events	Ongoing air quality monitoring.	March 2011
4. Introduce a Park and Ride Scheme at Ballyhenry Road	DRD Road Service	1-2 years (depending on approval)	Park & Ride Scheme implemented	No of cars using Park & Ride	March 2011
5. Promote sustainable modes of transport to Newtownabbey Borough Council employees, residents/commuters within the AQMA and St Bernard's Primary School	Travelwise	March 2012	No of initiatives implemented	Survey to show increase in use of sustainable modes	March 2011

6. Develop a Green Travel Plan for the Borough	Newtownabbey Borough Council	October 2011	Production of Green Travel Plan	Reduction in cars, increase in use of public transport	March 2011
7. Deliver the 'Air Quality Schools Initiative' to St Bernard's Primary School	Newtownabbey Borough Council	March 2012	Air Quality Initiative delivered	Reduction in cars travelling to school, increase in cycling/walking	March 2011
8. Organise an Information Event for residents in the AQMA	Newtownabbey Borough Council	March 2012	Information Event organised	Survey to show increase in use of sustainable modes	March 2011
9. Provide information on the Council Website to encourage people to change their travel behaviour	Newtownabbey Borough Council	October 2011	Information provided	Survey to show increase in use of sustainable modes	March 2011
10. Comment on planning applications to ensure that all relevant air quality issues are highlighted and mitigation measures are considered wherever possible	Newtownabbey Borough Council	Ongoing	No of plans commented on	Ongoing air quality monitoring	March 2011

7 CONSULTATION

The Draft Action Plan has been produced after consultation with primarily DRD Road Service, Translink, Travelwise and Newtownabbey Borough Council. It will be sent to:

- Environment and Heritage Service
- Newtownabbey Borough Council Councillors and Officers
- Neighbouring local authorities
- Relevant community groups and businesses within the AQMA
- Other relevant local stakeholders

Appendix 1

Local Air Quality Objectives

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	3.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

Appendix 2

AQMA January 2008



Newtownabbey Borough Council

Air Quality Management Area Order

Environment (Northern Ireland) Order 2002 Part III, Article 12(1)

Newtownabbey Borough Council, in exercise of the powers conferred upon it by Part III, Article 12 (1) of the Environment (Northern Ireland) Order 2002, hereby makes the following Order:-

1. This Order may be cited as the Newtownabbey Borough Council Air Quality Management Area No. 3 Antrim Road, Elmfield and shall come into effect on 29 January 2008.
2. The Area shown in red on the attached map marked "Newtownabbey Borough Council Air Quality Management Area No. 3" is to be designated as an Air Quality Management Area and incorporates Antrim Road, Elmfield, streets or parts thereof contained in Appendix 1.
3. The map can be viewed by visiting the public display in Mossley Mill during the period from 29 January 2008 to 11 March 2008 , by visiting the website at www.newtownabbey.gov.uk, or by contacting staff of the Environmental Services Department on telephone no. 9034 0160.

The Area is designated in relation to a likely breach of the Nitrogen Dioxide (annual mean) objective as specified in the Air Quality Regulations (Northern Ireland) 2003.

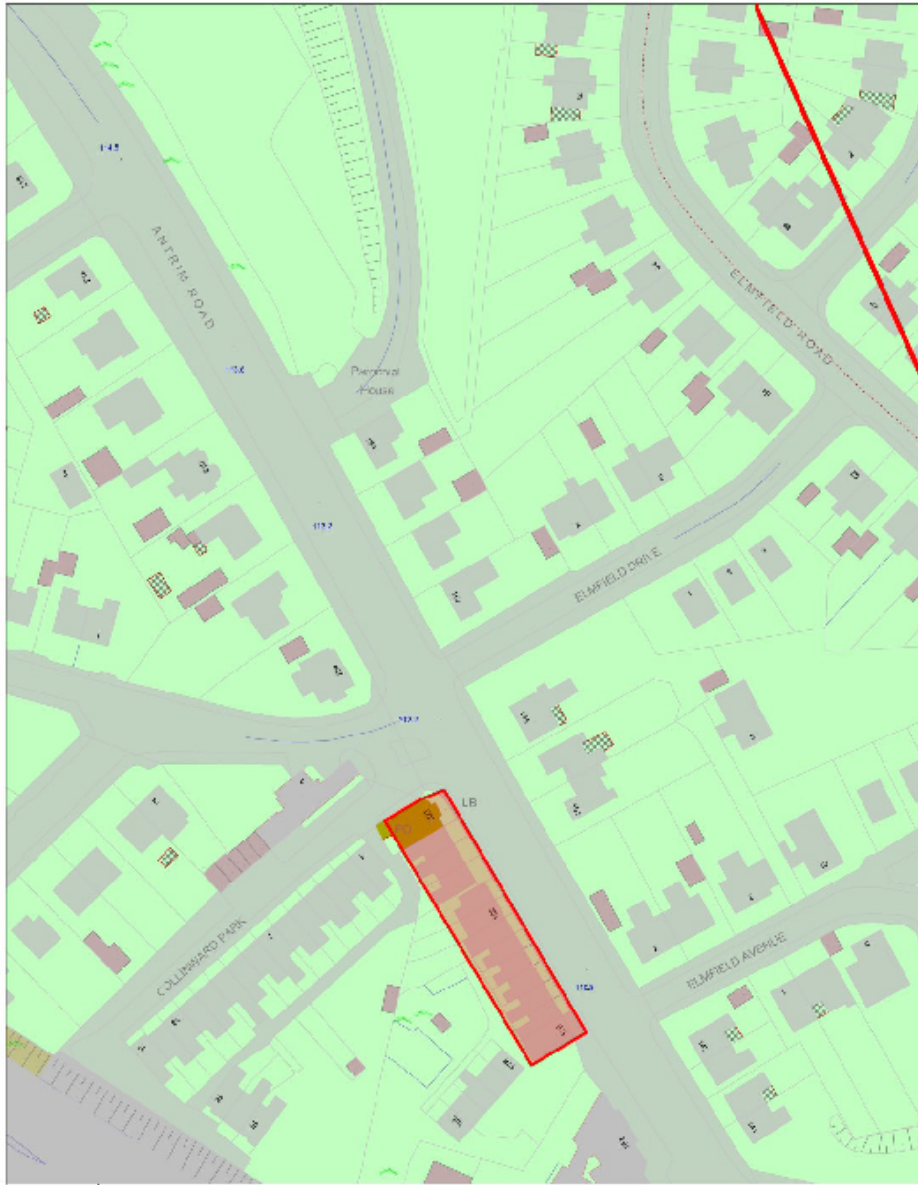
This Order shall remain in force until it is varied or revoked by a subsequent Order.

Given under the Corporate Seal of Newtownabbey Borough Council on the 28th day of January 2008.

Present when the Corporate Seal of the Newtownabbey Borough Council was affixed hereto:-

Mayor

Chief Executive



Based upon from the Ordnance Survey of Northern Ireland's 1:2500 map of 2005 with the permission of the Chief Executive, Crown Copyright.

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Newtownabbey Borough Council
Air Quality Management
Area No.3



Appendix 3

Revised AQMA June 2009



Newtownabbey Borough Council

Air Quality Management Area Order

Environment (Northern Ireland) Order 2002 Part III, Article 12(1)

Newtownabbey Borough Council, in exercise of the powers conferred upon it by Part III, Article 12 (1) of the Environment (Northern Ireland) Order 2002, hereby makes the following Order.

This Order may be cited as the Newtownabbey Borough Council Air Quality Management Area No. 3 Antrim Road, Elmfield and shall come into effect on 29 June 2009. It varies the previous Newtownabbey Borough Council Air Quality Management Area No.3 Antrim Road, Elmfield made on 29 January 2008.

The Area shown in red on the attached map marked "Newtownabbey Borough Council Air Quality Management Area No. 3" is to be designated as an Air Quality Management Area and incorporates Antrim Road, Elmfield, streets or parts thereof contained in Appendix 1.

The map can be viewed by visiting the public display in Mossley Mill during the period from 1 July 2009 to 12 August 2009, by visiting the website at www.newtownabbey.gov.uk, or by contacting staff of the Environmental Services Department on telephone no. 9034 0160.

The Area is designated in relation to a likely breach of the Nitrogen Dioxide Objective (annual mean of $40\mu\text{g m}^{-3}$ and the hourly mean of $200\mu\text{g m}^{-3}$ not to be exceeded 18 times a year) as specified in the Air Quality Regulations (Northern Ireland) 2003.

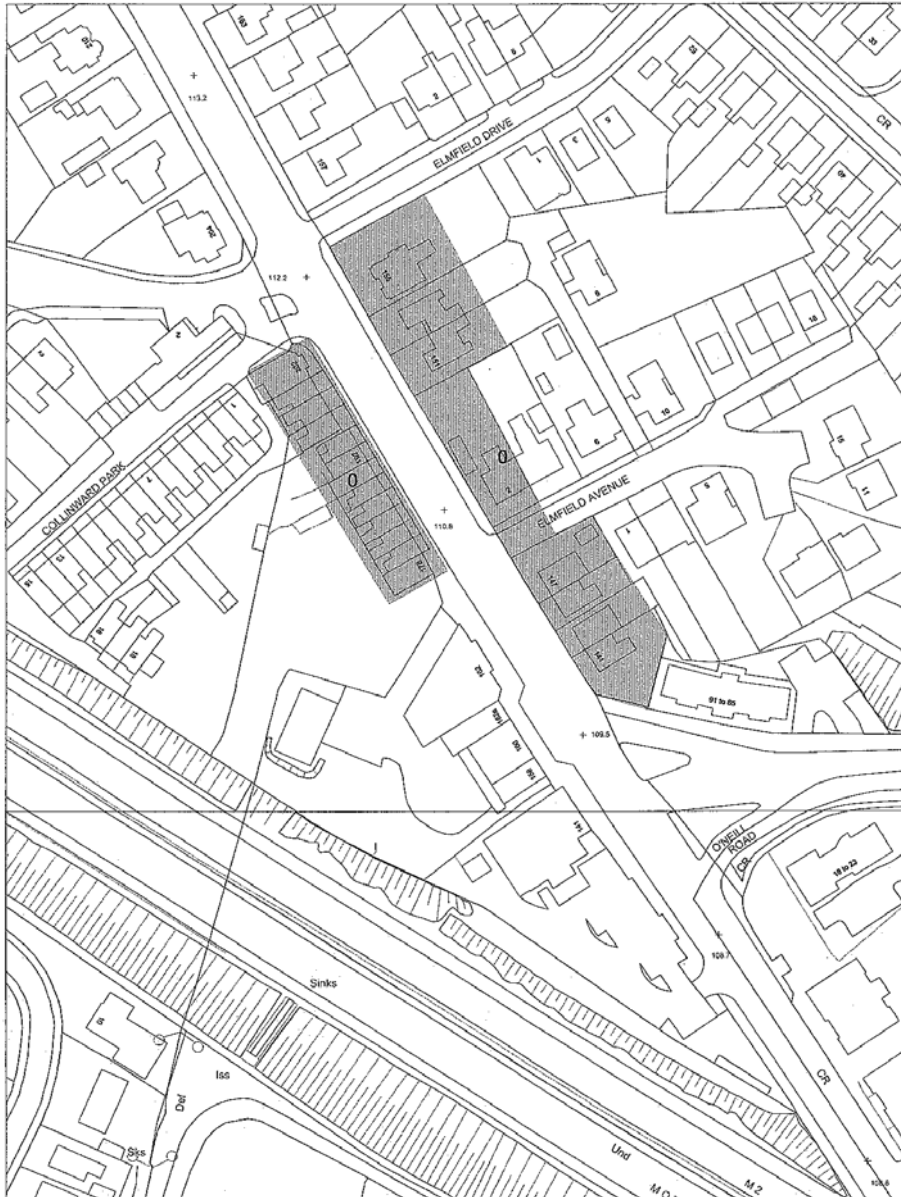
This Order shall remain in force until it is varied or revoked by a subsequent Order.

Given under the Corporate Seal of Newtownabbey Borough Council on the 29th day of June 2009.

Present when the Corporate Seal of the Newtownabbey Borough Council was affixed hereto:-

Mayor

Chief Executive



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Newtownabbey Borough Council

Air Quality Management

Area No.3

