

# Calderdale Air Quality Management Area (No.1) A629 Huddersfield Road (Salterhebble Hill) Halifax

# **Consultative Draft Action Plan**

A requirement under Part IV of the Environment Act 1995

June 2007

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### EXECUTIVE SUMMARY

This document sets out the Council's draft Air Quality Action Plan (AQAP) for Calderdale Air Quality Management Area (No1) on the A629 Huddersfield Road and Salterhebble Hill corridor in Halifax. The Air Quality Management Area (AQMA) was declared because assessments of air quality showed that the annual mean air quality objective for nitrogen dioxide (NO<sub>2</sub>) of 40 microgrammes per cubic metre ( $\mu$ g/m<sup>3</sup>) would not be met by the target date of December 2005.

The Further Assessment Report for this AQMA, dated December 2006, found that the annual mean concentration of NO<sub>2</sub> here was in the region of 53-57 $\mu$ g/m<sup>3</sup>, against a background level of about 20 $\mu$ g/m<sup>3</sup>. This excess of NO<sub>2</sub> over the local background is assumed to derive mainly from vehicular traffic.

The Council has a statutory duty under section 84(2)(b) and (3) of the Environmental Act 1995 to prepare a written AQAP of the measures to be taken in pursuit of the achievement of air quality objectives in the designated area, stating the time periods within which the proposed measures will be implemented. As such the Council does not have a statutory duty to introduce specific actions over a number of years in the AQMA but rather to pursue the achievement of air quality strategies and objectives. Intermediate outcomes will be set so that the effectiveness of the actions in working towards the air quality objectives can be assessed at regular intervals.

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### INTRODUCTION

The main reasons for tackling poor air quality are the link between air quality and the quality of life, and the need to minimise the risk of poor air quality to human health. Air pollution impacts on health and is felt mainly by the most vulnerable members of society such as the very young, the elderly and those who are already suffering from existing conditions. It is also damaging to the local economy, with poor air quality resulting in loss of working days and reduced productivity, as well as absenteeism from school and a drain on national health resources.

### LEGISLATIVE BACKGROUND

Part IV of the Environment Act 1995 places a statutory duty on local authorities to carry out a process of review and assessment of air quality in its area against objectives for eight pollutants, prescribed in the Air Quality (England) Regulations 2000 and subsequent amendment in 2002. One such objective is that the annual mean level of nitrogen dioxide should not exceed, or not be likely to exceed 40µg/m<sup>3</sup> as at December 2005. Where it is considered that an air quality objective will not be achieved by the target date, the local authority must declare an AQMA relevant to that pollutant and area of its district. Reports written as a result of that process were published and remain available for inspection on the Calderdale Council web-site and at the Council's offices at Northgate House, Halifax. In 2005 they noted that the levels of nitrogen dioxide along the A629 Huddersfield Road and Salterhebble Hill corridor were in part exceeding, and in part were likely to exceed the annual mean air quality objective. In October 2005 the Calderdale Air Quality Management Area (No.1) was declared, taking effect on 1 November 2005.

Section 84(2)(a) of the Act required the local authority to prepare a report (known as a 'further assessment') of the existing and likely future air quality in the AQMA, and the respects in which it appears that the objective will not be met. Such a report, dated December 2006 was prepared, put to consultation and is available for inspection as above.

Section 84(2)(b) and (3) further require the preparation of a written action plan by the authority in pursuit of the achievement of the air quality objective in the AQMA. The content of this action plan reflects the statutory guidance within LAQM.PG(03) and LAQM.PG(A)05, and the non-statutory guidance of the National Society for Clean Air (NSCA). It also indicates those actions, measures and initiatives designed to meet the objective, how they interface with the Local Transport Plan (LTP2) and identifies the anticipated costs and the timescales in which the local authority proposes to implement the actions. Invariably it will be necessary to implement a programme of measures over a number of years. As such, intermediate outcome targets assessed against the baseline data will be set to monitor the effectiveness of the actions in working towards the overall air quality objectives.

Although the AQAP reflects varied proposals which could be considered and progressed at national, regional and local level in pursuit of the objective to address air quality on the A629 Huddersfield Road corridor, the plan demonstrates a balanced approach with appropriate and proportionate measures, realistically assessed for cost effectiveness and relevant for this AQMA. To maintain the balance and relevance, section 84(4) of the Act permits the Council to revise this action plan from time to time.

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Lastly, it is a requirement of Schedule 11 of the Act to undertake a consultation of this draft action plan.

### LOCAL TRANSPORT PLAN (LTP)

Road transport is a major source of local air pollution, particularly in urban areas and road traffic accounts for a major part of the total emissions of oxides of nitrogen and particles ( $PM_{10}$ ). Guidance from DEFRA recommends that where road transport and traffic emissions are the largest single contributor to pollution in the AQMA, local authorities are advised to co-ordinate AQAP's with the Local Transport Plan (LTP).

The second LTP, which sets out a five-year strategy (2006-2011) for the co-ordination and improvement of transport, has been prepared by the five West Yorkshire district authorities and Metro, the Passenger Transport Authority for West Yorkshire (WYPTA).

The LTP has five 'shared priority' objectives; delivering accessibility, tackling congestion, safer roads, better air quality, and improving the quality of the street environment, against which investment in transport schemes will be assessed within the LTP. As a core strategy and priority objective, air quality is made up of the following elements:

- AQ1 Traffic demand management measures, focusing on commuter journeys,
- AQ2 Encouraging more sustainable travel,
- AQ3 Actions to reduce vehicle emissions, and
- AQ4 Measures to adapt to the effects of climate change.

On the whole, it is considered that the actions proposed in the LTP will have a significant bearing on whether or not the air quality objectives will be met. Measures identified to address one priority may impact on another. Some schemes may create a knock-on effect producing a net benefit to both objectives, whilst others may, to a degree, be in conflict and result in an increase in vehicle emissions at another location. The continued assessment will identify forecast changes in air quality, and schemes and initiatives will be amended accordingly to minimise the effect.

### WEST YORKSHIRE LTP – ENVIRONMENTAL REPORT

A Strategic Environmental Assessment (SEA) became a mandatory requirement for LTP's in July 2004. The aim of the SEA is 'to provide a high level of protection of the environment and to ensure the integration of environmental considerations, when developing regulations that apply to a number of plans and programmes' including the LTP.

A set of sixteen SEA objectives has been developed to assess the impact of the developing LTP2 on the environment. The environmental baseline describes the current and likely future environment and is structured around the SEA objectives describing the relationship of these topics to local transport. The baseline information will be reviewed annually as part of the SEA monitoring framework to allow any changes in the environment to be identified.

The SEA for West Yorkshire LTP2 is included in the Appendices of the LTP2 submission, with an Environmental Report and a Non-Technical Summary produced as separate documents (June 2006).

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### CALDERDALE AIR QUALITY MANAGEMENT AREA (No1): A629 HUDDERSFIELD ROAD (SALTERHEBBLE HILL), HALIFAX

#### Principal findings of the Further Assessment Report, November 2006

In simple terms,  $NO_2$  pollution arises from chemical reactions in the atmosphere, whereby oxides of nitrogen from combustion processes, such as vehicle engines, are converted to nitrogen dioxide ( $NO_2$ ) and nitric oxide (NO).

The definition of the AQMA boundary was part-based on computer model predictions of likely air quality taking such account of traffic flows, traffic composition and weather data as records existed, and part-based on measurement, modelled predictions against measured data from air quality monitoring sites. However, there are inherent inaccuracies in modelling. It is difficult to replicate the actual dynamic of traffic speeds, acceleration, deceleration and congestion, particularly over discreet stretches of road. Similarly, there are certain inaccuracies in the prediction of traffic volume and composition on a particular day or time, and how the pollution actually dissipates around buildings and in given weather patterns.

The model used in the setting of this AQMA boundary and in the Further Assessment, utilised a weather dataset and other 'background' data information, known and estimated traffic data, and traffic speeds and congestion derived in 2005 and 2006. However, the model only distinguishes between heavy vehicles comprising buses, coaches and heavy goods, and light vehicles such as cars, taxis and light goods. The sub-divisions within such groups are not recognised.

Notwithstanding all of these variables, algorithms within the modeling software assume that a given quantity of  $NO_x$  will convert to a given quantity of  $NO_2$  whereas this is not necessarily the case. Hence a local conversion factor was derived in the Further Assessment and consequently the reduction in  $NO_2$  emissions needed to achieve the air quality objective at Salterhebble Hill are expressed in equivalent reductions in  $NO_x$ .

#### Figure 1 - Apportionment of $NO_2$ and $NO_X$ emissions in the AQMA

The contributors to NO<sub>x</sub> levels are road traffic and background.

The 2006 annual mean NO<sub>2</sub> is  $53\mu$ g/m<sup>3</sup> and annual mean NO<sub>x</sub> is  $145\mu$ g/m<sup>3</sup>. The background NO<sub>2</sub> level is  $20\mu$ g/m<sup>3</sup> equating to  $34\mu$ g/m<sup>3</sup> NO<sub>x</sub>. The background component is 23% of measured total NO<sub>x</sub> (34/145\*100%). By inference the road component is 77%, equating to  $112\mu$ g/m<sup>3</sup> NO<sub>x</sub>.

The annual mean NO<sub>2</sub> concentration needs to be reduced from  $53\mu g/m^3$  to  $40\mu g/m^3$  to comply with the air quality objective.  $40\mu g/m^3 NO_2$  is equivalent to  $92\mu g/m^3 NO_x$ .

To reduce the NO<sub>2</sub> the reduction needed in <u>total</u> NO<sub>x</sub> is  $145-92=53\mu$ g/m<sup>3</sup>. This is equivalent to 36.5% (ie 53/145\*100%) of the total NO<sub>x</sub> emissions.

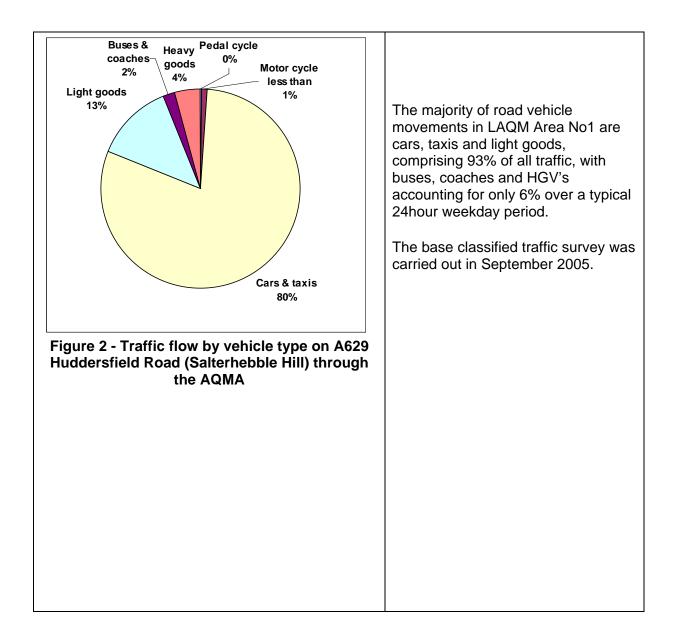
If the necessary  $NO_2$  reduction is to be <u>solely from changes to road traffic</u> then road  $NO_x$  emissions would need to be **reduced by 47%** (ie 53/112\*100%).

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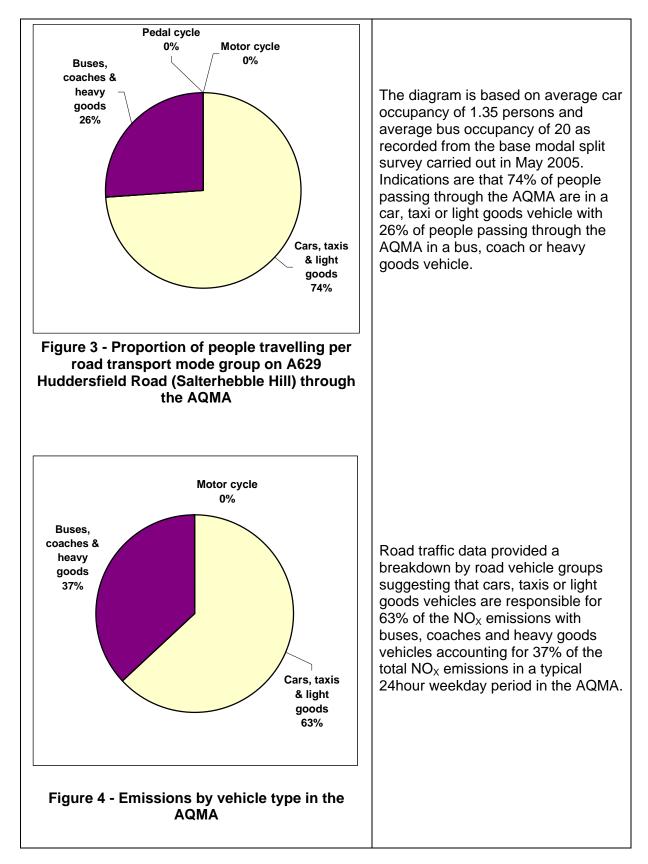
The model was re-run to represent various scenarios, such as no heavy vehicles, changes in speed, no congestion, reduced traffic volume etc. This allowed the broad based contribution of heavy vehicles to overall emissions to be estimated.

Annual mean concentrations of NO<sub>2</sub> in 2006 were in the region of 53-57 $\mu$ g/m<sup>3</sup> on Salterhebble Hill and Huddersfield Road, against a background level assumed as 20 $\mu$ g/m<sup>3</sup>. Calculations suggest that 6% of vehicles, in the form of HGVs and PSVs emit some 29-37% of NO<sub>x</sub> at this location. The background is assumed to fall to 17 $\mu$ g/m<sup>3</sup> in 2010 but to bring about the necessary reduction of NO<sub>2</sub> it is calculated that NO<sub>x</sub> emissions from road traffic must be reduced by 47%-52%. Buses, coaches and heavy goods vehicle traffic is seen as accounting for the single biggest component of traffic emissions, but traffic management measures to improve traffic flow, and to reduce congestion and overall volume would bring about some savings.

The emission savings to be made and the comparison of the traffic flow by vehicle type, travel mode make-up and vehicle emission levels are depicted in figure 1, and in figures 2, 3 and 4 below.



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Although it is anticipated that government legislation will continue to promote tighter vehicle emission standards for new vehicles, cleaner fuels, sustainable distribution of freight and to provide incentives regarding low emission vehicles, all of which should contribute to a general reductions in emissions, the Further Assessment Report still

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indicates an exceedence of the air quality objective for nitrogen dioxide at 2010 and beyond for this section of Huddersfield Road unless there is a significant reduction in traffic levels and a greater fluidity in traffic movement along the corridor.

The Further Assessment noted the pending introduction of traffic speed cameras on Huddersfield Road and that they may well have an impact on traffic flows, justifying an amendment to the AQMA boundary and monitoring network once the effect has been properly assessed. Any changes to the monitoring network will facilitate the assessment of measures which may be introduced under the AQAP.

Currently the amount of commuting traffic travelling to and from Halifax by road and the level of road traffic passing through Calderdale on this route, particularly during peak periods, is unknown. The Further Assessment identified a need for a greater understanding of number, type and the need for the journeys is therefore essential if the situation is to be addressed and improved.

With peak period trip generation in mind, applications for planning permission in the vicinity or influencing the movement of traffic passing through the AQMA, require careful consideration. The Further Assessment identifies that a review and update of advice and guidance to prospective developers is needed.

The findings of the Further Assessment provide the information for this draft action plan which outlines a package of measures and initiatives considered appropriate for reducing pollution in the Huddersfield Road and Salterhebble Hill corridor.

#### KEY ACTIONS FOR IMPROVING AIR QUALITY AND REDUCING EXPOSURE TO POOR AIR QUALITY

- 1. Improving traffic management and reducing congestion;
- 2. Reducing the number of trips through and within the AQMA;
- 3. Encouraging use of public transport, walking and cycling;
- 4. Encourage the use of alternative fuels and smaller more fuel efficient vehicles;
- 5. Reducing emissions from heavy goods vehicles and buses;
- 6. Reducing emissions from non-transport related sources; and
- 7. A better alignment of planning development control policy with air quality management issues

Statutory guidance LAQM.PG(03) and PG(A)(05), and the NSCA's guidance: 'Air Quality Action Plans: Interim Guidance for Local Authorities' and 'Air Quality: Planning for Action' published in June 2001, set out practical guidance on drawing up an air quality action plan and a local air quality strategy.

Many of the proposed actions aimed at a reduction of NO<sub>2</sub> will also lead to a reduction in other pollutants, including the greenhouse gas carbon dioxide, so delivering wider benefits and contributing to the core objectives of the LTP and national transport and environmental objectives, in particular the road safety and climate change targets.

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### Scope of the Air Quality Action Plan

It is fundamental that vehicle movement in terms of 'origin and destination' is understood in greater detail and, key to all assessments, a traffic model for Halifax is established to provide an analysis of the levels of non-Halifax related traffic passing through AQMA (No1) during a typical 24 hour weekday period. Similarly, it is necessary to maximise the amount of data relating to traffic volumes and emissions to attain a more detailed apportionment by vehicle sub-group and individual vehicles.

The AQAP sets out how the Council intends to stimulate and facilitate joint working with stakeholders and organisations, both from within and external to Calderdale, including neighbouring authorities, to encourage active participation in delivering measures and initiatives that will contribute in pursuit of the Air Quality Objectives within an AQMA.

Objectives which are key to the success of the AQAP are:

- to raise awareness of the current air quality situation;
- the improvement of the highway network to provide an efficient system for smooth traffic flows;
- to implement traffic demand management measures and initiatives which will influence travel choice;
- reduce the need for unnecessary travel;
- reduce pollution levels caused by vehicle emissions; and
- a better alignment of planning development control policy with air quality management issues.

The provision of estimates of costs and benefits will enable measures and initiatives to be selected and prioritised for implementation based on a cost-benefit analysis. Subsequent detailed monitoring will assist in the provision of evidence and an indication of effectiveness of the actions in working towards achieving the objectives.

### Aim of the Air Quality Action Plan

The aim of this plan is to develop partnership working between Calderdale MBC, relevant organisations, Metro and other stakeholders to minimise relevant exposure and to pursue the air quality objective for NO<sub>2</sub>. It is essential that the plan demonstrates a high degree of confidence that the proposals will have a positive impact and improve the current levels of air quality.

Direct measures relating to local and through traffic AQMA (No1) are:

- raise the awareness of the need to manage air quality in the area;
- continue promotional activities to raise the profile of air quality in Calderdale;
- continue a commitment to local air quality monitoring within the locality to ensure a high standard of data is achieved to assess against air quality objectives;
- continue to work closely with the Planning Services to ensure that air quality considered in all aspects of the planning process regarding development in the area;
- continue to work with developers to improve sustainable transport links serving new developments;

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- develop, through air quality partnerships, supplementary planning guidance to assist with air quality assessments of development proposals;
- road space re-allocation to provide uninterrupted traffic flow through and around the AQMA;
- demand management with respect to on and off-street parking and servicing of residential and retail premises;
- investigate the demand for access to commercial premises operating in the area;
- improved management of moving traffic through and between junctions;
- improvements to the geometry and layout of the affected roads;
- continue to work to improve public transport services and encourage the use of more sustainable transport modes;
- better accessibility to public transport on the corridor;
- continue to work to improve the facilities for cycling and walking and encourage greater uptake;
- ensure details of AQAP measures and annual progress reports are available on the in the public arena to ensure broad access to the consultation and implementation process;
- continue to work to encourage the uptake of Employer and School Travel Plans, and seek to promote and facilitate uptake of sustainable modes of transport within the district.

The following are examples of measures included in the LTP process and national initiatives that could be used to influence traffic volume, speeds and flows. Details of measures and initiatives which could make a significant difference to pollution levels in AQMA (No1) and the district as a whole, subject to the availability of funding and resources, are shown in the tables.

Generally speaking the above measures can be divided into four categories:-

#### **Information and Promotion**

• Information and awareness initiatives.

#### **Provision** and Promotion of Alternative Travel Options

- Improved bus facilities through Yorkshire Bus Initiative;
- Improved facilities at existing railway stations on the Caldervale line;
- New rail infrastructure and facilities;
- Workplace 'Travel Plans';
- 'Safer Routes to School';
- Shorter journeys (including individualised 'Travel Marketing');
- Walking and Cycling facilities;
- Car sharing schemes.

#### Managing the Road Network

• Traffic management measures, particularly at congested locations;

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- Reallocation of road space (bus priority measures and bus lanes);
- Improved enforcement of existing speed limits;
- Area-based speed reduction (20 mph zones in residential areas);
- De-criminalised parking enforcement and management of on-street deliveries;
- Intelligent traffic signals (Urban Traffic Management & Control);
- Access to car parks and on-street car parking;
- High Occupancy Vehicle lanes;
- Traffic queue re-location;
- 'Park & Ride' site;
- Road user charging.

### **Traffic and Emissions Management**

- Vehicle maintenance roadside emissions testing;
- Encouragement of more efficient vehicles;
- Advice and incentives for more efficient HGV's;
- Promote and pilot alternative vehicles and fuels;
- Bus emissions regulation (emissions standards in contracts);
- Promote and assist freight emissions agreements;
- Scrapping incentives for old vehicles;
- Low emission zone.

### **Outputs and outcomes**

These measures will deliver wider benefits and contribute to the core objectives of the LTP and national objectives such as targets regarding climate change. Because of the time required to assess and implement some of the more effective measures, the AQAP includes a number of simple, low-cost measures to deliver benefits to Salterhebble Hill and the A629 Huddersfield Road corridor as soon as possible and sets out a programme over the four year period 2007/08 to 2010/11 to encourage sustained improvements throughout the life of LTP2. Work can also commence quickly on some of the traffic and emission management measures such as encouraging the use of more efficient buses. However, the delivery of more technical and comprehensive measures will depend on other organisations such as the co-operation of local bus operators to fit pollution-reduction equipment to buses.

It is estimated that the package of measures and initiatives identified as either 'ongoing' or 'short term' in this plan, which may have a direct or indirect effect on the air quality in LAQM Area No1, will cost in the region of £380,000 in year one. This figure does not include the preliminary costs associated with medium or long-term measures, such as a Low Emission Zone, or some of the more extensive initiatives requiring National Government legislation.

Guidance suggests that transport measures should be funded through the LTP process though this may require supplementary bids to progress medium priced schemes in view of the level of indicative Capital allocation in LTP2.

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The annual Revenue costs are considered to be in the region of 2% of the total costs for works carried out through the Capital programme, for the life of the improvements. The ability to implement the AQAP depends on securing adequate and consistent levels of Capital and Revenue funding. If adequate funding cannot be secured then the AQAP measures will have to be scaled down to reflect available funding and consequently the effectiveness of the plan in tackling pollution will be reduced.

The action plan will be developed following consultation held in Summer 2007. Although increased use of cleaner vehicle technologies will reduce  $NO_X$  emissions, the scale of the impact may be dependent on vehicle restriction orders or the introduction of a Low Emission Zone, particularly for heavy goods vehicles, and other measures such as roadside emission testing. Implementation of measures such as these may prove difficult with LAQM Area No1 being located on the A629 Huddersfield Road, which is the main radial corridor route.

Some individual contributions to overall emissions have been derived and the forecast reduction in NO<sub>X</sub> has been estimated from the results of the re-run of the model using the various scenarios. For example, based on the 2005/06 'all traffic' levels providing an emission level of  $98\mu g/m^3$ , the removal of all heavy goods vehicles from the A629 Huddersfield Road on Salterhebble Hill gave an emission level of  $62\mu g/m^3$ , a reduction of 37%, and a 75% reduction in 'all traffic' gave a level of  $58\mu g/m^3$ , a reduction of 41% in emissions level.

A package of schemes and measures including traffic management improvements, public transport initiatives, parking measures, travel plans and raising environmental awareness, all of which have an impact on air quality will maximise the benefits.

It is intended that an annual report will be produced on the implementation of the action plan to quantify progress and identify the inclusion of additional actions.

### Actions already in place

- The second West Yorkshire LTP sets out a programme for a wide range of improvements to further develop a more sustainable transport system, reduce vehicle emissions and improve air quality in areas worst affected by pollution, increase bus priority, accessibility and encourage modal shift towards greater use of public transport, and provide for cycling and walking.
- Metro's Bus Strategy (2006-2011) forms part of the second LTP and sets out how its 20 year vision for public transport relates to the better air quality shared priority and the objective to limit transport emissions of air pollutants greenhouse gases and noise.
- The Yorkshire Bus Initiative is an agreement established between Metro, the Council and the bus operators which includes a commitment to provide quality buses on high frequency core bus routes such as the A629 Huddersfield Road and codes of practice regarding bus issues which have no statutory basis but rely on the goodwill of the bus operators for its success. The agreement also included issues such as the improvement of bus stops and the provision of good information and timetables which all help to encourage bus use as opposed to the car as a means of transport on the Huddersfield Road corridor.
- The Calderdale and Huddersfield NHS Trust have adopted a travel strategy to reduce environmental risks associated with transport. A review of transport activity has led to

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the development of healthy transport plans which encourage staff to adopt healthy transport choices such as a combination of public transport and walking, or cycling where it is a realistic option.

The plans acknowledge all transport issues and reflect the need for total transport management:

- rationalise car parking needs in discussion with the Council;
- liaise with both bus and rail public transport co-ordinators to provide a viable service to the site;
- give preference to the procurement of vehicles with reduced air emissions and increased fuel economy;
- arrange for deliveries to be made outside periods of peak traffic;
- partnership approach for sharing vehicles or transport and explore innovative solutions to minimise journeys.

A number of practical improvements have been achieved:

- effective consultation and co-operation with the Council, Police,
- Metro and public transport operators;
- surveys of staff, patient and visitor travel needs;
- Travel Co-ordinator appointed;
- 'park and ride' service established;
- inter-hospital shuttle services established;
- improved facilities for cyclists.
- HBoS plc has produced a travel plan with input from the Council, which promotes travel options by public transport, walking and cycling as well as car-sharing for the Copley Data Centre site. The plan has provided:
  - provision of a minibus service for staff traveling between the Copley site and other Halifax office locations at Trinity Road and Dean Clough;
  - promotion of walking and cycling to work, and awareness of the local cycling infrastructure;
  - co-funded the Calderdale car-share scheme with the Council and the promotion of this to HBoS staff;
  - increased use of public transport by staff travelling to and from work.

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### **KEY TO SCHEDULE**

#### Lead roles / responsibility

WYLTP SG	West Yorkshire Local Transport Plan - Steering Group
CMBC ES	Calderdale Metropolitan Borough Council – Engineering Services
CMBC PS	Calderdale Metropolitan Borough Council – Planning Services
CMBC EH	Calderdale Metropolitan Borough Council – Environmental Health
Metro	West Yorkshire Passenger Transport Executive
Operators	Public Transport Management
PCT	Primary Care Trust
DfT	Department for Transport
DEFRA	Department for Environment Food and Rural Affairs
GOYH	Government Office for Yorkshire and the Humber
FTA	Freight Transport Association
FQP	Freight Quality Partnership

### Potential Air Quality Impact on AQMA

LowWill only have an impact if other complimentary measures are implementedMediumLikely to have some impact on air quality with or without other<br/>complimentary measuresHighExpected to have a significant impact without other complimentary measures

#### Timescale / status

Ongoing	Already underway, or programmed in the current financial year
Short term	Planned within the next two years
Medium term	Planned between the next two to five years
Long term	Between five and ten years but not in a current plan or programme

#### Cost

Low	Implement as part of a scheme or initiative in the LTP programme, or as a separate scheme or initiative less than £25,000
Medium	Implement as a single or a number of separate schemes or initiatives between £25,000 - £99,000
High Very high	Implement as a separate scheme or initiative between £100,000 - £500,000 Implement as a separate scheme or initiative over £500,000

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LTP2 Core s	strategy approaches
	Better Air Quality
AQ1	Traffic demand management measures, focusing on commuter journeys;
AQ2	Encouraging more sustainable travel;
AQ2 AQ3	Actions to reduce vehicle emissions;
AQ3 AQ4	Measures to adapt to the effects of climate change
AQ4	measures to adapt to the effects of climate change
	Delivering Accessibility
A1	Improve physical accessibility by making public transport more accessible,
	and by improving the continuity and signage of cycle and walk routes
A2	Maintain and improve road, pavement and Rights Of Way (ROWs)
	conditions for pedestrians, cyclists, vehicle and freight users;
A4	Maintain and develop public transport networks through our bus and rail
/(1	strategies
A6	Raise awareness of public transport and improve and target information and
/10	marketing;
A7	Embed accessibility in other strategies such as LDFs, health, education,
7.0	social services and leisure strategies
	social services and leisare strategies
	Tackling Congestion
C1	Encourage modal switch to public transport;
C2	Manage the demand for travel;
C3	Make the best use of existing capacity;
C4	Improve the highway network;
C5	Encourage more cycling and walking;
C6	Promote smarter choices in travel;
C7	Promote sustainable land use planning policies and practices
07	r tomote sustainable fand use planning policies and plactices
	Safer Roads
S1	Provide an appropriate road environment with facilities for each user group
S2	Provide the relevant skills for driving, riding, walking and cycling
S3	Promote awareness of road safety issues and the road user's responsibility
	to others
S4	Encourage the correct behaviour of all road users
S5	Improve safety through new technologies that can reduce the risk of injury

The actions and initiatives in the following tables are only indicative of scheme proposals which could be considered and progressed at national, regional and local level to address the air quality management on the A629 Huddersfield Road corridor at Salterhebble Hill, Halifax following the statutory consultation process and inclusion in an approved programme.

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Action / initiative	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
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### A: GENERAL

GENERAL			LTP2 Air Quality core strategy	AC	Q1, AQ2, A	AQ3
Aims and objectives in the West Yorkshire Local Transport Plan (LTP2)	WYLTP SG GOYH CMBC ES CMBC PS Metro	Medium	Improved accessibility; Reduced congestion; Safer roads; Improved public transport; Increased sustainable travel options Other LTP2 core strategic eleme	Ongoing	Low - Medium	C1, C3, C4, C5, C6, S1, S2
Development of a comprehensive traffic model for Halifax to determine the amount of through traffic	CMBC ES	Medium	Reduced congestion; Safer roads; Improved public transport	Short term	High	
			Other LTP2 core strategic eleme	ents C1	1, C3, C4,	C5, C6, C7
Increase the provision of air quality information passed into the public domain at national, regional and local level	DfT DEFRA WYLTP SG CMBC EH CMBC ES PCT	Low	Reduced congestion	Short term	Low - high	
			Other LTP2 core strategic eleme	ents A6	6, C1, C5, 0	C6

#### Comment:

A comprehensive 'origin and destination' survey and roadside interviews are a requirement in quantifying the levels of traffic accessing Halifax town centre and the non-essential traffic passing through to destinations outside Halifax;

The development of an appropriate model is an essential tool in the analysis of options and requirements for access and servicing trips into and from Halifax

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Action / initiative	Other effects (including non-air quality impacts)	Cost Timescale / status	Consultee comments
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### **B: ALTERNATIVE TRANSPORT**

SUSTAINABLE TRAVEL			LTP2 Air Quality core strategy	Α	Q1, AQ2, .	AQ3
Continue to implement CMBC Travel Plan	CMBC PS	Low	Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport patronage and car-sharing Other LTP2 core strategic elem	Ongoing	Low 6, C1, C5,	C6
Encourage other employers in Halifax to develop travel plans	CMBC PS	Low - Medium	Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport patronage and car-sharing	Ongoing	Low	
		_	Other LTP2 core strategic elem		6, C1, C5,	C6
Continue to implement a Safer Routes to School programme of measures and initiatives (target schools in immediate area)	CMBC ES	Low	Contribute to overall emission reduction throughout the district; Reduce congestion at schools; Improve road safety	Ongoing	Medium	
, 			Other LTP2 core strategic elem	ients A	1, C1, C5,	C6, S1, S2

Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Encourage schools and education facilities to develop and encourage School Travel Plans	CMBC ES	Low - Medium	Contribute to overall emission reduction throughout the district; Reduce congestion at schools; Promote more sustainable actions and travel choice in future generations; Encourages early behavioural change; Increase social aspect of children travelling together Other LTP2 core strategic elem	Ongoing	Low , C1, C2, C	25. C6. S2
Carry out travel awareness initiatives and campaigns, including targeted individualised travel planning, 'Bike Week' and 'Walk to Work Week'	CMBC ES CMBC PS	Low - Medium	Healthier lifestyles through walking and cycling; Contribute to overall emission reduction throughout the district Other LTP2 core strategic elem	Ongoing	Low , C1, C2, C	c5, C6, S2
Continue to promote and publicise Calderdalecarshare.com (set up by CMBC and HBoS plc to provide a free carsharing service)	CMBC PS	Low - Medium	Contribute to overall emission reduction throughout the district; Increase social aspect of people travelling together Other LTP2 core strategic elem	Ongoing	Low , C6	· ·

Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Introduce further car parking initiatives in Halifax town centre for carsharers. Target commuters from Huddersfield and the lower Calder valley	CMBC PS	Low	Contribute to overall emission reduction throughout the district; Increase social aspect of people travelling together	Ongoing	Low	
Implement and develop the Car Club initiative in Halifax	CMBC PS	Low	Other LTP2 core strategic elem Contribute to overall emission reduction throughout the district Other LTP2 core strategic elem	Short term	2, C6 Low 2, C6	
<b>Comment:</b> Potential negative percept Difficult to quantify impact; Likely limited effect specific			·     • •			

PUBLIC TRANSPORT			LTP2 Air Quality core strategy	Α	Q1, AQ2, AQ	23
Promote and publicise benefits of public transport and provide additional information and incentives for the A629 Huddersfield Road corridor bus services	CMBC ES CMBC PS Metro	Low - Medium	Reduce congestion and long stay parking in and around Calderdale Royal Hospital	Ongoing	Medium	
			Other LTP2 core strategic elem	ents A	6, C1, C6	

Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Upgrade and improve public transport infrastructure and information systems on the A629 Huddersfield Road corridor bus services	CMBC ES Metro	Low - Medium	Improvement to passenger waiting environment; Real time information systems give passengers confidence to transfer from car to public transport	Short term	High	
			Other LTP2 core strategic elem	-	1, A6, C1, (	C6
Continue to develop Bus Quality partnerships with Metro and operators and target the A629 Huddersfield Road corridor bus services	Metro Operators	High	Improved accessibility on better quality buses; Improved journey time reliability; Investigate non-pollutant bus options	Short term – long term	High	
			Other LTP2 core strategic elem		1, A4, A6, <b>(</b>	C1, C6
Ticketing improvements with 'swipe card' technology on the A629 Huddersfield Road corridor bus services	Metro Operators		Improved bus accessibility; Encourage bus patronage and modal shift	Medium term	High	
			Other LTP2 core strategic elem		6, C1, C6	
Improve rail services and facilities on the Caldervale (Brighouse branch) line	Metro Operators	High	Reduce congestion on the corridor; Encourages modal shift; Improved customer safety and satisfaction Other LTP2 core strategic elem	Medium term – long term	Very high 4, A6, C1, 0	

Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Improve and expand 'Park & Ride' facilities at Brighouse rail station	CMBC ES Metro	High	Reduce congestion on the corridor; Reduced traffic and congestion; Encourages modal shift; Improved customer safety and satisfaction Other LTP2 core strategic elem	Medium term	Medium 4, A6, C1,	C6
Investigate the provision of new rail station with 'Park & Ride' facilities at Elland Lowfields	CMBC ES Metro Operators	High	Reduce congestion on the corridor	Medium term – long term	Very high 4, A6, C1,	
'Park and Ride' scheme(s) with strategically located sites to transfer Halifax town centre peak period inbound car journeys to bus journeys	CMBC ES Metro Operators	Medium - high	Other LTP2 core strategic elem Reduced congestion and emissions; Encourages modal shift; Benefit to both commuters and visitors Other LTP2 core strategic elem	Medium term – long term	4, A6, C1,	
<b>Comment:</b> Capacity of public transpor Interventions need to be al		or / across r	network to produce desired impact		+, AU, UT,	00

Potential air quality impact on AQMA responsibility Action / initiative	Other effects (including non-air quality impacts)	Cost Timescale / status	Consultee comments
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DEMAND MANAGEMENT			LTP2 Air Quality core strategy	Α	Q1, AQ2, AQ3	
Continue to develop and implement car parking strategy for Halifax	CMBC ES	Medium	Contribute to overall emission reduction throughout the district	Ongoing	Medium	
			Other LTP2 core strategic elem	nents C2	2, C6	
Review and regulate long stay car parking charges	CMBC ES	Low	Contribute to overall emission reduction throughout the district; Potential revenue for reinvestment in air quality management	Short term	Medium	
			Other LTP2 core strategic elem		2, C6	
Investigate workplace parking charging	CMBC ES	Medium	Contribute to overall emission reduction throughout the district; Potential revenue for reinvestment in air quality management	Medium term – long term	Medium	
			Other LTP2 core strategic elem	nents C1	I, C2, C6	

A requirement under Part IV of the Environment Act 1995

Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Investigate peak period inbound moving traffic 'air quality / congestion' charging on A629 Huddersfield Road	CMBC ES	High	Reduced emissions, congestion, noise; Would encourage increased modal shift / share to public transport; Raise awareness of air quality issues; Potentially revenue generating to reinvest in air quality management	Long term	High	
Increased enforcement of waiting restrictions on A629 Huddersfield Road in AQMA	CMBC ES	Low	Other LTP2 core strategic elem Improve smooth traffic flow; Reduced congestion; Encourage safer and more efficient driving style Other LTP2 core strategic elem	Short term	C1, C2, C3, C Low	
Halifax;			Costs to businesses / commerce n	nay have n	egative imp	act on continued regeneration of

'Road pricing' or 'congestion charging' is potentially highly contentious. Currently no alternative road routes for north / south traffic; Potentially high administrative costs;

Potential displacement of traffic causing considerable congestion and air quality problems in other areas

WALKING AND CYCLING			LTP2 Air Quality core strategy	, A	AQ1, AQ2, A	<b>\Q</b> 3
Improve the condition and signing of footway and footpath routes, in particular to the Calderdale Royal Hospital	CMBC ES	Low	Lead to adoption and promotion of walking policies for commuting, within work travel and for leisure; Promotes healthier lifestyles; Healthier workforce <b>Other LTP2 core strategic eler</b>	Short term nents A	Low 1, A2, C5	
Improve walking routes and access to bus stops on the A629 Huddersfield Road corridor	CMBC ES	Low	Promotion of walking policies for commuting, within work travel and for leisure; Promotes healthier lifestyles Other LTP2 core strategic eler	Short term	Low 1, A2, A6, C	5
Develop the 'Walk It' initiative for the Calderdale Royal Hospital	CMBC ES PCT	Low	Lead to adoption and promotion of walking policies for commuting, within work travel and for leisure; Promotes healthier lifestyles; Healthier workforce <b>Other LTP2 core strategic eler</b>	Short term	Low 1, A2, C5	
Develop a more comprehensive cycle route network within a 5km radius of the Salterhebble AQMA with routes into Halifax town centre	CMBC ES	Low	Zero emission option; Promote healthier lifestyles; Healthier workforce Other LTP2 core strategic eler	Medium term	Medium 2, C5	

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Action / initiativesponsibility impactOther effects (including non-air quality impacts)status statusCost ostConsultee comments
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Continue to implement the cycle training programme	CMBC ES	Low	Promote healthier lifestyles; Likely to promote more	Ongoing	Low	
to primary schools and develop the advanced			sustainable actions and travel choice in future generations			
training to secondary schools						
			Other LTP2 core strategic ele	ments C	5, C6, S2	
Comment:						

Modal shift to walking and cycling from motorised road transport will improve air quality and reduce emissions though the key issues relate to the difficulties in changing peoples travel patterns and general attitude

### **C: ROAD NETWORK ALTERATIONS**

TRAFFIC MANAGEMENT			LTP2 Air Quality core strategy	Α	Q1, AQ2, AQ3	3
Installation of bus detection (AVL) into 3no signals and 2no pelicans on the A629 Huddersfield Road corridor on the approach and within the AQMA	CMBC ES Metro	Medium	Reduced congestion; Improved journey time reliability; Journey time savings for passengers; Contribute to modal shift	Short term	Medium	
			Other LTP2 core strategic elem	nents C1	, C3	
Consider bus lanes and bus priority measures on the A629 Huddersfield Road corridor	CMBC ES Metro	Medium	Improved journey time reliability; Journey time savings for passengers; Contribute to modal shift	Medium term	Medium	

Action / initiative	non-air quality impacts)	Cost Timescale / status	Consultee comments
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			Other LTP2 core strategic elem	ents C1	, C3, C4	
Consider options to provide 'smooth' / constant speed traffic flow on A629 Huddersfield Road on the approach and within the AQMA	CMBC ES	High	Reduced congestion; Encourage safer and more efficient driving style	Medium term	Very high	
			Other LTP2 core strategic elem		, C3, C4	
Investigate improvements to the existing bus stop on the A629 Huddersfield Road between Dudwell Lane and A646 Dryclough Lane junctions	CMBC ES Metro	High	Reduced congestion; Improve smooth traffic flow	Medium term	High	
			Other LTP2 core strategic elem	ents A1	<u>, A2, C1, C3</u>	8, C4, C6
Consider High Occupancy Vehicle (HOV) Lanes on A629 Huddersfield Road	CMBC ES Metro	Medium - high	Improves journey times for shared vehicles; Encourages car sharing Other LTP2 core strategic elem	Medium term ents C3	Medium , C4, C6	
Traffic queue re-location on A629 Halifax Road (Elland Wood Bottom) and B6112 Stainland Road outside the AQMA	CMBC ES	High	Improve smooth traffic flow; Reduced congestion	Medium term	High	
			Other LTP2 core strategic elem	ents C3	, C4	

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Action / initiative Action / initiative Cead roles / responsibility impact / responsibility / responsity / responsibility / responsibility / r	a s s	Consultee comments
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#### Comment:

Local air quality issues associated with buses can be due to stationary vehicles 'idling' at timing points. Enforcement may have limited effect in AQMA;

There is a clear correlation between areas of congestion and air quality issues. Levels of emissions are higher on congested roads compared to the same roads with free flowing traffic

NEW SCHEMES							
Corridor Improvement scheme or individual junction / road schemes not yet in any highway programme	DfT GOYH CMBC ES	High	Reduced congestion; Improve smooth traffic flow	Long term	Very high		
Other LTP2 core strategic elements A1, A2, C1, C3, C4, C6							
Comment:							

There is a clear correlation between areas of congestion and air quality issues. Levels of emissions are higher on congested roads compared to the same roads with free flowing traffic

### **D: VEHICLE EMISSIONS**

ALTERNATIVE FUELS			LTP2 Air Quality core strategy AQ1, A			Q3, AQ4
Support National Government initiatives regarding alternative / 'cleaner fuels'	CMBC EH DfT DEFRA	High	Reduction in particulates and other pollutants; Contribute to overall emission reduction throughout the district	Long term	Very high	
			Other LTP2 core strategic elem	nents		

Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Encouragement and promotion of alternative fuels in vehicles through various initiatives such as discounted or free parking on specific car parks	CMBC EH DfT DEFRA	High	Reduction in particulates and other pollutants; Consideration of Low Emission Zones; Contribute to overall emission reduction throughout the district Other LTP2 core strategic elem	Long term	Very high	
Investigate incentives to encourage Calderdale residents to drive 'cleaner fuel' vehicles	CMBC EH	Medium	Reduction in particulates and other pollutants; Consideration of Low Emission Zones; Contribute to overall emission reduction throughout the district Other LTP2 core strategic elem	Medium term	Medium	
Encourage bus operators to use 'cleaner fuel' buses on the A629 Huddersfield Road corridor services	CMBC EH Metro Operators	High	Replacement of old fleet models with better accessibility; Reduction in particulates and other pollutants Other LTP2 core strategic elem	Medium term – long term terts	Very high	
Provide support funding and encourage bus operators to convert all buses to 'cleaner fuels'	CMBC EH DfT DEFRA Metro Operators	High	Replacement of old fleet models with better accessibility; Reduction in particulates and other pollutants; Contribute to overall emission reduction throughout the district Other LTP2 core strategic elem	Medium term – long term	Very high	

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Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Provide support funding and encourage HGV operators to convert to 'cleaner fuels'	CMBC EH DfT DEFRA	High	Reduction in particulates and other pollutants; Contribute to overall emission reduction throughout the district	Medium term – long term	Very high	
			Other LTP2 core strategic elem	ents		
Improve CMBC vehicle fleet to convert to 'cleaner fuel'	CMBC EH	Medium	Reduction in particulates and other pollutants; Contribute to overall emission reduction throughout the district	Medium term – long term	Very high	
			Other LTP2 core strategic elem	ents		
Comment:						

The positive impact of cleaner vehicle technology is to some degree negated by increase in number of car journeys so increasing congestion on the corridor;

Large engine sizes in vehicles such as SUV 4x4's generally produce quite high levels of emissions;

The increasing use of air conditioning in vehicles is another issue contributing towards local pollution problems. Additional fuel is consumed resulting in more emissions;

The key emission associated with buses is particulate (PM<sub>10</sub>) although buses contribute only a small proportion of total emissions; Consideration could be given to extending this initiative to company fleet vehicles to further improve benefits

A requirement under Part IV of the Environment Act 1995

Action / initiative	Other effects (including non-air quality impacts)	Cost Timescale / status	Consultee comments
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### E: FREIGHT

			LTP2 Air Quality core strategy	A	Q3, AQ4	
Establish a Freight Quality Partnership (FQP)	WYLTP SG CMBC ES CMBC EH FHA FQP	Low	Sharing knowledge of 'cleaner fuel' technology; Driver training; Better journey planning by HGV and fleet operators; Sustainable delivery policy and guidance	Medium term	Low	
			Other LTP2 core strategic elem			
Satelite Navigation Technology (SatNav) which avoids declared AQMA's	DfT FHA	Medium	Reduced congestion	Medium term	Very high	
			Other LTP2 core strategic elem	nents		
Night-time freight delivery	FTA FQP	High	Reduced congestion; Reduced delays in deliveries Other LTP2 core strategic elem	Long term tents	Very high	
Increased use of the rail network for movement of freight	DfT FTA	Medium	Reduced congestion; Reduction in particulates and other pollutants Other LTP2 core strategic elem	Long term	Very high	

Rail fuelled directly by fossil fuel can have a negative impact on local air quality, particularly when older locomotives are regularly used

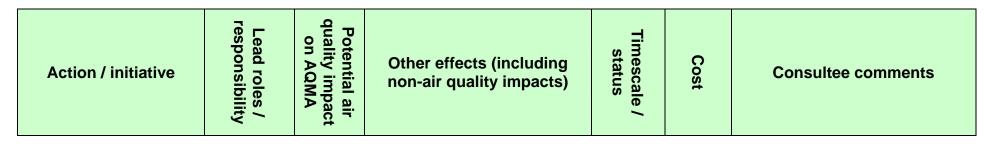
A requirement under Part IV of the Environment Act 1995

Potential air quality impact on AQMA Lead roles / responsibility Action / initiative	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
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### F: STATUTORY MEASURES

ROAD TRAFFIC (VEHICLE EMMISSIONS) (FIXED PENALTY) (ENGLAND) REGULATIONS 2002			LTP2 Air Quality core strategy	A	Q1, AQ2, A	AQ3, AQ4
Implement roadside vehicle emission testing in partnership with other regulating bodies	CMBC EH DEFRA	Medium	Identify high polluting vehicles; Reduction in particulates and other pollutants; Contribute to overall emission reduction throughout the district; Encourage replacement of older high polluting vehicles with less polluting vehicles Other LTP2 core strategic elem	Medium term – long term ents	Medium	
Investigate voluntary vehicle emission testing on the AQMA corridor	CMBC EH DEFRA	Medium	Identify high polluting vehicles; Reduction in particulates and other pollutants; Contribute to overall emission reduction throughout the district; Encourage replacement of older high polluting vehicles with less polluting vehicles Other LTP2 core strategic elements			
Impose Low Emission Zone to cover a designated area within the Salterhebble AQMA	CMBC ES CMBC EH DfT DEFRA	High	Reduction in particulates and other pollutants Other LTP2 core strategic elem	Long term	Very high	

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#### Comment:

Potential negative impact caused by public perception of reasons

Low Emission Zone is highly contentious. Currently no suitable alternative routes for traffic accessing Halifax. Potential displacement of traffic onto unsuitable routes causing considerable congestion and air quality problems elsewhere. Most likely to be successful if alternative road networks available to absorb displaced traffic

Integrate and encourage air quality criteria into land use policy (UDP / LDF) and planning process       CMBC PS       Medium       Contribute to overall emission reduction throughout the district       Short term       Low         Encourage take up of travel plan requirement for new development       CMBC PS       Medium       Contribute to overall emission reduction throughout the district       Short term       Low         Integrate and encourage take up of travel plan requirement for new development       CMBC PS       Medium       Contribute to overall emission reduction throughout the district;       Short term       Low         Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport       Increased public transport       Increased public transport       Increased public transport	LAND USE PLANNING		LTP2 Air Quality core strategy		AQ2, AQ3,	AQ4
Encourage take up of travel plan requirement for new development CMBC PS Medium Contribute to overall emission for new development CMBC PS Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport	air quality criteria into land use policy (UDP / LDF)	Medium	Contribute to overall emission		Low	
travel plan requirement for new development CMBC PS CMBC PS reduction throughout the district; Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport			Other LTP2 core strategic elem	ents	A7, C2, C3,	C7
Deter LTP2 core strategic elements       A6, A7, C1, C2, C3, C5, C6, C7	travel plan requirement	 Medium	reduction throughout the district; Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport patronage and car-sharing	term		

#### Comment:

Perceived restriction of development;

Potential conflict with other policies;

Potential access and inequality issues;

Isolated business park site developments encourage the use of cars for commuting journeys unless good sustainable transport options for accessibility are included in the development

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	s (including ity impacts) status Cost Consultee comments
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### **G: MONITORING**

			LTP2 Air Quality core strategy	Α	Q1, AQ2,	AQ3, AQ4
Continued monitoring of air quality and traffic data	CMBC ES	Low	Contribute to overall emission reduction throughout the district; Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport patronage and car-sharing	Ongoing	Low	
Continue district –wide monitoring	CMBC ES	Low	Other LTP2 core strategic elem Contribute to overall emission reduction throughout the district; Healthier lifestyles through walking and cycling; Reduction in personal car use for travel to work; Increased public transport patronage and car-sharing Other LTP2 core strategic elem	Ongoing	Low	

Action / initiative	Lead roles / responsibility	Potential air quality impact on AQMA	Other effects (including non-air quality impacts)	Timescale / status	Cost	Consultee comments
Continue cross boundary working with neighbouring authorities	WYLTP SG CMBC ES	Low	Contribute to overall emission reduction throughout the district; Reduction in personal car use for travel to work; Increased public transport patronage and car-sharing	Ongoing	Low	
Comment: Continued monitoring will o	nly be compre	hensive an	Other LTP2 core strategic elem		nd all stakel	holders and partners



If you would like this information in another format or language, please contact: 01422 392163

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الرا پلوبيە معلومات ى دوسرى زبان ياشكل ميں چابئيے تورابطە كريں: 01422 392163

Town Hall Halifax HX1 1UJ Telephone: 01422 392163 Fax: 01422 392193 Email: TransportationTeam@calderdale.gov.uk



