Liverpool's Air Quality Action Plan: Final Document

June 2007

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Liverpool City Council
Air Quality Action Plan: Final Document

June 2007

Status of this document:
This document has been produced by the Liverpool City Council Environmental Protection Team, and consultants from AEA Technology, working on behalf of Liverpool City Council to inform the consultation process.

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NB Will need to point to Air quality action plan website when implemented

Executive Summary

The City of Liverpool has begun a process of great change that will continue to reshape and strengthen the vitality of its business and residential communities over the next 10 years. Major changes to the built environment, transport systems, retail and commercial operations as well as community services are in hand; all of these have the potential to influence the quality of the city's environment.

This report is concerned with one aspect of the city's environment – air pollution, and presents the Final Air Quality Action Plan (AQAP) for Liverpool City Council. The AQAP is a statutory requirement under section (84) of the Environment Act 1995, and presents a series of options for reducing levels of air pollution within the city in order to achieve compliance with UK and European health-based air quality standards. The AQAP has been drawn up in consultation with the Liverpool Air Quality Action Plan Steering Group. This group is constituted by a broad cross section of individuals and organisations actively involved in the city council's activities; it has representation from one elected member of the Council.

Liverpool City Council requires an AQAP because it is forecast that annual average concentrations of nitrogen dioxide (NO_2) in two areas of the city will exceed the national target for 2005. In accordance with legislation, two Air Quality Management Areas (AQMAs) have been declared:

- **AQMA1 - Liverpool City centre**
- **AQMA2 - Liverpool M62/ Rocket Junction area**

Following declaration of the AQMAs Liverpool City Council was required to assess air quality in more detail and investigate further the major sources of pollution within the AQMAs. This 'Stage 4' assessment was undertaken in order to provide information for development of possible control measures to reduce ambient pollution levels in support of development of the AQAP.

The monitoring and modelling carried out for the Stage 4 assessment showed that NO_2 concentrations are expected to exceed the annual average objective at certain locations in both of the declared AQMAs. Subject to the uncertainties inherent in the current conclusions of the review and assessment process, ambient of oxides of nitrogen (NOx) reductions of approximately 20µg m^{-3} are required to achieve the annual mean NO_2 standard. The required NOx reduction in concentrations and emissions terms will be kept under review in future rounds of Review and Assessment.

Pollution source apportionment work identified emissions of NO_x from traffic on roads close to the AQMAs as the important source from which emissions might be controlled in order to reduce the annual mean NO_2 concentrations.

Emissions of NO_x from local traffic accounted for approximately 50% of the total modelled oxides of nitrogen concentration at the most affected properties within the city centre, AQMA1 and 50% in the Liverpool M62/Rocket Junction, AQMA2.

An indication of the scale of reductions required to achieve the standard is apparent from earlier assessment work which estimate that a 30% reduction in traffic (and thereby emissions) in AQMA2 would be sufficient to meet the air quality objective in 2005. However, a 40% reduction in traffic in the city centre AQMA would not be sufficient to meet the air quality objective for 2005 at the most exposed locations.

These indicative measures for reduction of air pollution within the AQMAs need to be considered in the context of any broader strategies, initiatives or plans that may influence pollution emissions within the city. The consultation process has taken account of these measures and evaluated linkage to other strategies relating to transport, regeneration and the environment of the city.

Measures for inclusion in the final Action Plan have been included in this document in the form of a responsibility table that includes the following:

a) Who will take the lead in implementation and who will provide support;
b) What specific actions need to be undertaken to implement the measure;
c) The costs for each specific action
d) The timescale for implementation of each specific action
e) How success will be measured;
f) How progress on the measure will be reported.

Particular consideration has been given to resourcing the plan. This has determined the practicability of the options selected, and helped to refine the implementation programme.

This final document - dealing with the formulation and implementation of an Air Quality Action Plan has been developed following an initial consultation process with key stakeholders. A series of options for improving air quality within the AQMAs have been identified and preliminary assessments made of their suitability for implementation in Liverpool. This document in its draft form has been appraised by Defra (2005) and then revised to take account of their comments. The final action plan has now included a second broader public consultation with it outcomes.

This report has been provided by hard copy and on disc to all statutory consultees and major stakeholders for comments. It will also be available on the Liverpool City web-site which will provide an interactive option for comments on the final Air Quality Action Plan document.

List of Abbreviations

µg m^{-3}	Micrograms (10^{-6} grams) of pollutant per cubic metre of air.
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AURN	Automatic Urban and Rural Network (of pollution monitors)
BAT	Best Available Techniques
CCMS	City Centre Movement Scheme
CO	Carbon monoxide
COMEAP	Committee on the Medical Effects of Air Pollutants
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
EPAQS	Expert Panel on Air Quality Standards
EHTS	Environmental Health and Trading Standards Unit
EU	European Union
HA	Highways Agency
HDVs	Heavy Duty Vehicles (including buses, etc., as well as Lorries)
HGVs	Heavy Goods Vehicles
IPPC	Integrated Pollution Prevention and Control
LA	Local Authority
LA21	Local Agenda 21
LCC	Liverpool City Council
LCPD	Large Combustion Plant Directive
LDVs	Light Duty Vehicles (cars and small vans)
LEZ	Low Emission Zone
LNRS	Liverpool Neighbourhood Renewal Strategy
LTP 2	Second Local Transport Plan
NAEI	National Atmospheric Emissions Inventory
NO	Nitric oxide
NO_2	Nitrogen dioxide
NOx	Oxides of nitrogen (the mixture of NO and NO_2 in the atmosphere)
NSCA	National Society for Clean Air and Environmental Protection
NECD	National Emission Ceiling Directive
O_3	Ozone
ODPM	Office of the Deputy Prime Minister
SPD	Supplementary Planning Document
SPG	Supplementary Planning Guidance
SUN	Statutory Urban Network (of pollution monitors)
UDP	Unitary Development Plan
WID	Waste Incineration Directive

Contents

Chapter 1 Introduction

The City of Liverpool has begun a process of great change that will continue to reshape and strengthen the vitality of its business and residential communities over the next 10 years. Major changes to the built environment, transport systems, retail and commercial operations as well as community services are in hand; all of these have the potential to influence the quality of the city's environment.

In the context of this action plan, it is those aspects of the city regeneration that have the potential to influence the emissions of air pollutants that must be considered when developing strategies to reduce air pollution within the areas designated as Air Quality Management Areas (AQMAs). Assessment work carried out on behalf of Liverpool City Council prior to the development of the Air Quality Action Plan concluded that the only pollutant of concern in Liverpool is nitrogen dioxide (NO_2) and that for the two AQMAs declared within Liverpool, the dominant source of this pollutant is emissions from road transport.

1.1 The Purpose of this Report

This report has been written to inform stakeholders, particularly those people living and working in Liverpool, of progress with the development of the City Council's Air Quality Action Plan (AQAP). It provides an overview of measures that are being implemented as a result of national legislation and includes a number of new initiatives that the City Council could undertake to improve air quality in the City.

Following consultation, the inclusion of a responsibility table, and a wider public and stakeholder consultation document, the original draft plan has been revised for submission to the Executive Body of the Council. Following approval by the Executive Members of Liverpool City Council, this Finalised AQAP is to be submitted to the Secretary of State for the Environment, for evaluation by Defra.

1.2 Air Quality Legislation

Research since the mid 1980s has linked existing levels of air pollution with poor health, particularly for the very young and old, and other sensitive groups such as asthmatics (references and other useful sources of information here and elsewhere are listed at the end of this report). The role of air pollution at levels typical of Western Europe is generally seen as exacerbating existing conditions. Research literature now links air pollution with various health impacts, ranging from increased use of bronchodilators by asthmatics, to hospital admissions and death.

At a scientific and medical level, the UK national government has investigated the problem largely through two committees, EPAQS (the Expert Panel on Air Quality Standards) and COMEAP (the Committee on the Medical Effects of Air Pollutants). In response to their conclusions, the government developed the National Air Quality Strategy; setting objectives for individual pollutants with timescales for compliance (see Appendix 1).

These objectives are similar to those developed by the European Union through the Framework Directive on Ambient Air Quality and a series of 'daughter directives' that set limits for individual pollutants.

Part IV of the Environment Act 1995 provides the framework for Local Air Quality Management (LAQM) in the UK, and local authorities' duties under this act. The Air Quality Regulations 2000 and Air Quality (Amendment) Regulations 2002 prescribe air quality objectives and the dates for achieving them. For each objective, local authorities have to consider present and future air quality and assess whether the objectives are likely to be achieved in time and in subsequent years. The methods by which this is to be done are set out in Part IV of the Environment Act 1995, Local Air Quality, Technical Guidance, Defra 2003.

A location where the prescribed objectives are not likely to be achieved and where members of the public might reasonably be exposed must be designated as an Air Quality Management Area (AQMA) by means of an order under section 83(1) of the 1995 Act.

Within an AQMA, section 84(1) of the Act requires local authorities to carry out a further assessment of air quality (Stage 4) within 12 months of the designation order. Section 84(2) requires that they also produce an Air Quality Action Plan (AQAP) setting out the measures that the authority will introduce in pursuit of the air quality objectives. There is no prescribed timescale for the submission of the AQAP but Defra expects them to be submitted between 12-18 months following the designation order.

Local authorities are required to subsequently continue to review and assess air quality in their areas to check if there have been any changes in respect of the pollutants and to also produce progress reports on review & assessment and action planning. They may choose to combine both progress reports in one report. In local authorities with a designated AQMA, Defra's expectation is that these progress reports are produced annually.

Local authorities are not obliged to meet the air quality objectives but they must demonstrate that they are working towards them. The Secretary of State for Environment Food and Rural Affairs has reserve powers under section 85 of the Act (to be used as a last resort) to require local authorities to take action where they are failing to make sufficient progress.

In addition to the statutory duties described, the Government "strongly recommends" that local authorities should draw up a local air quality strategy, that they should look for support from neighbouring authorities in doing this and, authorities should consider jointly developing regional air quality strategies where appropriate.

There are many strong reasons for drawing up a strategy not least being support for the statutory AQAP that is focussed on the AQMAs. That is, action in a wider area than the AQMA boundaries may be necessary, along with due consideration that areas outside of the AQMAs are not adversely affected by the action plan.

The Government also highlights that "where the AQMA designation arises primarily because of transport pollution, local authorities in England will have the freedom to integrate their action plans into their Local Transport Plans (LTPs)."

With regard to liaison across local authority departments, Defra has stated that it "cannot stress enough the importance of ensuring effective consultation and liaison across local authority departments." This should ensure that air quality is dealt with through a corporate approach.

Following the national guidance, assessment of pollutant levels in the Liverpool City Council area was carried out in several stages, each one informing the next as to the pollutants of concern and areas where problems were anticipated. The initial assessments (Stage 1 and Stage 2) identified areas where air quality objectives may be exceeded. The Stage 3 assessment required detailed dispersion modelling of emissions from sources including road traffic, industry, and the domestic and commercial sectors. Air quality data collected at sites within the City were used to validate the analysis and predictions were made as to the likelihood of the Government's air quality objectives being met in the City.

The modelling studies carried out as part of the stage 3 assessment predicted that in two areas the annual average nitrogen dioxide (NO_2) objective for 2005 (40 µg m^{-3}) would not be met and this formed the basis of the subsequent declaration of AQMAs in Liverpool.

1.3 Declaration of the AQMAs

On 1st June 2003, two Air Quality Management Areas (AQMAs) were declared by Liverpool City Council. These were based on forecasts of public exposure to nitrogen dioxide made as part of the Stage 3 assessment:

AQMA1 – The Liverpool City Centre Air Quality Management Area

AQMA2 – The Liverpool M62 / Rocket Junction Air Quality Management Area

These areas are shown in Figure 1. The exact designations are given in Appendix 2.

Subsequent analysis (the Stage 4 Review and Assessment) found that whilst declaration remained necessary for NO_2 alone in the designated areas, it would be possible to reduce the extent of both AQMAs.

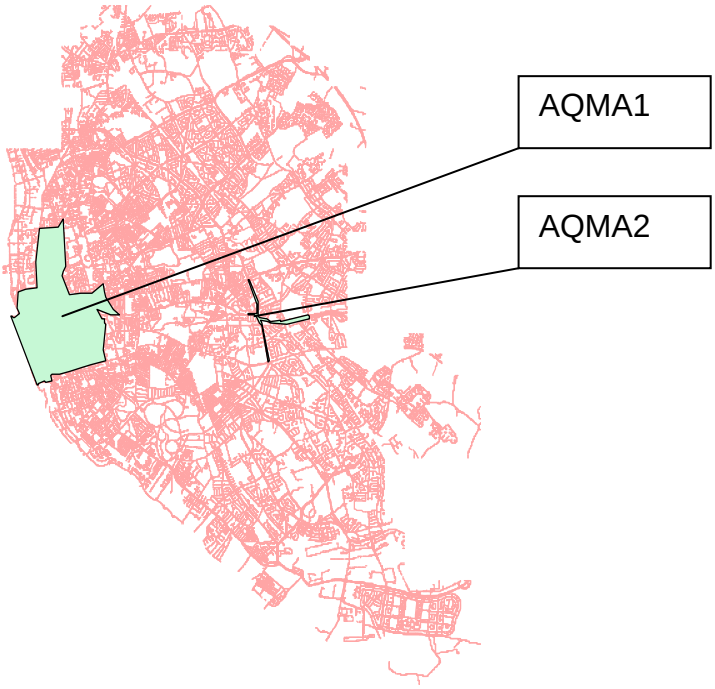


Figure 1 - Location of AQMAs

1.4 Projected Air Quality within the AQMAs

Figure 2 presents the projected annual mean NO_2 concentrations in 2005 for the city centre area (AQMA1) as estimated in the Stage 4 Assessment.

Figure 2 – Projected annual mean NO_2 concentrations in City Centre AQMA

Figure 3 presents the projected annual mean NO_2 concentrations in 2005 for the M62/Rocket junction area (AQMA2) as estimated in the Stage 4 Assessment.

The mapped concentrations clearly demonstrate the high concentrations that are forecast for NO_2 across the AQMAs.

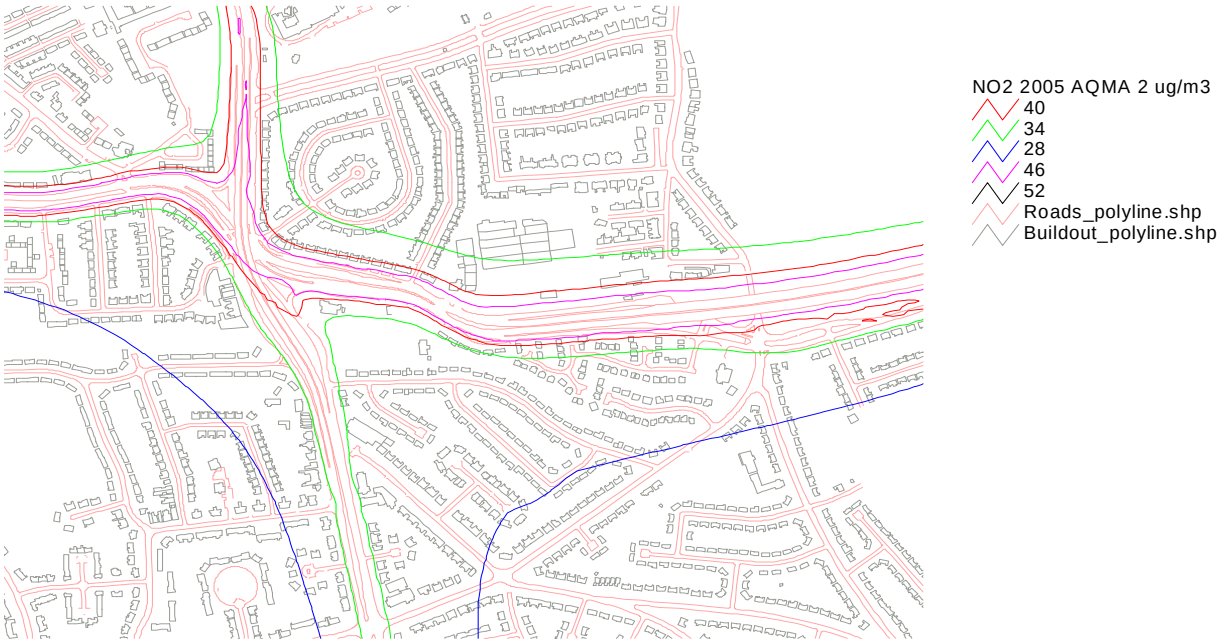


Figure 3 - Projected annual mean NO_2 concentrations in AQMA2

1.5 Sources of Nitrogen oxides in the Liverpool City Council Boundary

In order to develop an action plan it is essential to understand how different sources of pollution contribute to the concentrations in the AQMAs. Table 1 presents the estimated sector breakdown of NOx emissions in within the city based on the National atmospheric emissions inventory for 2002.

Table 1. Sector breakdown of annual NOx emissions in 2002 within Liverpool City Council (LCC) boundaries

Sector	% of total
Commercial, Institutional and Residential Combustion	15.87
Industrial Combustion	3.32
Other Transport	35.21
Waste Treatment and Disposal	0.13
Agriculture	0.00
Road Transport	**45.47**

[Data from NAEI for 2002]

These sources of emissions contribute to ambient NOx concentrations in the AQMAs to a varying extent depending on source characteristics, location of receptors and meteorology.

To illustrate this, Table 2 presents the contribution of different sources to predicted ambient NOx concentrations taken from the most detailed modelling information available for the City. They are two relevant locations, one associated with each AQMA.

Table 2. Sector breakdown of estimated annual mean NOx concentration (µg m^{-3})in 2005 at two illustrative receptor locations.

Source	Contribution			
	Brunswick Road (AQMA1)		Prescot Road (AQMA2)	
	µg m^{-3}	%	µg m^{-3}	%
Background[1]	35	41	36	41
Roads[2] – LDV	22	26	20	23
Roads – HDV	28	33	31	36
Total	**85**	**100**	**87**	**100**

[Data from Stage 4 Review & Assessment]

1: Background is considered to be due to emissions from all sectors within LCC but also includes a contribution of approximately 18 µgm^{-3} from regional sources not linked to emissions in LCC.
2: Road contributions alongside major roads are an additional amount due to the proximity to significant road transport.

It is to be noted that these data sets link sources to NOx emissions (Table 1) and NOx concentrations (Table 2), not NO_2 emissions. There is a complex relationship between concentrations of the two components of NOx (NO and NO_2) and other pollutants, particularly ozone. The relationship is not linear and this, together with the contribution of background sources, means that, for example, a 10% reduction in

NO_2 concentrations would require a significantly larger reduction of local NOx emissions. It should be noted that the source apportionment work carried out at the time of the Stage 4 assessment also indicated that for both AQMAs, buses were an important contributor to the emissions of NOx attributable to HGVs; this is discussed further in section 2.4 below.

Consequently it is stated that, subject to the uncertainties inherent in the current conclusions of the review and assessment process, ambient NOx reductions of approximately 20µg m^{-3} are required to achieve the annual mean NO_2 standard. In emissions terms this means that approximately 1000 tonnes of NOx emissions must be avoided annually within LCC boundary or less if the contribution from the worst roads is significantly cut. The required NOx reduction in concentration and emission terms will be kept under review in future rounds of Review and Assessment.

1.6 Ability of Liverpool City Council to Influence Local Air Quality

The predominance of transport as the source of this pollutant serves to shape the formulation of the primary activities within the action plan by which such emissions may be reduced. At a simple level each vehicle within an area will emit a certain amount of pollution – depending upon the type and quality of its engine and the effectiveness of on board measures to reduce the emissions. Thus, in terms of pollutant emissions some vehicles will be better (i.e. emit less per vehicle) than others. Generally speaking, newer vehicles are better than older vehicles in this respect. A second factor relates to the number of vehicles on the road at any one time; it is the total emissions from all vehicles that influence the quality of the air the public breathes and which gives rise to the pollutant concentrations that may exceed the national air quality standards. As a consequence primary strategies aimed to reduce air pollution at source must look at the types of vehicles and the numbers on the road. Secondary strategies must look to ways of encouraging reduction in the numbers of both or their more efficient utilisation – encouraging the use of alternative and less polluting transport patterns such as park and ride schemes, walking, cycling, public transport, multi-occupancy of vehicles etc.

1.6.1 Major Roads.

All of the major roads within the AQMAs declared within Liverpool are the responsibility of Liverpool City Council including the M62 (along with adjoining Authorities) west of junction 6; beyond this point the Highways Agency assumes responsibility. Each of these bodies has specific objectives, some of which may conflict with those set nationally for air quality. Through this plan it is therefore essential to establish an appropriate basis for factoring air quality into wider decision making.

1.6.2 Major Industrial Sources

Industry is regulated partly by the Environment Agency (EA) and partly by local authorities, with the EA responsible for the larger and more complex industrial plant. Legislation of the past 20 years, such as the recent EU Directives on IPPC waste incineration and large combustion plant, combined with trends such as the move away from traditional fuels (coal and oil) to natural gas, has led to a major decline in the importance of industry as a national pollution source.

However, such industries can have significant effects on air quality by generating local pollution in the immediate vicinity of a plant and through raising background levels of pollution. Liverpool City Council can, via the planning process, ask for conditions more stringent than those that would typically be defined as Best Available Techniques (BAT) under IPPC if a plant is operating in or close to “sensitive” areas.

1.6.3 Background Pollution

The ambient pollution within the boundaries of Liverpool City Council includes pollutants generated from adjacent local authority areas and other parts of the UK, and indeed, the rest of Europe, in addition to those emitted from local sources.

Overall, the source apportionment study carried out in the Stage 4 assessment for Liverpool City Council estimated that the total background contributions comprise between 26% and 56% of the NOx concentrations in the AQMAs depending on location. Part of the background is contributed to by all emissions within the local authority but for a large proportion Liverpool City Council does not have any direct control over the emissions (see Table 2).

Liverpool City Council will need to work in partnership with a wide range of stakeholders in order to secure reductions in emissions from sources outside its direct control. Where there are not forums already in existence through which to achieve this aim, Liverpool City Council will strive to form them as part of the Action Plan. One of the most important actions in the plan will be to ensure that there is effective dialogue between the Council and other stakeholders, and that measures that are already agreed will be implemented effectively and in a timely fashion.

Chapter 2 Existing Policies that Take Air Quality into Account

Policies at a number of levels already have significant effects, both positive and negative, on air quality in the City. This Chapter identifies the most important of these, particularly where they dictate actions required for inclusion in this plan.

2.1 National and European Policy

The main areas of national policy with an effect on air quality in addition to the air quality strategy and associated European legislation are:

- The 10 year transport plan,
- The introduction of IPPC (Integrated Pollution Prevention and Control),
- The EU Large Combustion Plant Directive (LCPD),
- The EU Waste Incineration Directive (WID),
- The EU National Emission Ceiling Directive (NECD),
- The EU Noise Directive, and
- Energy and climate change policy, for example, implementation of the UK's obligations under the Kyoto Protocol.

In most cases there are opportunities for significant benefits from these policies in terms of improvements in local air quality.

2.2 Local Policies

A number of local policies already stress the need for action on air quality and include:

- The Local Development Framework (LDF),
- Liverpool First, Community Strategy,
- Local Agenda 21 (LA21),
- Merseyside Local Transport Plan 2,
- Corporate performance plan,
- Regeneration services,
- Liverpool City Centre Movement Strategy,
- Liverpool Neighbourhood Renewal Strategy Framework & Action Plan,
- Liverpool Maritime Mercantile City Management Plan,
- Education development Plan,
- Capital programme,
- Housing Strategy statement, and
- Private sector renewal strategy.

In development of this plan consideration is being given to the main objectives and actions for each of these policies, and any information on costs and effectiveness that may be available through them.

2.3 Consideration of Related Plans

It would clearly be wrong to develop air quality policy in Liverpool City Council independently of the policies listed above. To do so would ignore two things. Firstly, that joined-up policy-making offers substantial benefits in terms of cost-effectiveness. For this reason the impacts of options for air quality improvement on transport, noise and climate change (amongst other issues) are considered in the discussion of options that follows in later chapters of this action plan. Secondly, those coherent actions taken across a wider Merseyside area stand a better chance of success than a series of isolated and disjointed measures.

The need to take account a diverse range of actions across the Council and other organisations means that implementation of the plan will need to include monitoring of activities carried out by a variety of stakeholders. As already mentioned Liverpool has embarked upon an extensive and ambitious programme of regeneration.

Currently, Liverpool is one of the two core regional cities in the North West and is the economic centre of Merseyside – supporting 40% of Merseyside's jobs and contributing 42% of its gross domestic product. The city's growing economy is driven by activity focussed within its Strategic Investment Areas. Some 75 000 people work in the city centre which is a leading attraction in bringing the growing number of visitors – 7.5 million in the year 2000. There are current targets to increase all of these categories as well as to see the living population within the city to grow to 18 000 by 2008; during which year the city will host the European City of Culture. It is clear that there will be growing demands on transport, planning and other infrastructure that could see emissions of pollutants from all sectors increasing over the next 5 to 10 years. The AQAP must take account of and link to the key strategies that have objectives related to improving or sustaining good air quality whilst taking account of the needs of the city to achieve its vision.

The vision is the development of Liverpool as a premium European city. This vision has been developed by the Liverpool First Board; of the Liverpool Partnership Group. The vision is promulgated through the Liverpool Community Strategy - which is the overarching strategy for the City - aligning all other key partner plans, strategies and decision-making in support of five aspirant targets, which are rooted in the Liverpool corporate aims.

Figure 4 summarises the AQAP in the context of related strategies. The Liverpool First (2002-2005) Workbook is the working document for the Community Strategy; at the time of writing this draft Action Plan, the structure for the Community Strategy is being updated within the Liverpool First (2005-2008) Workbook.

A core commitment within the Workbook is the Liverpool Neighbourhood Renewal Strategy (LNRS) and which contains six key themes: Jobs, Crime, Education, Health, Housing and Environment. In 2003/04 the LNRS was supported by £20 m of funding through the Neighbourhood Renewal Fund. The environment theme has direct reference to taking action to improving air quality in designated areas.

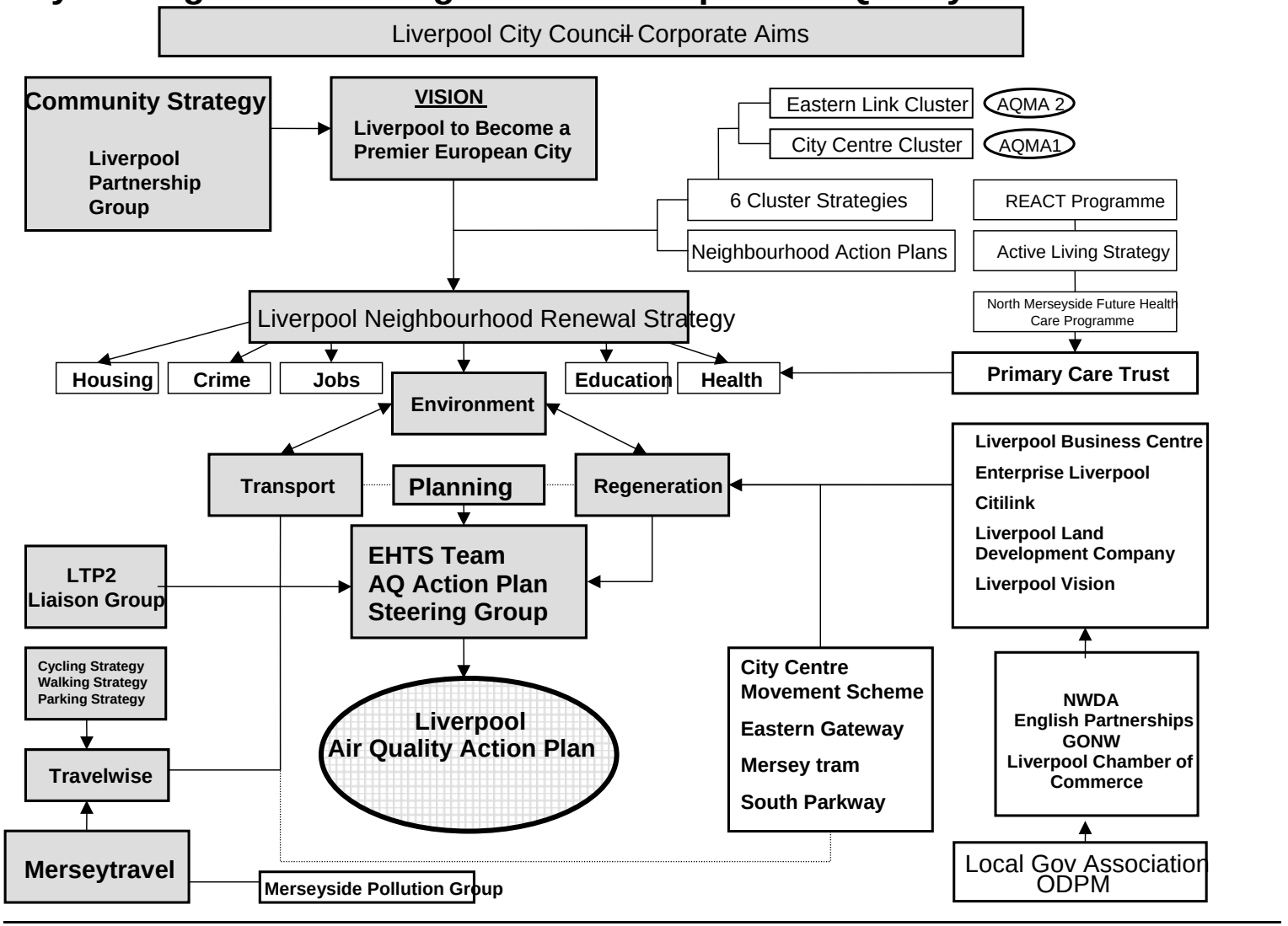
The transport theme gives a clear commitment to the development of a Travel Plan for Liverpool City Council, as well as adoption of travel plans by hospitals, universities and schools. This gives clear and unequivocal linkage of the AQAP to core strategies for the city and linking initiatives or supporting strategies.

In addition to the LNRS there are six city-wide cluster strategies focussing on key wards. One of the clusters covers the area within AQMA 1 (City Centre Cluster) and a second the area of AQMA 2 (The Eastern Approaches Cluster). The cluster plans contain initiatives concerned with regeneration – redevelopment, access, transport etc, within the areas and are pertinent to the air pollution issues in each.

Figure 4 also shows the important and key linkage in the transport sector to the current development of the Local Transport Plan 2 (LTP2) covering the period 2006 - 2011. Given the aforementioned comments relating to the dominance of transport emissions on the levels of air pollution in the two AQMAs this is particularly important and consistent with Government guidance issued through both the DEFRA and DfT in relation to the development and implementation of AQAP's and LTP 2.

In this context Liverpool City Council has established an LTP2 Liaison Group to work directly with the Liverpool AQAP Steering Group and the Liverpool CC Transport Team to ensure joined up development, consultation and implementation of the plans.

Figure 4 Key Strategies and Linkages to the Liverpool Air Quality Action Plan



The constitution of the AQAP Steering Group together with nominated key stakeholders is shown in Appendix 3. The Steering Group has a broad representation and includes an elected member. This has given an active representation across the major city initiatives. Thus, it is the case that the Liverpool AQAP is linked at the working level to the core themes underpinning the development and governance of the city through the Community Strategy and the Corporate Aims (Corporate Aim 5). It has a direct working interaction with the development of LTP2 and those charged with the management and provision of planning and transport related services (Corporate Aim 5). Such factors add substantially to the likelihood of committed support and action on the recommendations within the Liverpool AQAP as well as subsequent reporting of progress. The statutory, annual reporting cycle for the Liverpool AQAP is viewed as particularly important by the Steering Group - because of the continuing regeneration in the city and the expected major changes to infrastructure over the next five to ten years.

2.4 Development Schemes likely to affect Air Quality in Liverpool

The recommended actions in this report are presented in the context of measures likely to reduce emissions from transport sources. These are made against the background of the substantial regeneration projects that will both increase key traffic flows and increase the city centre population substantially. Full details of the schemes are not given here but the key projects affecting the two AQMAs are discussed.

To recap, the city centre AQMA1 covers most of the actual city centre area and as such will be affected substantially by all of the planned regeneration for the centre. The main features of the changes planned for the city are described within the City Centre Movement Strategy (CCMS). This substantial plan contains numerous elements including the Paradise Street Development Area, which will bring 2 million square feet of space for shopping, residential, leisure and hotel facilities. Clearly this will impact upon traffic movements into and around the city.

Clearly, the planned growth for the city will influence traffic movements into and out of the city along its key roadways. The M62/Rocket AQMA2 is located at the terminus of the M62 and any changes in traffic flow through this access route will influence the air quality within this air quality management area which is delineated in a zone close to the intersecting routes at the junction. Strategies of relevance to the levels of air pollution at this location are those that will serve to increase or moderate traffic flow through the junction, as well as the nature of the vehicle types using the route. Thus strategies designed to move freight more efficiently into and out of the city dock areas are of relevance; for example the 10 year Strategic Route Plan for Liverpool will be of interest in the context of the action plan.

Measures taken to improve city access through the Eastern Approaches Improvements Scheme and the Liverpool South Parkway (The Allerton Interchange) may again be beneficial in the context of improving air quality in the vicinity of this junction. More locally, the Edge Lane Improvements Scheme has the potential to improve traffic flows through the junction and reduce exposure to pollutants for residents at the eastern end of Edge Lane where it enters the AQMA. Closure of the

egress point from Talbotville Road should contribute to this. Improved facilities for walking, cycling and bus access should help encourage fewer local car journeys – resulting in reduced emissions in the area.

2.4.1Buses and Pollution Emissions within the AQMAs

The stage 4 assessment source apportionment noted the predominance of HGVs in terms of NOx emissions within both of the declared AQMAs. The source apportionment also noted the contribution to this from buses, particularly in the City Centre AQMA. Comments on buses and in particular emissions from 'dirty' buses were made by several of the key stakeholders during interviews.

The comments covered two issues relating to the apparent emissions from buses and were based largely upon observations made by the individuals. The first relates to the presence within the bus fleet of an apparently significant number of older and more polluting buses – 'dirty' buses. The second relates to what might be called unnecessary bus journeys and driver habits relating to buses (and Taxis) parking up within the City Centre AQMA with engines idling. The overall effect appears to be a 'gyratory' within the city centre, due to buses awaiting berths at the Queens Square bus station and simply driving around (empty) until scheduled to collect passengers from the allocated stop prior to moving out of the city.

This has the potential to increase pollution emissions - to a level that will be exacerbated if the buses are also particularly polluting due to their age and/or poor maintenance. The 'dirty' bus problem relates to the quality of the buses serving the routes through the city centre; the other, relating to the gyratory, is more complex and involves aspects of bus scheduling into berths, layover facilities as well as routing strategy into and out of the centre and a possible need for cross-city routing of services.

Measures to address these problems are prominent within the AQAP and will need to be supported and taken forward in the context of and linked to ongoing programmes to develop and implement transport schemes to support the city centre regeneration.

It is evident that over the next five to ten years several major developments will take place within and around the city centre; it is a recommendation from the Air Quality Steering Group that the potential cumulative impact on transport along key routes – e.g. The Strand, are kept under review.

Liverpool City Council, Liverpool Vision (the urban regeneration company for the City Centre) and Merseytravel are already working together for the coordinated implementation of the City Centre Movement Scheme and the Public Realm Strategy. The essence of the strategy is to ensure that movement within the city, by all modes of travel, is optimised in a sustainable fashion.
A key element is the provision being made for the bus services by the creation of new bus route opportunities across the city centre together with the construction of significant new bus facilities.

The AQAP through its recommendations will seek to evaluate and clarify the impact of bus emissions and lend support to resolving the issues of managing bus operators within the current deregulated regime.

Chapter 3 Development of the Air Quality Action Plan

3.1 Guidance on Achieving the Standards

3.1.1 Factors to consider

Guidance has been issued by both Defra and the National Society for Clean Air and Environmental Protection (NSCA); references are listed in Section 6.3. The Defra guidance lists four factors that have to be considered in the selection of options:

- Air quality improvement;
- Non air quality effects;
- Cost effectiveness;
- Perception and practicability.

Air quality improvement: Analysis starts by considering the sources of air pollution that lead to exceedance of the air quality standards to quantify the improvements required (see Section 1.5). In the case of NO_2 the link between emission and concentration needs to take account of chemical processes in the atmosphere – there is not a simple linear relationship between reduced emissions of NOx and reduced concentrations of NO_2.

Non air quality effects: An action plan should be designed to account for other policies. By doing so it should account also for the social, economic and broader environmental impacts of the measures considered.

Cost-effectiveness: Measures proposed in an action plan must be cost-effective, in other words, they need to be closely targeted on the problem being addressed and should not waste money, either by being inefficient, or by causing significant and negative secondary effects.

Perception and practicability: To be successful an action plan needs to gain wide support across the community. The guidance considers four groups of stakeholders, the public, industry and commerce, elected representatives and external agencies. Each of these groups has different views and concerns when a specific measure is recommended to improve air quality, and so needed to be involved in the consultation process.

3.1.2 The action planning process

The NSCA guidance describes the following stages for action planning, those shown in bold being the stages that this plan is mainly concerned with:

- Establish baseline conditions
- Involve all relevant stakeholders
- Generate a list of options
- Consider the costs and effects of these options
- Prioritise options
- Evaluate and monitor the plan
- Continue consultation on the plan during its implementation.

3.2 Objectives for Liverpool City Council's Plan

The objectives for Liverpool City Council's action plan, reflecting the guidance described above, are described in Box 1. They were developed following discussion with a number of stakeholders from local communities, businesses, and the regulators at the start of the action planning process. They are purposefully described in very broad terms, recognising that many of the measures that may be adopted for improvement of air quality have additional environmental, social and economic impacts (and vice-versa) that need to be accounted for.

Box 1: Objectives for Liverpool City Council's Air Quality Action Plan

To pursue the air quality objectives laid down in the National Air Quality Strategy, whilst

…improving the quality of life and health of the residents and workforce in Liverpool,

…acting in a cost-effective manner, through careful selection of options

…integrating our work with other Council Strategies and the activities of Council Departments; particularly LTP2, regional bodies, outside agencies and other interested parties,

…taking account of the needs and views of local people,

…and acting, where possible, to stimulate local employment and the local economy.

3.3 Development of the Plan

The development of the plan has been guided by the scheme shown below in Figure 5.

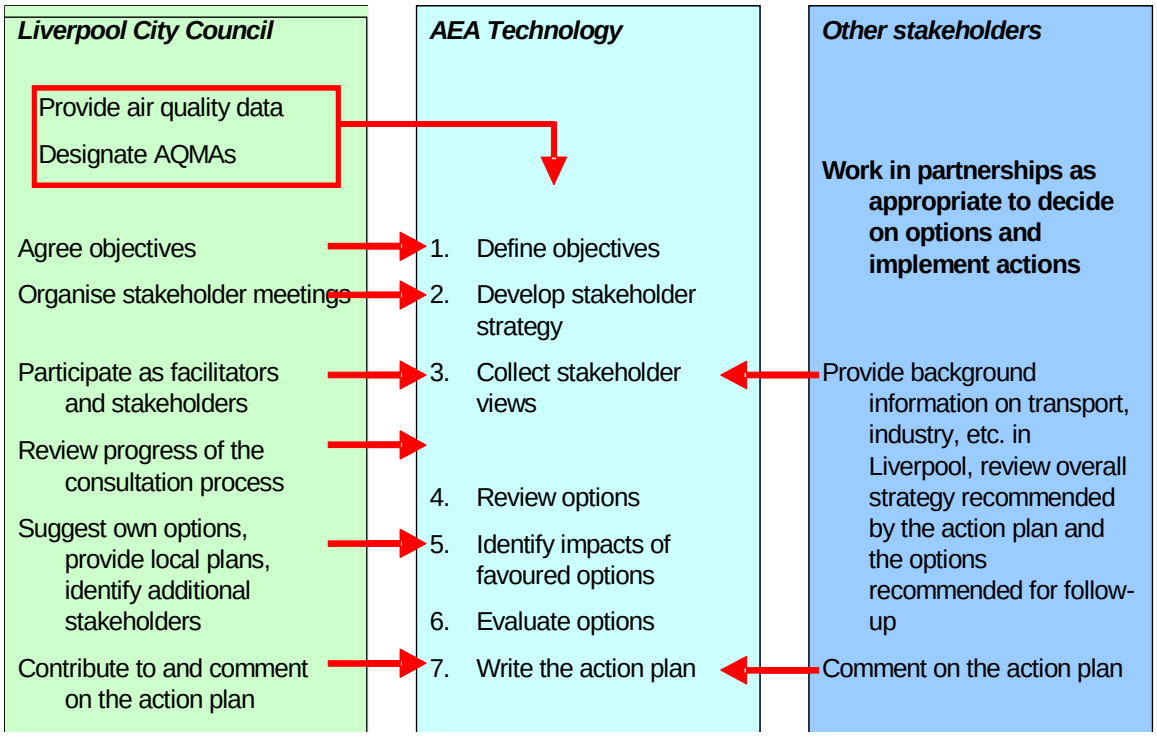


Figure 5: Scheme adopted in the development of this plan following earlier analysis of air pollution within Liverpool

3.3.1 Consultation

This AQAP has been developed following consultation with some twenty four key stakeholders identified by the Air Quality Action Plan Steering Group; including council departments, regulators, local residents groups and representatives of other groups e.g., bus operators and the primary care trust. Meetings have been facilitated by Environmental Protection team staff and AEA Technology. Feedback was gathered in the form of the minutes of meetings and written responses. A list of the stakeholders consulted so far is given in Appendix 3. As demonstrated by publication of this document, the consultation process is continuing.

A consultation strategy will be developed to ensure all relevant stakeholders, including Liverpool residents, have the opportunity for input to the process, and to be able to comment to assist the council in making an informed decision with regard to prioritisation of options for inclusion in the final Action Plan.

3.3.2 Identification of Options

During the consultation process, various options have been suggested by which the required reductions in NO_2 in the AQMAs could be achieved. Other examples of relevant options can be found in the growing number of action plans under development and from the other published sources given in chapter 6.

An important activity in support of the consultation process is the review and prioritisation of options.

3.3.3 Option Appraisal and Prioritisation

The process of prioritisation applied in the development of this plan seeks to take an integrated approach in accounting for the different attributes of each option relative to:

- Cost,
- Effectiveness in reducing NO_x emissions,
- Effectiveness relative to NO_2 levels in the Liverpool City Council AQMAs,
- Potential to implement the option before 2005, and then 2010,
- Additional (non-NO_2) benefits of the measure,
- Disadvantages linked to the measure, and
- How local and regional development objectives complement each other.

Additional advantages and disadvantages of air quality improvement measures were assessed in terms of:

- Other (non NO_x) air pollutants,
- Noise,
- Congestion,
- Attractiveness of public transport,
- Social inclusion,
- Economic vitality of local businesses, and
- Other (to pick up impacts that may be very specific to certain options).

This listing had been developed based on guidance documentation and building on previous work with other local authorities. Each impact was assessed for each measure on a scale of -3 (possible serious negative impact) to 0 (no effect thought likely) to +3 (possible significant benefit). When applying this to the cost criterion +3 indicated possible revenue generation (<£0 see Table 6 below) while –3 indicated costs in excess of £1 million.

Assessment of the effectiveness in reducing NO_x emissions and NO_2 concentrations is an inexact process. There are significant limitations in the available information describing the actual properties of traffic on affected roads and the effects of options were they to be implemented in Liverpool. Therefore, at this stage the assessment has had to rely on expert opinion and experience on the effects of the options. The method by which the effects have been quantified is given in more detail in appendix 5.

In the present case some eighty seven original options were considered and evaluated in terms of cost-effectiveness for air quality improvements and other effects during the development of the plan to the present stage.

The prioritisation of these and any subsequent options has been carried out in two stages:

- in terms of costs and the effectiveness in controlling NO_2
- consideration of any additional advantages, disadvantages and how far they complement other plans.

The first stage was carried out based on the matrix shown below in Figure 6:

	Estimated improvement in air quality1	<0	0	0-0.2	0.2-0.5	0.5-1	>1
	(Rating)	-3 to -1	0	+1	+1	+2	+3
Cost	(Rating)						
<£0	+3						
£0							
£0 - 1,000	+2						
£1,000 - 10,000	+1						
£10,000 - 100,000	0						
£100,000 - 1 million	-1						
£1 million - 10 million	-2						
>10 million	-3						
	High cost-effectiveness						
	Moderate cost-effectiveness						
	Low cost-effectiveness						

1 reduction in the annual mean NO_2 concentration in air (μgm^{-3})

Table 3: Cost-effectiveness matrix.

The top row of the matrix contains classes of improvement in air quality as reductions in the annual mean NO_2 concentration (in μgm^{-3})

The second stage factored in consideration of additional advantages, disadvantages or complementation with other plans. Therefore, were options to be highly recommended on grounds of cost-effectiveness with respect to controlling NO_2, but have secondary impacts of a serious and negative nature, it could be reasonable to exclude it from the plan. Similarly, if an option has significant secondary benefits, its prioritisation could be increased. The process is illustrated by a case study based on the introduction of new bus lanes presented in Section 3.8.

All of the original options were reviewed by the steering group during scheduled meetings. It was agreed that options having common themes should be reviewed in more detail; with members of the steering group allocated responsibility for each 'themed package'. These packages were considered in detail during a specific Option Appraisal Workshop. The groupings and assessments arising from this

process formed the basis of the prioritisation of the options into the packages presented in this report.

The scoring of each option was carried out by AEA Technology staff, in conjunction with members of the AQAP Steering Group. Details of the options, comments from the steering group and the scorings are given in Appendix 4.

Once scoring was complete then an overall recommendation of the option was given (see table 4.3 in appendix 4) ranging between "recommended", "strongly recommended" and "very strongly recommended" This recommendation is based on a balanced opinion of the cost-effectiveness of the option and its wider impacts or benefits.

3.3.4 Development, Implementation and Monitoring and Future Development of the Action Plan

In addition to developing a list of options it is essential that the final plan includes description of the delivery mechanism, in other words, who should take the lead on any measure, how it is to be implemented, and how progress will be monitored. Preliminary details are given in Chapter 5 below. It is clearly necessary to wait until there is agreement on the measures to be taken before developing this part of the plan any further.

The agreed AQAP should be regarded as flexible and open to adjustment as new information or new techniques for pollution control become available. Prior to undertaking some of the options that are listed in the plan it will be necessary to commission specific feasibility studies, particularly where costs will be high. If any option is found impracticable, for example on cost grounds, or has impacts that were not foreseen or are far more significant than originally thought, the plan should clearly be adapted. Equally, if experience elsewhere shows that an option not included in the plan is more attractive than originally thought, it may be appropriate to adopt that option.

3.4 Relationship between Air Quality Action Plans and Local Transport Plans

In circumstances where transport emissions are the major reason for exceedance of air quality objectives, Defra recommends that consideration be given to full integration of the Action Plan with the Local Transport Plan (LTP). It is the case for both AQMAs within Liverpool that traffic emissions are the major contributor to exceedance of the objectives. The timetable of production of the second local transport plan indicates completion by July 2005. In order to ensure harmonisation the lead officer from the Transport team sits on the AQAP steering group and a separate LTP 2 Liaison team has been established to manage onward interaction.

3.5 Relationship between Air Quality Action Plans and Local Development Plans

Recently updated government guidance has been issued on the effect of local and regional planning on pollution control (Planning Policy Statement 23, November, 2004). Local Development Plans are to adhere to "Sustainable Development". Air quality is capable of being a material planning consideration and certainly is important within an Air Quality Management Area.

Local planning authorities, transport authorities and pollution control authorities should work together to ensure development has a beneficial impact on the environment. Where necessary mitigation measures to minimise any detrimental effects should be put in place which can be secured through Section 106 Agreements of the Town and Country Planning Act, 1990 (as substitute by the Planning and compensation Act, 1991). The consideration of the air quality impact should include both short term construction emissions and, more importantly, the longer term emissions from that development, either from increased traffic or from building heating and air conditioning facilities. With intensive development, such as that currently underway in Liverpool, the local planning authority should consider the cumulative impact from many developments and, in particular, the effect of any additional pollution loading from further development proposals. Additionally, in urban centres such as within the Liverpool City Centre AQMA, the impact of proposed development on congestion should be considered in terms of air quality impact.

There are a number of issues to bear in mind when considering potential mitigation measures aimed at reducing detrimental impact from development.

- Building design options: exposure to poorer air quality decreases with distance from the roadside. Consequently, wherever possible the building proximity to the roadside should be minimised. Increasingly, other design features are being considered such as placement of residential rooms on the upper floors of buildings and placement of ventilation intakes on the rear of buildings.
- Travel restrictions: this could include car-free developments, limiting car parking spaces per development, supporting use of public transport, other transport infrastructure such as walking and cycling routes/paths and implementation of Travel Plans.

The planning system in the UK is undergoing reform. It is proposed that certain local topic areas may require a local strategy, to encourage consistency. This can be addressed through the production of a local Supplementary Planning Document (SPD). Air Quality issues to be considered in the planning process may be best considered in this way. An air quality SPD can provide prospective developers and their consultants with requirements on air quality impact assessments and highlight potential mitigation measures, which is of particular concern within the AQMAs.

Chapter 4 Options for Improving Air Quality

This Chapter identifies the options considered of most relevance for improving air quality in the two AQMAs declared in Liverpool. The options suggested may relate to actions already in place, due for implementation or they could be new initiatives. Several options had very similar themes and some options were suggested independently by several of the stakeholders; other options or ideas were submitted subsequently. For the purpose of this report we have grouped the options and then taken them forward for further review and consultation as part of six, common packages. The packages are summarised in Table 3 below.

Package 1	**Package 2**	**Package 3**	**Package 4**	**Package 5**	**Package 6**
Vehicle Emission Reductions	**Traffic Management**	**Alternative Transport Modes**	**Development Planning**	**Dissemination of information**	**Working with and Lobbying other agencies and central government**
Establish City Centre LEZ	Improve Signage on major routes	Support Merseytram	Development Plans (SPDs)	Public advice on ways to contribute to improved air quality	Work with Highways Agency and North West Government to develop a regional transport plan
Bus Partnerships	Vehicle Priority Lanes; SCOOT	Travel Plans	Home Zones		Work with Merseytravel to develop a Merseyside air quality strategy
	Freight Strategies	Park and Ride			Promote the use of rail and other non-road modes for freight transport
LCC Fleet Plan	Eastern Approaches Cluster Plan	Cycling Strategy			
	Edge Lane Improvements	Walking Strategy			
	City Parking Strategy	Transport Hubs			
		Car Clubs			

Table 4: Summary of Main Options Packages

A research report undertaken to explore the public and stakeholders views is contained within Appendix 5. The outcome of the report is summarised in section 4.1 of this chapter and the recommendations of the report have been included within this chapter in helping to determine which of the packages put forward is most popular and where feasible recommended for inclusion.

The Measures that could be taken may include;

Vehicle Emissions reduction

1. Declare a zone where preference would be given to cleaner less polluting vehicles and developments. (Low Emission Zone or LEZ)
2. Establish partnerships between bus operators, Merseytravel and other partners to improve the quality of journeys made by bus and give passengers a better alternative to travelling by car.
3. Increase the number of clean fuel technology vehicles in the council's fleet.
4. Ensure that drivers do not leave their engines running unnecessarily when stationary.

Traffic Management

1. Give better directions to drivers on major routes so that journeys through the areas with poor air quality can be avoided.
2. Provide more bus only lanes to speed up bus journey times.
3. Provide traffic lights that react to fluctuations in traffic to minimise delays in journey times.
4. Produce a freight strategy to aid distribution of goods in a less polluting way.
5. Make improvements to the main access routes to the city and lessen the exposure of people living along the route by changes to the carriageway.
6. Produce a City Centre Parking Strategy that caters for visitors but dissuades commuting by car.

Alternative Transport Modes

1. Support the provision of a tram system.
2. Help employers to develop workplace travel plans for their employees to reduce commuting by car. Encourage developers to think of car free developments.
3. Support the introduction of car clubs so that people who only need a car occasionally do not have to buy a car.
4. Seek to provide Park and Ride sites with easy access to the City.
5. Encourage cycling and walking strategies.

Development planning

1. Prepare and publish supplementary planning guidance so developers are aware of the air quality problems and the measures that should be taken to reduce the impact of their development.
2. Ensure that the transport implications of new developments are considered.
3. Ask for air quality impact assessments where developments may have a significant impact on air quality.
4. Make developers provide mitigation measures to lessen the impact of their development on air quality.
5. Insist on travel plans for new developments.

Information for the public

1. Provide information and leaflets on existing pollution legislation
2. Give advice and information on alternative fuels.
3. Support campaigns to promote cycling and walking.
4. Participate in awareness raising campaigns of health effects of pollution.
5. Educate drivers to reduce pollution/save fuel.

Lobbying other agencies

1. Work with other Merseyside local authorities to develop a Merseyside Air Quality Strategy.
2. Work with the highways agency and North West Government to develop a regional transport plan.
3. Promote the use of non-road transport for freight.
4. Encourage Merseyside police to remove illegal vehicles from the road.

Appendix 4 contains the details of the scoring of the options for each of the following criteria:

- Costs,
- Effectiveness in reducing NOx emissions and NO_2 levels,
- Prioritisation ranking,
- Reasons for rejection (where appropriate),
- Other impacts (on other air pollutants, social inclusion, congestion, attractiveness of public transport, noise and economic vitality).
- Other plans that include the same measure,
- Stakeholder comments, and
- Implementation process for each option with a monitoring mechanism.

The information presented here and in the appendices on both the costs and effectiveness of options is preliminary. Where possible, data have been taken from examples of schemes that have already been implemented. Development of the plan has recognised uncertainties where they are unavoidable, believing that it is better to start from some estimate of cost-effectiveness (etc.) than not, in order to provide insight on the prioritisation process. In general it is most appropriate to interpret figures as being relative across the overall set of options taken into consideration, rather than actual.

4.1 Research Report on Public Consultation and Stakeholder views

The report contains the findings from research exploring residents' and stakeholders views on possible options that Liverpool City Council could initiate to help reduce air pollution and improve air quality in Liverpool. The research was conducted between May and August 2005.

The specific objectives of the research were as follows:

- To understand what residents and stakeholders consider being the key sources of air pollution in Liverpool – to gain their perceptions of the problem.
- To evaluate the options the Council has identified for reducing pollution, exploring residents and stakeholders attitudes and opinions towards each option in terms of the benefits and drawbacks.
- To prioritise a much smaller group of possible options for reducing air pollution to be included in the final AQAP.

The objectives were addressed via a two stage approach of qualitative workshops with residents and stakeholders and a quantitative postal survey with residents.
The qualitative research gives public perception of air quality that Liverpool City Council faces. It also gives detailed evaluations of the series of options for improving air quality, and allows prioritisation of the favoured and interesting options for wider consultation. The quantitative survey tests out public opinion on this smaller range of options on a wider scale and gathers data to show the proportions of support for each option.

Together, this qualitative and quantitative research programme provides the Council with a smaller set of potential solutions to air pollution that the public consider acceptable; details of the benefits that residents and stakeholders believe each option offers; and the downsides or barriers they think the council will need to overcome to make each solution successful.

4.1.1Methodology

Qualitative Workshops

A qualitative approach was used to gain an understanding of participants' feelings towards improving air quality in Liverpool. Six workshops were held in total – three with residents and three with stakeholders. The workshops were structured to include residents from each AQMA and stakeholders with a potential interest in air quality and the options identified for reducing air pollution.

Further detail of the aims of the workshops and the outcomes is contained within the detailed Research report in Appendix 5 of this report.

Quantitative Postal Survey

The quantitative research builds on the findings of the qualitative workshops. The questionnaire was designed to incorporate the prioritised set of options that workshop participants feel are more appropriate for implementation.

A sample of 3,000 addresses from the electoral register was initially selected to receive the questionnaire. A target response was to achieve1,200 completed questionnaires. This was further broken down into 400 completed questionnaires from AQMA1, 200 questionnaires from AQMA2 and 600 across the rest of Liverpool being targeted for responses.

Due to low response in the first mail shot of June 2005, a further 4,500 questionnaires were posted in July 2005. By the cut off date of 9th August 2005, 1,118 completed questionnaires had been received, representing a gross response rate of 15%.

The full quantitative data is contained within the detailed Research report in Appendix 5 of this report.

4.1.2Summary and Conclusions

This research showed that the public were fairly accurate in their perceptions of the key sources of air pollution, in particular highlighting transport and traffic as important factors.

Qualitative Research

The qualitative research explored each package of options in detail and the feedback was as follows:

- **Package 1** - **Reducing vehicle emissions**
  This was fairly popular overall, in particular with residents. Both residents and stakeholders believed it would have an impact on reducing pollution, although concerned about its practicality and how it would be enforced. Improvements in public transport were seen as key by both parties in improving air quality and for the options in package 1 being successful.

- **Package 2 – Traffic Management Schemes**
  This was fairly positive. Improved signage in the city was welcomed, but many options were seen as controversial, would have objections, and they needed further investigation.

- **Package 3 - Alternative Transport modes**
  This was understood by some to be related to two key issues – restriction on car use and better use of public transport. Restricting car use was considered difficult for various reasons, public transport idea was encouraged, however parties were concerned about safety and security.

- **Package 4 – Development Planning**
  This was not very popular. This was probably because of many of the options in this package being considered as obvious and that they should be happening anyway. There was also general agreement that the options should be enforced through legislation and the planning process, not simply encouraged.

- **Package 5 – Dissemination of Information**
  Providing information to the public in helping to improve air quality was considered a weak package. There were also mixed views about informing the public about air quality and options form reducing air pollution or not.
  Furthermore, mixed views about methods being used and whether they provided good information or were a waste of time and money.

- **Package 6 - Working with and lobbying other agencies and central government**
  This was also considered to be a weaker package of options. A recurring theme from participants was that they would like to see these options carried out at national level, rather than just Liverpool giving the impression of being alone in addressing air quality issues.

Quantitative Postal Survey

The qualitative workshops led to the development of a shortened list of options to be consulted upon via the quantitative postal survey as follows:

- Council and bus services contract for quality service
- New tram system
- More Park & Ride schemes
- Ban high polluting vehicles from city centre
- Better signs into and around Liverpool
- Employers to offer incentives to not use a car
- Ban high polluting buses from the roads
- More cycle lanes and cycle racks
- Traffic lights that give priority to roads that are busy
- More bus lanes
- Traffic lights that give priority to buses
- Car clubs where people pay per use of a car
- Residential developments in the city to be car free
- Congestion charge
- Workplace developments in city centre to be car free
- Fewer parking spaces in the city centre

The postal survey further prioritised these ideas and the recommendation was that for those rated the highest, the Council should consider taking these forward for consideration in the final Air Quality Action Plan. Since the issue and review of the Research report the following six recommended measures have been further considered by the Air Quality Steering group as follows:

a. **A contract between the Council and bus services to make them provide a quality service**
   This option has been discussed and it was agreed that there would be a voluntary arrangement on buses contracts rather than mandatory. However, enforcement action on idling buses has been instigated and newer lower polluting buses have been steadily introduced by the bus operators

b. **A new tram system**
   A new tram system for Liverpool was initiated, but after initial progress the scheme has been put on indefinite hold due to lack of appropriate funding.

c. More Park & Ride schemes

Park and Ride schemes through the trains under the remit of Merseytravel have been put into the Local Transport Plan for 2006-2011 (LTP2) and are seen as integral to delivering improvements in Air Quality.

d. Ban high polluting vehicles from city centre

This could only be achieved through the adoption of a low emission zone (LEZ). This was considered as an option for LTP 2, but initial studies found that the cost to be too excessive, In addition national government dictated that no scheme could be introduced that would be excessive in terms of cost..

e. Better signs into and around Liverpool

Signs in and around Liverpool have improved since the report was written. New more easily read signs plus a visual messaging system have been introduced.

f. Employers to offer incentives to not use a car

Smarter Choices and TravelWise in Chapter 6 of LTP 2, through an integrated network address this matter.

4.2 Description of Each Proposed Package

Each package is listed below, with a description of:

- Which organisation/s or forum/s might take the lead on implementation
- Measures under consideration
- Measures so far rejected
- Additional comments.

Allocation of responsibility to potential lead organisation for each package is done in this draft plan on a purely suggestive basis.

As part of the consultation, organisations are encouraged to say if they are content with leading in the areas identified, or (if they are not so identified) to propose who should take or share the lead. Devolution of responsibility for each package does not detract from the fact that the overall responsibility for implementation of the air quality action plan lies with Liverpool City Council, but simply recognises that other organisations may be better placed to implement many of the options under consideration.

Package 1: Vehicle Emission Reduction

Potential Lead Organisation

Liverpool City Council Transport team, Merseytravel, Travelwise, Local Bus Operators.

Measures under consideration: Very strongly recommended

1.Introduce bus quality contracts to negotiate lower emission buses in the renewal of bus contracts

Measures under consideration: Strongly recommended

1. Introduce bus quality partnerships
2. Develop voluntary agreements with bus operators
3. Use Clear Zones to prevent car parking with engines idling

Measures under consideration; Recommended

1. Undertake a feasibility study to establish a City Centre LEZ. This should assess what type of vehicles are to be included in the zone area and the implementation strategy. Costs and benefits should be assessed to determine the success of operation.
2. LCC to develop a Vehicle Fleet Management Plan
3. Investigate the enforcement of regulations including the Idling vehicles Regulations, vehicle emissions testing and removal of polluting buses from the road network.

Comments on Package

Requires a high level of co-operation between the Council and the bus operators to succeed.

The implementation of bus quality contracts may be difficult to deliver in the near future and would require the necessary resources to succeed.

Measures are generally focussed on improving NO_2 levels in the city centre and they may produce reductions of between 0.5-2µg m^{-3} taken as a whole.

Package 2: Introduction of Traffic Management Schemes

Potential Lead Organisation

Liverpool Transport Team, Merseytravel, Health Authority, Local Bus Operators, Freight Associations

Measures under consideration: Very Strongly recommended

1. Management of freight traffic particularly on the M62. This includes improving signage on the M62 to encourage heavy goods vehicles to leave at Junction 6. The signage on the M57 to Liverpool Freeport is also included to encourage correct movement of freight.
2. Intelligent transport management systems including SCOOT and integrated traffic light phasing.

Measures under consideration: Strongly recommended

1. Bus Lane improvement including enforcement of existing bus lanes, implementation of further bus lanes close to junctions with high traffic flows. This option would include further traffic management measures to facilitate bus priority.
2. Dynamic traffic signing throughout the city centre.
3. Improvements to road traffic management around Edge Lane. This would require re-engineering of the carriageway through AQMA2. This would have the benefit of improving traffic flows around the M62/Rocket junction.
4. Control of freight journeys into the AQMA during peak time

Comments on Package

Bus Lane improvements complements the LTP policy although there is an enforcement issue and an economic cost of reallocating road space. Freight management on the M62 could be readily achieved through improved signage, which could have positive social and economic effects. SCOOT system implementation would require a 2-3 year period with high capital and revenue costs. There would however be beneficial impacts to the economy of the city with less congestion.

Measures are generally focussed on improving NO_2 levels in both AQMAs and they may produce reductions of between 0.5-1µg m^{-3} taken as a whole.

Package 3: Encourage Alternative Transport Modes

Potential Lead Organisation

Liverpool Transport team, Merseytravel, Local Bus operators, Freight Associations

Measures under consideration: Very Strongly Recommended

1. Bus routing and scheduling improvements including investigating the possibility of through-buses for the city centre; provision of bus layovers to give an opportunity for buses to park up rather than idling; and evaluate the timetabling and scheduling for Queens Square station to reduce the unnecessary circulation of buses.
2. Investigate an increase in city centre parking charges and the introduction of congestion charging.
3. Improve access to, and quality of, public transport travel information.

Measures under consideration: Strongly Recommended

1. Promote the use of Transport Hubs at local rail stations through the improved provision of parking, passenger comfort and appeal and integrated timetabling, safety, frequency and reliability. Assess the success of the Edge Hill Hub proposed development.
2. Investigate the provision of Park and Ride facilities close to the M62/Rocket junction and at the M58/M57 Switch Island Junction and at rail connection locations. Investigate the provision of temporary Park and Ride facilities to cover peak times of demand and major events.
3. Promotion of walking and cycling initiatives including the support of a city wide cycling strategy and integration of the Merseyside cycling strategy with the National cycling strategy. Investigation of ways to promote walking in the city through the evaluation of strategic routes from stations to commercial centres.
4. Investigate the use of car clubs, which could be a condition of planning for development. Car clubs offer a way of using a car without owning one, where members pay an annual fee and an hourly rate for use.
5. Travel Plans promotion in workplaces, schools and Broadgreen Health centre.
6. Co-ordination of community travel support/services e.g. for the elderly

Measures under consideration: Recommended

1. Use of High Occupancy Lane in the Mersey Tunnels.
2. Requirement of organisations within the AQMA to produce a Travel plan
3. Encouragement of charging for car parking for staff by car park owners

Comments on Package

Promotion of walking and cycling complements Liverpool's Health Strategy. The proposed Hub development at Edge Hill for a park and ride facility would require longer term investment with land purchase and planning permission.

Measures are generally focussed on improving NO_2 levels in the city centre and they may produce reductions of up to 1µg m^{-3} taken as a whole.

Package 4: Development Planning

Potential Lead Organisation

Liverpool Planning Team

Measures under consideration: Recommended

1. Include statements to promote the importance of air quality within the AQMAs in Liverpool Local Development Plans. This may require a re-investigation of areas that have previously been designated as commercial/residential use with the aim to reduce the freight movements in the AQMAs.
2. Consider restriction of parking allocations with as a planning condition for development.
3. Investigate the introduction of Home Zones to planning requirements for residential developments
4. An air quality impact assessment should be required on specified developments in the AQMAs.
5. Mitigation measures to limit the increase in air pollutant emissions as a result of any development is to be included as Planning Obligation S106 agreements where appropriate
6. Prepare and publish a Supplementary Planning Document on air quality assessments for proposed development planning consideration
7. Consider the access to Park and Ride/Public transport facilities in the impact assessment of proposed developments.
8. Preparation of Travel plans as a planning condition for development.
9. Prepare supplementary planning guidance to include travel plans.

Comments on Package

This complements the national perspective on air quality management and development control in the recently published Planning Policy Statement 23.

Measures are generally focussed on improving or managing NO_2 levels in the city centre and they may produce reductions of around 1µg m^{-3} taken as a whole.

Package 5: Dissemination of information on ways that businesses and the public can contribute to improved air quality

Potential Lead Organisation
Liverpool City Council

Measures under consideration: Very Strongly Recommended

1. Provide a consolidated platform for advising the public and businesses on
    a. the health effects of air pollution
    b. Regulations in Liverpool regarding smoke control areas
    c. Ways of reducing vehicle emissions e.g. through proper maintenance and alternative fuel choices, and of the financial savings and grants that are available
    d. Driver training to encourage behaviour that reduced fuel consumption and hence emissions, for example, reducing time spent with engines idling, smoother vehicle operation
    e. Energy efficiency measures and grants and advice that are available
    f. Participation in events such as Don't choke Britain, Bike to Work Week and Walk to School Week and Car Free Day
    g. Healthy Liverpool campaigns to promote walking and cycling.
    h. The preparation and implementation of Travel Plans including Walk to School Strategies.

2. Link the `Time to Clean Up Campaign' to roadside vehicle emissions testing and the enforcement of Clean Up.

Measures under consideration: Recommended

1. Produce and publicise a Freight Movement Strategy, which would include the promotion of the preferred freight routes around the city through improved signage.

Comments on Package
The role of the general public in causing air quality problems through use of vehicles, domestic heating systems, etc., is often overlooked. The benefits of improved efficiency beyond improvement in air quality need to be highlighted.
Air quality should be a major factor considered during discussion on where measures such as those listed should be targeted.
Ideas should be shared between councils on the best way forward for dissemination programmes. A variety of methods have been used up and down the country, including public meetings, use of the internet, and advertising through car stickers and bookmarks distributed through public libraries.
Measures would improve NO_2 levels across LCC and they may produce reductions of up to 1µg m^{-3} taken as a whole.

Package 6: Actions to be taken with Neighbouring Authorities and Lobbying Central Government.

Potential Lead Organisation

Liverpool City Council in association with neighbouring authorities, Merseyside Air Pollution Group, Merseytravel.

Given the limits on some implementation powers Liverpool City Council will need to consider how to lobby those who agree action at a national level. The bodies to be lobbied include DfT, ODPM and Defra.

Measures under consideration: Very Strongly Recommended

1. Lobby for increased enforcement by the police to remove illegal vehicles from the road network.
2. Actively promote the proposed Allerton Interchange development to link 2 railway stations to the proposed tram network

Measures under consideration: Strongly Recommended

1. Lobbying for movement of traffic offences from criminal to civil law
2. Lobby for the requirement for travel plans from all sectors.

Measures under consideration; Recommended

1. Encourage the North West Regional Assembly to promote air quality issues in their preparation of the Regional Spatial Strategy particularly in the AQMAs.
2. Lobbying for the preparation of a regional transport plan/strategy
3. Lobbying for the preparation of a Merseyside air quality strategy

Comments on Package

Consideration will need to be given to how best any lobbying should be progressed – for example, is it appropriate for Liverpool to act on its own, or would it be better for the Council to act in association with others.

Measures would improve NO_2 levels across LCC and they may produce reductions of around 1μg^{-3} taken as a whole.

4.3 Illustration of the decision making process to recommend options

The following example illustrates the process followed in the determination of priorities. It also illustrates how decisions have been made with respect to the strength of recommendation listed against each of the options in Packages 1 to 6. We do not pretend that this is an exact science, and at this stage openly admit that data used is prone to significant uncertainty, but it does demonstrate the logic that has been used. Stakeholders are encouraged to consider the information, and to provide feedback to the council where they believe that errors are present, or prioritisation has so far failed to take account of important issues.

4.3.1 Improvement of Bus Lanes in the City Centre

The improvement of bus lanes in the City Centre is included in Package 2 and is here 'Very Strongly Recommended' for further detailed consideration (as opposed to 'Strongly Recommended' or just 'Recommended').

Estimated costs

Both capital and revenue costs for the improvement/establishment of new bus lanes is dependent on numerous factors. This is illustrated by the following (no doubt incomplete) list:

- The capital costs include the design and construction of bus lanes and the revenue costs includes the maintenance and enforcement.
- Merseytravel will bear the majority of the costs while the local authority will need to cover the maintenance costs.
- Enforcement of bus lane use has been empowered through the use of CCTV in the London Authorities where costs for introducing CCTV were quickly recovered from bus lane abusers.
- Fines from illegal use of bus lanes could be reinvested in the development of additional bus lanes

In the face of these unknowns any estimate of cost is clearly going to be very approximate.

Estimated effect on air quality

Emissions from public transport are likely to make up a small percentage of all NOx emissions in the city. The benefit of buses being able to travel easily is dependent on the current congestion and idling of buses at traffic junctions and numerous other factors (as for the costs) though there is potential for very significant gains. As an approximate figure based on trends in emission factors, we estimate a potential 1-5% reduction in emissions across the city. There is, again, significant uncertainty in this estimate.

Other impacts

These are characterised on a scale of -3 (significant negative impact) to +3 (significant benefit). This evaluation is not precise, but it does serve to highlight areas where important advantages or disadvantages will occur. The scores given and associated rationales were as follows:

Factor	Score	Rationale
Perception	+2	This fits into current LTP and national policy. The enforcement of bus lanes remains a major problem.
Practicability	-1	Road Traffic Regulation Orders are used to develop bus lanes. A long-term process. 2-3 years is often required to develop bus lane proposals. Developing bus lane proposals exerts a high demand on scarce revenue resources.
Social impact	+2	Very positive – bus lanes can reduce journey times and the attractiveness of bus travel for people without access to a car.
Economic impact	+1	Improved journey times for buses can reduce congestion and thus the economic costs of congestion. Reallocating space for buses can increase journey times for other road users, which also has a high economic cost.

Table 5: Assessment of non-NOx impacts of the introduction of bus lanes.

Conclusion on strength of recommendation

Whilst the cost of this measure applied on a wide basis could be medium it also seems to offer a significant reduction in emissions. Combining the two to consider cost-effectiveness gives a mid-upper score in the matrix shown in Figure 6. The measure scores well on other impacts, and so is assigned to the 'Very strongly recommended' band.

Chapter 5 Implementation of the Plan

5.1 Planning the Implementation of each Measure

It has been necessary to develop a detailed implementation programme now that a final list of options has been agreed for the Liverpool City Council Air Quality Action Plan. This is critical to the success of the plan as it will determine the effectiveness of each of the measures included in it.
The implementation programme is especially important in Liverpool City Council because of the substantial amount of planned and active redevelopment going on within the city. Without effective collaboration there are serious dangers of confusion between different bodies leading to a reduction in the cost-effectiveness of the plan as a whole.

The implementation programme is presented as a responsibility table in table 6.

Implementation needs to be seen as operating at two levels, described in the following sections:

1. Overall project management and delivery of the plan.
2. Delivery of each individual option.

5.1.1 Project management and delivery of the overall plan

The plan will be implemented by staff from Liverpool City Council's Environmental Protection Unit, working with the steering group.

The steering group:

a) It consists of Liverpool city officers from Environmental Protection, Planning and Highways, the Liverpool City Council Executive member for the Environment, Merseytravel and the Bus operators – Arriva and Stagecoach.

b) It may involve stakeholders from a variety of organisations such as the Liverpool Primary Care Trust and from local residents groups. This would have the advantage of bringing together people with a variety of experience, but may be too large a group for effective decision-making. Recognising the benefits of involving these stakeholders in the process it may be better to define a programme for ongoing consultation throughout the implementation phase.

c) It would be useful to have representation from disabled groups

5.1.2 Implementation of each option

For The delivery of each individual option, the following details have been included:

- The lead party with overall responsibility for delivering the option?
- The cost for implementing each option
- A description of the specific actions that need to be undertaken for implementation of the option
- Cost of each option
- Where funding is being provided from
- Timescale for each option
- How success will be measured

5.1.3 Responsibility Table: Actions to be taken forward within Final Air Quality Action Plan for AQMA1 & 2

Option No.	Category	Lead	Description	Cost £K's	Funding From	Decided By	Timescale
	TRANSPORT						
1	Bus Quality	Merseytravel	Contracts with operators via traffic commissioner or bus quality Partnerships	100s	Bus Operators	Bus Operators	2011 and beyond
2	Bus Lanes	Transport Planning and Parking Services	Bus Lane enforcement (moving traffic offences) and Implementation	£100k depending on distance, conditions etc	LTP	LCC/ Merseytravel	ongoing
3	Bus Routing/Scheduling	Bus Operators					ongoing
4	Park and Ride Schemes	Merseytravel	35% increase in passenger numbers by 2011	250m	LTP	Merseytravel	2011
5	Freight Management	Traffic Management	Clearer signing	600k	LTP	LCC. Traffic Management reviewing signage on Strategic freight network. 07/08 capital programme looking at access to the docks and from Wallasey Tunnel along Stanley Road	2011

Option No.	Category	Lead	Description	Cost £K's	Funding From	Decided By	Timescale
6	Walking/Cycling Initiatives	Transport Planning	Travel to Work Mode share Increase cycling by 10% Increase walking Mode share journeys to school	£5m of LTP Funding Other developer funding	LTP/ developers	LCC and developers	2011
7	Car Clubs	Transport Planning	Whizzgo			Completed	
8	Clean Technology Vehicles	Liverpool Fleet manager	Fleet renewal Travel Guidance	Not known	LCC	Fleet Manager	Ongoing
	PLANNING						
9	Adoption of Transport SPD	Planning/ Policy /Transport Planning/ LTP partners	95% of developments to meet SPD	Not Known		LCC – Still in draft form and Environmental Health to propose air quality considerations for inclusion	2011
10	Workplace/ School Travel plan programme	LCC/ TravelWise	Smarter choices programme	variable	LCC (own TP) Developers	LCC – A page will be set up on the City Council Website to inform developers from the pre-application stage of what the City Council expects to see in a travel plan document along with standardised wording for the travel plan condition.	2011

Option No.	Category	Lead	Description	Cost £K's	Funding From	Decided By	Timescale
11	Development Plans	Development Planning	Various options for reducing need for private car use and travel				
12	Home Zones	Development Planning	Priority for pedestrians	Variable according to the size of the development	Private developer contributions	LCC in conjunction with developers. Also restructuring of the highway network through HMRI	Ongoing
13	City Centre Management System (CCMS)	Highways Management	Removal of core traffic from city centre	73m	LTP, NWDA, Objective one ERDF, SRB	LCC, Vision, Merseytravel	2011
14	Intelligent Transport Systems(Scoot etc)	Highways Management	Developing major Scheme	5.4m	DfT	LCC – There are three routes currently covered by SCOOT. An emerging Major Scheme is identified in LTP2. A Major Scheme Business Case is currently being developed in conjunction with the Highways Agency.	2011
15	Low Emissions Zones (major Scheme)	Transport Planning	Various scenarios identified to take this forward.	44m maximum (variable according to the extent and type of the scheme)	DfT	LCC – This is identified in LTP2 as an emerging Major Scheme. Desktop feasibility study for reducing traffic emissions has been completed.	2011

Option No.	Category	Lead	Description	Cost £K's	Funding From	Decided By	Timescale
16	Variable Message signs (VMS)	Highways Management	30 signs (27 in Liverpool) to warn drivers of diversions, events etc, reducing congestion and pollution	£1.2m	LTP	LCC – Currently investigating whether Air Quality data and smarter choices promotions could be included on these signs to allow the public to make an informed decision. Will need permission from DfT.	2006
17	Car Park Guidance	Highways Management	City Centre Car Park Guidance	£1.0m	LTP	LCC – This is a separate system to the VMS and informs drivers of which car parks have spare capacity to reduce unnecessary circulation.	2007
18	Coach Parking Strategy	Transport Policy	Identify sites for coach parking reducing traffic in City centre	To Be Determined (TBD)	LTP/ developer funding	LCC – Locations around the City Centre are currently being identified. A Strategy will be adopted in April.	2007
19	Transport Innovation Funding	LTP partners	Congestion charging with associated smarter choices, access and Air Quality	TBD but £m's available	DfT	LTP partners ultimately DfT – Work identified in the TIF Pump Priming Bid (rejected in December) is currently being take forward by the partners (cost £650k) in order to allow Merseyside to be in a position to make a full TIF bid in summer 2008, should Road user Charging be considered necessary.	2008-2014/15

Option No.	Category	Lead	Description	Cost £K's	Funding From	Decided By	Timescale
	OTHER						
21	Regulation/enforcement	Environmental Health	Enforcement of vehicle idling Regs/ Clean Air Acts/ Pollution Control Legislation	No additional costs		LCC	
22	Promotion/Lobbying	Environmental Health	Live Air Website/ more information for public / real time pollution information/automatic pollution alerts/ tie in with variable messaging signs	6K per year to operate web site	EHTS Annual budget	LCC	Completed and live by end of first quarter 2007
23	Engine Idling	Environmental Health	Request operators to stop engine idling in the AQMA's. Engage parking enforcement officers to prevent buses idling on double yellow lines	Officer time	EHTS Annual budget	LCC	ongoing

It may become apparent during the implementation process that some options are either not working, or are inadequately resourced. Decisions will need to be taken as to whether these options should be taken forward or abandoned in favour of others that are proving more successful.

5.2 Resourcing the Plan

Given the large number of measures that are likely to feature in the plan, implementation will be a complex task. For the plan to generate improved air quality it is therefore essential that sufficient resources are given both to its management and to the options adopted under it.

5.3 Air Quality impacts of proposed measures

The implementation of measures discussed within Packages 1 to 6 and the responsibility table is expected to show improvements within the two Air Quality Management Areas (AQMA's) over the five year period of the Local Transport Plan 2006-2011 (LTP2) as follows:

Nitrogen Dioxide concentration reductions by 2010:-

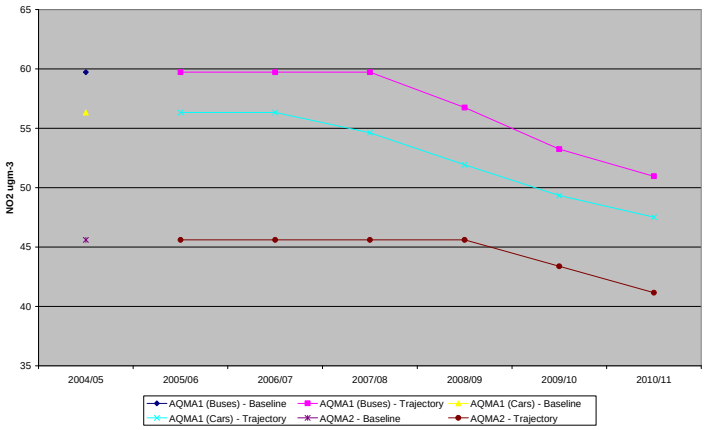
AQMA 1 – Crosshall Street – 28%

AQMA 1 – Islington Square – 12.8%

AQMA 2 – Bowring Park Road – 10.46%

The progression during the five year period of LTP2 towards the national standards is shown in LTP 8 – A mandatory indicator for Air Quality pollutants within the AQMAs.

Mandatory Indicator: LTP8		**Air Quality - Pollutant concentrations within Air Quality Management Areas (AQMA's)**	
Baseline	AQMA1 (Buses) ug/m^3	AQMA 1 (Cars) ug/m^3	AQMA 2 ug/m^3
2004/05	59.73	56.33	45.6
2005/06	59.73	56.33	45.6
2006/07	59.73	56.33	45.6
2007/08	55.52	54.53	45.6
2008/09	51.31	52.72	44.01
2009/10	47.1	50.92	42.42
Target* 2010/11	**42.89**	**49.11**	**40.83**



An Ambitious and Realistic Target

AQMA1 (Bus focused monitoring location) – Major bus route on Crosshall Street in the City Centre

AQMA1 (Car focused monitoring location) – Islington Square in the City Centre

AQMA2 – Bowring Park Road

It is felt that it would be unrealistic to expect to be able to meet National Air Quality Standard for Nitrogen Dioxide (NO_2) of 40 ug/m^3 within this LTP period given the fact that traffic growth of up to 7% is expected in the City Centre (9.2% Merseyside wide) and is seen as acceptable given the current economic climate.

* Although a target value must be set for this indicator, guidance states that progress should be measured by intermediate indicators, included in the Merseyside LTP as indicators L17 and L18.

Key Actions to Achieve Target

Reduce traffic related emissions by 15% in the City Centre (to be measured in the identified locations within AQMA1) and to reduce traffic related emissions by almost 10% at the identified location within AQMA2.

See Action Plan Package Table

Principal Risks & Management Approach

Political will to implement Action Plan and most effective measures therein -work with Councillors and the general public to gain both their understanding and support for the measures contained within the Action Plan.

Guidance on Quality Bus Contracts - work with Merseytravel and the bus operators through partnerships to deliver an overall service which has least environmental impacts, outside of the QBC framework.

Traffic growth rising above the levels to which we have agreed to be constrained - Consideration of trigger points for further action – see congestion chapter.

Objective/Priority Area(s)	**Air Quality, Quality of Life / Protects the Environment**

5.4 Websites Specific to Liverpool City Council

City Council's website:
http://www.liverpool.gov.uk/
Air quality website:
http://www.liverpool.gov.uk/A_Z_of_Council_Services/Environment/Air_quality/index.asp

5.5 Websites for Neighbouring Councils

Ellesmere Port and Neston:
http://www.ellesmereport-neston.gov.uk/

Halton
http://www2.halton.gov.uk/

Knowsley
http://www.knowsley.gov.uk/

Sefton MBC
http://www.sefton.gov.uk/

Wirral MBC:
http://www.wirral.gov.uk/

St Helens
http:// www.sthelens.gov.uk/

5.6 National Air Quality Strategy

Guidance on action planning has been produced by DEFRA and the Welsh Assembly (jointly) and by the NSCA in an initiative supported by DEFRA:

- Part IV of the Environment Act 1995: Local Air Quality Management Draft Policy Guidance. DEFRA/Welsh Assembly, 2002.
- Air Quality Action Plans: Interim Guidance for Local Authorities, NSCA, 2000.
- Air Quality: Planning for Action. Part 2 of the NSCA's guidance on the Development of Air Quality Action Plans and Local Air Quality Strategies. NSCA, 2001.
- Air Quality Action Planning Helpdesk, funded by DEFRA and run by Casella Stanger and TTR (Transport Travel Research) Ltd.: http://www.stanger.co.uk/jointprojects/DEFRA-Home.asp?jointprojectid=10
- Further information on the national air quality strategy can be found at http://www.defra.gov.uk/environment/airquality/index.htm
- Further guidance for local authorities can be found at: http://www.airquality.co.uk/archive/reports/reports.php?action=category&section_id=6
- In developing the strategy DEFRA has commissioned a substantial amount of research, which is accessible at:

http://www.airquality.co.uk/archive/reports/reports.php?action=category&section_id=2

- The Environment Agency has also provided guidance on improving urban environments in the documents 'Our Urban Future: Putting the environment at the heart of urban renewal' and the more detailed assessment 'The Urban Environment in England and Wales'.

5.7 Information on EU Legislation

Information on the legislation developed on air quality by the European Commission can be accessed through:
http://europa.eu.int/comm/environment/air/index.htm

Appendix 1 National Air Quality Strategy Objectives

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene			
All authorities	16.25 μgm^{-3}	Running annual mean	31.12.2003
England and Wales only	5.00 μgm^{-3}	Annual mean	31.12.2010
Scotland and Northern Ireland	3.25 μgm^{-3}	Running annual mean	31.12.2010
1,3-Butadiene	2.25 μgm^{-3}	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg m^{-3}	maximum daily running 8-hour mean	31.12.2003
England, Wales & N. Ireland only			
Scotland only	10.0 mg m^{-3}	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g\ m^{-3}$	Annual mean	31.12.2004
	0.25 $\mu g\ m^{-3}$	Annual mean	31.12.2008
Nitrogen dioxide	200 μgm^{-3} not to be exceeded more than 18 times a year	1 hour mean	31.12.2005
	40 $\mu g\ m^{-3}$	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 μgm^{-3}, 35 times a year	24 hour mean	31.12.2004
All authorities	40 $\mu g\ m^{-3}$	Annual mean	31.12.2004
Scotland only	50 μgm^{-3}, 7 times a year	24 hour mean	31.12.2010
	18 $\mu g\ m^{-3}$	Annual mean	31.12.2010
Sulphur dioxide	350 $\mu g\ m^{-3}$, 24 times a year	1 hour mean	31.12.2004
	125 μgm^{-3}, 3 times a year	24 hour mean	31.12.2004
	266 μgm^{-3}, 35 times a year	15 minute mean	31.12.2005

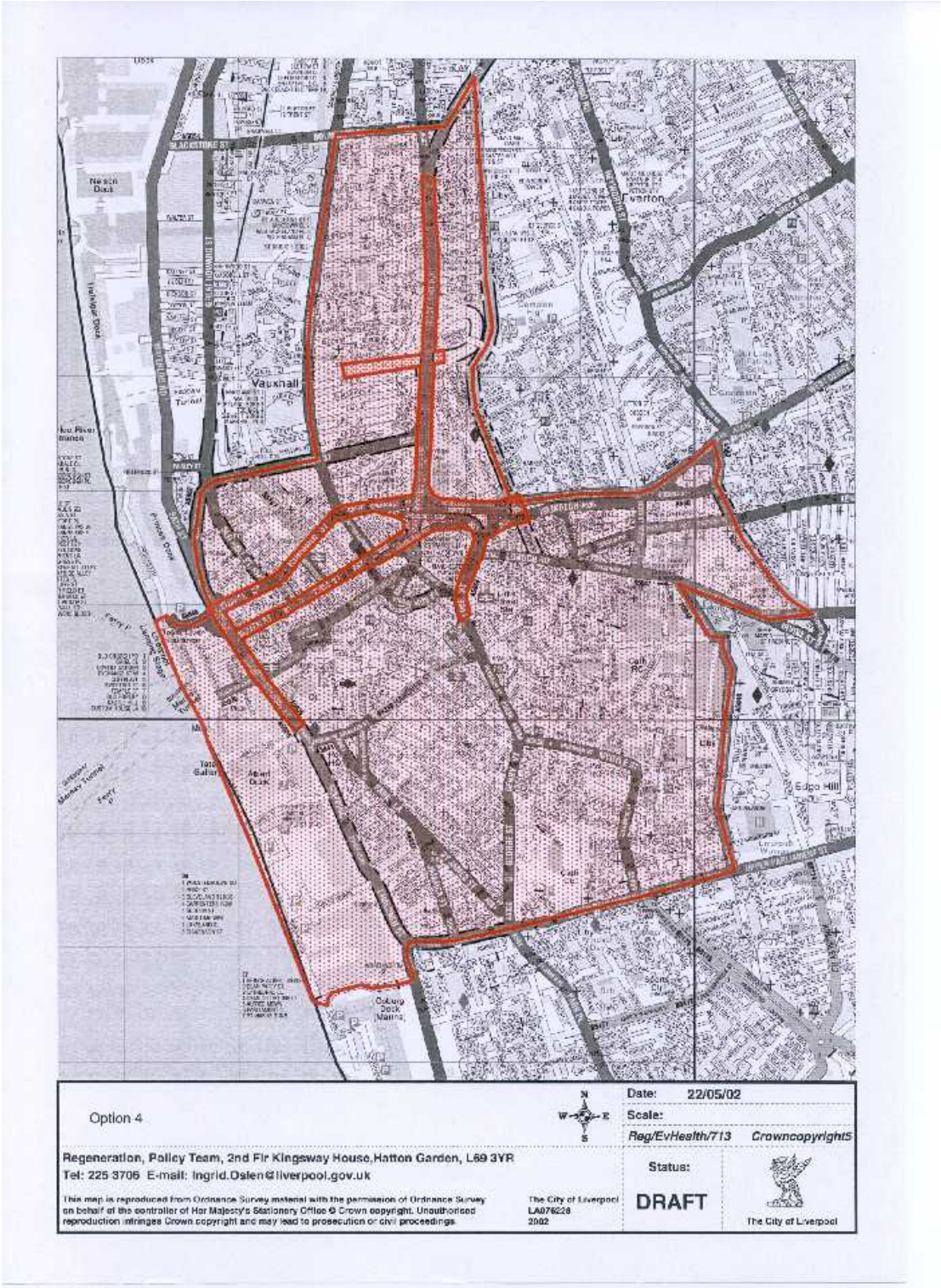
New particle objectives for England, Wales, Northern Ireland and Greater London not included in Regulations

Region	Objective	Measured as	To be achieved by
Greater London	50 μgm^{-3} not to be exceeded more than 10 times per year	24-hour Mean	31.12.2010
Greater London	23 μgm^{-3}	Annual Mean	31.12 2010
Greater London	20 μgm^{-3}	Annual Mean	31.12.2015
Rest of England, Wales and Northern Ireland	50 μgm^{-3} not to be exceeded more than 7 times per year	24-hour Mean	31.12.2010

Appendix 2 Liverpool City Centre Air Quality Management Areas

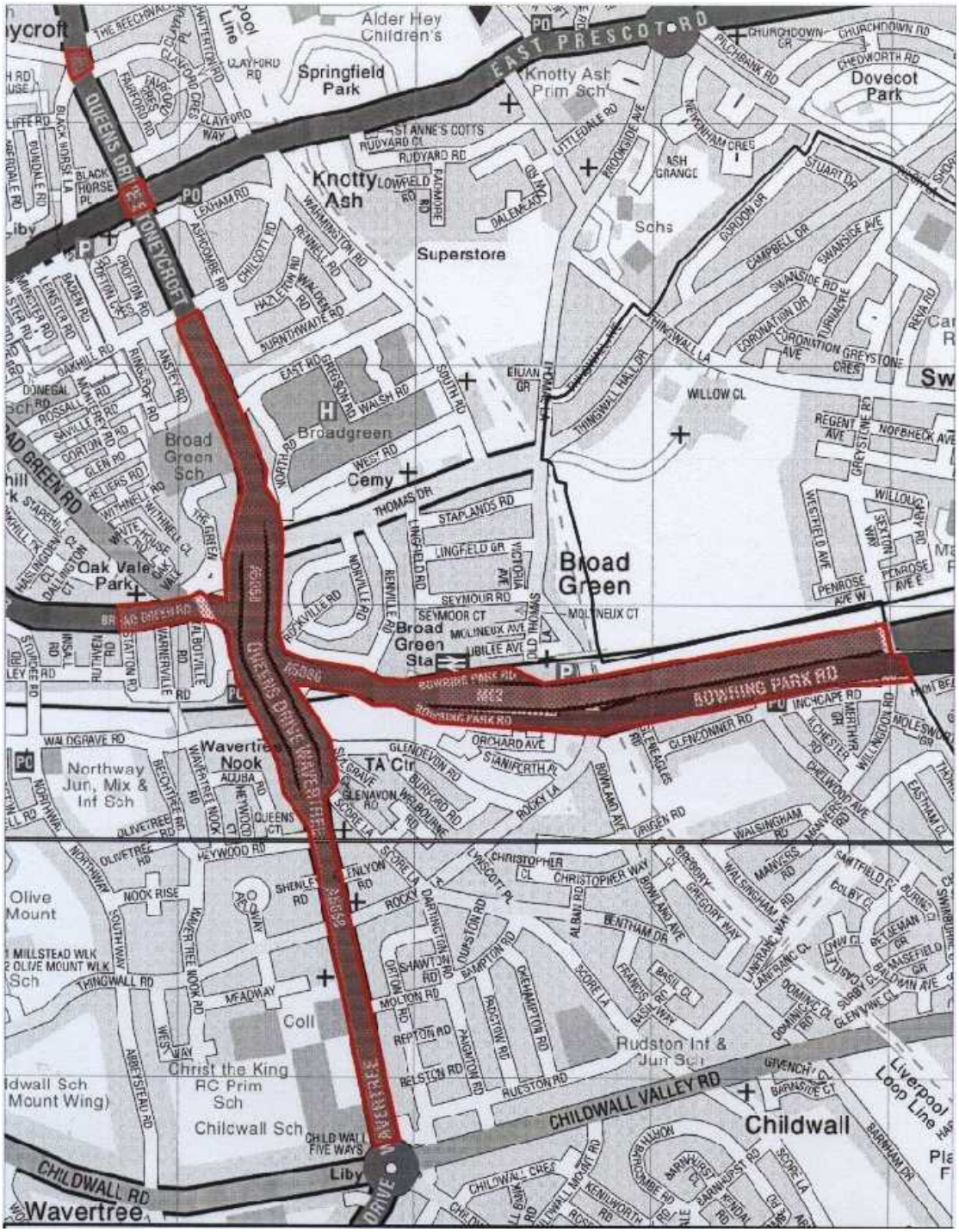
Liverpool City Centre AQMA

Description:
Street and Hall Lane in the East.
Pollutants Declared: Nitrogen dioxide (NO_2)



Liverpool M62 / Rocket Junction AQMA

Description: An area along the A5058 between the junction with Chilcott Road/Oakhill Road to the north and Childwall Road/Childwall Valley Road to the south, along the A5080 Bowring Park Road and M62 between Queens Drive to the West and Willingdon road to the east, and the A5080 Broad Green Road up until the junction with Statton Road to the West.
Pollutants Declared: Nitrogen dioxide (NO_2)



Appendix 3

Liverpool Air Quality Action Plan Steering Group and Consultees

Andy Hull	LCC EHTS
W. Trevor Good	LCC EHTS
Alan Wilkins	LCC EHTS
John Shaw	LCC EHTS
Robert Faulkner	LCC EHTS
Huw Jenkins	LCC Transport Policy
John Carrington	LCC Fleet Manager
Mark Loughran	LCC Planning
Steve Wood	LCC Planning
Mark Smith (Chairperson)	LCC Planning and Transportation
Steve Cook	Merseytravel
Dr Stephen Finnegan	LCC Transport Policy
CC Mr Richard Oglethorpe	Executive Member for the Environment- LCC
CC Mr Peter Millea	Executive Member for Transport - LCC
Dr Geoff Dollard	AEA Technology NetCen
Dr Beth Conlan	AEA Technology NetCen
Gwyn Jones	AEA Technology NetCen

	Consultee	Organisation
1	Dave Boyer	Highways Management
2	Peter Molyneux	Highways Management
3	Christine Wray	City Centre Movement Scheme
4	Mike Peet	Local Transport Plan
5	Karen Booth	Merseytravel
6	Dr Stephen Finnegan	Merseytravel
7	Maureen Quinn	Merseytravel
8	Arthur Picton	Merseytravel
9	Stephen Cook	Merseytravel
10	Norman Reece	Merseytravel Projects
11	Christine Derbyshire	LA21 Policy
12	Penny Wakefield	Liverpool Partnership
13	Steve Wood	LCC
14	Jenny Douglas	Liverpool Vision
15	Tim Jago	Regeneration Policy
16	Andy Hull	LCC
17	Gary Mahoney	FoE
18	Steve Pearse	Chamber of Commerce
19	Nichola Lee	Chamber of Commerce
20	Paula Grey	Primary Care Trust
21	Barbara Reece	L14 Action Group
22	Mark Loughran	Chief Planning Officer
23	Nigel Cross	Technical Manager Arriva
24	Huw Jenkins	Transport Policy Team Leader

Appendix 4

Appendix 4.1 Listing of original suggested options from Key Stakeholders

Option number	Theme
1	Resigning on M62 for Freight
2	Use of Bus Lanes
3	Controls on stationary traffic
4	M62 Park and Ride
5	Powers to remove polluting vehicles
6	Improve signing to city centre car parks
7	Through bussing
8	Support Mersey tram
9	Promote pedestrianisation
10	Cycling strategy
11	Phasing of traffic lights
12	Park and Ride M62
13	Link to LDFP
14	Car Parking Strategy
15	Green Travel Plans
16	Bus Layover Byrom Street
17	Travel Plans within AQMAs
18	Demand Management
19	Travel Plans
20	Car Clubs
21	Parking restrictions in AQMAs
22	LCC Travel Plan
23	School Travel Plans
24	Mersey Tunnels Car sharing
25	Marketing of issues/benefits
26	Taxis and Clean technology engines
27	Clean bus engines
28	Develop lever to promote clean buses
29	Provision of layover facilities for buses
30	Emission testing and enforcement
31	Bus regulation initiative
32	Use of hybrid buses
33	P&R and coordination
34	Older buses on city routes and centre
35	Use of old railway for freight
36	Cycling and GTPs
37	Walking Strategy
38	Home zones – residential developments
39	Use of River for commuting
40	Draft UDP actions
41	Redesignation of industrial land in N of city-
42	Support ‘Allerton interchange’

Option number	Theme
43	Port Access Strategy
44	Edge Lane Improvements Scheme
45	Park and Ride Strategy
46	Temporary Park and Ride
47	Bus Layovers at Paradise Street and Pier head
48	Park and Ride at Switch Island
49	Promote Liverpool First Health strategies
50	Introduce low emission zone in city centre
51	Review impact of possible 'idling regulations
52	Residential development and car ownership
53	Park and ride M62 area
54	Edge Lane improvements
55	Direct freight traffic along old tunnel routes
56	Signage on M57/M58
57	Develop station hubs
58	GTP for Broadgreen
59	Replacement for Royal Liverpool Hospital
60	Edge Hill Hub development
61	Coordinated community services
62	Summary of suggestions from LPG
63	AQ indicator for Community Strategy
64	Help with AQAP consultation from LPG
65	Limit access for freight vehicles at peak times
66	Follow up, support freight strategies
67	Intelligent transport management systems
68	Bus priority lanes at junctions
69	Bus circulation in city centre
70	Quality Bus Partnerships
71	Declare low emission zones at peak times
72	Promote school travel plans
73	Introduce charges for staff parking/pool bikes
74	Link development to sustainable solutions
75	Dynamic Traffic signing
76	LCC vehicle fleet management
77	Control of buses in AQMA
78	Review traffic along the Strand
79	Support Mersey Tram Scheme
80	Enforcement of bus lanes
81	Quality bus Partnerships
82	Bus facilities and city gyratory
83	Bus Priority in City routes
84	Deployment of diesel electric buses - CATCH
85	Support of enforcement
86	Improve signing on M57 to Freeport
87	Linkage to development of LTP2

Appendix 4.2 Steering Group Comments on Options

Some listed options do not have comments. The steering group decided that where options were similar they should be scored the same. The table in appendix 4.3 presents a summary of this and other comment.

4.2.1 Bus Quality

4.2.1.1 Bus Quality Contracts

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	+3 Bus strategy and MT objective. It also fits into improving quality across the county. +3 Political support required and contract approval under TA (2000) +3 Very Positively, constantly requested by public and other agencies		Overall Score = 3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	18mths-2 yrs due to TA (2000) timescales. +1 Public consultation, government approval TA2000 +3 Existing staff could be used.		Overall Score = 2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	+2 +2 +1 +1		Overall Score = 0 Notes and assumptions Support could be given with existing staff Expected to be cost neutral with allocation of resources Would seek to become cost neutral
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	+3		Overall Score =3 Notes and assumptions Regulation over the use of cleaner vehicles and services. Is probably the only cost effective way to assure County-wide participation.
Economic impact	What is the likely impact of the	+3		Overall Score =3

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
	option on the City or more local economy and the regeneration projects?			Notes and assumptions Achieves aims of AQAP and allows optimal use of public money for public transport.

4.2.1.2 Quality Bus Partnerships - LCC needs to be able to purchase negotiate a quality of service from providers in return for guarantees on route facilities and engineering.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	+3 +1 +1		Overall Score =2 Notes and assumptions Cleaner City Centre air. Would require government approval under TA(2000) Better than VA but not as good as QC
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	1 to 2 years +1 +2		Overall Score = 2 Notes and assumptions Requires area agreement for City Centre Services (complex) Public consultation, govt. approval, TA (2000) Existing staff could be used by they may be a requirement for additions.
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	 Public authority No Depends upon action of agreement	-1 -1 -3	Overall Score = -1 Notes and assumptions Monitoring and evaluation costs poss. higher than QC because supported service funds not available for QBP Still commercial and supported services plus area QBP for City Centre would be very complex.

Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	+3		Overall Score =3 Notes and assumptions Provides more control over the use of cleaner vehicles and services.
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	+3		Overall Score = 3 Notes and assumptions Achieves aims of AQAP but would require significant lengthy timescales due to TA(2000)

4.2.1.3 Voluntary agreements with bus operators

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	+3	-3 -2	Overall Score = -1 Notes and assumptions Cleaner city centre air Requires agreement from operators Voluntary and non-enforceable
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	6 m to 2 years +3	-3	Overall Score = 0 Notes and assumptions Agreement with operators Existing staff could be used.
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Operator No	-3 -1 -3	Overall Score = -1 Notes and assumptions Public ticket prices will probably bear most of the costs.
Social impact	What are the social impacts	+3		Overall Score =3

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
	of the options? E.g. accessibility, health, inclusivity, etc.			Notes and assumptions Would provide short-term improvements in the use of cleaner vehicles and better services
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	+2		Overall Score =2 Notes and assumptions Achieves aims of AQAP but could be reversed by any disagreements

4.2.2 Bus Lanes

4.2.2.1 Better use of bus lanes; more of them but particularly better enforcement

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – fits with current LTP policy and emerging guidance on tackling congestion and conditions for bus users. Improved publicity about benefits of bus lanes is required.	Yes – political barriers to development of bus lanes. Proposals are often contentious and can be aborted following objections. The enforcement of bus lanes remains a major problem (the responsibility of the Police) due to a general lack of resources. Enforcement is currently a moving offence enforceable by the police and not Parking Attendants, though this is set to change.	Overall Score = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Orders under the Road Traffic Regulation Orders are used to develop bus lanes. Could be procured.	A long-term process. 2-3 years is often required to develop us lane proposals. Developing bus lane proposals exerts a high demand on scarce revenue resources	Overall Score = -1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs.	Capital costs of design and construction and	The maintenance of bus lanes exerts a demand on	Overall Score = + 1

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
	What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	revenue costs of maintenance and enforcement Merseytravel bear majority of costs In Croydon where LA already have enforcement powers, they enforce via CCTV (regulations are different for London Boroughs at the moment). Costs for introducing CCTV are quickly recovered from bus lane abusers. Costs could be passed on via the bus companies. Fines from illegal use of bus lanes could be reinvested in the development of additional bus lanes	revenue resources from the local authority However, this could force up fares and reduce bus patronage.	Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very positive – bus lanes can reduce journey times and the attractiveness of bus travel for people without access to a car		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Improved journey times for buses can reduce congestion and thus the economic costs of congestion	Reallocating space for buses can increase journey times for other road users, which also has a high economic cost	Overall Score = +1 Notes and assumptions

4.2.2 Utilise priority bus lanes at and approaching junctions with heavy traffic flow

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – make best use of the highways network and also improve conditions for bus users are both supported by the LTP. Similar barriers to bus lanes in general.		Overall Score = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Same as general bus lanes Ditto		Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	As above		Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Can improve the attractiveness of bus travel, which improves transport choices for people without access to a car. This is beneficial socially.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Reducing congestion has benefits for the economic well being of the City Centre.		Overall Score = +1 Notes and assumptions

4.2.3 Evaluate possibility of introduction of traffic management to facilitate bus priority

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – already being delivered by means of SCOOT traffic management technology. Can be less contentious than bus lanes as it is often less visible Would be viewed favourably by bus users and bus operators		Overall Score = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Systems are already in place within Liverpool, in the form of SCOOT		Overall Score = +1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Local Authority capital costs for equipments and associated revenue costs for managing and maintaining systems. Could be made cost-neutral should bus operators provide contributions, but this is unlikely.		Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Same as bus lanes		Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Same as bus lanes.		Overall Score = Notes and assumptions

4. 3 Bus Routing/Scheduling (awaiting confirmation)
4.3.1 Better use of bus lines; more of them but particularly better enforcement

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			Overall Score = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.3.2 Utilise priority bus lanes at and approaching junctions with heavy traffic flow

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			Overall Score = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.3.3 Evaluate timetabling and scheduling at Queens Square station to reduce unnecessary circulation of buses

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.4 Park and Ride Schemes

4.4.1 Park and ride facility at or near to the M62 / Rocket junction

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	+3 +1 +1		OVERALL SCORE = 2 Notes and assumptions Cleaner City centre air Planning permission, cost, shifting pollution , public acceptance Generally positive, some disruption.
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	6mth to 5 years +2 0		Overall Score = 1 Notes and assumptions Public consultation, planning approval and public support for sites Subject to scale and location of plans – may be short term design requirements for additional staff
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	 Public authority +1	-1 -1	Overall Score = 2 Notes and assumptions Capital costs large and operational costs moderate. Unless private developers showed interest in large sites. Because of need to operate numerous small sites. Yes, as long as parking charges are inline with city centre parking policies.
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	+2		Overall Score =2 Notes and assumptions May improve access to the city centre through dedicated P+R routing. Health benefits in less vehicles entering the city, however some may say that pollution is shifted elsewhere
Economic impact	What is the likely impact of	+3		Overall Score =3

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
	the option on the City or more local economy and the regeneration projects?			Notes and assumptions Less vehicles in the City and effectiveness would depend upon the successful implementation of the scheme.

4.4.2 Coordination - Define who / which body has overall responsibility to coordinate actions

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.4.3 Plan for target of 5000 park and ride places in Liverpool by 2006. Predominantly located at Rail connections and each of moderate size

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions

4.4.4 Establishment of temporary Park and Ride facilities to cover peak times of demand and major events.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.4.5 Establish park and Ride at M58/M57 'Switch Island'

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.5. Freight Management

4.5.1 M62 - re-sign on motorway to encourage freight traffic to leave at J6 – Switch Island

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – promotion and protection of dedicated freight routes in the LTP No major problems foreseen	Signage would only be advisory, as it would not be linked to a Road Traffic Regulation Order.	OVERALL SCORE = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	12 months? Re-signage would be likely to be relatively speedy, and is the responsibility of the Highway Agency on the motorways (with exception of M62 within Liverpool and Knowsley) Should be – dependent upon extent of works	Signage would require support / funding from Highways Agency.	Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Set up costs of signage / variable message signs are high, with associated ongoing revenue costs. The HA or LA will bear most of these costs. Very unlikely to be cost neutral.		Overall Score = +1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Positive – heavy traffic within residential areas results in noise, disturbance, stress etc.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Restricting deliveries into the city centre (especially any construction traffic) could impinge upon the regeneration of the city centre.	Overall Score = 0 Notes and assumptions

4.5.2 Improve signing on M57 to Liverpool Freeport

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – makes best use of highways network and supports the freight distribution strategy. No real barriers foreseen.		OVERALL SCORE = +3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Could be relatively quick to implement.		Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Capital costs upfront in respect of new signage.		Overall Score = +1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Preventing heavy freight traffic from taking incorrect routes / getting lost will reduce the nuisance factor associated with heavy freight.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Improved journey times associated with better signage will have positive economic benefits.		Overall Score = +2 Notes and assumptions

4.5.3 Control journeys of Freight (HGVs) into AQMAs at peak times or other periods.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?		M62 / Edge Lane are a freight priority route within the LTP, and as such, restrictions on freight access would prove contrary to adopted policy. In addition, restricting access via the M62/Edge Lane could force freight to use alternative, unsuitable routes into the city centre.	OVERALL SCORE = -1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?		Likely that Traffic Regulation Orders (TROs) would be used to ban certain classes of vehicles from specified roads at named times. TROs usually entail significant amounts of staff time	Overall Score = 0 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?		Set up costs would relate to costs of TROs and signage. These would need to be met by LCC as the highway authority.	Overall Score = -1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.		Likely to be positive, although any non-availability of goods (e.g. fresh food) within City Centre shops would not be beneficial.	Overall Score = 0 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Restricting freight within the Rocket Junction AQMA could detract from the economic vitality of Liverpool City Centre. Similarly, banning freight into the city centre could adversely affect the regeneration of the city.	Overall Score = -2 Notes and assumptions

4.5.4 Provide profile and generate support to published freight strategies.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – freight is a key element of the current LTP for Merseyside. A North West Regional Freight Strategy also exists.	Raising the profile of a strategy is important, though the corollary of this is that awareness of potentially contentious schemes would be raised.	OVERALL SCORE = +1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Short-term action, although delivery of specific strategy schemes etc. longer-term		Overall Score = 0 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Largely on-costs and revenue costs as opposed to capital expenditure.		Overall Score = +1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Restricting freight form unsuitable (residential) roads will be beneficial in noise and disturbance terms.		Overall Score = +1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Likely to be beneficial		Overall Score = +1 Notes and assumptions

4.6 Transport Hubs

4.6.1 Encourage use of 'hubs' at local rail stations through provision of parking, good design for safety, comfort, ease of use and joined up timetabling.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	ENCOURAGING USE OF EXISTING FACILITIES, LINKED TO MAKING BEST USE ACCORDS WITH CURRENT LTP STRATEGY. PARK AND RIDE IS ALSO PROMOTED THROUGH THE LTP. Should be generally positive.	Park and ride can exacerbate local congestion problems.	OVERALL SCORE = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Possibly 1 year? Powers exist at present, e.g. Town and Country Planning Act and provisions under Traffic Regulation Orders.		Overall Score = +1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Capital from LCC / Merseytravel budgets. Merseytravel and LCC would bear most of the costs Unlikely to become cost neutral, but revenue could be generated through car parking charges.	Very high set up costs – infrastructure, land acquisition, train stopping patters etc. Revenue implications of maintenance etc.	Overall Score = -1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Beneficial overall.	However, increased congestion at local stations can detract from well-being of residents.	Overall Score = 0 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Likely to be positive if congestion is reduced within the city centre		Overall Score = +1 Notes and assumptions

4.6.2 Edge Hill hub development - Plans for transport hub with 1200 place car park. What is likely to impact?

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	No specific proposals in current LTP for major development at Edge Hill. Land use implications would also require careful consideration. Planning consent would be required, together with associated TRO works on the highway.	Very few trains currently use Edge Hill station, assuming that site would be focused on railway station and rail P&R into the city centre. Edge Hill is very close to the city centre, and would be unlike traditional park and ride sites which are usually situated on the periphery of town and city centres, or else adjacent to major gateways.	OVERALL SCORE = -1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?		Likely to be long term (> 5 years) Need to acquire site, obtain planning permission and funding approvals. Significant manpower implications associated with a major development proposal.	Overall Score = -1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Likely that consultants would be required to provide assistance with feasibility and design	Costs of Compulsory Purchase Orders, if land needs to be acquired	Overall Score = -1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Likely to be beneficial		Overall Score = +1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.6.3 Allerton Interchange- Promote / drive this scheme which brings in two railway stations and linked to tram.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – an LTP major scheme. Currently under construction. No – it is a live scheme. Favourable feedback.		OVERALL SCORE = +3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Currently in development Expected to be completed by December 2005		Overall Score = +3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	High capital costs (£16 million capital cost) secured via LTP process and other funding packages. Ongoing revenue costs for maintenance – these will be the responsibility of Merseytravel.		Overall Score = +2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Positive – securing improved choice of access.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Positive – improves access to major economic drivers (Liverpool JL Airport, Brunswick Employment Park and the city centre)		Overall Score = +3 Notes and assumptions

4.7 Walking Cycling Initiatives

4.7.1 Support proactively a city wide cycling strategy and ensure appropriate facilities are established.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	YES – PART OF LTP STRATEGY AND DELIVERY PROGRAMME Cycling does experience political barriers (e.g. creation of cycle lanes)	Delays created by crossings and Toucan crossings can create a conflict between motorists and pedestrians/cyclists	OVERALL SCORE = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Lengthy lead in time with cycling proposals, e.g. scheme design, consultation, TRO. Powers under the Town and Country Planning Act (e.g. conditions, section 106 obligations) and under Highways Legislation (TROs etc.) Land use planning process can be cost-neutral, e.g. reduce the need to travel through mixed land uses etc. or else require infrastructure as part of a developer contribution	Manpower an issue – scheme design and audits are time consuming.	Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Costs of cycling infrastructure are relatively low any costs can be assimilated by developers as part of the land use planning process.		Overall Score = +2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very positive benefits, especially for health and well being.		Overall Score = +3 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Largely positive, as cycling enables people without access to a car to access training and work opportunities.		Overall Score = +1 Notes and assumptions

4.7.2 Link Merseyside Cycling Strategy to National Cycling strategy.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – Merseyside Cycling Strategy is currently in development and forms a part of the current LTP strategy. This is dependent upon the measures that emerge within the final strategy. Likely to be general support for measures that improve the attractiveness and safety of cycling as a mean of transport and recreation.		OVERALL SCORE = +1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Strategy has been in production for over 12 months. It will be applied through local authorities capital programmes and through the planning systems (e.g. through requiring cycling infrastructure to be provided by developers) Manpower is a significant issue, as auditing planning applications / developments options is a time consuming process.		Overall Score = +1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Overall costs of developing a strategy area low, but capital costs of routes, cycle lanes etc. will be high capital costs. Costs can be passed onto the private sector via the land use planning process.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Positive – health and well being benefits associated with cycling.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Likely to be positive – improved accessibility by people without access to a car.		Overall Score = +2 Notes and assumptions

4.7.3 Investigate ways to encourage walking in the city centre through evaluation of strategic through routes from stations to commercial centres.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – currently an element of the City Centre Movement Strategy and associated signposting. No major barriers foreseen. Anticipated that this will be positive.		OVERALL SCORE = +3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	CCMS works underway. Powers available under TROs to restrict access. Planning powers available to secure off-site improvements as part of the development process.	Intensive in terms of staff time	Overall Score = +3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	High capital costs and ongoing maintenance costs (e.g. maintenance of routes, sweeping etc.) Highly unlikely Auditing new schemes and planning applications to secure off-site improvements for pedestrians can pass costs onto developers / private sector.		Overall Score = -1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Positive		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Positive – a permeable city centre encourages pedestrian access and footfall.		Overall Score = +3 Notes and assumptions

4.7.4 Promote Liverpool First Health strategy - there is emphasis on getting people active through walking, cycling and sports strategies.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – supportive of cycling policies within LTP and accords with 4th Objective of LTP, which is to improve quality of life. Unlikely to be political barriers to such an initiative		OVERALL SCORE = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Could be delivered with immediate effect Need co-ordinated approach from schools, GP surgeries, health sector and sports centres. Likely to be resource-intensive, e.g. for sports centres.		Overall Score = +3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Negligible capital / set up costs – predominantly a revenue issue. In the long terms, improving health becomes cost-neutral, as costs to NHS etc. decrease as a result.		Overall Score = +3 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very positive – improved health and well being		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Positive – poor health constitutes a barrier to employment and a high cost to society		Overall Score = +2 Notes and assumptions

4.8 Car Pools/Clubs

4.8.1 Mersey Tunnels - Both tunnels to introduce a car share lane or cost differential for multi occupancy vehicles.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Fits to a degree, insofar as it relates to making best use of infrastructure, as per the LTP objectives.	However, car share lanes within the Tunnels are not explicitly promoted within the LTP. Likely to be considerable political objections to such a proposal, given recent opposition to Mersey Tunnels Act, which provides a means to increase tunnel tolls by the RPI without recourse to a public inquiry. Car share lanes would be viewed as an additional tax. Kingsway Tunnel is highlighted as a freight priority route within the LTP, and measures that detract from the use of the tunnel for freight would be unlikely to be viewed favourably.	OVERALL SCORE = -2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?		Likely to be lengthy. It is assumed that a TRO would be required to restrict the use of vehicles in addition to approvals from Merseytravel, as owners and operators of the tunnels	Overall Score = -2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?		Capital costs associated with providing HOV lanes and revenue costs associated with policing/enforcing. Could be made cost neutral should tolls rise for single-occupant cars and decrease for multi-occupant vehicles.	Overall Score = -2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Likely to be neutral.		Overall Score = 0 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Barriers to freight along a Freight Priority Route would be likely to prove damaging in economic terms	Overall Score = -2 Notes and assumptions

4.8.2 Require developments to mandate car clubs.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – fits with TravelWise strategy, Travel Plan agenda and measures aimed at reducing the impact of the private motor car. Likely to be initial apathy/resistance from developers, but likely to be viewed more favourably once critical mass has been reached. City centre residents likely to view proposals favourably.		OVERALL SCORE = +3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Could be implemented quickly as part of a voluntary agreement with house builder, or else as part of a formal planning permission (e.g. S106 obligation). Likely to be resource-intensive initially		Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	In principle, car clubs could be made cost neutral through reducing developers' requirement to provide / procure car parking.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very beneficial, as it increases travel choice.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Likely to be beneficial, as it could foster new economic opportunities associated with the operation of car clubs.		Overall Score = +2 Notes and assumptions

4.9 Clean Technology Vehicles

4.9.1 Taxis in the city (possibly both AQMAs) should only be allowed to run on clean fuel technology.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.9.2 Deploy clean fuel buses acquired under CATCH programme.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.10 Travel Plans

4.10.1 Drive requirement and production of Travel Plans from all sectors; to include car sharing schemes, more Park and Ride

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	YES – WITH CURRENT LTP POLICY AND WITH EMERGING GUIDANCE FROM DFT ON ROLE OF 'SOFT' BEHAVIOURAL MEASURES.		OVERALL SCORE = +3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Could be delivered with immediate effect Requires agreement and support of Planning Authority to require travel plans to be submitted as part of the development process.		Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Costs associated with plans are dependent upon the scale of measures proposed. Costs will not necessarily fall on LCC, however, as measures can be delivered by private sector.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very beneficial – encourage access for all to essential facilities, such as hospitals and major employers.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Very beneficial – less congestion and greater access to transport in order to access new economic development opportunities.		Overall Score = +2 Notes and assumptions

4.10.2 Require all organisations within the AQMAs to develop a travel plan or be subject to a workplace parking levy.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Travel Plans accord with LTP and Planning policy. Workplace parking levies not explicitly proposed within LTP, but legislation exists (Transport Act 2000) to enable levies to be imposed.	Workplace parking levy would be likely to be contentious	OVERALL SCORE = 0 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Travel Plans – short term. Workplace charging would be a longer-term option. Travel Plans are a highly resource-intensive activity.		Overall Score = 0 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Likely that LCC, as the Highways and Planning Authority would bear most of initial set up costs and these would be dependent upon the method used to raise the levy. If the levy was suitably ring fenced, then it		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Beneficial		Overall Score = +1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Workplace charging levy likely to be harmful to current regeneration initiatives	Overall Score = -2 Notes and assumptions

4.10.3 LCC to implement its own travel plan for staff.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	LCC plan has received political approval in August 2004 and work is now underway on its development. No political barriers to principle of travel plan, but emerging measures may be contentious (e.g. car allowance and parking issues) Careful marketing of travel plan will be important		OVERALL SCORE = +3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Medium – long term process to alter peoples' travel habits Will require support from all relevant divisions and portfolios within Liverpool City Council to implement measures.		Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Costs of developing the plan itself relatively low (mainly staff time). The provision of measures (e.g. showers, changing facilities, cycle parking lockers) will incur a modest cost for LCC, but overall savings in car allowances, staff parking etc. should offset this.		Overall Score = +2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very beneficial – less reliance on travel by car promotes health and well being.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Beneficial – freeing up long-term staff car parking facilities would release car parking for short-stay shoppers' etc. and support economic regeneration of city centre.		Overall Score = +2 Notes and assumptions

4.10.4 All schools within the AQMA to undertake development of travel plans during a designated period of AQAP.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – development of STPs and Safe Routes to School both feature within current LTP and are strongly supported in new DfT guidance. A national target has been set for all schools to have STPs by 2010	However, direct contribution of schools to AQ problems in Liverpool is likely to be marginal.	OVERALL SCORE = +1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Plans can be delivered within 12 months, and measures delivered in a similar timescale. Capital funding from the LTP is used to develop safe routes to schools as part of the travel plan process. Development and maintenance of STPs is a highly resource-intensive process (staff time)		Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Initial costs relate to provision of engineering measures (e.g. crossings, cycle routes etc) LCC would bear most of these costs. Option can be made cost neutral through requiring proposals for new/expanded schools to include walking/cycling measures as part of the initial package or else through planning agreement. In this way, "retro-fitting" is not required.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very beneficial – tackles problems such as child obesity and poor health and well being.		Overall Score = +3 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Beneficial – less congestion outside schools and on roads within the city centre.		Overall Score = +1 Notes and assumptions

4.10.5 Green Transport Plan for Broadgreen Health Centre.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – supported by national planning guidance and by the LTP Barriers likely to relate to staff / visitor objections to loss of car parking or charges for car parking.		OVERALL SCORE = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Plans can be delivered within 12 months, and measures delivered in a similar timescale.		Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Costs will relate to provision of access improvements (e.g. improved crossings, cycle parking facilities) Health centre and LCC / Merseytravel would probably bear most of the costs.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Beneficial – improves access to a key social facility		Overall Score = +3 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Likely to be beneficial – improved levels of health and congestion		Overall Score = +2 Notes and assumptions

4.10.6 Coordination of community travel support/service - Members of the community especially the elderly and infirm need support for transport to health centres.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – Merseytravel currently provide a travel service for disabled people (Merseylink) and various community travel services are operated by CT organisations or Social Services department. Significant level of CT activity in Liverpool / Merseyside as well (charitable / voluntary)		OVERALL SCORE = +1 NOTES AND ASSUMPTIONS
PRACTICABILITY	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Short to medium term. Likely to be resource intensive to co-ordinate journeys, supply and demand of vehicles etc.		Overall Score = 0 NOTES AND ASSUMPTIONS
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Initial set up costs are high, due to the need to acquire vehicles. Revenue support is required to maintain services. Local Authorities/Merseytravel bear most of the costs at present for subsidised travel, whilst many CT organisations have charitable status. Could be made more cost neutral if health centres / NHS provided greater share of funding for community-based transport.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very positive		Overall Score = +3 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Largely neutral		Overall Score = 0 Notes and assumptions

4.10.7 Introduce charging for car parking spaces provided to staff

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	This would fall within the demand management remit of the LTP.	Yes – a highly contentious and sensitive issue	OVERALL SCORE = +1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Immediately	LCC has only limited control and influence over car parking spaces that are not under its ownership or management.	Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Most costs would be borne by developers / businesses with own car parking.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Neutral		Overall Score = 0 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Would depend upon approach taken in neighbouring centres, as an isolated approach could be harmful to Liverpool.	Overall Score = -1 Notes and assumptions

4.10.8 Determine if LCC have fleet management plan and if this follows 'green' principles.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.11 Development Plans

4.11.1 Make sure appropriate aspects of strategy relating to transport and AQAP reflected / highlighted in LDF.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	FITS WITH CURRENT UDP POLICIES AND THE LTP. DRAFT POLICIES FOR THE NEW DEVELOPMENT PLAN (LDF) WILL MAKE REFERENCE TO AQMA'S AND AIR QUALITY IN GENERAL. THERE ARE ALREADY PLANS TO RE-DESIGNATE INDUSTRIAL AREAS AROUND THE CITY CENTRE (E.G. BALTIC TRIANGLE, LEEDS STREET AREA) AS MIXED USE. HIS WILL HAPPEN AS PART OF THE LDF PRODUCTION	National & regional planning guidance tells us that the City Centre must be the focus for new development and this will be incorporated into the development plan. This could potentially negatively impact on the City Centre AQMA. DEVELOPMENT CONTROL (DC) ARE LIKELY TO BE RELUCTANT TO IMPOSE A STRICT REQUIREMENT FOR CONSISTENT AND HIGH QUALITY TRAVEL PLANS FOR ALL NEW DEVELOPMENTS.	OVERALL SCORE = -2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	LTP & UDP policies are in place. LDF Core Strategy to be adopted by January 2007. Technical Policies DPD by January 2008. Close liaison between EH and Planning with regard	Overstretched DC teams are under pressure to speed through decisions – lengthy negotiations over travel plan requirements are likely to hinder this	Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	NO COSTS ASSOCIATED WITH PRODUCING PLANNING POLICIES	Time costs associated with DC making increased requirements on planning applications. Travel plans - costs will be passed to applicants / developers.	Overall Score = Notes and assumptions

Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Will improve health (through air quality improvements), accessibility and sustainability. Increased public transport use will aid inclusiveness.		Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	If the environment of the City Centre is improved (i.e. better air quality, less traffic) then city centre living may become even more attractive, with knock-on effects for the city centre economy. Increased public transport use may aid the local economy	In terms of the City Centre and re-designated areas, businesses in these areas may suffer if traffic is restricted. Whole city may suffer if traffic through the Rocket is restricted. Developers may choose to build elsewhere if requirements for planning proposals are too prescriptive / onerous	Overall Score = Notes and assumptions

4.11.2 Consistently applied and high quality travel plan requirements placed on all new developments.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.11.3 Contribution through delivery on objectives within draft UDP.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			Overall Score = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.11.4 Look to re zone to commercial /residential use. This would serve to reduce number of freight lorry movements into the area.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			Overall Score = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.11.5 Replacement for Royal Liverpool Hospital - Try to assess where impact might be and requirement for a transport plan as part of planning.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			Overall Score = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.11.6 Ensure that regeneration projects e.g. Kensington are linked to ideas around sustainability e.g. 'Home zones'.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			Overall Score = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.11.7 Assess impact of all developments on traffic along the Strand.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			Overall Score = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.12 Home Zones

4.12.1 Investigate the introduction of home zones etc (limited vehicle ownership; focus on families other schemes) to planning requirements for residential developments.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – Home zones currently being delivered through the LTP and through the Housing Market Renewal Initiative. Usually viewed positively, especially by residents.	Probably limited effects on air quality.	OVERALL SCORE = +1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Schemes usually have a significant lead-in time, due to importance of public consultation and community involvement. Schemes can be developed through the planning process or "retro-fitted" using highways legislation. Significant demand on staff resources to deliver schemes, but this could be outsourced.		Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	If retro-fitted, high capital costs, with associated revenue support required for maintenance. Costs could be passed onto developers if required as part of the planning process.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Positive – reduced the effect of cars on people's communities.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Likely to have limited effect, but would help to raise quality and choice of housing stock, with associated indirect economic benefits.		Overall Score = 0 Notes and assumptions

4.12.2 Consider planning requirements around residential developments to limit car ownership; cap on spaces per unit etc.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – fits with LTP policy on reducing reliance on the car. Also fits with national planning guidance on restricting the availability of parking as a means of encouraging the use of alternative forms of travel.	May discourage residents from moving to / purchasing new developments Such a policy would have greater effect in the city centre AQMA than on the Rocket AQMA.	Overall Score = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Could take immediate effect – producing new planning guidance to underpin this would take longer, however. Lack of manpower is currently posing a barrier to the development of Merseyside-wide Supplementary Planning Guidance to		Overall Score = 0 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Very limited cost implications for the local authority. Restricting car parking within city centre developments could enable developers to accommodate additional units on plots, and potentially, increase profits.	Conversely, however, there may be less demand for housing with restricted car parking, which may slow the housing market.	Overall Score = +1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Neutral		Overall Score = 0 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Could make residential developments less attractive, which could affect the attractiveness of Liverpool as a place top live and work.	Overall Score = -1 Notes and assumptions

4.13. Road Improvements/Pedestrianisation

4.13.1 Edge Lane improvements –Re-engineering of carriageway etc with this scheme will improve traffic flow through AQMA 2. Influence traffic flow beneficially at / approaching M62 /Rocket junction.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – Edge Lane is a strategic all-purpose route into Liverpool, and improvement of traffic flow is a key aim of the Edge Lane improvement scheme. Likely to be viewed favourably.		Overall Score = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Large scale schemes can take several years to implement. Road traffic regulations orders / compulsory purchase orders can be used to deliver necessary works.		Overall Score = 0 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	High initial capital outlay, with associated revenue drain. Liverpool City Council likely to bear costs. Unlikely.		Overall Score = -1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Improved air quality as a result of improved traffic flow.		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Improved traffic flows into new employment opportunities and to the city centre / motorway network positive in economic terms.		Overall Score = +2 Notes and assumptions

4.13.2 The CCMS includes provision for pedestrianisation and improvements to make the CC more pedestrian friendly. Following this strategy will encourage commuting using the train, bus, tram etc.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – CCMS is a key plank of the current LTP. Overall concept of CCMS has been accepted, but individual schemes can be affected / delayed through the consultation process.		OVERALL SCORE = +3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Medium term (3-4 years)		Overall Score = +1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Very high capital costs LCC bear significant costs through the LTP process. However, significant amounts of match funding are drawn in to process (ERDF, NWDA etc.)		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Very positive – a clearer, more attractive and accessible city centre		Overall Score = +2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Very positive – improved permeability and quality of city centre, which attracts additional visitors and employers,		Overall Score = +3 Notes and assumptions

4.14. Intelligent Transport Management

4.14.1 SCOOT System

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Perception	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – making best use of the existing transport network.		Overall Score = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	2-3 years?	Risks associated with new technology. Niche market – recruitment of skilled staff could be made more difficult as a result.	Overall Score = - 1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?		Capital costs – could be high. Revenue costs could be very significant. LCC would bear capital and revenue costs.	Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Positive		Overall Score = +1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Positive – better flow and less congestion		Overall Score = +2 Notes and assumptions

4.14.2 Dynamic Traffic Signing

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – making best use of the network. Unlikely Likely to be positive		OVERALL SCORE = +2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	3-4 years? New signage and associated control facilities would need to be acquired. Would be developed under Highway Authority's powers.		Overall Score = +1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?		High set up costs and staff costs associated with running dynamic signage system. LCC would bear majority of costs. Cost neutrality is unlikely	Overall Score = -1 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Positive – reduce congestion at bottlenecks and could remove unsuitable traffic from sensitive streets.		Overall Score = +1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Positive – less congestion, fewer wasted journeys, and improved journey times.		Overall Score = +2 Notes and assumptions

4.14.3 Integrated Traffic Light Phasing.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Similar to SCOOT. See earlier sections.		OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.15 Low Emission Zones

4.15.1 To use clear zones or similar to prevent vehicles parking up with engines running; reduce emissions

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	CORPORATE PLAN AIM 5 There is political will already. Most will see it as a good idea should be little opposition	None Anticipate little opposition to what is a simple request. Some drivers will be stubborn and see it as bureaucratic.	OVERALL SCORE =2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	As little as six months Existing powers available under Construction and use and other Regs. Could put up signs explaining law and advising to turn off engine	Need to negotiate who would enforce the provision Need to identify and authorize persons who will enforce but may be problems with identifying driver. May need police assistance for offender identification Additional manpower, training, resources needed or funding allocated to existing parking wardens	Overall Score = -2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	If existing traffic wardens authorized cost may be negligible	Unlikely to produce any revenue	Overall Score = -2 Notes and assumptions Most drivers will switch off engines if asked so no offence
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Less emissions, noise from engines running unnecessarily	Drivers may want to run heaters, Air Con for thermal comfort. Unlikely to impact on emissions generally.	Overall Score = 1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Little	Little	Overall Score = 0

4.15.2 Establish low emission zone in city centre to facilitate control, exclusion of polluting vehicles

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	CORPORATE PLAN AIM 5 Political will already Improved vehicles on the road improved air quality, newer bus fleet, level playing field	OWNERS OF OLDER VEHICLE FLEETS WILL BE AT A DISADVANTAGE WILL NEED TO SPEND MONEY ON NEW VEHICLES. WOULD IT BE AT ODDS WITH COMPETITION RULES?	OVERALL SCORE = -1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?		2 or more years. Operators of older fleets may go out of business unless the LEZ is phased in over a long period to allow for replacing vehicles. New manpower resources would be needed to operate the LEZ. Major infrastructure works would be needed. LEZ would be declared by way of a Traffic Regulation Order/Condition.	Overall Score = -3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Reduction in emissions and time being taken up by PCT in treating ill health. Improved Environment for Residents in City Centre	Costs prohibitive. Set up likely to be in 100's of thousands Operation could be 100's of thousands Perhaps introduce charging to enter LEZ. City Centre population may then be disadvantaged. Manual system of enforcement would be quicker to implement but with lower detection of offenders and consequently lower income from fines. Automatic system would improve detection rates but would be expensive to set up.	Overall Score = -3 Notes and assumptions The type and size of the LEZ and method of identifying offenders would influence the costs.
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Improved Health and Environment. Public transport improvements.	Operators of older vehicles unable to access customers. Lose business. Loss of jobs possible. May have detrimental effect on accessibility for disadvantaged groups	Overall Score = +1 Notes and assumptions Difficult to gauge without knowing the impact it would have on emissions.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Improve desirability of the city Centre as a place to live/work. Increase business for wholesalers' suppliers within LEZ. Improve opportunity for further areas to develop.	INCREASED FREIGHT COSTS, BUS FARES, MAY BE A FACTOR WHEN BUSINESSES ARE THINKING OF LOCATING. MAY BE EASIER TO LOCATE OUTSIDE LEZ.	Overall Score = 0

4.15.3 Declare low emission zones for peak periods

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	CORPORATE PLAN AIM 5 Political will for LEZ's That emissions are being reduced and congestion reduced but would not have a drastic effect on those with older polluting vehicles	Will only see improvements at peak hours	OVERALL SCORE = 2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?		2 or more years with all the same steps to be taken for a permanent LEZ but with only partial benefits. There could be a difficulty in defining peak times.	Overall Score = -3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?		Same as a permanent LEZ but with less benefits and the capacity for more confusion.	Overall Score = -3 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.		The impact on health will be negligible as the problem with NO2 is the annual average level. There will be little effect on this by reducing pollution at peak times	Overall Score = -3 Notes and assumptions

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Could reduce congestion thereby having a positive economic benefit	Same as permanent LEZ	Overall Score = 0

4.16 City Centre Parking / Congestion Charging

4.16.1 Improve city centre signage to car parking spaces.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – make best use of highway network. No barriers foreseen. Likely to be positive.		OVERALL SCORE = +1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Short term (<12 months) Use conventional Highway Authority powers Could be procured		Overall Score = +2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Initial capital costs for new signage and revenue costs for maintenance. LCC No n/a		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Negligible		Overall -Score = 0 Notes and assumptions

Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Likely to be positive – better use of car park capacity.		Overall Score = +1 Notes and assumptions

4.16.2 Develop clear actions on strategy to determine how many places are needed to manage the capacity to serve environmental, commercial and development goals.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?			OVERALL SCORE = Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?			Overall Score = Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?			Overall Score = Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = Notes and assumptions

4.16.3 Impose much tighter restrictions on parking to promote alternative transport.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	To a degree – demand management is an element of the current LTP. Likely to be a contentious issue	Needs to be a co-ordinated approach between Liverpool and other neighbouring centres, so as not to unduly disadvantage Liverpool	OVERALL SCORE = 0 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Imposing tighter car parking standards under the planning process would be relatively quick.	Significant levels of car parking are privately owned, and LCC would need to negotiate / CPO such sites in order to reduce supply of parking.	Overall Score = -1 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Largely neutral.		Overall Score = -0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Largely neutral		Overall Score = 0 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Could prove harmful to vitality of Liverpool if carried out in isolation form other neighbouring towns and cities.	Overall Score = -1 Notes and assumptions

4.16.4 Possibility / value of congestion charging?

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?		Not advocated within current LTP, but provision exists within current legislation to develop congestion charging schemes. Yes – congestion charging could adversely affect the performance of Liverpool in relation to other cities within the region and beyond. Congestion charging requires a 'level playing field' approach within the region.	OVERALL SCORE = -2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?		Likely to be time-consuming to develop infrastructure and enforcement regimes.	Overall Score = -2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?		Very high set-up costs, due to limited use of technology. Could be made cost-neutral should congestion charges be ring fenced.	Overall Score = -2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Less congestion beneficial from a quality of life and health perspective.		Overall Score = +1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?		Congestion charging for Liverpool would prove damaging in the absence of similar measures in neighbouring town, cities and shopping centres.	Overall Score = -3 Notes and assumptions

4.16.5 Demand Management measures road space allocation, parking restrictions, different charging mechanisms?

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	Yes – current LTP seeks to reallocate road space for bus lanes and encourage the development of short stay as opposed to long stay parking.	Would depend upon scale and scope of measures.	OVERALL SCORE = +1 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Short to medium term (1-5 years) Powers under Road Traffic Regulation Acts		Overall Score = 0 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Likely to be high set up costs (capital) LCC would bear the majority of the costs.		Overall Score = 0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Likely to be beneficial		Overall Score = +1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Would be dependent upon scale and scope of measures		Overall Score = 0 Notes and assumptions

4.17 Regulation and Enforcement

4.17.1 Evaluate impact of adoption of idling regulations -See Option 15.1

4.17.2 Carry out kerbside tests on polluting vehicles and require them to be taken off the road.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN No political barriers	Taxi drivers resent being tested	OVERALL SCORE = 3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	6 months Existing powers available to carry out testing in AQMA's	Would need to be undertaken by outside consultants	Overall Score = 3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?		Approximately £100K for 15 days testing including publicity and police presence. No DfT grant money now available. No revenue from penalty.	Overall Score = -3 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.		Little impact on health or emissions	Overall Score = -3 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Little		Overall Score = 0 Notes and assumptions

4.17.3 Introduce/ develop powers to remove polluting buses from the road in AQMAs or limit their accessibility to the areas.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN Seems to be will to remove older buses Improving fleet in AQMA's will produce positive impression to public	Operators of older fleets will feel discriminated.	OVERALL SCORE = 3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	POLLUTION FROM HDV'S IS MAIN CONCERN IN AQMA'S SO TARGETING THEM IS ESSENTIAL	Could take a number of years to phase in vehicle replacement to avoid adverse economic effects on operators. Enforcement is the key	Overall Score = -3 Notes and assumptions Need to know proportion of older vehicles in fleet and how soon they could be replaced.
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	If quality bus contract entered into costs would be minimised	If quality bus partnership entered into costs would be greater. Would impact on operators with older smaller fleets	Overall Score = -2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Improved health and environment. Would reward cleaner bus fleets	Operators of older bus fleets unable to access customers. Loss of business loss of jobs. Reduced access to services	Overall Score = 2 Notes and assumptions. Jobs lost in the older bus fleet may result in jobs created in newer bus fleet.
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Improve desirability of city centre for living and working	Increase in bus fares to offset increased cost of vehicles	Overall Score = 0 Notes and assumptions

4.17.4 Link 'time to clean up campaign' to roadside testing and enforcement of clean up

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN No political barriers	None	OVERALL SCORE = 3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Little to do apart from co-ordinate and co-operate with others		Overall Score = 3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Few extra costs if any		Overall Score = 3 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = 0 Notes and assumptions Difficult to quantify what effect linking will have on reducing emissions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Little impact		Overall Score = 0 Notes and assumptions

4.17.5 Lobby for movement of traffic offences from criminal to civil law. Facilitate use of CCTV cameras to monitor bus lanes for example

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN	Public may see this as another way of penalising motorists.	OVERALL SCORE = 2 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	The Traffic Management Act is not yet in force but will allow L.A's to carry out civil enforcement of some moving traffic offences. Measures currently the responsibility of the police would be enforced by the council. Resulting in greater enforcement.	Would require additional resources. Unlikely to reduce emissions in short term. Consultation on the proposed guidance is not likely until 2005.	Overall Score = 2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Costs could be offset from penalties received		Overall Score =0 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.			Overall Score = 0 Notes and assumptions Difficult to score without knowing what offences will be enforced and what impact it will have on emissions.
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = 0 Notes and assumptions

4.17.6 Lobby for increased enforcement by police to remove illegal vehicles from the road, thereby reducing emissions.

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN No political barriers	None apart from those who drive illegally.	OVERALL SCORE = 3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	Existing law in place	Police already have powers but would need to increase manpower devoted to enforcement.	Overall Score = 3 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Few extra costs if any should be able to be funded by recouping costs from offender		Overall Score = 3 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Studies show that could be 20% of vehicles are illegal e.g. no tax, no MOT, no insurance. By removing such vehicles will reduce emissions, accident rates, insurance premiums	Those who are restricted from driving would need to use public transport. This could impact on their ability to access education, health, work.	Overall Score = 2 Notes and assumptions Difficult to quantify what effect linking will have on reducing emissions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Could reduce congestion. Improve safety. Increase public transport patronage		Overall Score = 3 Notes and assumptions

***Liverpool City Council Corporate Aim 5**
"To provide a healthy environment for all those that live in, work or visit the city, with low levels of land water and air pollution and an effective and accessible transport system."
(5.3 Move to more integrated and sustainable forms of transport stabilising the upward trend in car use by delivering specific projects and programmes included in the local transport plan.
5.4- to meet national air quality standard for nitrogen dioxide in the air quality management areas)

4.18 Promotion / Lobbying

4.18.1 Increase public information on air quality issues and the solutions with benefits of positive alternatives

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN Public should know what we are doing about pollution Surveys have identified that the public wish to know more	Need to be careful not to scaremonger and to dissuade people from entering the AQMA	OVERALL SCORE = 3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	3-6 months	Would need input from marketing services or outside agency as no manpower available	Overall Score = 2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Could utilise VM boards at little cost. Web pages already running very cheap to update.	Need budget to tell people about pollution via adverts, media promotion, schools packs, surveys to ask public what info they want etc	Overall Score = -2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Help to inform and educate public and allow them to make informed choices		Overall Score = 3 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?			Overall Score = 3 Notes and assumptions Provided the information is presented sensitively

4.18.2 Promote / require Green transport Plans

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN Those who already walk and cycle likely to be supportive. Generally will be seen as positive.	May be opposition from those who see the imposition of conditions on developers as a barrier to regeneration. Those who want a car may park elsewhere if no parking is made available on the development defeating the aim of the plan.	OVERALL SCORE = 2 Notes and assumptions Need to emphasise the benefits of green travel plans to all which is difficult in the present car culture.
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	New developments would require developer to have green travel plan upon completion of development as a planning condition. Perhaps a better quality plan would emerge if developer had to submit the plan as part of the application.	Previous conditions not fulfilled properly. Needs to be ongoing support and monitoring of organisations involved to ensure success. This could take place by making organisations join a green travel plan company	Overall Score = 2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Most of the cost would be borne by the developer although these could be offset against the cost of accommodating cars within the development	Developers may decide not to proceed with scheme on grounds of continuing costs after development complete.	Overall Score = 2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Gives options for people to travel without relying on a car. Improves health through exercise, reduces emissions.	Some people may resent not being able to have a car and the accessibility it can give.	Overall Score = 2 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or more local economy and the regeneration projects?	Increasing the number of green travel plans may allow organisations to share experience resources and educate people to a sustainable way of travel. Reduces the pressure on parking in the City if people are less reliant on cars		Overall Score = 3

4.18.3 Define an air quality indicator to monitor AQ in the AQMAs and city

Need to discuss and agree appropriate indicator maybe headline indicator. This is not something that in itself will reduce emissions

4.18.4 Offer to facilitate AQAP consultation through the LPG's infrastructure-

Liverpool Partnership Group not deemed a suitable group to convey consultation

4.18.5 Promote and support TravelWise scheme / initiative for school travel plans

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
PERCEPTION	Does the option fit with existing policies and programmes? What are they? Do you foresee political or other barriers? How can these be overcome? How will others perceive this option?	AIM 5 CORPORATE PLAN Political will	May be opposition from working parents who currently make school runs and are uneasy about letting their children go to school on there own. Need to support TravelWise and educate parents perhaps through the children	OVERALL SCORE = 3 Notes and assumptions
Practicability	How long would the option take to implement? What practical steps need to be taken to progress the option? Which powers will be used? Are there sufficient manpower resources to implement the option?	6 months Produce material for use by TravelWise. Co-operate with events	Will need resourcing	Overall Score = 2 Notes and assumptions
Costs	Try to distinguish between set-up and continuing costs. What are they? Who will bear most of the costs? Can the option be made cost neutral? Where costs are passed through is this acceptable in terms of how much and on whom they fall?	Costs will need to be financed but the benefits may outweigh these costs		Overall Score = 2 Notes and assumptions
Social impact	What are the social impacts of the options? E.g. accessibility, health, inclusivity, etc.	Success of school travel plans improves children's health through exercise and reduces capacity for accidents outside schools. The more children that walk to school the greater the perception that it is a safe thing to do	Busy parents may rely on a car to allow them to take their child to school and then on to work	Overall Score = 1 Notes and assumptions
Economic impact	What is the likely impact of the option on the City or	May lead to targeted nursery		Overall Score = 1

Issue	Guiding questions	Positive factors or benefits	Negative factors or disadvantages	Scoring
	more local economy and the regeneration projects?	provision near to places of work so that both can be accessed by public transport		Notes and assumptions Difficult to say without info on the travel patterns of the parents and how far they live from their chosen school.

Appendix 4.19 Table Summarising scoring of option packages from the Option Appraisal Workshop

The options are arranged in the table according to the package they belong to. The option reference is to the detailed scoring tables presented above

Air quality impact scores were derived using the method described in appendix 5 below. Non-air quality impact scores were derived from the preceding scoring tables completed by the key internal stakeholders and NetCen.

		Non NOx Effects / impacts Scores				AQ impact scores	Costs	Recommendation		
Package	Option	Perception	Practicability	Social Impact	Economic Impact	NO_2 reduction potential	Estimated Costs	VSR	SR	R
Bus Quality										
1	1.1	3	2	3	3	2	0	X		
1	1.2	2	2	3	3		-1		X	
1	1.3	-2	0	3	2		-1		X	
Clean Tech Vehicles										
1	9.1	Scoring to be confirmed								
1	9.2	Scoring to be confirmed								
Low Emission Zones										
1	15.1	2	-2	1	0	3	-2		X	
1	15.2	3	-3	1	0		-3			X
1	15.3	2	-3	-3	0		-3			X
Regulation/Enforcement										
1	17.1	Similar to 15				1				
1	17.2	3	3	-3	0		-3			X
1	17.3	3	-3	2	0		-1			X
1	17.6	3	3	2	3		3	X		
Bus Lanes										
2	2.1	2	-1	2	1	2	1		X	
2	2.2	2	-1	2	1				X	
2	2.3	2	1	2	1				X	
Intelligent Transport Management (SCOOT)										
2	14.1	2	-1	1	2	2	0	X		
2	14.2	2	1	1	2		-1		X	
2	14.3	2	-1	1	2		0	X		

		Non NOx Effects / impacts Scores				AQ impact scores	Costs	Recommendation		
Package	**Option**	**Perception**	**Practicability**	**Social Impact**	**Economic Impact**	**NO_2 reduction potential**	**Estimated Costs**	**VSR**	**SR**	**R**
Freight Management										
2	5.1	2	2	2	0		1	X		
2	5.2	3	2	2	2	1	1	X		
2	5.3	1	0	0	-2		-1	X		
2	5.4	1	0	1	1		1			X
Bus Routing/scheduling										
3	3.1	Scoring to be confirmed				2				
3	3.2	Scoring to be confirmed								
3	3.3	Scoring to be confirmed								
Park and Ride Schemes										
3	4.1	All similar - scored as one option								
3	4.2									
3	4.3	2	1	2	3		2		X	
3	4.4									
3	4.5									
Transport Hubs										
3	6.1	2	1	0	1		-1		X	
3	6.2	-1	-1	1			-1			X
3	6.3	3	3	2	3		2	X		
Walking/Cycling Initiatives										
3	7.1	2		3	1		2	X		
3	7.2	1	1	2	2		0			X
3	7.3	3	3	2	3				X	
3	7.4	2	3	2	2		3	X		
Car Pools/Clubs										
3	8.1	-2	-2	0	-2		-2			X
3	8.2	3	2	2	2		0		X	
Transport Plans										
3	10.1	3	2	2	2		0		X	
3	10.2	0	0	1	-2		0			X

		Non NOx Effects / impacts Scores				AQ impact scores	Costs	Recommendation		
Package	**Option**	**Perception**	**Practicability**	**Social Impact**	**Economic Impact**	**NO_2 reduction potential**	**Estimated Costs**	**VSR**	**SR**	**R**
3	10.3	3		2	2				X	
3	10.4	1	2	3	1		0		X	
3	10.5	2	2	3	2		0		X	
3	10.6	1	0	3	0		0		X	
3	10.7	1	2	0	-1		0			X
3	10.8									
Road Improvement/Pedestrianisation										
3	13.1	2	0	2	2		-1		X	
3	13.2	3	1	2	3		0	X		
City Centre Parking/Congestion Charging										
3	16.1	1	2	0	1	2	0		X	
3	16.2									
3	16.3	0	-1	0	-1		0		X	
3	16.4	-2	-2	1	-3		-2			X
3	16.5	1	0	1	0		0		X	
Development Plans										
4	11.1									
4	11.2	All similar - scored as one option -								
4	11.3	2		2	0		0		X	
4	11.4									
4	11.5									
4	11.6					3				
4	11.7									
Home Zones										
4	12.1	1		2	0		0			X
4	12.2	2	0	0	-1		1			X
Regulation/Enforcement										
5	17.4	3	3	0	0	2	3	X		
6	17.5	2	2	0	0	3	0			
Promotion /Lobbying										

		Non NOx Effects / impacts Scores				AQ impact scores	Costs	Recommendation		
Package	Option	Perception	Practicability	Social Impact	Economic Impact	NO_2 reduction potential	Estimated Costs	VSR	SR	R
6	18.1	3	2	3	3		-2		X	
6	18.2	2	2	2	3		2	X		
6	18.6	3	2	1	1		2	X		

Appendix 5: Public Consultation & Stakeholder Research report

Appendix 6: Evaluation of Air Quality Impacts of Abatement Measures

A1.1 Estimating Impacts of Measures on Emissions

Table A1.1 provides a breakdown of emission sources in 2002 in LCC by sector. Values in the table are derived the NAEI 2002 version.

Table A1.1. Sector breakdown of annual NOx emissions in 2002 within LCC

sector	Emission (t/a)	% of total
Commercial, Institutional and Residential Combustion	765.81	15.87
Industrial Combustion	160.34	3.32
Other Transport	1698.43	35.21
Waste Treatment and Disposal	6.29	0.13
Agriculture	0.02	0.00
Road transport[1]	2193.36	45.47
Total	4824.26	100.00

Note 1: Road transport emission is assumed to be split LDV 44% and HDV 56% according to modelled estimates of their contributions to roadside NOx concentrations

For each abatement measure, the percentage share of the relevant sector from the data in Table A1.1 was identified. This puts a ceiling on the total benefit attributable to any measure.

The impact of each measure in terms of change in emission was estimated. This value is necessarily subjective since data on the real impact at a representative geographical location is not available in many cases. However, based on expert judgement and the limited data in the literature we have provided an indicative estimate of the potential impact of a measure were it to be fully implemented. The reduction attributable to any measure is clearly a function of the degree to which it is implemented, which can be extremely variable.

A6.2 Converting Reductions in Emissions to Air Quality Improvements

Depending on source characteristics, location of receptors and meteorology, different emission sources contribute to ambient NOx concentrations to a varying extent. To illustrate this, Table A1.2 presents the contribution of different sources to predicted ambient NOx concentrations at two relevant locations in the AQMAs.

Table A2.3. Sector breakdown of annual mean NOx concentration (µg/m^3) in 2005 at two illustrative receptor locations within the declared AQMAs.

Source	Contribution			
	Brunswick Road (AQMA1)		Prescot Road (AQMA2)	
	Concentration	%	Concentration	%
Background[1]	35	41	36	41
Roads[2] – LDV	22	26	20	23
Roads – HDV	28	33	31	36
Total	85	100	87	100

[Data from Stage 4 Review & Assessment]

1: Background is considered to be due to emissions from all sectors within LCC but also includes a contribution of approximately 18 g/m^3 from regional sources not linked to emissions in LCC.

2: Road contributions alongside major roads are an additional amount due to the proximity to significant road transport.

These values indicate that road transport emissions contribute significantly to predicted ambient NOx concentrations in both AQMAs. Contributions from background will also be significant though not dominant throughout the AQMA.

From the predicted ambient NOx concentrations listed in Table A1.2 it may be calculated that a reduction in road transport emissions of 10% could achieve an ambient NOx reduction of approximately 5 µg/m^3 depending on location.

A1.3 Converting Reductions in NOx to Improvements in NO_2

The relationship between NOx and NO_2 concentrations is complex, but one that has been simplified by approaches such as that developed by Derwent and Middleton who derived an equation describing the relationship by comparison of recorded hourly mean NOx and NO_2 concentrations at a given location. Such relationships are location specific but data from many UK sites representing a variety of situations (i.e. background, roadside, etc.) have been collated and a best-fit equation describing a generalised annual mean NOx:NO_2 relationship has been

published (Defra 2003[1]). This relationship is appropriate for use in the context of evaluating the effects on NO_2 from NOx emissions reductions in the Liverpool AQMAs.

To illustrate the consequence of the NOx:NO_2 2 relationship, in the example above where road source-derived NOx concentrations are reduced by around 5 µg/m^3 and the overall NOx is approximately 85 µg/m^3 then reduction of NO2 of up to 1.5 µg/m^3 could occur.

It is recognised that there is significant uncertainty in results obtained by this approach. A key uncertainty lies in placing a value on the effect on emissions of any given reduction option for which good data are elusive. However, overall the approach is one that derives, to a reasonable approximation, a range of NO_2 improvement due to an emissions reduction.

[1] Defra, LAQM.TG(03) Part IV of the Environment Act 1995, Local Air Quality Management, Technical Guidance, February 2003