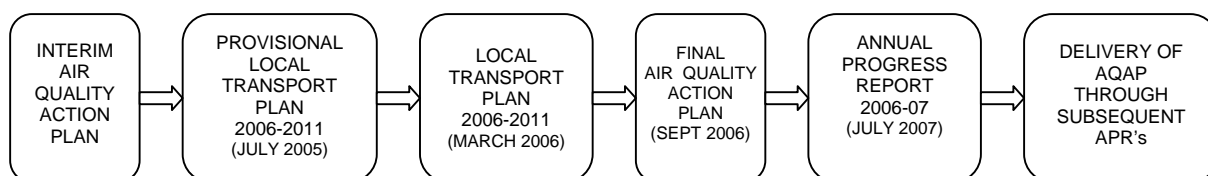


10 Better Air Quality

10.1 Overview

10.1.1 To ensure that the air quality in Plymouth meets, or improves on, the statutory standards of the National Air Quality Strategy a preliminary action plan will address air quality both from the AQMA perspective and that of the LTP2 Guidance issues. The latter takes a broader approach, demanding consideration of other pollutants and greenhouse gases such as carbon dioxide. The Local Transport Plan and the Air Quality Action Plan are on differing timetables with the final version of the Air Quality Action Plan submitted six months after the Final LTP2. The two transport related AQMAs will be prioritised, but it is recognised that air quality problems in other locations may arise in the future and for this reason a City-wide approach needs to be taken. It is essential that the negative effects of transport on health are limited, and that the potential to maximise positive effects are realised through encouraging travel by more sustainable modes. Further details are contained in the Interim Air Quality Plan accompanying this document and Figure 10.1 shows the timeline of the plans.

Figure 10.1 Timeline for Plan Delivery



10.2 Objectives

10.2.1 The objectives for the action plan are as follows:

- AQ1:** To reduce recorded levels of nitrogen dioxide in the two AQMAs to below national air quality objectives. (Ref. Interim Air Quality Strategy).
- AQ2:** To improve City Council's own performance in terms of emissions and to provide strong leadership.
- AQ3:** To raise awareness of the links between health and travel, in respect of both air quality, and personal fitness.
- AQ4:** To improve the air quality in the City as a whole by increasing travel by alternative modes.

10.3 Targets and Trajectories

10.3.1 Achievement of these objectives will be measured by monitoring against targets. Trajectories for air quality are not particularly useful as air quality can vary from one year to the next due to weather conditions and these variations occur regardless of transport improvements. For this reason there will be overall targets relating directly to air quality but these will be for the 5 year period. Annual reporting of achieved trajectories relating to air quality will take place via the annual APR.

10.4 Table of Measures

10.4.1 Table 10.1 provides suggested measures to improve air quality across the City, including a description of each measure, a proxy cost benefit analysis, indications of timescales and the organisation having the main responsibility for ensuring implementation. A ranking is given to each measure based on its score in the cost benefit analysis.



Table 10.1 Proposed Air Quality Measures

No	Measure	Description	Impact	Cost	Cost Benefit (IxC)	Time - scale	Lead Organisation	Action	Wider impacts	Rank
1.0 Information and Education										
1.1	Information and awareness raising regarding effects of driving on health (both pollution and lack of exercise)	Intensive awareness raising initiatives to encourage behavioural changes that could lead to reduced car use and greater acceptance of alternatives.	4	4	16	S/M/L	PCC	Develop programme of measures to raise awareness and influence travel behaviour. The LTP and component strategies contain measures to promote walking and cycling. In addition to this, there will be a focus on raising awareness of air quality issues, promotion of the link between health and travel behaviour through the Walkabout Initiative, and real time information provided relating to pollution.	Reduced car use would reduce noise levels, improve road safety, reduce CO ₂ emissions, improve quality of life, and improve people's health. Potential to save people money on petrol bills, and for greater social interaction. Reduction in fossil fuel use. Disbenefits: Personal safety issues of using alternatives to the private car.	3
2.0 Leading by Example										
2.1	PCC Staff Green Travel Plans	Potential reductions in car trips to work, reduction in work related car trips, encouragement of clean/zero emission modes, promotion of car pooling and car sharing. Could have knock on effect for non-work related travel.	1	5	5	S	PCC	PCC will develop its own Green Travel Plan for staff for all main Council sites, including Civic Centre, Windsor House, Prince Rock Depot and Midland House.	Reduced congestion and parking requirements. Improved health amongst workforce. Demonstrates PCCs commitment. Improves PCC environmental profile and credentials. Improved relations with clients, employees and public. Disbenefits: Insensitive implementation could alienate staff. May require upgrade of existing cycling/walking locker and shower facilities.	7

No	Measure	Description	Impact	Cost	Cost Benefit (IxC)	Time - scale	Lead Organisation	Action	Wider impacts	Rank
2.2	Greener Council fleet	Reductions in PCC's pollutant and greenhouse gas emissions.	2	5	10	S	PCC	The purchasing policy will be amended to ensure that fuel efficiency and emissions are a priority when choosing new vehicles for the fleet. Information will be regularly updated in line with new developments. Clean up for existing Council vehicles will be investigated and filters fitted as appropriate. A commitment will be made to using reformulated fuels which reduce emissions, such as City Diesel, City Petrol, Clean Diesel, Clean Petrol, Low sulphur petrol, ultra low sulphur diesel, low benzene petrol.	Sensitive fuel and vehicle purchasing can increase fuel effectiveness and energy efficiency. Reduction in the number of trips and distances travelled. Money saved on more efficient vehicles. Shows leadership. Disbenefits: More environmentally sensitive vehicles may be more expensive.	6
2.3	Promote/pilot alternative fuels/vehicles	New fuels and vehicle technologies have potential to reduce emissions, but encouragement necessary to increase take-up.	Dependent on technology/fuel developments			S/M/L	PCC	National schemes and incentives will be promoted e.g. EST Clean Up grants. Expansion of PCC 'green fleet'. Continue to trial new vehicles. Incentives for low emission vehicles will be investigated and implemented where appropriate, such as free car parking in the city centre.	Reduced noise, CO ₂ , pollutants, potential cost savings. Disbenefits: Long term reliability not proven. National schemes currently being reviewed; uncertain future.	-
3.0 Absorbing Emissions										
3.1	Tree Planting in the AQMAs	Potential to reduce greenhouse gas emissions and improve local air quality in AQMAs by absorption and increased turbulence which encourages mixing and dispersion of pollutants	5	4	20	S/M/L	PCC	Tree Planting in AQMAs along Exeter Street and Mutley Plain where possible, extending to other areas as necessary. Trees act as a carbon sink, absorb pollutants and increase turbulence thus encouraging mixing and dispersion of pollutants.	Reduced CO ₂ , townscape, amenity, provide shade, microclimatic amelioration, health benefits, and improved quality of life. Disbenefits: Continued maintenance required. Potential problems with sight lines and safety, and shading of dwellings.	2

No	Measure	Description	Impact	Cost	Cost Benefit (IxC)	Time - scale	Lead Organisation	Action	Wider impacts	Rank
3.2	Tree Planting included at design stage for new road building/ improvements to existing roads.	Potential to reduce greenhouse gas emissions and improve local air quality in areas where new road schemes are planned, by absorption and increased turbulence which encourages mixing and dispersion of pollutants	1	5	5	S-L	PCC	Include trees in the design stage for new roads and road layouts. The benefits of trees for the urban environment will offset the effects of road building and present a solution at the earliest stage.	Reduced CO ₂ , townscape, amenity, provide shade, microclimatic amelioration, health benefits, and improved quality of life. Disbenefits: Continued maintenance required. Potential problems with sight lines and safety, and shading of dwellings.	7
4.0 Promotion and provision of alternatives										
4.1	Travel Plans targeted at AQMAs	Potential reductions in car trips to work, work related car trips, encouragement of cleaner modes, promotion of alternatives. Can have knock on effect for non-work travel behaviour	4	5	20	S-L	PCC/ Businesses and Schools	Progress made already with previous LTP, travel plans required for new developments and voluntary plans being implemented. Some scope for specific work in AQMAs, most notably on School Travel Plans (STPs). Expect limited impact because much of the traffic in AQMAs is through traffic rather than specifically related to schools or businesses within the area. Expect larger overall impact through city-wide travel plan scheme.	Reduced congestion, reduced CO ₂ , improved travel choices, savings for employees, green credentials for organisations, reduced number of cars on school run, healthier workforce and children. Disbenefits: Potential cost to employers.	2
4.2	Safer Routes to School (SRTS) focus on AQMAs.	Encourages safe walking and cycling, thus reducing emissions and congestion. Can encourage wider travel behaviour change.	3	4	12	S-L	PCC/ Schools	Programme of SRTS through LTP, to prioritise AQMAs.	Reduced congestion, reduced CO ₂ , improved safety and travel options. Improved health and social interaction.	5

No	Measure	Description	Impact	Cost	Cost Benefit (IxC)	Time - scale	Lead Organisation	Action	Wider impacts	Rank
4.3	Cycling facilities in AQMAs.	Encourage more cycling trips, zero emission mode that will reduce congestion and emissions.	3	4	12	S-M	PCC	Cycling network and promotion covered in PCC Cycling Strategy. Potential for improved cycle parking and routes within AQMAs, prioritised through PCC Cycling Strategy.	Reduced congestion, reduced CO ₂ , improved travel options, potential to save money. Improved health and social interaction. Disbenefits: Perceived danger from traffic. Potential increase in cycling casualties.	5
5.0 Managing the Road Network										
5.1	Reallocation of road space and increased priority for buses, cyclists and pedestrians, within AQMAs.	Prioritising road space in order to benefit buses, cyclists and pedestrians could attract people on to more efficient modes, and discourage people from driving along this route.	7	4	28	S-L	PCC/Bus operators	Provide increased priority for buses, cyclists and pedestrians within AQMAs.	Bus lanes also benefit cyclists. Reduced congestion, reduced CO ₂ , improved travel options, potential to save money. Improved access to City centre without using car. Disbenefits: Possible impact on parking availability on routes, loss of road space for general traffic, perceived negative impact on local trade	1
5.2	High Occupancy Vehicle Lanes (HOV).	More efficient use of roadspace. Encourages car sharing.	To be determined (TBD).			M-L	PCC	Suitable locations need to be identified.	More efficient use of road space. Reduced CO ₂ , faster journey times for car sharers. Disbenefits: Potentially slower journey times for single occupant vehicles.	TBD
5.3	Traffic management at pollution hot spots. (UTMC)	Use technology such as SCOOT to optimise traffic flows and reduce congestion. Could use to favour other modes e.g. buses.	7	2	14	S-L	PCC	Investigation and detailed consideration of how ITS can be used to benefit the AQMAs will need to be undertaken	Potential for traffic to be diverted and problem moved elsewhere. Disbenefits: Benefits could be short term only due to increases in traffic.	4
5.4	Parking and delivery restrictions in AQMAs	Time and duration of parking and loading restrictions can influence traffic flows, congestion and emissions.	4	4	16	S-M	PCC	Including taxis. Costs include policing scheme to ensure compliance. Review of parking/loading restrictions on routes leading in, within and exiting from AQMAs.		3

No	Measure	Description	Impact	Cost	Cost Benefit (IxC)	Time - scale	Lead Organisation	Action	Wider impacts	Rank
6.0 Emissions Management										
6.1	Incentives to scrap older vehicles	Potential to reduce number of high polluting vehicles by offering incentives to replace them.	4	4	16	S/M	PCC/Bus operators	A free scrapping scheme could remove more high polluting vehicles from the roads. Additional incentives could help, e.g. annual bus pass. Develop pilot scheme using bus tickets and car club membership as incentives.	Reduced vehicle dumping. Reduction in CO ₂ . Disbenefits: Potential abuse of system.	3
6.2	Advice/ incentives for cleaning up larger vehicles e.g. by retrofitting.	Reduce number of high polluting vehicles by fitting exhaust treatments to reduce emissions.	5	4	20	S/M	PCC/ Vehicle operators	Pilot retrofitting programmes for buses and HGVs. Investigate feasibility of extending to whole bus fleet, HGVs and smaller delivery vehicles.	Potential cost savings. Improved environmental image. Disbenefits: Potential additional costs	2
6.3	Cleaner taxi fleet	Reduce emissions from high polluting vehicles, encourage better maintenance of fleet and switch off idling engines.	3	4	12	S	PCC/Taxi operators	Pilot Roadside Emissions Testing revealed that only a relatively small number of vehicles are polluting and rectifying these is unlikely to lead to a measurable contribution to air quality. However, taxis were identified as a particularly polluting sector, with average failure rates of 24%.	Reduced CO ₂ emissions, and possibly noise. Disbenefits: May be difficult to achieve behavioural change working with taxi operators. Potential to enforce through Licensing.	5
6.4	Enforce law against idling vehicles	Reduce emissions from idling vehicles through enforcing law.	3	4	12	S	PCC	Idling for more than two minutes when parked at the roadside is an offence. More resources will be put in to publicising this law through the Switch Off campaign, and enforcing it. Using Council parking attendants to enforce this law will be investigated.	Reduced CO ₂ emissions, and noise levels. Disbenefits: May be hard to enforce.	5
6.5	Promote and assist freight emissions agreements	Work with freight partnerships to establish minimum emission standards for HGVs in Plymouth	3	4	12	S-M	PCC/ Freight operators	Establish Freight Quality Partnership. Discuss potential agreements with freight operators. Begin retrofitting programme for older vehicles. Offer assistance for retrofitting.	Potential cost saving, improved environmental image. Disbenefits: Potential additional costs	5

No	Measure	Description	Impact	Cost	Cost Benefit (IxC)	Time - scale	Lead Organisation	Action	Wider impacts	Rank
7.0 Continuing Air Quality Management										
7.1	Support production of the AQAP for Plymouth's AQMAs, to be included with 2006/07 APR.	Transport Strategy section will provide input and support to Health and Environmental Regulation Service in completing the AQAP.	-	-	-	M	PCC	Form part of Steering Group overseeing action plan, and provide practical support where applicable.		
7.2	Implement actions in AQAP and include in APR.		3	4	12	M	PCC	Report through APR progress on implementing AQAP and the indicators in this strategy.		5
8.0 Wider Planning Framework										
8.1	Land Use Planning	Use planning system to ensure developments do not contribute to deterioration in air quality, or ensure mitigation measures are put in place.	4	5	20	M-L	PCC	Ensure air quality considerations are taken into account in planning decisions. Produce Planning Guidance Note relating to air quality and how proposed developments should provide measures to mitigate the impact e.g. free parking.	Potential socio-economic impacts. Possible general environmental improvements. Disbenefits: Perceived reduction in development opportunities. Mitigation measures may increase cost of development.	2

Calculating Cost Benefit for Air Quality:

For costs:		For benefits:	
Code	Estimated cost of scheme over 5 year LTP period	Code	Likely impact of scheme on air quality over 5 year LTP period
1	£3m +	1	Very little impact in AQMAs
2	£1-3m	2	
3	£500k – 1m	3	
4	£100k – 500k	4	
5	<£100k	5	Medium impact in AQMAs
		To 10	Greatest impact in AQMAs

The cost benefit is calculated by multiplying the two scores together for the scheme.

11 Managing our Transport Assets

11.1 The Assets

- 11.1.1 Table 11.2 shows the assets held by Plymouth City Council, their condition and value. The Highway Agency manages and maintains the A38 Trunk Road. Railways have mixed ownership and management through the DfT as successor to the Strategic Rail Authority and Network Rail. The City Council jointly manages with Cornwall County Council, the Tamar crossings (bridge and ferry) and co-manages the operation of the Saltash Tunnel, with the Highways Agency. Also in the City Council's ownership is one of the City's bus companies, Plymouth Citybus Ltd, which is run as a commercial entity. All other assets and services are provided by the private sector.
- 11.1.2 Transport services are dependent on a large infrastructure of fixed and mobile assets. The value of the City Council's asset base is provisionally assessed at £1.5 billion on a full replacement cost basis, using cost functions derived from recent capital projects and schedules of rates from term maintenance contracts. This valuation is very approximate since a large part of the asset base is not included and the methodology is simplistic. The valuation will be revised following application of the County Surveyors Society Guidance of July 2005.
- 11.1.3 A key challenge is to understand and manage linkage between asset maintenance standards and levels of service delivered to customers. Historic assessments of transport infrastructure have indicated a large backlog of maintenance exists for certain assets, although no analysis has yet been undertaken to relate this backlog to maintenance standards and levels of service.
- 11.1.4 Plymouth is committed to best practice in asset management as a key contributor to quality of service to customers and efficiency of service delivery. The City Council is pursuing best practice through a whole lifecycle approach that will provide effective strategies to achieve an optimal allocation of resources to maintain and upgrade existing assets and to create new assets.
- 11.1.5 The processes of asset management within Plymouth are at an early stage of development and current work is focused on comparing current practice against best practice and preparing a transport asset management plan (TAMP). The TAMP will evaluate the performance gaps and set out strategic objectives, performance targets, lifecycle plans, forward work programmes and improvement action plans. The TAMP follows the County Surveyors Society Framework for Highway Asset Management, April 2004. It also aims to provide accounting information for valuation and depreciation of transport assets in accordance with requirements of Whole of Government Accounting that will be introduced in 2006. The City Council is learning and sharing best practice in asset management through membership of the South West Counties TAMP Working Group that was established in January 2005.