Exeter City Council

Air Quality Action Plan Progress Report

August 2010

Executive Summary

The report has been produced two years after the publication of an Air Quality Action Plan for Exeter. The Action Plan contains measures to reduce emissions and concentrations of nitrogen dioxide (NO_2) within the Air Quality Management Area. The purpose of this report is to monitor progress with implementing these measures and to evaluate their effectiveness in air quality terms where possible.

This report shows that progress against the targets in the Action Plan is generally good, with all targets being met or exceeded except C4 (bus punctuality at intermediate points), C5 (increase in bus satisfaction), the commitment to increase long-stay parking tariffs at above the rate of inflation and NI194 (emissions from the Council's own operations and estate). Two successes of particular note are C1 and AQ1 which show that total traffic levels have only increased by 2% since the baseline year (2004) and peak time traffic levels in Exeter are actually decreasing.

Most measures within the Action Plan continue to be implemented according to program despite funding and other constraints. Some exceptions include measures connected to the Core Strategy, the High Quality Public Transport (HQPT) Scheme, the Ide Park and Ride site, bus priority measures for Livery Dole and a scheme to reduce congestion at Red Cow Village. These have been delayed or refused permission as a result of funding problems, or adverse other impacts. The HQPT scheme is a significant part of the LTP2 and delays to implementation of this will affect the delivery of the associated air quality improvements.

One significant success over the Action Plan period has been a net reduction in peak time traffic flows in the city, although the cause of this cannot be definitely attributed to the Action Plan or the LTP2. Cycle usage has also increased significantly. NO_2 concentrations have increased however from 2008 to 2009, but there is no clear long-term trend and there could be a multitude of explanations for this, including meteorological factors, and the choice of the bias adjustment factor used to correct the data.

There is therefore mixed evidence of the success of the Air Quality Action Plan. Despite funding and other constraints, progress with the implementation of measures has generally been good and many indicators are exceeding their targets. NO_2 concentrations have not reduced however, and work by Exeter University predicts that the current package of measures within the LTP2 will not achieve sufficient reductions in pollutant concentrations to meet the objective level. A package of measures has been identified however which has the most significant impact on NO_2 concentrations and the best chance of achieving the objective level and this information has been provided to Devon County Council as they write the next round of Local Transport Plan (LTP3 2011-2026). The next Air Quality Action Plan Progress report will update the Action Plan to include the new LTP3 and any associated targets etc.

1 Introduction

1.1 In April 2007, Exeter City Council declared an Air Quality Management Area (AQMA) covering most of the main traffic routes in the city (Figure 1). This was required because exceedences of the Government objective for nitrogen dioxide (NO_2) concentrations had been identified. It was identified that this was caused by traffic emissions.

1.2 Exeter City Council therefore produced an Air Quality Action Plan to describe how they will, with partners, reduce concentrations of nitrogen dioxide and work towards achieving the objective level. This Plan was published in August 2008.

1.3 The measures to improve air quality came from a variety of sources. Because the main sources of NO_2 pollution are traffic related, many of the most significant measures are from Devon County Council's Local Transport Plan (LTP2). Others were drawn from the Environment Strategy for Exeter, or from Exeter's Climate Change and Air Quality Strategies. This Air Quality Action Plan brought together all of these measures that will reduce NO_2 concentrations, and included some additional measures that the City Council could implement that may also have a beneficial effect.

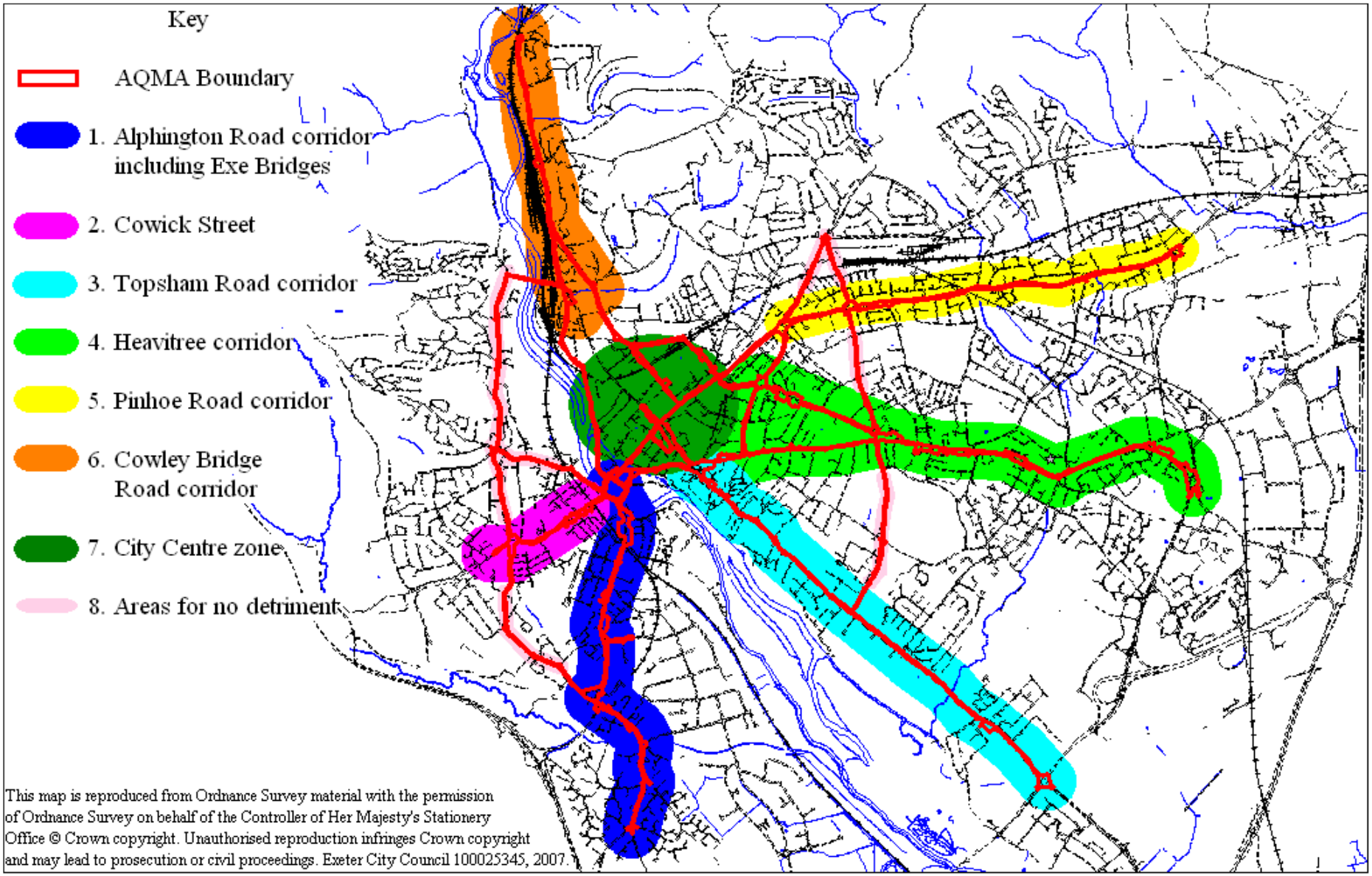
1.4 Because the majority of the measures in the Plan were drawn from other plans and strategies, most were already programmed for implementation. The Action Plan predicted that this package of existing measures would work towards achieving the objective level for NO_2 by 2012. A second set of measures, those that were new within the Plan, were prioritised for implementation, based on their cost-effectiveness. These are to be considered for implementation, should further air quality benefits be required, beyond those delivered by the package of existing measures.

1.5 The AQAP period is 2008-2011 to correspond to the period of the LTP2. Both will be fully reviewed in 2012 (and in the case of the LTP will be totally replaced). In addition to this, an annual AQAP Progress Report will be produced. This report is the second of these and monitors implementation of the Action Plan measures as well as trends in air quality in the city. The Plan included a series of targets, against which progress will be assessed. The annual Progress Report will also be used to amend the Plan or alter its implementation if necessary before 2012.

1.6 The Action Plan is available to view online at:

http://www.exeter.gov.uk/index.aspx?articleid=4292&listid=4261

Figure 1 The Exeter Air Quality Management Area (AQMA)



2 Summary of Action Plan Measures and Targets

2.1 The Action Plan contained an implementation timetable for measures that were drawn from existing plans and strategies. This is shown as Table 1. The full details of all of these measures are included within the Action Plan itself. This is available to view online at:

http://www.exeter.gov.uk/index.aspx?articleid=4292&listid=4261

2.2 Table 2 shows the assessment of the effectiveness of these in each corridor or zone of the AQMA. This indicates that the objective level for nitrogen dioxide (NO_2) was predicted to be met or partially met in all parts of the AQMA as a result of the package of existing measures.

2.3 Appendix 1 contains an implementation plan for each of the measures in the package of existing measures. This shows what specific actions are necessary to implement each one, how success will be measured against the targets within the AQAP and how progress will be reported in this and subsequent AQAP Progress Reports.

2.4 The AQAP proposed targets for implementation of measures, are shown in Table 3. Where available, this also includes trajectories for improvements. Progress against these will be discussed in subsequent sections. One target (NI 194) has been included since last year's Progress Report. This is the national indicator of the percentage reduction in NOx from Local Authority estate and operations. Baseline data has been calculated and a target of a 5% reduction in emissions is proposed.

2.5 The Devon County Council Second Round Local Transport Plan (LTP2) also contained a target (AQ2) to remove air quality exceedences by 2010/11 although no trajectory was shown for this target. It was not therefore included within the AQAP as a target because the Plan period runs until 2012 and progress against compliance with the objective level will be finally assessed at that time. The LTP2 target was also based on the five AQMA areas that were originally declared by Exeter City Council in 2005 (rather than the current single larger area). Monitoring data is however included within this Progress Report and is discussed in later sections, including any identified trends in concentrations.

2.6 The measures within the AQAP that were not part of the package of existing measures are shown in Table 4, prioritised according to estimated cost effectiveness. The AQAP proposed that these could be implemented if the existing measures failed to deliver effective improvements in NO_2 concentrations.

Table 1 Implementation Timetable for those Measures that are contained within Existing Plans and Strategies

Timescale[1]	Measure	AQ Impact[2]	Cost[3]	Other Impact[4]	Existing Plans and Strategies[5]	Responsible Body[6]
Medium	Parking Management	Low	<£100k	Positive	TS, CCS, ES	ECC
Medium	Reduce Taxi Emissions using Licensing Scheme	Negligible Low	<£100k	Negative	CCS	ECC
Medium	Reduce Emissions from Non-Transport Sources	Negligible	£100k-£500k	Negative	ES	ECC
Long	LTP2 Foundation Program and Major Schemes	Very High Medium[7]	>£1m	Positive Neutral	LTP2	DCC & Partners
Long	Encourage use of cleaner, smaller vehicles and improved driving style	High Medium	<£100k	Positive	CCS	ECC & DCC
Long	ECC and DCC travel	Negligible Low	£100k-£500k	Positive	ES, CCS	ECC & DCC
Long	Encourage local facilities and services	Negligible	<£100k	Positive	ES, LP, CCS	ECC
Long	Transport measures for new residential development	N/A	<£100k	Positive	ES, LP	ECC
Long	New city centre car parking	N/A	<£100k	Neutral	LP	ECC
Long	New building design	N/A	<£100k	Positive	ES, LP	ECC
Long	New industrial/commercial	N/A	£100k-£500k	Neutral	ES, LP	ECC

1 Timescales: Short (0-1 years), Medium (1-5 years) or Long (>5 years).
2 Predicted Air Quality Change: Negligible (<0.2 $\mu g/m^3$), Low (0.2-1 $\mu g/m^3$), Medium (1-1.5 $\mu g/m^3$), High (1.5-2 $\mu g/m^3$) or Very High (>2 $\mu g/m^3$). N/A for measures to control or reduce the impact of future development.
3 Cost Bands: <£100k, £100k-£500k, £500k-£1m or >£1m
4 Other Impacts: Positive, Neutral or Negative
5 Existing Plans and Strategies: TS (Exeter City Council Transportation Strategy), CCS (Exeter City Council Climate Change Strategy), ES (Exeter City Council Environmental Strategy), LTP2 (Devon County Council Second Round Local Transport Plan) and LP (Exeter City Council Local Plan)
6 Responsible Body: Exeter City Council (ECC) or Devon County Council (DCC)
7 Very High in Alphington Corridor and Exe Bridges, Cowick St, Heavitree Corridor, Pinhoe Road Corridor and Cowley Bridge Road corridor. Medium in Topsham Road Corridor, City Centre Zone and Areas for no Detriment.

Table 2 Assessment of the Effectiveness of the Package of Existing measures in each Corridor or Zone of the AQMA

Corridor or Zone	Required Reduction in NO_2 ($\mu g/m^3$)	Objective Predicted to be Met?	Comments
Alphington Corridor including Exe Bridges	0 to 9	Yes	The LTP2 predicted that it would remove the exceedences in these areas by 2010
Cowick Street	0 to 14	Yes	The LTP2 predicted that it would remove the exceedences in these areas by 2010
Topsham Road Corridor	0 to 7	Partially	The total predicted improvement as a result of the AQAP is 2.2 to 6.9 $\mu g/m^3$ NO_2
Heavitree Corridor	0 to 35	Yes	The LTP2 predicted that it would remove the exceedences in these areas by 2010
Pinhoe Road Corridor	0 to 12	Yes	The LTP2 predicted that it would remove the exceedences in these areas by 2010
Cowley Bridge Road Corridor	0 to 11	Yes	The LTP2 predicted that it would remove the exceedences in these areas by 2010
City Centre Zone	0 to 7	Partially	The total predicted improvement as a result of the AQAP is 2.2 to 6.9 $\mu g/m^3$ NO_2
Areas for No Detriment	0	N/A	

Table 3 Targets for the Implementation of Measures from the AQAP (New or Amended Targets are shown in Blue)

Target		Description		Measure
LTP C1	Peak time traffic growth in Exeter	2003 baseline	Average hourly flow 2277	LTP2
		2011 target	Average hourly flow 2277	
LTP C2	Improve journey time reliability	2005 baseline	61% reliability	LTP2
		2011 target	66% reliability	
LTP C3	Increase bus patronage	2003 baseline	18.2m bus journeys	LTP2
		2011 target	21.8m bus journeys	
LTP C4	Improve bus punctuality	2005 baseline	71.9% (start of route) 60.2% (intermediate points) 1.84m average excess waiting time	LTP2
		2012 target	90% (start of route) 90% (intermediate points) 1.25m average excess waiting time	
LTP C5	Increase satisfaction in local bus services	2003 baseline	55%	LTP2
		2010 target	75%	
LTP C6	Increase number of cycle trips	2003 baseline	100 av daily trips	LTP2
		2010 target	155 av daily trips	
LTP AQ1	Area wide traffic growth	2004 baseline	100 vehicle km per year	LTP2
		2010 target	115 vehicle km per year	
LTP H1	Increase healthy travel to school by school travel plans	2005 baseline	48% of state schools	LTP2
		2010 target	100% of state schools	
School	Percentage of children travelling to school by different modes	2005 baseline	Walk (62.1%) Car (27.7%) Cycle (2.6%) Bus/train (7.0%)	LTP2
		Target	No target set	
CCS 1	Introduce parking levy (climate change levy)	To be introduced in 2008		Parking management
CCS 2	Reduce taxi emissions using licensing regime	To be introduced in 2008		Reduce taxi emissions
CCS 3	Council vehicles: Phase 1 (Monitor fuel consumption, train drivers & trial vehicle tracking system) Phase 2 (Purchase electric vehicles)	During 2008	Phase 1	ECC and DCC travel
		Ongoing	Phase 2	
NI194	NOx emissions through local authority's estate and operations	2008 baseline	6036.16 kg NO_x	ECC and DCC travel
		2012 target	5734.35 kg NO_x	
LP 1	Sustainability checklist required with planning applications	To be introduced by December 2008		Building design
USA 1	Emissions from non-transport sources	Industrial emissions do not contribute significantly to exceedence of objective level		Reduce emissions from non-transport sources

Target		Description	Measure
USA 2	Review all planning applications for environmental impact and provide comments to Planning Department	Review 100% of planning applications	Transport measures for new residential development
			Industrial and commercial
			Building Design
			New city centre car parking
			Encourage local facilities & services

Table 4 Prioritisation of Options that are not contained within Existing Plans or Strategies

Measure	Air Quality Impact[1]	Cost[2]	Timescale[3]	Other Impact[4]	Responsible Body[5]
Reduce engine idling in stationary vehicles	Low (Red Cow Village)	<£100k	Short	Positive	ECC & DCC
Roadside emissions testing	Negligible/Low	£100k-£500k	Medium	Positive	ECC
Reduce engine idling in stationary vehicles	Negligible (rest of AQMA)	<£100k	Short	Positive	ECC & DCC
Lobby government	Negligible	<£100k	Long	Positive	ECC

1 Predicted Air Quality Change: Negligible (<0.2 $\mu g/m^3$), Low (0.2-1 $\mu g/m^3$), Medium (1-1.5 $\mu g/m^3$), High (1.5-2 $\mu g/m^3$) or Very High (>2 $\mu g/m^3$).
2 Cost Bands: <£100k, £100k-£500k, £500k-£1m or >£1m
3 Timescales: Short (0-1 years), Medium (1-5 years) or Long (>5 years).
4 Other Impacts: Positive, Neutral or Negative
5 Responsible Body: Exeter City Council (ECC) or Devon County Council (DCC)

3 Trends in Nitrogen Dioxide Concentrations in Exeter

3.1 In April 2010 Exeter City Council published an Air Quality Progress Report, which reports on all of the monitoring data from the city. This includes a discussion of the monitoring methods used and QA/QC procedures etc and is available to view online at:

http://www.exeter.gov.uk/index.aspx?articleid=4292&listid=4261

3.2 Table 5 shows the last three years of NO_2 concentration data from monitoring locations that are within the AQMA. This shows that the objective level of 40 $\mu g/m^3$ is being exceeded at 31 monitoring locations within the AQMA (shown in red). At 6 locations, the NO_2 concentration within the AQMA is below the objective level. The Progress Report considered these data and concluded that the AQMA boundary should not be amended at this stage to exclude these 6 locations because exceedences remained elsewhere in these corridors or zones, and because there was insufficient evidence of a long-term trend in NO_2 concentrations.

3.3 Figure 2 shows the trend in concentrations graphically for the sites with the longest continuous dataset in each corridor or zone. These show no clear long-term trend in concentrations, although the 2009 data is higher in all cases than 2008. Because this is only a trend observed over one year it is not possible to determine the cause for this however. For example it may be a result of meteorological conditions, economic factors or AQAP measures. Use of a different bias adjustment factor to correct the diffusion tube data also affects the trend. This issue is discussed further in the 2009 Progress Report, which is available online at the web link shown above.

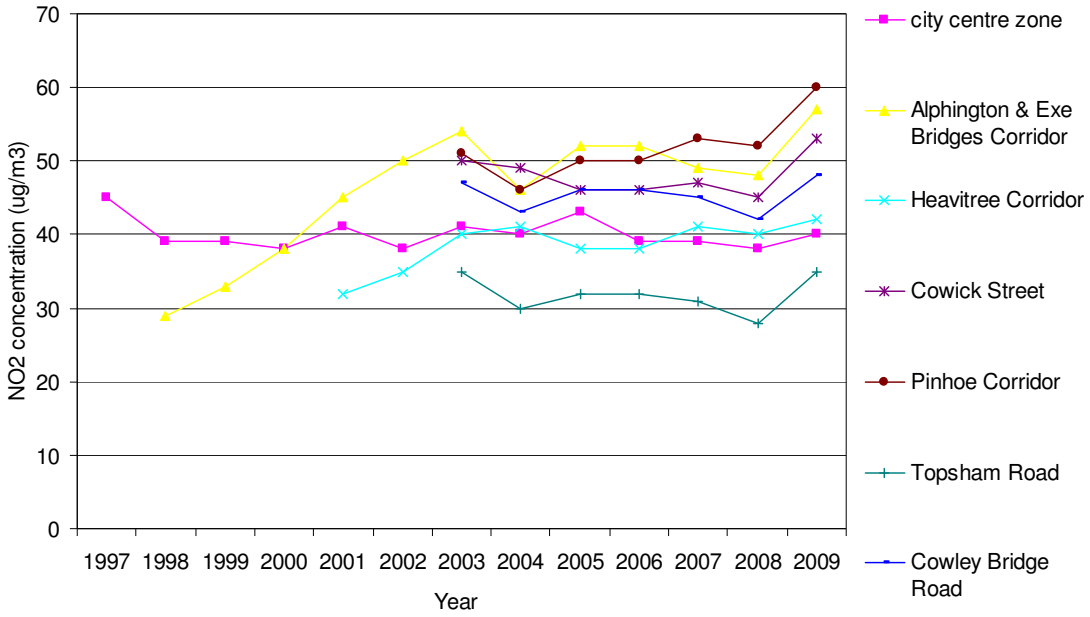
3.4 There is therefore no clear evidence within the air quality data for the effectiveness or otherwise of the AQAP. The Action Plan has however only been in place for two years and air quality concentrations are affected by a variety of factors, not just AQAP measures. Any trend which occurs as a result of the Action Plan could be masked by a trend caused by, for example, meteorological conditions. It is therefore important to also monitor implementation of the measures themselves. This is discussed in the following section.

Table 5 Nitrogen Dioxide Concentrations in the Exeter AQMA for the past Three Years

Site Name	Annual mean concentration (µg/m^3)*		
	2007	2008	2009
Heavitree Road Outbound	47	43	49
Heavitree Road Inbound	29	23	29
Holloway Street	43	38	47
South Street	41	37	44
High Street Castle Street	37	37	39
North Street	47	46	53
RAMM 1	39	32	40
RAMM 2	39	32	40
Queen Street	30	23	32
Cowick Street Outbound	47	45	53
Alphington Street	49	48	57
Alphington Road Inbound	47	42	48
Alphington Road Outbound	35	30	40
Marsh Barton Road	41	38	47
Church Road Alphington	37	35	40
Church Road II	34	30	36
Cowick Street (Cowick Lane)	53	54	65
Cowick Street Inbound	30	25	32
Magdalen Street	39	34	42
Magdalen Street Façade	41	35	41
Salutary Mount	51	50	57
Fore Street Heavitree Outbound	41	40	42
Fore Street Heavitree Inbound 1	50	49	59
East Wonford Hill	70	68	72
Sidmouth Road lamp post	39	38	48
Sidmouth Road (Middlemoor)	28	25	29
Topsham Road (Tollards Road)	46	43	51
Magdalen Road (Barrack Road)	48	44	49
Rowancroft	53	45	55
Livery Dole	58	57	63
Blackboy Road (Polsloe Road)	41	37	40
Pinhoe Road (Polsloe Road)	53	52	60
Pinhoe Road Inbound	39	41	42
New North Road	40	37	43
Cowley Bridge Road	38	37	44
Red Cow Village	45	42	48
Red Cow II	41	38	47

* NO_2 data adjusted for bias. Further information is available in the Air Quality Progress Report 2009.

Figure 2 Nitrogen Dioxide Concentrations in each Corridor or Zone for the Monitoring Sites with the Longest Continuous Dataset



4 Progress with the Implementation of Measures from the AQAP

4.1 The LTP2 is the largest single measure within the AQAP and is predicted to have the greatest impact (Table 2). Table 6 contains a discussion of progress with the implementation of this plan. Delays, or changes to measures are shown in red. This summary shows that whilst progress with implementation of the LTP has been maintained, some measures have been rejected or delayed for various reasons. Potentially the most significant of these is the delay to the High Quality Public Transport Scheme (HQPT), which is on hold following a funding review. Other measures have been rejected on the basis of cost (Livery Dole bus priority and the city-wide strategic signing project) or adverse other impacts (Ide Park and Ride). It has also not been possible to identify an effective scheme to relieve congestion caused at Red Cow Village by the level crossing. However consultation and review of all these schemes is still ongoing and the identification of additional funding and/or new proposals will restart them.

4.2 Notable successes of the LTP2 during the period include measures to increase bus priority and protect bus stops from parked cars. Additions to the Real Time Bus Information System have also increased the reliability of information available to passengers. Personalised travel planning has been undertaken for a further 5000 households through the Travel Smart scheme and by employers at the large Pynes Hill Business Park. Co-inciding with this, facilities have been improved at the nearby Digby and Sowton Station. The Cycling Demonstration Town project has been very successful and the number of cycle trips within the city has increased by a further 6% (see Table 7 below).

4.3 A quantitative assessment of the implementation of the LTP2 measure is also included below by comparison of recent data against the targets from the AQAP (Table 7). This demonstrates that progress is generally good, with all targets being met or exceeded except C4 (bus punctuality at intermediate points) and C5 (increase in bus satisfaction). Of particular note are C1 and AQ1 which show that total traffic levels have only increased by 2% since the baseline year (2004) and peak time traffic levels in Exeter are actually decreasing.

4.4 The LTP2 made no direct link between individual measures and changes in traffic parameters (flow, vehicle speeds etc) or vehicle emissions. It is not possible therefore to evaluate the effectiveness of the implementation of the LTP to date in terms of air quality directly. A reduction in vehicle flow could be expected to reduce total emissions, although this relationship is not simple because factors such as the average speed of traffic and the type and age of vehicles also influence emissions.

Table 6 Discussion of Progress with the Implementation of LTP2 Actions

Action Plan Measure/target	**Completion year**	**Progress**	**Comments**
High Quality Public Transport (HQPT) – Major Scheme Bid to include enhanced public transport provision in terms of vehicle quality, route, priority, information, ticketing and supporting transport interchanges. The scheme includes traffic demand management measures within Exeter.	2015	The scheme is currently on hold pending a spending review. A public consultation event was held in 2010 to obtain views on this, and other schemes being considered for Exeter.	The scheme would be supported through a range of traffic management measures.
Exeter Principle Urban Area (PUA) Major Scheme Bid	2015	The Park & Ride site at Ide was not supported by the County Council's Development Control committee on the basis of environmental impacts. The proposal is being revised. This proposal was subject to a comprehensive public consultation in 2010.	The proposed scheme includes the following measures: • Improvement to outbound capacity on key routes. • Bus lanes and junction priority on key routes in/out of city.
Bus Priority Measures including bus lanes and forms of traffic management	2009/10	Changes to stopping/loading/waiting restrictions in bus lanes on Cowick Street and Pinhoe Road have been implemented. These create consistency and assist compliance and enforcement to ensure effective bus lane operation. The scheme for Livery Dole was not approved by Exeter HaTOC on the basis of cost.	Extension/removal of time limited parking within bus lanes on Pinhoe Road and Cowick Street arterial routes. Traffic calming on Rifford Road is being reviewed because of the disproportionate impact on buses.
Paris Street, Sidwell Street, Cheeke Street Improvements	2009/10	Two way traffic has been reinstated on Cheeke St to improve the function of the Paris St roundabout by allowing improved flow from Cheeke St thereby reducing queues on Sidwell St.	Work to identify a longer term solution in the context of future regeneration is ongoing.

Digby & Sowton Station Travel Plan	2010/11	A new foot and cycleway link has been established improving the link to the Sandy Park Stadium and associated facilities. This is an important part of managing the increasing attendance at fixtures and events with minimal impact upon local residents. It will also make travel to the stadium by train more attractive. Secure Station status has been achieved in recognition of measures to reduce vandalism and improve the sense of security around the station.	The travel plan will promote the station as a useful link to a large employment and residential area of the city and will help more people use the station for nearby new developments. Further plans include improved signage to the large employment area at Pynes Hill to support their travel plan commitments. Additional cycle lockers and a new shelter are also planned at the station.
Bus Priority at Marsh Barton/Haven Banks	2009/10	The component schemes were implemented with the exception of the enforcement proposals for the bus only link on Tan Lane, which are still subject to agreement with stakeholders. Other measures are being considered.	The scheme comprises changes to junction priorities, changes to on street parking and enforcement of busway at Tan Lane to remove problems of illegal use by private vehicles which cause obstruction and compromise safety. The bus route connects Marsh Barton P&R site with the city centre and also provides a local bus service in the Haven Banks and Marsh Barton areas.
24 hour protection of bus stops from obstructive parking.	2010/11	H and B routes now completed.	The protection of bus stops from parked vehicles allows buses to pull in out of the flow of traffic and help buses to manoeuvre. Bus boarders allow the bus to stop in the flow on lightly trafficked streets but remove the need for hesitation/delay and hard acceleration when rejoining traffic. The aim is to improve all bus stops within Exeter to this standard. The next stage of work will include routes P and G.
Strategic highway signing	2009/10	The study is now confined to the city centre. The citywide proposal is postponed due to spending review.	The study identified how directional signage could be used to direct traffic, especially HGVs, away from congested areas that are subject to air quality problems.

Cycling Demonstration Town (Cycle Exeter)	2010/11 (CDT funding until 2011)	In 2009 Exeter hosted the Cycle Tour Series as part of a large national event. The project was organised in partnership with Cycle Exeter and the event was used to promote the work of the project and motivate more people to cycle as part of their day to day travel.	The Cycling Demonstration Town project known as Cycle Exeter runs until 2011. The aim of the project is to get more people cycling more often, more safely. The project has been expanded across Devon which provides the opportunity to promote cycle commuting from nearby settlements just outside Exeter and along the Exe Estuary.
Enhancement to Exeter Central Station	2009/10 (subject to negotiation)	No progress pending agreement with Stakeholders	Proposed removal of forecourt parking and public realm enhancements of the station forecourt and Queen Street to include improved facilities for walking, cycling and bus users.
Red Cow Junction	2009/10	No effective scheme to reduce queuing around the level crossing has been established following various design iterations.	The scheme is intended to benefit both road safety and air quality.
Intelligent Transport Systems (ITS)	2009/10	New Variable Message Signs (VMS) to inform of traffic disruption and other information have been installed at 5 key locations around Exeter. Additional Real Time Bus Information detectors have been installed at 4 locations around Exeter to improve system reliability.	The use of VMS to direct traffic removes the need for unnecessary trips within the city centre by directing traffic to car parks with spare capacity and providing information about traffic disruption, road closures, events etc. Enhancements to UTMC will improve the localised flow of traffic within congestion and air quality hotspots.

Workplace Travel Planning	Ongoing	Pynes Hill Travel (PHiT) launched in April 2009 and comprises local employers who work together to promote and improve sustainable travel options to and from Pynes Hill Business Park. The group are supported by Devon County Council and the Highways Agency. Work has involved arranging surveys to assess the baseline conditions and running promotion events to advertise the benefits of an effective area-wide travel plan. A Pynes Hill specific multi modal map was produced in December 2009 and distributed to the businesses on site. The group have an enthusiastic steering group who meet every 3 months and work to tackle barriers to sustainable travel.	The need for further travel planning work with employers is ongoing as new businesses and developments emerge, especially in the East of Exeter which has experienced major growth, with further growth planned.
Residential & Personal Travel Planning (TravelSmart)	2010	Project completed and a final report on the follow up travel survey will be published in 2010.	TravelSmart is a project delivered in Partnership with Sustrans and Exeter City Council which offers information to households tailored to their travel routine. The offer includes face to face expert advice about how to travel using walking, cycling and public transport.
Fishers Bridge, Topsham, footway and cycleway extension and associated signalisation.	2008/09	No change. Original proposal abandoned due to adverse impact upon traffic.	The scheme to provide an element of the Exe Estuary walking and cycling route was rejected following public consultation. Revised scheme under investigation.

Exeter Walking Project	Ongoing	Limited progress in 2009 due to budget transfer to other LTP schemes. The program will resume in 2010/11.	The project is an ongoing partnership between DCC, ECC and Sustrans to develop walking routes and facilities in Exeter. The aim is to encourage walking as a means of transport around the city both for utility and leisure. Schemes include: • Harrington Lane Footway (2009) • Pedestrian fingerpost signing (2009) • Sir Alex Walk, footpath 20 – Topsham/Countess Wear upgrade. Stages 1 to 2 of 5 completed. (2008 to 2010) • Improvement of route between Quay and city centre (study being commissioned in 09/10) • Toucan Crossing, Hennock Road Central (09/10) • Pedestrian Crossing of Market Street at South st junction. (09/10 subject to Quay/city centre study) • Pedestrian phases added to Mary Arches Street and Longbrook Street/New North Road. (09/10) Enhancement of subways at Exe Bridges (09/10) An Exeter Walking Strategy is being developed during 2010 between ECC and DCC through the Exeter Walking Project, facilitated by Sustrans.

On street parking demand management	Ongoing	Traffic order for parking restrictions on Parkland Drive, primarily to ease congestion on bus route.	The main air quality problems occur on the radial routes. By managing commuter parking along these corridors a reduction would encourage use of P&R or alternative methods of travel. Barnfield area remains outstanding.

Table 7 Comparison of Progress against the LTP2 Targets

Target		Year	Target	Actual	Comment
LTP C1	Peak time traffic growth in Exeter	2003 06/07 07/08 08/09 09/10 2011	Average hourly flow 2277 Average hourly flow 2277 Average hourly flow 2277 Average hourly flow 2277 Average hourly flow 2277 Average hourly flow 2277	2277 2180 2075 2110 2065	Above target
LTP C2	Improve journey time reliability	2005 06/07 07/08 08/09 09/10 2011	61% reliability 65% reliability 63% reliability 66% reliability	61% 45% not available not available not available	Not available
LTP C3	Increase bus patronage	2003 06/07 07/08 08/09 2011	18.2m bus journeys 19.9m bus journeys 20.3m bus journeys No longer reported 21.8m bus journeys	18.2m 23m 23.9m	No longer reported
LTP C4	Improve bus punctuality	2005 06/07 07/08 08/09 09/10 2012	71.9% (start of route) 67% (start of route) 77% (start of route) 79.7% (start of route) 82.2% (start of route) 90% (start of route)	71.9% 53% 87% 87.1% 88.7%	Above target
		2005 06/07 07/08 08/09 09/10 2012	60.2% (intermediate points) 65% (intermediate points) 69% (intermediate points) 73% (intermediate points) 77.2% (intermediate points) 90% (intermediate points)	60.2% 44% 66% 68.2% 71.5%	Below target
		2005 06/07 07/08 08/09 09/10 2012	1.84 min average excess waiting time 1.76 min average excess waiting time 1.67 min average excess waiting time 1.59 min average excess waiting time 1.50 min average excess waiting time 1.25 min average excess waiting time	1.84 min 3.14 min 1.36 min 1.36 min 1.38 min	Above target
LTP C5	Increase satisfaction in local bus services	2003 06/07 07/08 08/09 2010	55% satisfaction 58% satisfaction Data every 2 years 66% satisfaction 75% satisfaction	55% 56% 49%	Below target
LTP C6	Increase number of cycle trips in Exeter (Index based on 2005 =100)	2005 2006 2007 2008 2009	None None None None None	100 112.7 124.9 133.0 139.7	No target for Exeter

LTP AQ1	Area wide traffic growth (index based on 2004 = 100)	2004 06/07 07/08 08/09 09/10 2010	100 vehicle km per year 103.5 vehicle km per year 106 vehicle km per year 109 vehicle km per year 112 vehicle km per year 115 vehicle km per year	100 100 100 102 102	Above target
LTP H1	Increase healthy travel to school by school travel plans	2005 06/07 07/08 08/09 09/10 2010	48% of state schools 64% of state schools 80% of state schools No Target Set No Target Set 100% of state schools	48% 76% 89% 93.48% 99.18%	Above Target
	Percentage of children travelling to school by different modes	2005	walk car cycle bus/train	62.1% 24.7% 2.6% 7.0%	No target set Car use reduced and increase in bus, train and walking
		2009	walk car cycle bus/train	62.4% 23.8% 4.3% 9.4%	
		2010	No target set		

4.4 Progress with the implementation of the AQAP measures that were drawn from other existing plans and strategies is summarised in Table 8, using the implementation framework for each measure from Appendix 1. Progress is compared against the formal targets from Table 3 above and all the steps in the implementation plans from Appendix 1. This summary and analysis shows that progress is generally good although some schemes have been delayed or amended, such as those connected to the Core Strategy and the use of licensing powers to control taxi emissions. The Council is also failing to meet the targets for its own emissions of NOx (NI 194) and to increase the long-stay car park tariffs at above the rate of inflation.

Table 8 Implementation of the AQAP measures drawn from Existing Plans and Strategies other than the LTP2

Parking Management				
1	Annually increase long-stay tariffs by more than rate of inflation	ongoing	Increase in: car park charges / CPI* (inflation) 2009 1.8% 2.2% 2008 5.5% 3.6% 2007 9% 2.3% 2006 0% 2.3% * from Office of National Statistics website	Not on Target
2	Introduce parking levy (climate change levy)	By 2009 (CCS1)	2% levy agreed by Council Executive and implemented in 2008.	Achieved
Reduce Taxi Emissions using Licensing Regime				
1	Determine requirements of scheme		Completed	Achieved
2	Consult on specific proposal		Report to Committee	Achieved
3	Implement scheme	By 2009 (CCS2)	Decision made not to pursue formal requirements, but to take forward on voluntary basis.	Scheme amended
Reduce Emissions from Non-Transport Sources				
1	Consider NO_2 emissions during all permit reviews, determinations and variations	100%	Question regarding local environmental impact (including NO_2) included on application forms.	On target (ongoing)
2	Provide comments to EA on NO_2 emissions from part A(1) processes where appropriate	100%	No relevant applications during year.	On target (ongoing)
3	Assess NO_2 emissions from industrial and commercial sources	Not significant (USA 1)	Emissions found not to contribute significantly to exceedences of objective.	On target (ongoing)
Encourage Use of Cleaner, Smaller Vehicles and Improved Driving Style				
1	Support Exe Co-Cars Car Club Scheme, including through Supplementary Planning Guidance (SPG) for developers	Ongoing	ECC now corporate members of Car Club. Supplementary Planning Guidance adopted.	On target (ongoing)
2	Promote car sharing, particularly for commuter journeys	Ongoing	ECC has subsidised additional publicity material for Car Club as part of Exeter TravelSmart Scheme.	On target (ongoing)
3	Run campaigns/events to increase awareness of local residents, schools, community groups and council tenants of sustainability issues	Ongoing	TravelSmart program extended to Pinhoe/Mincinglake area.	On target (ongoing)

ECC and DCC Travel				
1	Use fleet management software to monitor fuel consumption and miles travelled by Council vehicles	Ongoing (CCS3)	Fleet management software now in place to monitor fuel usage and mileage travelled. All refuse collection vehicles being tracked plus all new vans to have capability.	On target (ongoing)
2	Vehicle replacement policy requires vehicles meeting latest Euro emissions standard to be specified (including electric vehicles where appropriate).	Policy introduced (CCS3)	Policy in place and implemented as vehicles replaced.	On target (ongoing)
3	Provide Eco-driver training for drivers of Council vehicles	April 2009 (CCS3)	Progressing – to be linked with Certificate of Professional Competence requirement for HGV drivers.	On target (ongoing)
4	Keep the Council's Green Travel Plan under review to encourage use of sustainable transport modes by employees travelling to work and on business.	Ongoing	Monitoring of Green Travel Plan continues.	On target (ongoing)
5	Review provision of cycle storage at all ECC sites and provide cycle training for employees	Ongoing	Cycle training available to employees in partnership with DCC.	On target (ongoing)
6	Reduce miles travelled by Refuse Collection Vehicles by encouraging home composting and waste minimisation	Ongoing	Composting promotions continue but sales reducing as saturation point reached.	On target (ongoing)
7	Develop environmental code of conduct for ECC staff	Ongoing	Green awareness handbook currently being written.	On target (ongoing)
8	Annual reduction in NOx emissions through local authority's estate and operations.	NI 194	2008 baseline 6036 kg NO_x 2009 target 5961 actual 7436 2012 target 5734	Not on target
Encourage Local Facilities and Services				
1	Run weekly farmers market	Ongoing	Weekly market continues to be held	On target (ongoing)
2	Promote the Green Tourism Business Scheme (GTBS) to tourism providers within Exeter (through Tourism Strategy)	3 venues to apply for GTBS by 2010	Five tourism businesses have received GTBS award and a further two are awaiting grading.	Target exceeded
3	Develop the profile of Exeter as a centre for sustainable tourism by highlighting the ease of access by public transport to the city through rail and coach packages, and for day trips in conjunction with promoting walking the Jurassic Coast, Dartmoor etc, using the National Cycle Network and other initiatives	Ongoing	Car free itineraries developed and available online. Information provided in printed guides and on tourism websites on how to visit area by public transport, including Park and Ride.	On target (ongoing)

4	Use planning process to deliver local facilities within new developments that provide for existing communities as well	Ongoing	No relevant developments completed during past year. Future developments are discussed in later sections.	On target (ongoing)
5	Provide support to help local community groups implement environmental/sustainability projects.	Ongoing	Support provided via climate change levy for carbon reduction schemes. No specific projects identified for NO_2 reductions in past year.	On target (ongoing)
6	Run seminars, events and campaigns aimed at promoting environmentally responsible business practice.	Ongoing	Articles prepared for quarterly green supplement in Express and Echo newspaper. Devon seasonal recipes available online.	On target (ongoing)
Transport Measures for New Residential Developments				
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.	Adopt Core Strategy Summer 2008	Consultation on Core Strategy currently underway.	Target missed
2	Review all development proposals in light of policy	100% (USA 2)	100% of planning applications reviewed by Environmental Protection Section.	On target (ongoing)
3	Document and justify any deviations from policy in decisions made.	Ongoing	No significant deviations from policy.	On target (ongoing)
4	Provide training for planners, members and developers on sustainability issues	Ongoing	Officers and members have attended appropriate training.	On target (ongoing)
5	Ensure transport policies are fully integrated with spatial planning, particularly in key future development sites	Ongoing	Consultation on Core Strategy currently underway. Master planning process currently underway for developments to east and south of Exeter and city centre. These include consideration of sustainable transport issues.	Target missed but progress still achieved on key sites
6	Utilise Section 106 agreements to promote transport sustainability	Ongoing	S.106 agreements used where appropriate e.g. at Newcourt, St Loyes etc	On target (ongoing)

New City Centre Car Parking				
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.	Adopt Core Strategy Summer 2008	Consultation on Core Strategy currently underway.	Target missed
2	Review all development proposals in light of policy	100% (USA 2)	100% of planning applications reviewed by Environmental Protection Section.	On target (ongoing)
3	Document and justify any deviations from policy in decisions made.	Ongoing	No significant deviations from policy.	On target (ongoing)
4	Provide training for planners, members and developers on sustainability issues	Ongoing	Officers and members have attended appropriate training.	On target (ongoing)
New Building Design				
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.	Adopt Core Strategy Summer 2008	Consultation on Core Strategy currently underway.	Target missed
2	Require sustainability appraisal with all developments	100% (LP1)	Consultation on Core Strategy currently underway. Master planning process currently underway for developments to east and south of Exeter and city centre. These include consideration of sustainable transport issues.	Target missed but progress still achieved on key sites
3	Review all development proposals in light of policy	100% (USA 2)	100% of planning applications reviewed by Environmental Protection Section.	On target (ongoing)
4	Document and justify any deviations from policy in decisions made.	Ongoing	No significant deviations from policy.	On target (ongoing)
5	Provide training for planners, members and developers on sustainability issues	Ongoing	Officers and members have attended appropriate training.	On target (ongoing)

New Industrial/Commercial Development				
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.	Adopt Core Strategy Summer 2008	Consultation on Core Strategy currently underway. S.106 used to ensure delivery of sustainable transport initiatives as a result of the expansion of Exeter University etc.	Target missed but progress still achieved on key sites
2	Review all development proposals in light of policy	100% (USA 2)	100% of planning applications reviewed by Environmental Protection Section.	On target (ongoing)
3	Document and justify any deviations from policy in decisions made.	Ongoing	No significant deviations from policy.	On target (ongoing)
4	Provide training for planners, members and developers on sustainability issues	Ongoing	Officers and members have attended appropriate training.	On target (ongoing)

5 Discussion of Progress and Way Forward

5.1 The previous sections demonstrate that implementation of the AQAP is generally progressing, although some big infrastructure projects have been delayed by funding or other problems. Some policy gaps and/or concerns also exist. The main issues that have been identified are:

- Review of funding for the HQPT (High Quality Public Transport) Scheme from the LTP2. This scheme is intended to achieve a 'step-change' in public transport use and deliver significant modal shift. In the event that funding was not forthcoming, there could be a significant impact on the success of the LTP2 and consequently the AQAP.
- Ide Park and Ride Scheme was refused planning permission. This scheme would promote modal shift on the congested Alphington Corridor.
- Livery Dole Bus Priority refused as a result of cost. This scheme would increase bus journey time reliability along the congested Heavitree Corridor.
- No effective scheme identified to relieve congestion caused by the level crossing at Red Cow Village.
- Change from a mandatory scheme to control emissions from licensed vehicles to a voluntary one. The anticipated impact of this measure was negligible/low (Table 1) however and so a reduction in its scope is unlikely to seriously compromise the outcomes of the Plan.
- Delay in adoption of the Core Strategy. This means that the policy basis behind the measures which were intended to control the impact of future development has not been updated. Air quality and other sustainability issues are at the heart of the emerging Master Plans for the major new developments to the east and south of Exeter however and so the lack of the Core Strategy has probably not significantly affected the Council's ability to deliver improvements as a result of these particular developments.

- Failure to meet the target for reduction in emissions of NO_x from the Council's own operations and estate (NI194). This is mainly due to a few significant increases from specific sites. All of these however run on electricity and so the emissions of NO_x will not occur in Exeter and therefore, whilst this situation is undesirable, it will not affect local air quality in the city.

5.2 One notable success since the publication of the LTP2 and the Action Plan has been a reduction in traffic flows in the city (Table 7). The LTP Progress Report does not identify any cause for this however so it is hard to determine whether this reduction in flows will continue, stabilise or reverse in the coming years. A significant increase in the number of cycle trips has also occurred over the period (Table 7).

5.3 As well as the implementation of measures, this Progress Report also seeks to assess their effectiveness in delivering air quality improvements. In the case of the LTP2, there are no specific predicted impacts associated with any measures. There was a target (AQ2) to remove exceedences of the objective level for NO_2 by 2012 but no trajectory associated with this. Compliance with this target is therefore difficult to assess before 2012.

5.4 The non-LTP2 measures from the AQAP do have a predicted air quality improvement and timescale associated with them. These changes are generally small however (<1.5 $\mu g/m^3$) and will be delivered over a period of 1 to >5 years (Table 2). These types of change in NO_2 concentrations are not likely to be identifiable within the monitoring data at this stage and are unlikely ever to be identifiable individually as a result of the number of other factors which also affect air quality such as weather conditions, total traffic flows etc. It is currently therefore only possible to monitor implementation of the measures, however evaluation of the delivery of air quality improvements will occur in subsequent Action Plan Progress Reports if possible.

5.5 The measured NO_2 data in this report show no clear long-term trend (Figure 2 and Table 5), although the 2009 data is generally higher than in 2008. There could be a number of causes for this and it is not possible at this stage to attribute any change to any particular factor, for example a reduction in concentrations as a result of Action Plan measures could be masked by an increase caused by meteorological factors. As discussed in the Progress Report, the trend also differs depending on the bias adjustment factor used.

5.6 Progress towards achieving the objective level for NO_2 (and the target in the LTP2 of eliminating exceedences by 2012) is not therefore easy to assess. Areas with the highest concentrations of NO_2 such as East Wonford Hill are those most at risk of failing to achieve the objective. In recognition of this circumstance, DCC instructed Exeter University's Centre for Energy and the Environment to undertake further modelling of the LTP2 actions in order to evaluate their effectiveness in air quality terms. It may be that whilst measures are being implemented successfully, their impact will not be seen until future years, or their impact may not be as significant in some or all locations as DCC originally anticipated. This work was reported on in October 2009 and is summarised below. The University were also asked to identify the scale of changes in traffic parameters which would be required in order to achieve the objective, and to model some potential packages of measures which could be included within the next round of Local Transport Plan LTP3.

5.7 In order to provide data for the Exeter University study and to advise on the air quality issues that the LTP3 may need to address, an informal group was set up.

This consists of officers from DCC and their transport consultants Parsons Brinckerhoff, ECC and scientists from the Centre for Energy and the Environment. The role of this group and its makeup is shown in more detail in Appendix 2.

5.8 Exeter City Council's own emissions are now monitored, reviewed and reported on annually as part of the national indicator NI194. If significant failures to meet the target occur in future years and these are thought likely to have a significant impact on local air quality, then additional measures will be added to the Action Plan to target the relevant sources.

6 Summary of work by Exeter University

6.1 The analysis in this study provided the following key conclusions:

- Although traffic levels are reducing slightly, there appears to be an increasing proportion of heavy duty vehicles in the traffic, HGVs and buses, which have high relative NO_x emissions. This would appear to be one of the reasons why measured NO_2 levels are not going down. It also indicates a key area to tackle when trying to reduce emissions.

- The current LTP2 will not be sufficient to solve the air quality problems in the city. Even by 2016 significant areas will exceed the $40\mu m^{-3}$ limit, particularly in the Alphington Road and Heavitree Road areas. Also the greatest impact in future years would appear to be reductions in the direct emissions from the fleet as newer vehicle technology is taken up, rather than the LTP measures themselves. However, such improvements are often proved over optimistic.

- Based on modelling results, a package of additional measures to the LTP, that are likely to have the most impact and best chance of solving all the areas of exceedence in the AQMA, would be:

  a. The development of the Grace Road Link;
  b. an HGV routing strategy for the Heavitree corridor;
  c. and a Low Emission Zone covering both buses and HGVs across the whole AQMA.

  The full report is available from Exeter City Council on request

7 Conclusions

7.1 This report summarises progress with implementation of the Exeter Air Quality Action Plan, including comparison against the Action Plan's targets. This shows that progress against the targets is generally good, and many measures have been implemented successfully. One particular success has been a net reduction in peak time traffic flows in the city, although the cause of this cannot be definitely attributed to the Action Plan or the LTP2. Cycle usage has also increased significantly.

7.2 Funding problems and other constraints have delayed some key LTP2 schemes however, such as the HQPT scheme. This measure is a significant part of the LTP2

and delays to implementation will affect the delivery of the associated air quality improvements. Problems with delivery of the Ide Park and Ride site, bus priority measures for Livery Dole and a scheme to reduce congestion at Red Cow Village will also affect the delivery of air quality improvements in the Alphington, Heavitree and Cowley Bridge Road corridors respectively.

7.3 Exeter City Council has also failed to meet some targets, such as that for the reductions in emissions from Council operations and estate. The increase in long-stay car park tariffs was also below target, making driving into the city centre relatively more attractive. The core strategy has also been delayed, which will update the policy basis behind measures to control emissions from future development. This is not thought to have affected the air quality impact of any developments in practice however.

7.4 NO_2 concentrations have increased from 2008 to 2009, but there is no clear long-term trend and there could be a multitude of explanations for this, including meteorological factors, and the choice of the bias adjustment factor used to correct the data.

7.5 There is therefore mixed evidence of the success of the Air Quality Action Plan. Despite funding and other constraints, progress with the implementation of measures has generally been good and many indicators are exceeding their targets. NO_2 concentrations have not reduced however, and work by Exeter University predicts that the current package of measures within the LTP2 will not achieve sufficient reductions in pollutant concentrations to meet the objective level. A package of measures has been identified which has the most impact on NO_2 concentrations and the best chance of achieving the objective level and this information has been provided to Devon County Council as they write the next round of Local Transport Plan (LTP3 2011-2026).

7.6 The next Air Quality Action Plan Progress report will update the Action Plan to include the new LTP3 and any associated targets etc. The Plan itself is due for review in 2012.

Appendix 1 Implementation Plan for each Measure from the AQAP Package of Existing Measures

This shows what specific actions are necessary to implement each measure, how success will be measured using the targets within the AQAP and where progress will be reported. All progress will be summarised in this and subsequent AQAP Progress Reports. The following notification is used:

- Timescales: Short (0-1 years), Medium (1-5 years) or Long (>5 years).
- Cost Bands: <£100k, £100k-£500k, £500k-£1m or >£1m
- Predicted Air Quality Change: Negligible (<0.2 μg/m^3), Low (0.2-1 μg/m^3), Medium (1-1.5 μg/m^3), High (1.5-2 μg/m^3) or Very High (>2 μg/m^3). N/A for measures to control or reduce the impact of future development.
- Other Impacts: Positive, Neutral or Negative
- Existing Plans and Strategies: TS (Exeter City Council Transportation Strategy), CCS (Exeter City Council Climate Change Strategy), ES Exeter City Council Environmental Strategy), LTP2 (Devon County Council Second Round Local Transport Plan) and LP (Exeter City Council Local Plan)
- Responsible Body: Exeter City Council (ECC) or Devon County Council (DCC)
- Reporting: Annual Updating and Screening Assessment or Progress report (USA/PR), Air Quality Action Plan Progress Report (AQAP PR), Local Transport Plan Progress report (LTP PR), Climate Change Strategy Annual Report (CCS AR), Environmental Strategy Annual Report (ES AR).

Parking Management				TS, CCS, ES
The refinement of city parking policy to encourage the use of public transport and other sustainable travel modes and manage demand for parking within City Council car parks: • Review parking tariffs annually in ECC operated car parks and increase long stay tariffs by more than the rate of inflation. • Investigate the inclusion of a small, additional 'carbon offset' levy onto city centre off-street car park charges (as part of Exeter City Council's Climate Change Strategy).				
Responsible Body:	ECC	**Timescale:**	Medium	
Cost:	<£100k	**Funding:**	Self-Funding	
AQ Change:	Low	**Other Impact:**	Positive	
Actions:		**Targets:**	**Reporting:**	
1	Annually increase long-stay tariffs by more than rate of inflation	ongoing	AQAP PR	
2	Introduce parking levy by 2009	CCS1	Completed	

Reduce Taxi Emissions using Licensing Regime				CCS
The application of licensing requirements to encourage taxi and private hire vehicles to invest in increased fuel efficiency across their fleet.				
Responsible Body:	ECC	**Timescale:**	Medium	
Cost:	<£100k	**Funding:**	Within existing budgets	
AQ Change:	Negligible/Low	**Other Impact:**	Negative	
Actions:		**Targets:**	**Reporting:**	
1	Determine requirements of scheme		CCS AR	
2	Consult on specific proposal		CCS AR	
3	Implement scheme December 2008	CCS2	CCS AR AQAP PR	

Reduce Emissions from Non-Transport Sources			ES
Reduce industrial NO_2 emissions.			
Responsible Body:	ECC and EA	**Timescale:**	Medium
Cost:	£100k-£500k	**Funding:**	Funded by industry
AQ Change:	Negligible	**Other Impact:**	Negative

Actions:		**Targets:**	**Reporting:**
1	Consider NO_2 emissions during all permit reviews, determinations and variations	100%	USA/PR
2	Provide comments to EA on NO2 emissions from part A(1) processes where appropriate	100%	USA/PR
3	Assess NO_2 emissions from industrial and commercial sources	Not Significant USA 1	USA/PR AQAP PR

LTP2 Foundation Program and Major Schemes			LTP2
A package of measures designed to manage demand within the city and achieve the objectives of the LTP2, including objective AQ2 'Reduce local air pollution to below exceedence levels in Exeter by 2010/11.'			
Responsible Body:	DCC & partners	**Timescale:**	Long
Cost:	>£1m	**Funding:**	LTP2
AQ Change:	Very High/Medium	**Other Impact:**	Positive/Neutral

Actions:		**Targets:**	**Reporting:**
1	High Quality Public Transport (HQPT) – Major Scheme Bid to include enhanced public transport provision in terms of vehicle quality, route, priority, information, ticketing and supporting transport interchanges. The scheme includes traffic demand management measures within Exeter.	Completion 2015 LTP C1	LTP PR
2	Exeter Principle Urban Area (PUA) Major Scheme Bid: Improve outbound capacity on key routes Introduce Park and Ride Scheme at Ide Bus lanes and junction priority on key routes	Completion 2015 LTP C1 LTP C2 LTP C3	LTP PR CCS AR
3	Bus Priority Measures including bus lanes and forms of traffic management: Remove limited parking in bus lanes on Pinhoe Road and Cowick St Changes to highway on Heavitree corridor	Completion 2009/10 LTP C3 LTP C4 LTP C5	LTP PR
4	Paris Street, Sidwell Street, Cheeke Street Improvements Works to relieve congestion on Sidwell St and junction with York Road	Completion 2009/10	LTP PR
5	Digby & Sowton Station Travel Plan Increase use of station by local residents and businesses	Completion 20010/11 LTP C1	LTP PR
6	Bus Priority at Marsh Barton/Haven Banks: Junction priorities, remove parking in bus lane, enforce busway at Tan Lane	Completion 2009/10 LTP C4 LTP C5	LTP PR

7	24 hour protection of bus stops from obstructive parking. All bus stops in Exeter to be upgraded to 'bus boarders'	Completion 20010/11 LTP C4 LTP C5	LTP PR
8	Strategic highway signing: Direct traffic (especially HGVs) away from congested routes.	Completion 2009/10 LTP C2	LTP PR
9	Cycling Demonstration Town (Cycle Exeter): Increase cycle use by improving facilities and use of education, advertising and events	Completion 20010/11 LTP C6 LTP C1	LTP PR
10	Enhancement to Exeter Central Station: Improve access to station to encourage use of public transport	Completion 2009/10 LTP C1	LTP PR
11	Red Cow Junction: Improve efficiency of junction.	Completion 2009/10 LTP C2	LTP PR
12	School Travel Plans - Increased uptake of sustainable transport modes	LTP H1 LTP C1	LTP PR
13	Intelligent Transport Systems (ITS): Direct cars to car parks with spare capacity improving localised congestion	Completion 2009/10 LTP C2	LTP PR
14	Workplace Travel Planning: Focus on new business and new development, particularly to east of Exeter. Increase proportion of sustainable travel to work.	Ongoing LTP C1	LTP PR
15	Residential & Personal Travel Planning (TravelSmart): Partnership with Sustrans and ECC to deliver personalised travel planning to households within specific areas of city	Completion 2010 LTP C1	LTP PR CCS AR
16	Bus Priority on Prince Charles Road: Improve traffic flow	Completion 2008/9 LTP C4	LTP PR
17	Fishers Bridge, Topsham, footway and cycleway extension and associated signalisation: Increase use of Exe Estuary cycle way by improved facilties.	Completion 2008/9 LTP C6	LTP PR
18	Exeter Walking Project: Partnership with Sustrans and ECC to improve facilities for walking. Walking map of Exeter produced.	Ongoing	LTP PR CCS AR
19	On street parking demand management: Managing commuter parking on key radials	Ongoing LTP C1	LTP PR

Encourage Use of Cleaner, Smaller Vehicles and Improved Driving Style			CCS
By education and advertising initiatives and/or incentives. The refinement of city parking policy to encourage the ownership of more fuel-efficient cars.			
Responsible Body:	ECC & DCC	**Timescale:**	Long
Cost:	<£100k	**Funding:**	Within existing budgets
AQ Change:	High	**Other Impact:**	Positive
Actions:		**Targets:**	**Reporting:**
1	Support Exe Co-Cars Car Club Scheme, including through Supplementary Planning Guidance (SPG) for developers	Ongoing	CCS AR
2	Promote car sharing, particularly for commuter journeys	Ongoing	CCS AR
3	Run campaigns/events to increase awareness of local residents, schools, community groups and council tenants of sustainability issues	Ongoing	CCS AR

ECC and DCC Travel			ES, CCS
Reduce the number of City Council staff who travel to work by car by implementation of a range of incentives, including home working, as part of the Exeter City Council Green Travel Plan. Reduce City Council business travel by non-sustainable means and ensure that the Council's own vehicle fleet continues to use the most fuel-efficient technologies.			
Responsible Body:	DCC & ECC	**Timescale:**	Long
Cost:	£100k-£500k	**Funding:**	Within existing budgets
AQ Change:	Negligible/Low	**Other Impact:**	Positive
Actions:		**Targets:**	**Reporting:**
1	Use fleet management software to monitor fuel consumption and miles travelled by Council vehicles	Ongoing CCS3	CCS AR ES AR
2	Vehicle replacement policy requires vehicles meeting latest Euro emissions standard to be specified (including electric vehicles where appropriate).	CCS3	CCS AR ES AR
3	Provide Eco-driver training for drivers of Council vehicles	Completion April 2009 CCS3	CCS AR
4	Keep the Council's Green Travel Plan under review to encourage employees to use sustainable transport modes for travel to work and on business.	Ongoing	CCS AR ES AR
5	Review provision of cycle storage at all ECC sites and provide cycle training for employees	Ongoing	ES AR
6	Reduce miles travelled by Refuse Collection Vehicles by encouraging home composting and waste minimisation	Ongoing	ES AR
7	Develop environmental code of conduct for ECC staff	Ongoing	CCS AR
8	Annual reduction in NOx emissions through Local Authority's estate and operations	NI 194	AQAP PR

Encourage Local Facilities and Services				ES, LP, CCS
Reduce the need to travel by encouraging local services and facilities. Reduce 'food miles' by supporting the market for locally sourced food. The promotion of sustainable transport options for visitors and tourists to Exeter.				
Responsible Body:	ECC	**Timescale:**	Long	
Cost:	<£100k	**Funding:**	Within existing budgets	
AQ Change:	Negligible	**Other Impact:**	Positive	
Actions:		**Targets:**	**Reporting:**	
1	Run weekly farmers market	Ongoing		
2	Promote the Green Tourism Business Scheme (GTBS) to tourism providers within Exeter (through Tourism Strategy)	3 venues to apply for GTBS by 2010	ES AR	
3	Develop the profile of Exeter as a centre for sustainable tourism by highlighting the ease of access by public transport to the city through rail and coach packages, and for day trips in conjunction with promoting walking the Jurassic Coast, Dartmoor etc, using the National Cycle Network and other initiatives	Ongoing	ES AR	
4	Use planning process to deliver local facilities within new developments that provide for existing communities as well	Ongoing	AQAP PR	
5	Provide support to help local community groups implement environmental/sustainability projects.	Ongoing	CCS AR ES AR	
6	Run seminars, events and campaigns to promote environmentally responsible practice.	Ongoing	CCS AR ES AR	

Transport Measures for New Residential Developments				ES, LP
All new major development designed to be accessible by buses. All major new residential development to be built within 400m of an existing bus service, or such a service to be secured as part of the development. Use S106 agreements to require developers to provide funding for off-site highways works. Require travel plans to be produced for major new developments.				
Responsible Body:	ECC	**Timescale:**	Long	
Cost:	<£100k	**Funding:**	Developer contribution	
AQ Change:	N/A	**Other Impact:**	Positive	
Actions:		**Targets:**	**Reporting:**	
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.	Adopt Core Strategy Summer 2008	ES AR CCS AR	
2	Review all development proposals in light of policy	USA 2	USA/PR AQAP PR	
3	Document and justify any deviations from policy in decisions made.		USA/PR AQAP PR	
4	Provide training for planners, members and developers on sustainability issues	Ongoing	ES AR	

5	Ensure transport policies are fully integrated with spatial planning, particularly in key future development sites	Ongoing	ES AR USA/PR
6	Utilise Section 106 agreements to promote transport sustainability	Ongoing	ES AR

New City Centre Car Parking				LP
Permission for development in the city centre will be subject to a determination that there will be no significant change in the public off-street parking capacity.				
Responsible Body:	ECC	**Timescale:**	Long	
Cost:	<£100k	**Funding:**	Within existing budgets	
AQ Change:	N/A	**Other Impact:**	Neutral	
Actions:			**Targets:**	**Reporting:**
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.		Adopt Core Strategy Summer 2008	ES AR CCS AR
2	Review all development proposals in light of policy		USA 2	USA/PR AQAP PR
3	Document and justify any deviations from policy in decisions made.			USA/PR AQAP PR
4	Provide training for planners, members and developers on sustainability issues		Ongoing	ES AR

New Building Design				ES, LP
Encourage sustainable building design, particularly energy conservation				
Responsible Body:	ECC	**Timescale:**	Long	
Cost:	<£100k	**Funding:**	Developer funded	
AQ Change:	N/A	**Other Impact:**	Positive	
Actions:			**Targets:**	**Reporting:**
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.		Adopt Core Strategy Summer 2008	ES AR CCS AR
2	require sustainability appraisal with all developments		LP1	ES AR CCS AR
3	Review all development proposals in light of policy		USA 2	USA/PR AQAP PR
4	Document and justify any deviations from policy in decisions made.			USA/PR AQAP PR
5	Provide training for planners, members and developers on sustainability issues		Ongoing	ES AR

New Industrial/Commercial Development				ES, LP
Emissions controls (where appropriate), to reduce NOx emissions using the Pollution Prevention and Control Regulations. Encourage adoption of travel plans for employees.				
Responsible Body:	ECC	**Timescale:**		Long
Cost:	£100k-£500k	**Funding:**		Developer funded
AQ Change:	N/A	**Other Impact:**		Neutral
Actions:			**Targets:**	**Reporting:**
1	Incorporate policies on sustainable construction, biodiversity, air and water quality and flood risk into the new Local Development Framework and Development Control Process. Ensure sustainable development issues are addressed in future supplementary planning documents (SPD) and development briefs for sites.		Adopt Core Strategy Summer 2008	ES AR CCS AR
2	Review all development proposals in light of policy		USA 2	USA/PR AQAP PR
3	Document and justify any deviations from policy in decisions made.			USA/PR AQAP PR
4	Provide training for planners, members and developers on sustainability issues		Ongoing	ES AR

Appendix 2 The Steering Group

An ad-hoc group of officers was involved in the process of discussing and evaluating the impact of the measures within the LTP2 on NO_2 emissions. This developed out of the group of officers involved in the production and scrutiny of the AQAP. The make-up of the group and their expertise is summarised below:

Alex Bulleid	ECC (Environmental Health)	Air quality monitoring and LAQM process
John Leech	ECC (Environmental Health)	Air quality monitoring and LAQM process
Ross Hussey	ECC (Economy & Development)	Strategic development of Exeter
Phil Slater	DCC (Highways)	Transport Planning
Lewis Ward	DCC (Highways)	Transport Planning and LTP2 delivery
Guy Hitchcock	Exeter University	Air quality modelling and technical input
Carl Goves	Parsons Brinckerhoff	Transport modelling
Samantha Taylor	Parsons Brinckerhoff	Transport modelling

The group informed and evaluated work done by Exeter University on behalf of DCC. It provided expert and technical advice on the content and effect of measures within the LTP2 and evaluated their impact in terms of emissions. The group will use the outcome of this work to develop the next round of Local Transport Plan (LTP3). The LTP3 will build on the achievements of the LTP2 but would need to focus particularly on any areas where exceedence of the objective level is most severe and where the LTP2 has delivered least improvements. The group has identified any such areas at an early stage in the production of the LTP3 so that measures to improve air quality can be made an integral part of the plan.

Whilst this group is titled the Steering Group, the whole membership does not often need to meet. Instead, the individual members liaise with each other as required. For example Parsons Brinckerhoff are involved with Exeter University when modelling of specific schemes is required. ECC and DCC officers meet and correspond regularly to discuss the output of the university's work and to develop concepts for the LTP3. Subsequent Action Plan Progress reports will contain details of the outcomes of the groups' work, including work programmed for the future.

Reports:

- Hitchcock G., van Delft T., Mitchell A. (2009) Analysis of measures to meet air quality objectives in Exeter through the Devon LTP.