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LAQM: Report appraisal update

Sofia Girnary

Quality, Innovation & Originality

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Introduction

- Review of the appraisal process
- Introduction to the LAQM appraisal team
- LAQM in Scotland
- Examples of best practice

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The appraisal process

For all reports except for Action plans (i.e. USA, PR, DA, FA)

• LA submits report via RSW.

• Appraisal team complete the appraisal report and pass to SG

• SG review the report, add letter and notify the LA

• Responses/further information is dealt with in several ways:

  – LA returns response to reportappraisal@ttr-ltd.com

  – LA returns response to SG

  – LA uploads revised version of the report to RSW

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The LAQM appraisal team

The team is made up of staff from 3 organisations:

Transport, sustainability and policy research consultants.

Research, consultancy, testing and certification for all aspects of transport .

Air quality and climate change emission consultants.

TTR

TTR specialise in transport policy research and the links between transport and sustainability. TTR carry out research to understand the impact of innovative transport policies and measures on travel behaviour and attitudes, on energy consumption and the environment, and on social issues.

TTR's work includes research and testing of innovative transport measures to reduce emissions, including the development of Low Emissions Strategies for a number of cities and projects to investigate the use of cleaner vehicles and alternative fuels.

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TRL

TRL has worked in Local Air Quality Management since the advent of the Environment Act 1995 and Local Air Quality Management frameworks in the 1990s. Their work has supported the understanding and solving of air quality issues from the local to the European level. TRL undertakes LAQM assessments for many authorities and has experience with supporting local authorities in developing and benchmarking air quality action plans. In addition, TRL has developed emissions databases and tools to allow flexible and detailed analysis of the impacts of various traffic policy measures.

Aether

Aether specialise in emission inventories and air quality assessments. They have a strong international reputation and work for a wide range of organisations including the UNFCCC, European Commission, European Environment Agency, local and national governments, property developers and planning consultancies.

The appraisal team

Sofia Girnary (TTR)

Anna Savage (TRL)

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The appraisal team

Melanie Hobson (Aether)

Jenny Price (TRL)

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LAQM in Scotland

- There are 13 Local Authorities in Scotland with at least one AQMA in place (30 AQMAs in total)

- 20 declared for NO_2, 19 declared for PM_{10}, and 1 declared for SO_2.

- 9 of the 13 Authorities with an AQMA have an Action Plan in place for at least one of their AQMAs

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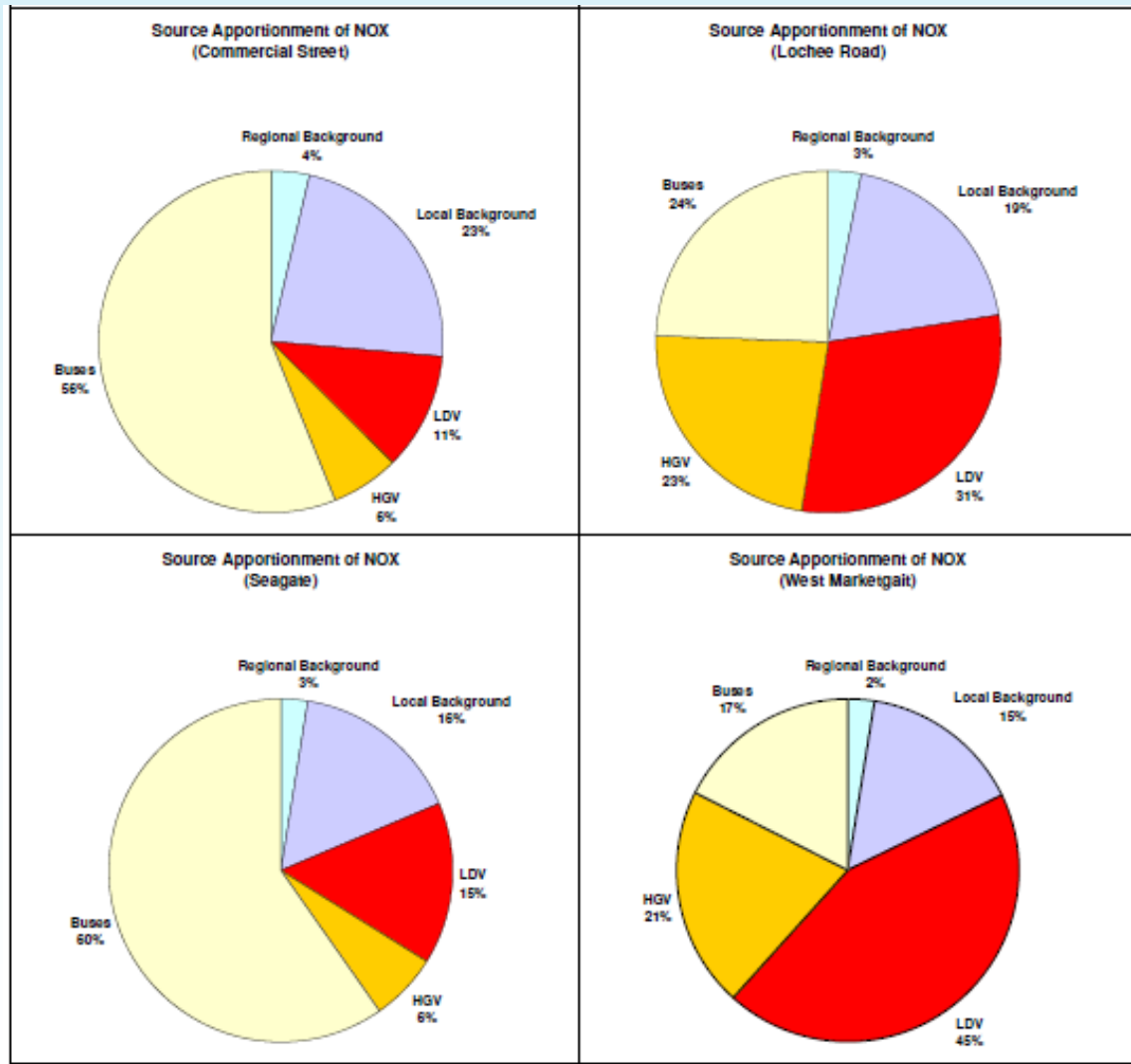
Best practice

I will focus on three examples of best practice:

- – Dundee Air Quality Action Plan

- – Fife Bonnygate Air Quality Action Plan

- – Dudley Air Quality Action Plan

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Dundee's action plan – why is it best practice?

- Thorough analysis of the problem:
  - Source apportionment
  - required reductions in NO_2 and PM_{10}

- Measure development:
  - Steering Committee
  - Consultation

- Comprehensive measure information
  - Measures are clearly prioritised
  - Information on funding is presented
  - Measures have clearly defined indicators

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Analysis of the problem

Source apportionment of annual mean NOx concentrations at various sites within the AQMA

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Measure development

- Review of related policies and strategies
- Steering Committee:
  - To fine-tune measures and actions included in the AQAP
  - To remove and add measures considered appropriate for the AQAP
  - To prioritise measures based on cost, effect and feasibility
- Consultation:
  - Public consultation workshop (community)
  - Stakeholder consultation workshop (Tactran, businesses, university, neighbouring LAs etc)

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Comprehensive measure information

Table 6- Scoring used to Assess and Prioritise Proposals

Costs		Air Quality Impacts		Timescale	
Score	Approximate cost	Score	Indicative impact		Years
7	<£100k	7	>5 µg/m³	Short (S)	1- 2
6	£100-500k	6	2-5 µg/m³		
5	£500k-1million	5	1-2 µg/m³		
4	£1-10 million	4	0.5 - 1 µg/m³	Medium (M)	3-5
3	£10-50 million	3	0.2 – 0.5 µg/m³		
2	£50-100 million	2	0 - 0.2 µg/m³		
1	>£100million	1	0	Long (L)	6+

Feasibility of Implementation/Funding Score:
1 ➤ ➤ ➤ ➤ ➤ 5

- 1 being the least feasible and 5 being the most feasible
- Feasibility requires to consider feasibility for implementation and funding

Cost Effective Score = Cost Score X Effect Score

Prioritisation Score = Cost Effective Score + Feasibility Score

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Comprehensive measure information

Table 7 – Summary and Prioritisation of Action Plan Measures to be Implemented in the AQMA

Prioritisation Score Range	Priority Level	
≥25	High	
15-24	Medium	
< 15	Low	
For description of impact, cost and feasibility scores see Section 5.1		

Measure	Actions	Lead Authority	Time scale	Status	Impact	Cost	Cost Effective Score (Impact * Cost)	Feasibility	Prioritisation Score	Targets/Indicators
TRAFFIC MEASURES										
Measure M1: Existing Road Infrastructure Improvements	➤ City Centre Improvements - Union St	▪ DCC City Development Department (Transport Division)	MT	Funding identified	5	6	30	4	34	⊙ Implementation of improvements
Measure M2: DCC will enhance the Urban Traffic Management and Control (UTMC) system to reduce congestion	➤ Real-time traffic monitoring ➤ Improve control regime to smooth out peak traffic	▪ DCC City Development Department (Transport Division)	2011+ Ongoing	Funding required Revenue Funding has capacity Already Funded Capital Funding required for real-time monitoring	3	5	15	4	19	⊙ 10% reduction in congestion (journey times) in targeted areas during peak times before and after implementation of measure. ⊙ Annual review of impact

Fife's action plan – why is it best practice?

- Thorough analysis of the problem:
  - Source apportionment
  - Scenario analysis
- Measure development
  - Action plan Steering Group
- Comprehensive measure analysis
  - Assessed against a range of criteria

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Scenario analysis

Further Assessment included source apportionment and scenario analysis of six
potential mitigation scenarios
1. All Euro II buses replaced with Euro III
2. 20% of Euro II and 20% of Euro III buses replaced with Euro IV
3. 40% of Euro II and 40% of Euro III buses replaced with Euro IV
4. 60% of Euro II and 60% of Euro III buses replaced with Euro IV
5. 20% reduction in HGV
6. Traffic queue relocation and traffic light coordination aimed at minimising
   congestion within the Bonnygate

Led to recommendations that the action plan should include measures aimed at:
- Reducing the impacts of cars and heavy goods vehicles (HGVs) within
  Bonnygate;
- Minimising the impacts of congestion within the Bonnygate street canyon;
- Encouraging a reduction in traffic volumes;
- Reducing the background concentration of PM10 through encouragement
  of efforts at the national level.

Measure development

- Action Plan Steering Group
  - Officers from across Fife Council, plus representatives from Scottish EPA, Fife Constabulary and NHS Fife
  - Met eleven times between December 2008 and August 2010.

- Three main actions:
  - Initial consideration of all possible options for reducing ambient concentrations of NO_2 and $PM10$ within the Bonnygate AQMA.
  - More detailed consideration and assessment of short-listed options aimed at reducing emissions. Provide comments, evaluate the options and make decisions so that a list of prioritised options could be developed.
  - Determination of how proposals outlined in the draft plan will be prioritised and implemented.

Measure assessment criteria

- Potential air quality impact
- Implementation costs
- Cost-effectiveness

Cost \ AQ benefit	Score	Zero	Small	Medium	Large
Score		0	1	2	3
Neutral	5	0	5	10	15
Low	4	0	4	8	12
Medium	3	0	3	6	9
High	2	0	2	4	6
Very High	1	0	1	2	3

- Potential co-environmental benefits, risk factors, social impacts and economic impacts – e.g. risks

  – Relocate emissions and hence lead to worsening air quality elsewhere;

  – Require a change in land use;

  – Place limits on pace of development, or increase costs of development significantly.

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Measure assessment criteria

•Feasibility and Acceptability

Feasible in the:	Authority has the powers	Funding secured	Potential positive and negative impacts are well characterised
Short term (1-2 years)	Yes, clearly defined and already exercised	Yes potentially straightforward	Yes
Medium term (3-6 years)	Yes but novel or with an element of uncertainty	Yes with forward planning	Not without further study
Long term (>6 years)	Highly uncertain	No or extremely difficult	Not without further study
Unfeasible	No	Will never attract funding	Hard to characterise and with high risks

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Measure assessment criteria

Table 6.1 Summary Assessment of Proposed Measures

Measure Title (CE Score)	Potential Air Quality Impact	Estimated Costs	Cost Effectiveness	Potential Co-environmental Impacts	Risk Factors	Potential Social Impacts	Potential Economic Impacts	Lead Authority	Feasibility/ Acceptability
Measures aimed at optimising how road traffic sources transit AQMA (continued)									
Review and support proposed infrastructure changes that will contribute to delivering improvements in local air quality (3)	M-L	VH	Low	Other AQ (local) – positive.	Relocate a proportion of emissions.	Relocation of pollution. Noise. Positive impact on economic development. Potential negative impact on housing/ lifestyles of those impacted by relief road.	Potential positive impact on economic development.	Fife Council	Medium-Long-term
Reduce the emissions from sources by technical means									
Target reductions in emissions from buses (2)	S	H	Low	GHG- positive Other AQ – positive	Relocation of pollution to other areas.		Potential impact on Operators	Fife Council Transportation Services	Medium Term/ Acceptable
Target reductions in emissions from the Council fleet and contract vehicles (including driver training). (2)	S	H*	Low	GHG- positive Other AQ – positive Noise - positive	None identified	Neutral Positive impact of training.	Neutral	Fife Council Procurement and Supplies	Short-Medium term/ Acceptable
Reduce emissions from sources by means of encouraging better travel choices/ behavioural change									
AQMA Awareness Signs (4)	S	L	Medium	GHG - positive Other AQ – positive	Potential hazard – distract drivers.	None identified	May have a positive or negative impact on public perception	Fife Council Transportation Services	Short-term/ Acceptable
Travel Plans for Large Institutions and Businesses (6)	M	M*	Medium	GHG - positive Other AQ – positive Noise - positive	None identified	Health benefits	Potential financial benefits to employees	Fife Council Transportation Services	Short-term/ Acceptable

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Dudley MBC's action plan – why is it best practice?

- Thorough analysis of the problem:
  - local factors
  - required reduction in NO_2

- Information about performance indicators:
  - A specific section on monitoring the performance of the action plan is included, in which an 'air quality indicator' is defined in addition to the proxy indicators.
  - Specific targets are set for many of the proxy indicators

Analysis of local factors

Identification of Contributory Factors And Local Impacts

Ref	Location	Approx Average Annual Daily Traffic flow on closest road link	Nearest road with gradient >2.5%?	Source Apportion-ment Principal Traffic Component	Street Canyon?	Approx Number of Properties
1	Netherton	19000	Y	HGV	N	148
2	Cradley	22000	Y	HGV	Y	92
3	Pensnett	34000	Y	HGV	Y	24
4	Sedgley	15000	N	HGV	Y	97
5	Brierley Hill	20000	N	Bus/Coach	Y	78
6	Quarry Bank	18000	Y	HGV	Y	112
7	Hagley Rd.	10000	Y	HGV	Y	<10
8	Wordsley	29000	Y	HGV	Y	23
9	Lye	24000	Y	HGV	N	166
10	New St.	3000	Y	Bus/Coach	Y	58
11	Himley Rd.	17000	N	HGV	N	18
12	Stourbridge Rd.	17000	N	HGV	Y	45
13	Amblecote	22000	N	HGV	N	13
14	Birmingham Rd.	49000	N	HGV	N	75
15	Buffery Rd.	17000	N	Bus/Coach	N	<10

Performance indicators

6.5 Monitoring Performance of the Action Plan

The Council proposes to monitor performance of the action plan by using a series of indicators to measure progress against appropriate targets. Progress will be reported to Defra on an annual basis and any areas of underperformance will be addressed by appropriate refinement of the action plan.

6.5.1 Air Quality Indicator

Building on from the air quality target featured in WMLTP2, Dudley MBC proposes to demonstrate an ongoing reduction of at least 1% in average roadside NO_2 concentrations over a rolling five year period. It is proposed that the concentrations from a consistent selection of roadside sites across the borough will be averaged and corrected against the average of a consistent selection number of established background monitoring sites.

This indicator will measure progress in reducing roadside NO_2 concentrations across the borough.

6.5.2 Other proxy indicators

A total of 23 other indicators have been included to measure progress in carrying out specific tasks outlined in the plan. Wherever possible, these have been linked to other council initiatives or WMLTP3. Further information is provided in Section 7.

Proxy indicators

Performance Indicators	
	4. The feasibility Study for RET will be completed and reported to the head of service by 31/03/11 as identified in the EP Service Plan. **Action Complete.**
	5. The evaluation of proposals for reducing idling emissions will be completed and reported to the head of service by 31/03/11 as identified in the EP Service Plan. Website upgrade, preparation and distribution of promotional material including signage for bus stations and layover points and council driver training will be completed by 31/03/2012.
	6. The investigation into encouraging the uptake of low emission vehicles will be completed and reported to the head of service by 31/03/12 as identified in the EP Service Plan.
	7. EP Service Plan 2010 / 11, to upgrade the web site by 31 03 10. **Action Complete.**

Performance Indicators	
	19. 30% of all employees to work in organisations committed to work place travel plans by 2011 - The Traffic and Transportation Service Plan.
	20. WMLTP3 Proposed Target 13: Increase the West Midlands Cycling Index by x% from the 2010/11 baseline of 100 by 2015/16.
	21. 100% of schools to have travel plans by 2011 (**Action Complete**) and to demonstrate a 1% decrease in car travel per annum- The Traffic and Transportation Service Plan.

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Thank You For Your Attention

Sofia Girnary

Principal Consultant

sofia.girnary@ttr-ltd.com

www.ttr-ltd.com

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