1. Issue

Growing evidence base that demonstrates long term exposure to air pollution is harmful at levels well below current air quality targets and is causing a significant morbidity and mortality burden across Derbyshire County and City.

The impact of air pollution affects the whole population, however disproportionately affects the young, older people, those with underlying health conditions and the most disadvantaged within our communities.

Prioritising action on air quality would significantly improve the public health outcomes of the people across the County and City.

2. Background

Following the submission of papers to raise awareness of the impact of poor air quality on local health, to the County and City Health and Wellbeing Boards in March and June 2016, a workshop was established. The workshop aimed to bring together local and regional experts, review emerging evidence, map current activity around air quality and begin to set action for change. This report provides the feedback from the event and sets recommendations for further action.

3. Agenda

Details of presentations can be found in Appendix 1-7

1. What do we know about the impact of air quality on health? (Appendix 1)
   Dr Stuart Aldridge and Jim Stewart-Evans, Public Health England
2. Derbyshire and Derby City’s air quality (Appendix 2)
   Jane Careless, Senior Public Health Manager, Derbyshire County / Derby City
   Public Health, Matthew Holford, Environmental Health Manager, Southern Derbyshire
3. Effects of long term exposure to air pollution on children’s health (Appendix 3)
   Professor Jonathon Grigg, Queen Mary’s University London
4. What can we do to improve air quality?
   a) ECO Stars – supporting fleet operators (Appendix 4)
      Ann Beddoes, Environment & Transport, Barnsley Metropolitan Borough Council, Alan West, Technical Specialist, Transport and Travel Research Ltd
   b) Supplementary planning to support air quality improvement (Appendix 5)
      Neil Polden, Senior Environmental Health Officer, Northampton Borough Council Kettering
c) Air Aware – What we do makes a difference (Appendix 6)
   Dr Ogo Osommor, Air Quality Officer, Sheffield City Council
d) 2016 Update to Local Air Quality Management (LAQM) Regime
   (Appendix 7) Karl Suschitzky, Senior Environmental Health Officer, Derby City Council

4. Mapping current action around air quality

A key element of the event aimed to provide a summary of current action around air quality in order to identify key stakeholders. The following provides a summary of work highlighted during the event.

<table>
<thead>
<tr>
<th>Work</th>
<th>Aims</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Health (Districts/Boroughs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Quality Management Areas</td>
<td>Source reduction</td>
<td>Reduce AQ levels in targeted areas through development of action plans.</td>
</tr>
<tr>
<td>Inform planning decisions</td>
<td>Source reduction &amp; mitigation</td>
<td>Assess the impact of developments on AQ of local area</td>
</tr>
<tr>
<td>Air quality monitoring</td>
<td>Monitoring</td>
<td>Monthly average levels of NO₂ measured at 150 locations across the county. 15 minute average levels of NO₂ measured at 3 locations. 15 minute average levels of PM₁₀ and PM₂.₅ measured at 3 locations.</td>
</tr>
<tr>
<td>Environmental permitting</td>
<td>Source reduction</td>
<td>Legal compliance at businesses regulated under the Environmental Permitting Regulations (approx. 400 in Derbyshire)</td>
</tr>
<tr>
<td>Public complaints</td>
<td>Source reduction</td>
<td>Investigation and case resolution of public complaints about atmospheric emissions of dust and smoke.</td>
</tr>
<tr>
<td>Planning (Districts/Boroughs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Plan</td>
<td>Source reduction</td>
<td>Sets out vision, objectives, and policies for the future development of local area, including mechanisms to reduce vehicle usage and facilitate alternative transport.</td>
</tr>
<tr>
<td>Planning (Districts/Boroughs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Plan</td>
<td>Source reduction</td>
<td>Sets out vision, objectives, and policies for the future development of local areas in a manner which includes reducing the need for vehicle usage and facilitating alternative transport choices.</td>
</tr>
<tr>
<td>Local Plan</td>
<td>Mitigation</td>
<td>Set out vision, objectives, and policies to guide decisions on the design and location of specific developments in a manner which minimises adverse air quality impacts on health and wellbeing.</td>
</tr>
<tr>
<td>Environment Agency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental permitting</td>
<td>Source reduction</td>
<td>Legal compliance at large industrial installations regulated under the Environmental Permitting Regulations.</td>
</tr>
<tr>
<td><strong>Corporate</strong></td>
<td><strong>Source</strong></td>
<td><strong>Reduction</strong></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>DCC workplace sustainable travel campaign</td>
<td>Source reduction</td>
<td>Smarter travel; “Miles to work”; “car share”; “cycle to work” “smarter working” schemes to promote alternatives to car use. <a href="https://www.derbyshire.gov.uk/working_for_us/smarter_travel/default.asp">https://www.derbyshire.gov.uk/working_for_us/smarter_travel/default.asp</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Public Health</strong></th>
<th><strong>Harm</strong></th>
<th><strong>Reduction</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical activity</td>
<td>County; Current physical activity programmes supported are; Health Referral, Walking for Health, Village Games, Inactivity Fund, Strictly No Falling and Active Derbyshire (Derbyshire Sport) marketing. City; Live well programme supports physical activity including active travel.</td>
<td></td>
</tr>
<tr>
<td>Healthy workplaces</td>
<td>Support health workforces across private organisations through increases in physical activity and sustainable travel, partners include Derby University, Derby College and Sporting Futures. Working collaborative with Councils integrated transport team <a href="https://www.derbyshire.gov.uk/business/healthy-workplaces/default.asp">https://www.derbyshire.gov.uk/business/healthy-workplaces/default.asp</a> Derby city; Looking to establish a healthy workplaces scheme.</td>
<td></td>
</tr>
<tr>
<td>Childhood obesity</td>
<td>Reduce childhood obesity through increase of physical activity (year 6 and junior school children)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Derbyshire County Council and Derby City Council and Boroughs and Districts</strong></th>
<th><strong>Source</strong></th>
<th><strong>Policy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainable modes of travel strategy</td>
<td>Support parents and children to choose more active, healthier and environmentally friendly ways of travelling to school. A statutory duty placed on all local authorities.</td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sustainable travel working group</td>
<td>Source reduction</td>
<td>DCC Cross departmental group to promote sustainable travel <a href="https://derbyshire.gov.uk/education/schools/your_child_at_school/travel/sustainable_travel/default.asp">https://derbyshire.gov.uk/education/schools/your_child_at_school/travel/sustainable_travel/default.asp</a></td>
</tr>
<tr>
<td>Planning and health group</td>
<td>Source reduction</td>
<td>Cross departmental group to promote healthy sustainable development including active travel and green spaces.</td>
</tr>
<tr>
<td>Road demand and smoothing</td>
<td>Source reduction</td>
<td>DCC Outreach workers provide information around travel alternatives to encourage behaviour change.</td>
</tr>
<tr>
<td>Neighbourhood development plans</td>
<td>Source reduction &amp; mitigation</td>
<td>Neighbourhood development plans are drawn up by the town or parish council or forum. Neighbourhood development plans must be approved via a referendum. The local planning authority is then under a legal duty to bring them into force. (Link Jon – University of Birmingham) <a href="https://www.derbyshire.gov.uk/environment/planning/neighbourhood_plans/default.asp">https://www.derbyshire.gov.uk/environment/planning/neighbourhood_plans/default.asp</a> <a href="http://www.derby.gov.uk/environment-and-planning/planning/neighbourhood-planning/">http://www.derby.gov.uk/environment-and-planning/planning/neighbourhood-planning/</a></td>
</tr>
</tbody>
</table>

**Sustrans**

| Workplace travel planning | Source reduction | Support organisations to develop workplace travel plans [http://www.sustrans.org.uk/our-services/where-we-work/workplaces](http://www.sustrans.org.uk/our-services/where-we-work/workplaces) |
| Personalised travel plans | Source reduction | Offer personalised travel planning, specifically around job seekers. |
| School based sustainable travel solutions | Source reduction & harm reduction | Support schools to develop walk to school campaigns, no parking zones and educational activities [http://www.sustrans.org.uk/our-services/where-we-work/schools](http://www.sustrans.org.uk/our-services/where-we-work/schools) |
| Enhancing physical space | Source reduction & mitigation | Improve physical space, access to cycle and footpaths and schemes to reduce traffic congestion and speed restrictions [http://www.sustrans.org.uk/our-services/what-we-do](http://www.sustrans.org.uk/our-services/what-we-do) |
| Monitoring and evaluation | Evidence | Support monitoring and evaluation of projects both internally and for external partners. |

**Public Health England**

| Evidence and best practice | Source reduction & mitigation & harm reduction | Provide evidence base for JSNA, health and wellbeing boards, case studies, support local action, and facilitate sharing of best practice through regional networks. |
| Support funding applications | | Provide support and evidence for funding applications, business cases |

**NHS partners**

| Condition management | Harm reduction | Supporting patients to manage conditions during times of poor air quality |
| University of Birmingham | | |
5. **Setting actions for change**

The event sought to gain ideas and pledges from delegates to begin to map potential actions for change. The table below outlines some of the suggested work areas.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential Stakeholders</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to a sustainable travel</td>
<td>Sustrains Sustainable travel Planning</td>
<td>Involvement in planning process to provide advice and expertise on mechanisms to improve access to alternative transport. Electric charging points (corporate). Social car schemes. People led review what are the barriers. Integrated travel cards.</td>
</tr>
<tr>
<td>Improved public transport infrastructure</td>
<td>Transport policy Highways Planning Fleet Management Sustrans</td>
<td>Bus Priority zones. Clean buses. Real time bus information. Park and ride facilities for major towns or market days.</td>
</tr>
<tr>
<td>Fleet management</td>
<td>Fleet Management All stakeholders at corporate level</td>
<td>Consider Ecostars or alternative schemes for own and private fleets. Alternative fuel sources – electric buses. Promote alternative driving times. Use taxi licensing to support alternative fuels.</td>
</tr>
<tr>
<td>General public awareness raising</td>
<td>Public Health Sustrans Sustainable travel Environmental health</td>
<td>“Think before you buy” awareness raising around vehicle options. Health messages to encourage behaviour change. Reduce idling and short journey usage. Focus on risks to children. Reclaim the streets – “car free days” back to times gone by, street parties etc. Mobile phone apps to reduce exposure and traffic congestion. Link physical activity strategies with sustainable travel promotion. Raise awareness around log burners and open fires. Use financial and health motivators.</td>
</tr>
<tr>
<td>Improved cross organisational working</td>
<td>Health organisations Local authority Boroughs and Districts</td>
<td>Combined sustainable travel campaigns. Cross organisational policies on idling. Cross organisational aims and objectives. Utilise social value to contracts in DCC, include mechanisms to ensure procurement process includes mitigations around air quality. Cross organisational workplace policies to reduce travel and flexible working. Cross organisational workplace leasing schemes to encourage alternative fuels. Charter for all organisations on the working group to sign up too which includes initiatives as above.</td>
</tr>
<tr>
<td>Increase</td>
<td>Public Health</td>
<td>Ensure inclusion of air quality in strategic plans and</td>
</tr>
</tbody>
</table>
To support individual actions and encourage cross organisational working, the contact details of attendees and supporters of the event can be found in Appendix 8.

6. Recommendations

- Review mapping exercise with stakeholders to ensure completeness of activities - **All**
- Examine evidence and best practice from other areas around source reduction, mitigation and harm reduction – **PHE, Public Health, Defra**
- Seek support for a cross organisational working group to address air quality locally – **Public Health**
- Establish a work plan of key actions to support local improvements in air quality - **All**
  
  With thanks to all those who contributed too, and took part in the “Breath of Fresh Air” event.
Adults and children with heart or lung problems and older people are particularly susceptible to the effects of air pollution. Long-term exposure to air pollutants is associated with effects on health that include:

- Respiratory and cardiovascular conditions
- Increased risk of lung cancer
- Mortality

Risks are mainly related to long-term exposure to particulate air pollution ($PM_{10}$) and nitrogen dioxide ($NO_2$). Road traffic contributes substantially to outdoor air pollution and other contributors include industry, agriculture, commercial and domestic sources.

### Public health burden

In England, the mortality burden of exposure to man-made particulate air pollution in 2010 was estimated as an effect equivalent to 25,000 deaths, with an associated loss of life of 265,000 years.

- There is evidence that some deaths are brought forward by short-term exposure (over hours or days) to air pollutants.
- Traffic-related air pollution may play a role in the development of asthma in some individuals, particularly those who live near busy roads carrying high numbers of heavy goods vehicles.
- There is evidence that air pollution is associated with a worsening of childhood asthma.
- There is evidence that air pollution triggers worsening of symptoms of people with chronic obstructive pulmonary disease (COPD), the second most common cause of emergency hospital admissions.

### Particulate matter

- The main source of PM is the combustion of fossil fuels (by vehicles and industry) and from other activities such as mining, quarrying, and industrial activity and vehicle tyre and brake wear.
- Smaller size fractions penetrate further into the lungs and are more strongly associated with adverse health effects.
- Short term exposure can induce respiratory symptoms, such as irritation of the nose and throat, coughing, and shortness of breath.
- Long term exposure can contribute to the risk of developing respiratory and cardiovascular diseases.
- Exposure has been linked to premature death in people with existing heart or lung disease, non-fatal heart attacks, irregular heartbeat, aggravated asthma and decreased lung function.
- Exposure can affect health, even at low concentrations below air quality standards – so reducing concentrations below standards benefits health.

### Nitrogen dioxide

- Nitrogen dioxide ($NO_2$) and nitric oxide ($NO$) are gases produced during the combustion of fossil fuels.
- In many parts of the UK, especially in urban areas, $NO_2$ levels near to busy main roads exceed European limits and UK Air Quality Standards.
- Local Authorities have declared traffic-related Air Quality Management Areas (AQMAs) in affected areas.
- Short term exposure to high concentrations of $NO_2$ causes inflammation of the airways and lining of the lungs, leading to respiratory symptoms and decreased lung function.
- Studies have shown associations between long term exposure to $NO_2$ and adverse effects, including reduced life expectancy.
- $NO_2$ itself is now thought to cause some of the health impacts found by epidemiological studies of air pollution mixtures.
- Exposure can affect health, even at low concentrations below air quality standards – so reducing concentrations below standards benefits health.

### Air pollution & public health

- Both long and short term exposure to air pollution affects public health.
- Adults and children with heart or lung problems and older people are particularly susceptible to the effects of air pollution.

### Public health burden

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Annual deaths attributable in England</th>
<th>Deaths for which the risk factor is the main cause of death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term exposure to PM10</td>
<td>25,000</td>
<td>Small number*</td>
</tr>
<tr>
<td>Alcohol</td>
<td>22,481</td>
<td>6,000</td>
</tr>
<tr>
<td>Smoking</td>
<td>79,700</td>
<td>43,400**</td>
</tr>
</tbody>
</table>

*Attributable deaths = The number of deaths from both direct (sole cause) and non-sole cause (contributory factor) Air pollution

**Smoking is responsible for more than three-quarters of deaths from the following conditions: cancer of the larynx, lung and bronchus; chronic obstructive lung disease; and chronic coronary heart disease.

Table reproduced from Public Health Matters: Understanding the impact of particulate air pollution.
Public health burden

- The Public Health Outcomes Framework (PHOF) for England includes an air pollution indicator at local authority level
- This is expressed as the fraction of adult mortality attributable to long-term exposure to anthropogenic particulate air pollution (Indicator 3.01)
- It was first published in 2012 and is updated annually
- Year-on-year variations may be due to wider factors that affect exposure concentrations, such as weather conditions – trends must be considered on a long-term basis
Appendix 2

Air Quality and Health in Derbyshire County and Derby City

Jane Careless – Senior Public Health Manager
Matthew Holford – South Derbyshire District Council, Environmental Health Manager

Derbyshire
- Combined population of around 1 million
- Population over 65 yrs – County 20% City 16%
- Population under 16 yrs – County 17% City 19%
- Predominantly rural with number of large market towns 75% of population live in 25% of the area
- Several large arterial roads and the M1

Health burdens of air pollution in Derbyshire and Derby

Health and Wellbeing Board
- Annual report on air quality
- Inclusion within the JSNA
- Cross directorate/organisation group to address air quality
- Consideration for the development of a supplementary planning guide.

Current Barriers to a Solution
- Improved emissions from tailpipe emissions have not materialised.
- Significant possibility that current national predictions of air quality in 2020 are overly optimistic.
- Empirical field data is progressively reducing due to budgets being squeezed.
- Adverse air quality impacts from new development could be seen as a price to pay for economic growth.

What difference can we make?
- Modest decreases in air pollution could significantly improve health.
- Opportunity to reduce inequalities
- Interventions can deliver benefits across transport, environment and health.
- Interventions could support reductions in pressures on health and social care
- Requires joint strategic working across all organisations
- Range of initiatives and evidence available
Appendix 3

The long term effects of air pollution on children

Jonathan Grigg
Queen Mary University of London

A summary of evidence from the every break we take report was provided.
Appendix 4

Reducing Transport Emissions through Partnerships

• Despite technological advances the vast majority of goods and passenger transport are still reliant on conventional fuels.

• “If solutions are to be found that resolve the issue of poor air quality... it is only through such partnerships that meaningful progress can be made in decreasing the public health impact of poor air quality.”

Professor Frank Kelly - King’s College London
And chair of

Origins of South Yorkshire ECO Stars

• South Yorkshire Care 4 Air
• Efficient Cleaner Operations Stars
• Developed by the 4 South Yorkshire authorities with Barnsley MBC as lead authority
• Part of a ‘Toolkit of Measures’ to tackle Air Quality
• Scheme attractive to commercial fleet operators
• Launched in Jan 2009

ECO Stars – Motivation

• Heavy duty vehicles significant emitter of traffic pollution
• Needed to positively engage with the heavy duty vehicle fleet community to reduce emissions where possible
• Desired to build trust, recognise existing good practice whilst encouraging further emission reduction
• Required a scheme without a barrier for increased economic activity

ECO Stars – Main Principles

• Benefits to Local Authorities
  o Air Quality
• Benefits to operator
  o Reduced fuel consumption and cleaner operation
• Benefits to the community
  o Reduced emissions
  o Improved health

How It Works

• Free local membership scheme
• Managed by TTR on behalf of local authorities for operators of commercial vehicle fleets (trucks, vans, coaches and buses)
• Recognition of best practice in clean, energy and cost efficient operations
• Guidance and advice provided on how further improvements can be achieved – environmental and economic

Ann Beddoes
Barnsley MBC
Jim Chappell & Alan West
Transport & Travel Research Ltd

ECO Stars - an intervention of choice contributing to cleaner air
How It Works

- Member vehicles and operating practices are assessed
- To recognise levels of environmental and energy saving performance
- A star rating is applied

Operator Benefits

- Recognition at both vehicle and management level for current operational practices
- Advice on measures which could help to improve performance (AQ, GHG, £)
- Opportunities to raise profile with other operators, customers & local communities

Membership package:
- Star rating Certificate
- ‘Road map’ for operational & environmental efficiency
- Ongoing guidance to progress

ECO Stars Scheme UK Coverage

- South Yorkshire
- Mid Devon – Devon County
- Mid Devon Taxi
- Nottingham Urban Area
- Thurrock
- City of York
- Warrington
- Sefton (Port of Liverpool)
- Sutton & Croydon
- Greenwich
- Staffordshire & Stoke
- Swale
- Cornwall
- Manchester
- West Yorkshire
- Dundee
- Dundee Taxi
- Edinburgh
- Falkirk
- Falkirk Taxi
- North Lanarkshire
- South Lanarkshire
- Fife
- Glasgow
- Fife Taxi

Q&Q Toolkit

<table>
<thead>
<tr>
<th>Period</th>
<th>Date Range</th>
<th>PM (g)</th>
<th>NOx (kg)</th>
<th>CO2 (t)</th>
<th>Total fleet distance (miles)</th>
<th>Fuel use (litres)</th>
<th>MPG</th>
<th>Indicative fuel cost (£/litre)</th>
<th>Number of vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>01/02/2014 - 30/04/2014</td>
<td>7882.90</td>
<td>574.12</td>
<td>253.98</td>
<td>160552</td>
<td>97654</td>
<td>7.47</td>
<td>108395.94</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>01/02/2015 - 30/04/2015</td>
<td>5532.58</td>
<td>409.42</td>
<td>254.67</td>
<td>160552</td>
<td>97919</td>
<td>7.45</td>
<td>91064.59</td>
<td>N/A</td>
</tr>
</tbody>
</table>

% increase or decrease: -30 -29 0 0 0 0 -16 N/A

The Impact

Over 46,000 vehicles are operated by Eco Stars members in schemes across the UK.
Due to enter public consultation
7 Air Quality Management Areas (AQMA)
Intended to be NBC’s Air Quality Action Plan (AQAP)
Intention to exploit opportunities that have a complementary impact on air quality and GHG emissions
Includes a supporting planning and procurement guidance documents

Northampton AQMAs

Exceedance based AQ assessment/modelling with comparison to EPUK significance criteria
Not many met the significant exceedance criteria though they generated extra local and regional traffic
We know that poor air quality has no traditional dose relationship – significance is not relevant
Guidance heavily weighted towards developers – not independent – developers dominated steering group
Cumulative impacts of developments not assessed
Costly for developers – consultants required
Long term assessments required over several months – holds up applications

Recognition that overall emissions reduction is the key to improving air quality
All developments need some mitigation as all will impact on the local air quality either short term (construction) or long term (extra traffic) regardless of their significance
Addresses cumulative impact
Extent of mitigation is determined by the DfT Criteria for Traffic Assessments and Travel Plans (Small, Medium, Large) though some exceptions if more direct impact
Larger scale developments will need more mitigation to offset their impact
Major developments subject to damage costs imposed through section 106/CIL based on trip calculation – these can be used by the Council to fund schemes to improve air quality – car clubs, electric buses etc.

Exposure (assessment) still important:
if development will introduce new receptors into areas of poor air quality such as residential/schools/nursing homes or
where development type according to DfT is LARGE exposure to public also important
Exposure assessment and comparison with AQ Objectives required and bespoke mitigation/building design
Any exceedance will require mitigation – no significance test

Planning Approach – Post NLES
Potential Advantages

- Removes some of the adversarial element of assessment for small/medium development
- Secures mitigation regardless of significance
- Removes some developer costs – no need to pay for assessment
- Streamlines the application process – removes need for assessment
- Reduces burden on AQ officer – fewer assessments to review
- Provides consistency and clarity to developers

Table 2: Additional Trigger Criteria for Major Developments

- Where the proposed development falls within the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011 and includes air quality and/or transport as a specific likely impact.
- Proposals located within or directly adjacent to an Air Quality Management Area (AQMA).
- Proposals that could increase the existing traffic flow on roads of >10,000 AADT by 5% or more.
- Proposals that increase traffic 5% on road classes with >5000 AADT.
- Proposals that could introduce or significantly alter congestion (QET, Congestion) for example changes to queue lengths, idling times or average speeds.
- Proposals to road infrastructure changes which include the introduction, modification or removal of junctions and crossings; and/or the realignment of road layouts which changes the proximity of receptors.
- Proposals that include additional HOV movements by more than 10% of total trips.
- Where demolition and/or construction works becomes a notifiable project as set out in the Construction Design and Management Regulations 2015.

Development Classification Table

<table>
<thead>
<tr>
<th>Scheme Type</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold</td>
<td>Below DfT threshold criteria for Transport Assessment and Travel Plan (TA/TP)</td>
<td>Meets DfT threshold criteria for Transport Assessment and Travel Plan (TA/TP) or where the development is for any B2 or B8 use falling below the major classification.</td>
<td>Medium type developments which also trigger any of the following criteria: i) Where development requires an EIA, ii) Proposals located within or directly adjacent to an AQMA, iii) Proposals that could significantly alter congestion (QET, Congestion) for example changes to queue lengths, idling times or average speeds, iv) Proposals to road infrastructure changes which include the introduction, modification or removal of junctions and crossings; and/or the realignment of road layouts which changes the proximity of receptors.</td>
</tr>
</tbody>
</table>

Type 1 – EV Recharging Standards

- Provision Rate
  - Residential: 1 charging point per 10 spaces (unallocated parking)
  - Commercial/Retail: 1 full size charging point per 1000 sq ft
  - Industrial: 1 full size charging point per 1000 sq ft

- Provision for increased demand in future years, appropriate cable provision for increased provision should be included in scheme design and development in agreement with the local authority

Type 2 – Standard Mitigation for Scheme Sustainability

- Travel Plan (where required), including mechanisms for discouraging high emission vehicle use and encouraging the uptake of low emission fuels and technologies.
- Designation of parking spaces for low emission vehicles.
- Differential parking charges depending on vehicle emissions.
- All commercial vehicles should comply with either current or previous European Emission Standards from date of opening, to be progressively maintained for the lifetime of the development.
- Fleet operations should provide a strategy for considering and reducing emissions, including possibilities for the take-up of low emission fuels and technologies.
- Use of ultra-low emission service vehicles.

Type 3 – Additional Mitigation/Compensation for Scheme Acceptability

- On-street EV recharging
- Contribution to low emission vehicle refuelling infrastructure
- Car clubs
- Low emission bus service provision
- Low emission waste collection services
- Bike/e-bike hire schemes
- Contribution to renewable fuel and energy generation projects
- Incentives for the take-up of low emission vehicle technologies and fuels
- Air Quality Monitoring programmes
Large Development – Damage Cost Calculator

Box 1: Road Transport Emission Calculation Summary

Road Transport Emission Increase =

[Estimated trip rate for 5 years X Emission rate per 10 km per vehicle type X Damage Costs]

Round-up – Other Examples

- West Yorkshire Low Emission Strategy (LES)
- West Midlands Good Practice Planning Guidance
- Gedling BC planning guidance
- Sussex Air Quality

In 2013, the factual evidence based Sheffield LEZ Study confirmed that:

- Local Authorities have a statutory duty to manage local air quality (Environment Act 1995) and could face EU fines for not taking action when they could
- In 2010, the whole urban area of Sheffield was declared an Air Quality Management Area (AQMA) for breaking the health based EU Limit Values for Nitrogen Dioxide (NO2) gas and fine Particulate Matter (PM10) dust pollutants
- Poor air quality costs the Sheffield economy £160m and results in up to 525 early deaths every year
- In 2012, we approved an ‘Air Quality Action Plan (AQAP) for Sheffield 2015’, comprising 7 Key Actions including: 1) Assess Feasibility for a LEZ
- In 2013, the factual evidence based Sheffield LEZ Study confirmed that:
  - road transport is the most significant overall single contributor to Sheffield’s emissions predicted (more efficient driving, Ecostars, smarter routing etc)
  - diesel fuel, which was declared a Class 1 Carcinogen by WHO in 2012, is more polluting than petrol

**Recommended Sheffield LEZ Strategy**

- **Vehicle Technology**
  - Bus – ‘Best in class’ ie Euro VI/CNG/Hybrid
  - Taxi – Tackling ‘worst 50%’
  - Goods – Tackling ‘worst 15%’
  - 6% of total fleet affected
  - 20% reduction in NOx emissions predicted (inc 7% from Do Min)

- **Behavioural Change**
  - Car – Switching 10% Diesel to Petrol
  - Car – 5% Reduction
  - Goods – 5% Reduction (more efficient driving, Ecostars, smarter routing etc)
  - A further 5% reduction in NOx emissions predicted

The LEZ Study recommendations are not Council Policy

Nonetheless, we have accepted the need for:

- A shift away from diesel fuel, and
- that our priority should be to tackle Buses, Taxes and Goods Vehicles, which operate regularly in our area
- together with behaviour change measures to influence Private Car use (e.g. through our ‘Air Aware Campaign’).
The Air Aware Campaign

Research:
- Pre campaign – so that objectives could be measured and reported on
- Informed the campaign plan messages and marketing and communication channels
- Objectives or required communications outcome
  - To inform the target audiences about:
    - PM10 and NO2 pollution in Sheffield
    - The health risks associated with this type of air pollution (AP)
    - What Sheffield City Council and other organisations are doing to tackle AP in Sheffield
    - What they can do to reduce their exposure and contribution to AP
    - That vehicle exhaust emissions are the biggest single source of AP
  - To encourage the target audiences to pledge to make small behavioural changes in relation to AP
  - To educate primary school children about the effects of AP via materials and with local air quality community groups’ involvement
- Post campaign – the key results were that:
  - Overall awareness of those who were ‘very’ and ‘quite’ aware of air pollution had increased by 27%
  - Respondents’ awareness of how to protect themselves against the effects of air pollution increased by 29%
  - A large proportion of those who had seen some form of advertising or information about air pollution in Sheffield in the past 6 months said that they were ‘very aware’ of air pollution compared to those who had not
  - Respondents are now generally more aware of the effects of air pollution on health with larger proportions of respondents suggesting all potential effects such as respiratory issues (+13%), increased risk of cancer (+9), heart disease (+17) and premature death (+10)
  - Respondents remembered the campaign from seeing a digital Parkway screen advert (56%), a bus advert (36%) or a leaflet brought home by their child from school (20%)
  - There was a small increase of 6% in respondents who said that they were willing to make small changes to reduce air pollution

Campaign Messages
- Air pollution levels are higher inside your car than out
- The air is cleaner away from heavy traffic areas
- Diesel doesn’t cost less if you drive fewer than 12,000 miles per year
- Car share, cut the harmful air pollution
- Drive cleaner: diesel > petrol > petrol hybrid > electric
- Exhaust fumes harm our children’s health
- Run efficiently, check your tyre pressure
- Petrol is less polluting than diesel
- Cut harmful air pollution by up to 20% - walk or cycle once a week instead of driving
- What you do makes a difference!

Thank You
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Our Air Quality Web Link: https://www.sheffield.gov.uk/environment/air-quality.html

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Appendix 7

2016 Update to the Local Air Quality Management (LAQM) Regime

Karl Suschitzky
Senior Environmental Health Officer
Derby City Council

Aims of Updated Guidance

• Reduce reporting burden on authorities
• Focus LAQM on actions rather than measurement
• Strengthen links with partner authorities, Public Health, Transport and Planning

Main changes

• New combined Annual Status Report
• Development of Local Air Quality Strategies
• Creation of Steering Groups
• Work towards reductions in PM$_{2.5}$
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