

## 1. Summary

- 1.1. The deadline for compliance with EU and National Law on Air Quality Limit Values was 01 January 2015, so the Council is still in breach of these regulations. The implementation of the Sheffield Low Emission Zone (LEZ) Strategy should enable compliance, however this is dependent upon successful bids to the Governments £500m Ultra Low Emission Vehicles (ULEV) support package, to be announced towards the end of 2015, following which the Air Quality Action Plan (AQAP) for Sheffield will be updated.

## 2. Introduction

- 2.1. Sheffield City Council is committed to improve the health and wellbeing of the people of Sheffield and to ensure we are an environmentally responsible City.
- 2.2. Poor air quality [adversely affects human health](#), and has recently been estimated to account for up to 500 premature deaths per year in Sheffield, with health costs of around £160 million per year<sup>1</sup>.
- 2.3. Road transport is the most-significant overall single contributor to Sheffield's NO<sub>2</sub> emissions and around a 30% NO<sub>x</sub> reduction would still be required to meet the prescribed Health Based EU Limit Values by 01 January 2015.
- 2.4. A key challenge for the Council and its Partners is therefore, to tackle traffic related emissions in order to improve local air quality, which should have a positive impact on health, and reduce greenhouse gases which are contributing to global climate change, whilst continuing to deliver economic growth and job creation (GVA).
- 2.5. It is quite clear however, that despite our efforts to date (see **Appendix A**) and as the most recent local [Air Quality Monitoring results confirm](#), the City was not compliant with the NO<sub>2</sub> EU Limit Values by 01 January 2015, and is not likely to be in the short to medium term unless there is a major shift away from the use of diesel fuel in our urban area.
- 2.6. This is a difficult policy area, one which affects every other large urban area in England, and is without doubt something that [Central Government needs to take a strong lead on](#).

## 3. Air Quality Review and Assessment in Sheffield

- 3.1. We declared an Air Quality Management Area (AQMA) in 2010, across the entire urban area of Sheffield for breaking the health based EU limit values for nitrogen dioxide (NO<sub>2</sub>) gas and PM<sub>10</sub> fine dust particles.
- 3.2. This meant that the Council had to produce an Air Quality Action Plan (AQAP) to cover the period (up) to 2015, with the aim of improving NO<sub>2</sub> and PM<sub>10</sub> levels, such that the annual limit of 40µg.m<sup>-3</sup> for NO<sub>2</sub> and the daily limit of 50µg.m<sup>-3</sup> for PM<sub>10</sub> (which is not to be exceeded more than 35 times a year) do not continue to be breached.
- 3.3. In preparing the AQAP, the Council was mindful of the fact that if national air quality objectives were not met by 2015, then [the Government could face European Union \(EU\) fines](#), and furthermore that the recently passed Localism Act provided central Government with powers to pass those fines on to Local Authorities if they have failed to take action when they could.

## 4. Air Quality Action Plan for Sheffield 2015

- 4.1. We adopted an Air Quality Action Plan (AQAP)<sup>2</sup> for Sheffield in July 2012, approved by Cabinet, which sets out how we will tackle problems with air quality:

---

<sup>1</sup> Sheffield City Council's interpretation of the Evidence of Robert Vaughn from DEFRA to Environment Select Committee 2010 accessed at <http://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/inquiries/parliament-2010/air-quality-a-follow-up-report/>

- Action 1: Assess Feasibility for a Low Emission Zone
- Action 2: Develop Infrastructure for Refuelling Low Emission Vehicles
- Action 3: Promote Smarter Travel Choices
- Action 4: Improve Engine Performance of Commercial Diesel Vehicles
- Action 5: Mitigate the Impact of the M1 motorway (particularly in the Tinsley Area)
- Action 6: Develop Policies to Support Better Air Quality
- Action 7: Control Industrial Emissions

- 4.2. The Council's overall Air Quality Champion is the [Director of Public Health](#) (as part of his role on the City's Health and Well Being Board) and the Executive Director of the Place Portfolio has responsibility for delivery of the AQAP.
- 4.3. Furthermore, each Action in the plan has a lead officer on both the Steering Group, chaired by the Director of Regeneration and Development, and the Working Group for Air Quality, supported by a member of the local community.
- 4.4. By reducing air pollution, the AQAP 2015 will help deliver our commitments as set out in the 'Standing up for Sheffield Corporate Plan 2011-14', specifically:
- Better Health and Wellbeing
  - An Environmentally Responsible City
  - A Great Place to Live
- 4.5. Air Quality also features in the Sheffield City Region Transport Strategy (2011 – 2026), the 2013 Sheffield Fairness Commission and 2014 State of Sheffield reports, and will be included in the proposed Sheffield Green Commission report .

## 5. The Sheffield Low Emission Zone (LEZ) Feasibility Study

- 5.1. We completed our factual evidence based DEFRA funded [LEZ Feasibility Study in November 2013](#), overseen by a Steering Group consisting of key stakeholders including local bus operators, the Freight Transport Association and the Road Haulage Association. The Recommendations are summarised in **Appendix B**.
- 5.2. Overall, road transport is the biggest single contributor (10% - 90%) to NO<sub>2</sub> emissions, which needs to reduce by up to 30%. **Appendix C** summarises how different vehicle fleets contribute to pollution in Sheffield.
- 5.3. A formal controlled 'London' Style LEZ which is currently PM focused (and will apply only to Buses for NO<sub>x</sub> in 2015) would not be sufficient to tackle the problem in Sheffield. The LEZ study did not therefore look at the possibility of charging vehicles entering the City Centre or a Low Emission Zone and this is not something that has been considered.
- 5.4. Our LEZ Study concludes that in terms of compliance with health based EU Limit values for NO<sub>x</sub> / NO<sub>2</sub> gas, we need a shift away from diesel fuel (declared a Class 1 Carcinogen by the World Health Organisation in 2012) to alternative low emission fuels (electric, gas/biogas, hybrid, hydrogen).
- 5.5. In the short term however, Sheffield consider that diesel vehicles, particularly Buses, Taxis and Goods Vehicles, will need to be retrofitted (as per Transport for London buses for example) or be a minimum Euro VI/6 standard, if of course these perform as expected in reality, in the urban environment.
- 5.6. Priority for investment would be Buses and Taxis, which have fleets operating regularly within Sheffield (and over which the Council has some regulatory control). The worst polluting Goods Vehicles should

---

<sup>2</sup> [www.sheffield.gov.uk/environment/air-quality/action-plan.html](http://www.sheffield.gov.uk/environment/air-quality/action-plan.html)

also be targeted together with behavioural change measures to influence Private Car use (40% of which are diesel).

5.7. The implementation of the Sheffield LEZ Strategy is actively in progress, as is our DEFRA funded AirAware Air Quality Campaign, [www.sheffield.gov.uk/AirAware](http://www.sheffield.gov.uk/AirAware), which started in October 2014 and aims to raise awareness, and to encourage everyone to do their bit, particularly private car drivers.

5.8. So, in summary we want to encourage the take-up of other fuels and technologies which cause less pollution whilst making public transport, cycling and walking as attractive and easy as possible.

## 6. Implementing the Sheffield Low Emission Zone Strategy

6.1. The implementation of the Sheffield Low Emission Zone (LEZ) Strategy is actively in progress through the AQAP Steering Group – see **Appendix D**.

6.2. Our approach is to implement a LEZ Strategy through the implementation of policies, and by working with statutory bodies and key stakeholders, in partnership with local businesses, bus, taxi and freight operators, and the public.

6.3. We declared a citywide AQMA therefore our LEZ Strategy approach will have an effect across the city, as will our Air Quality campaign, which launched recently.

6.4. Identifying sufficient funding sources is our main barrier, so we will be looking to bid for funding via the Governments' recently announced £500m Ultra Low Emission Vehicles (ULEV) support package in order to deliver against our ambitions.

6.5. We have also been working closely with the Highways Agency (HA) with regard to the air quality impacts of the proposed Smart Motorway M1 Junction 28 to 35a, more so since the announcement on 08 July 2014 that construction would start, but that the national speed limit on these sections would remain at 70 mph.

## Appendix A – Progress Summary

1. The Government's Green Bus Fund (Phase 1 & 2) have helped Stagecoach to introduce 40 new low emission hybrid buses into their fleet and these have been prioritised for deployment on the most polluted routes in Sheffield.
2. Investment through the [Sheffield Bus Agreement \(SBA\)](#), a 5 year investment plan launched in October 2012, in partnership with South Yorkshire Passenger Transport Executive (SYPTTE) and the South Yorkshire bus operators, has resulted in the introduction of a total of 45 new Euro V single deck buses on Sheffield's streets. Unfortunately however, their NOx performance has not been as expected.
3. The Government's Clean Vehicle Technology Fund will enable First South Yorkshire to retrofit 41 buses with Thermo Management Technology in order to reduce emissions on key bus routes in Sheffield (x78 / 75) and 175 SY Ambulance Rapid Response Vehicles to be fitted with Solar Roof Panels.
4. The Council are working to facilitate the introduction of a Compressed Natural Gas (CNG) Vehicle Refuelling Infrastructure in Sheffield.
5. Increasing the uptake of ULEVs is a priority for the City and a unique Local Sustainable Transport Fund (LSTF) funded scheme supporting SMEs to switch to electric vehicles has been launched. OLEV funding is also being utilised for the installation of rapid charging points across South Yorkshire.
6. The Council has conditioned the installation of over 50 electric charging points through its Development Control policies and is preparing a GIS update of their locations across the city to be posted on its website.
7. The City is also home to a world leading company involved in the production of hydrolysis equipment for use in [hydrogen refuelling](#) stations, and work is underway to support their activities, with assistance to bring into operation a hydrolysis and hydrogen vehicle refuelling station powered by sustainable energy.
8. We have already encouraged the uptake of ULEVs, including the trialling of alternative fuels and the purchase of 10 bio-methane gas refuse collection vehicles by our delivery partner Veolia.
9. Furthermore, Council Transport Services have purchased 18 diesel hybrid mini-buses and 10 Euro VI wheelchair accessible (17 seat) mini-coaches for use on Home to School transport services.
10. Council Transport Services are also undertaking an electric car trial for staff with 2 Peugeot Ion electric vehicles within Moorfoot, a key Council office within the City Centre.
11. Council Transport Services are an active member of the ECO Stars Fleet Recognition Scheme which aims to promote efficient and cleaner operations for HGV's, Buses, Coaches and Vans.
12. The Council is also promoting active travel in order to encourage mode shift, for example, Cycle Boost, Walk Boost and Bus Boost schemes (as part of LSTF funded programmes) aimed at commuters, together with School Travel Change Programmes. Other schemes include, Green Driving, ECO Stars, and Plugged in South Yorkshire, Car Club and Car Share. The Council's Green Route Network project is also developing a network of radial off road and quiet cycle routes focussed on Sheffield City Centre.
13. The Council oversees the running of the Community Diffusion Tube Project, which enables people to have a diffusion tube in their home, office or school to get a reading of local air quality and gives communities the tools and data they need to raise awareness of this issue
14. Our Sustainability Team currently has 7 electric pedal cycles and our Environmental Protection Service is considering purchasing 2 fold-up 'Brompton' pedal cycles for use by staff for district work.

15. The Council has recently launched a new Salary Sacrifice Scheme enabling employee's to save on the cost of a new pedal bike and / or cycling equipment.
16. The Council is also considering introducing an Employee Salary Sacrifice Scheme for low emission vehicle purchase.
17. A Commercial Services Advisory Notice is currently under preparation in order to ensure that, in the future, Air Quality issues are fully taken into account when the Council procures any goods and services (whether they are transport related or not).
18. The council launched its DEFRA funded 'AirAware in Sheffield' media campaign in October 2014, which aims to raise awareness about Air Quality in Sheffield and advise people how they can help reduce pollution and how they can protect themselves from the health risks:  
<https://www.sheffield.gov.uk/environment/air-quality/air-aware-sheffield.html>

Appendix B – Recommended LEZ Strategy

## 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 NO<sub>x</sub> 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 NO<sub>x</sub> emissions predicted

### Appendix C – Sheffield LEZ Study: Fleet Contributions to Pollution

| <u>Fleet Split</u>   | <u>2013</u> | <u>2015 NO<sub>x</sub></u> | <u>2015 PM<sub>10</sub></u> |
|----------------------|-------------|----------------------------|-----------------------------|
| Private Car          | 79%         | 52% (35% diesel)           | 52%                         |
| Taxi (Hackney & PHV) | 5%          | 10%                        | 12%                         |
| LGV <3.5T            | 12%         | 17%                        | 19%                         |
| OGV >3.5T            | 2%          | 12%                        | 7%                          |
| Bus                  | 2%          | 10%                        | 10%                         |

## Appendix D – Sheffield LEZ Work Package Leads

| Task & Finish Work Packages                            | Work Package Lead                             | Nominated Lead Officer |
|--|---|------------------------|
| 1. Reducing Bus Emissions                              | Sheffield Bus Partnership                     | (Dick Proctor)         |
| 2. Reducing Taxi Emissions                             | <i>Sheffield Taxi Partnership</i>             | (Steve Lonnia)         |
| 3. Reducing Commercial / Goods Vehicle Emissions       | <i>Sheffield Freight Quality Partnership</i>  | (Moaz Khan)            |
| 4. Reducing Private Car Emissions                      | SCC Transport Planning Team                   | (Dick Proctor)         |
| 5. Reducing Motorway Emissions                         | SCC Transport Traffic & Parking Services      | (Moaz Khan)            |
| 6. Reducing Rail Emissions                             | SYPTTE  | (David Allatt)         |
| 7. Reducing Industrial & Commercial Emissions          | SCC Environmental Regulation Team             | (Ian Ashmore)          |
| Supporting Work Packages                               | Work Package Lead                             | Nominated Lead Officer |
| A. Infrastructure for Refuelling Low Emission Vehicles | SCC Sustainable City Team                     | (Mark Whitworth)       |
| B. Behavioural Change (Smarter Travel Choices)         | SCC Transport Planning Team                   | (Dick Proctor)         |
| C. Behavioural Change (Smarter Driving Techniques)     | SCC Transport Planning Team                   | (Dick Proctor)         |
| D. Behavioural Change (Smarter Route Choice)           | SCC Transport & Traffic Team                  | (Moaz Khan)            |
| E. Planning Policy & Controls                          | SCC Planning Team                             | (Maria Duffy)          |
| F. Procurement   | SCC Commercial Services                       | (Andy Howells)         |
| G. Public Awareness & Communications Campaign          | SCC Communications Team                       | (Catherine Elphee)     |
| H. Monitoring  | SCC Air Quality, Monitoring & Modelling Team  | (Ogo Osammor)          |
| I. AQAP 2015 Update / Cabinet Report / Consultation    | SCC Policy, Performance & Communications Team | (TBA)                  |

*Items shaded in yellow do not currently exist and would need to be set up.*

This page is intentionally left blank