

ROTHERHAM BOROUGH COUNCIL – REPORT TO MEMBERS

1.	Meeting:	Cabinet Member and Advisers for Planning, Highways and Street Scene Services
2.	Date:	Tuesday 22 July 2014
3.	Title:	Delivering Air Quality and Emissions Good Practice Guidance
4.	Directorate:	Environment and Development Services and Neighbourhoods and Adult Services

5. Summary

This report provides a brief summary of the Air Quality and Emissions Good Practice Guidance. This guidance is intended to deal with the pollutants covered by the Local Air Quality Management regime and will provide an improved template for integrating air quality considerations into land use planning and development management policies with the aim of reducing the emissions from road transport. The Draft Air Quality and Emissions Good Practice Guidance will be published to accompany the consultation on the emerging Sites and Policies Document 2014. Consultation on the draft Sites and Policies Document and its accompanying Integrated Impact Assessment will commence later this year for a 6 week period.

Whilst a number of Evidence Base Studies have already been presented to Members of the Local Plan Steering Group for consideration, Cabinet Member approval is sought for this good practice guidance report.

6. Recommendations

That Cabinet Member notes the contents of this report and the preparation of robust Good Practice Guidance to guide the preparation and decision-making of future planning applications and setting out clear requirements for applicants when submitting their proposals.

That Cabinet Member supports the publication of the draft Good Practice Guidance notes to be made available alongside consultation on the emerging Sites and Policies Document later this year.

7. Proposals and Details

Consultation on the emerging Sites and Policies Document 2014 and its accompanying Integrated Impact Assessment will commence later this year for a 6 week period. A report is to be presented to Cabinet to seek approval to consult on the Sites and Policies Document.

Cabinet Member will be aware that the report to Cabinet on 9 July 2014 recommended that the Core Strategy be referred to full Council for adoption in the coming months.

Whilst a number of Evidence Base Studies have already been presented to Members of the Local Plan Steering Group for consideration and their publication to support the Sites and Policies Document, there are further Good Practice Guidance Reports that require Cabinet Member approval prior to their publication.

The spatial planning system has a key role to play in improving air quality, which is an important issue for Rotherham along with many other urban areas in the UK. Rotherham MBC is committed to improve the health and well-being of the residents of the borough by protecting and improving air quality. Any improvement in air quality will have positive health benefits for the population.

This Air Quality and Emissions Good Practice Guidance is intended to deal with the pollutants covered by the Local Air Quality Management regime. The guidance provides a template for integrating air quality considerations into land use planning and development management policies with the aim of reducing the emissions from road transport. It will form part of Rotherham MBC's Air Quality Action Plan 2015. This technical guidance supports the implementation of the strategic and development policy framework. Rotherham MBC's draft Sites and Policies document section 'Creating Safe and Sustainable Communities' includes draft policy SP53 - Pollution Control and Hazardous Installations.

The approach to assessing the air quality impacts of development is being adopted by other Councils in England, for example in West Yorkshire and West Midlands. Other South Yorkshire authorities are also developing this approach to assessing air quality impacts.

In accordance with the National Planning Policy Framework an assessment procedure is to be introduced which quantifies the impacts, enables the formulation of damage costs and the identification of mitigation measures, to be implemented by the developer to negate the impact.

To support the NPPF, the Government has produced National Planning Practice Guidance (NPPG) including guidance relating to air quality. Paragraph 8 specifically deals with mitigating air quality impacts and states:

"Mitigation options where necessary will be location specific, will depend on the proposed development and should be proportionate to the likely impact. It is important therefore that local planning authorities work with applicants to consider appropriate mitigation so as to ensure the new development is

appropriate for its location and unacceptable risks are prevented. [Planning conditions](#) and [obligations](#) can be used to secure mitigation where the relevant tests are met.

Examples of mitigation include:

- the design and layout of development to increase separation distances from sources of air pollution;
- using green infrastructure, in particular trees, to absorb dust and other pollutants;
- promoting infrastructure to promote modes of transport with low impact on air quality;
- controlling dust and emissions from construction, operation and demolition; and
- contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development.”

In accord with this Air Quality and Emissions Good Practice Guidance planning applications will be classed as one of three development types: minor, medium or major. Key considerations will assess whether the proposal is in/ adjacent to, or impacting on, an Air Quality Management Area; or, at a location highlighted by the Department for Environment, Food and Rural Affairs as a national exceedance area; or a sensitive land use class. The outcome of the emissions calculation assessment identifies the level of air quality and is used to determine the level of appropriate mitigation for the proposal.

The guidance suggests possible mitigation measures and a description of the mitigation statement which will be required. The mitigation will be an important element in improving air quality in Rotherham.

8. Finance

Costs of assessing the planning applications and supporting information regarding air quality will be met from the NAS Community Protection revenue budget.

9. Risks and Uncertainties

- The Localism Act and National Planning Policy Framework (NPPF) express a strong presumption in favour of sustainable development. Our UDP policies only continue to have any weight where they are in accordance with the NPPF. It is important that Rotherham’s Local Plan is in place as soon as possible to provide an up-to-date planning policy framework for the Borough’s future growth and development.
- A failure to achieve timely progress on the Local Plan could delay the spatial strategy required to guide future decision-making on planning applications.

- Having a Local Plan in place will provide a steer for any neighbourhood plans that may emerge under the provisions of the Localism Act.
- Failure to make progress with the Local Plan risks delayed provision of the new homes and employment opportunities that the Borough needs.
- The Council could potentially be fined under the reserve powers of the Localism Act if it does not use its available powers to control air pollutant emissions, including the control of emissions through the planning system, in order to meet the EU Limit values.

10. Policy and Performance Agenda Implications

The implementation of the Local Plan will make a positive contribution to all of Rotherham's Regeneration priorities. When adopted, the Local Plan will further the objectives of the Corporate Plan and support the delivery of the Rotherham Sustainable Community Strategy by:

- providing sufficient good quality homes
- ensuring well designed, decent affordable housing
- providing employment land to meet the needs of the modern economy and support sustainable communities through access to employment opportunities
- promoting the "town centre first" policy approach to help the regeneration and renaissance of Rotherham Town Centre and other town, district and local centres within the borough.

11. Background Papers and Consultation

Appendix 1 RMBC AIR QUALITY & EMISSIONS GOOD PRACTICE GUIDANCE

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Appendix 1

Rotherham MBC

**AIR QUALITY & EMISSIONS
GOOD PRACTICE GUIDANCE**

Rotherham MBC Air Quality and Emissions Technical Planning Guidance

This technical guidance will form part of the development of an overarching Low Emissions Strategy to reduce road transport emissions in Rotherham. It is aimed at helping the planning authority deliver national air quality objectives policy set out in the authority's Local Plan.

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The work of the West Yorkshire Low Emission Group and the four South Yorkshire authorities is acknowledged.

1. Summary

The spatial planning system has an important role to play in improving air quality and reducing exposure to air pollution. Whilst planning policy cannot solve immediate air quality issues, it has a role to play so that any likely scheme impacts are reasonably mitigated and future scheme occupants are able to make sustainable vehicle choices.

This technical guidance deals primarily with those pollutants regulated under the local air quality management (LAQM) regime and the impact of traffic emissions, although the increasing use of biomass boilers is now becoming an important local planning issue. The assessment and control of dust impacts during demolition and construction is also considered, as dusts contribute to airborne particulate matter, as well as being dust soiling.

Greenhouse gas emissions are not addressed explicitly, as they are covered by other initiatives, but synergies exist between measures to minimise climate change and local air quality impacts.

The guidance provides a template for integrating air quality considerations into land-use planning and development management policies that can influence the reduction of road transport emissions. It forms part of Rotherham MBC's Air Quality Action Plan 2015.

The air quality assessment process follows a three stage process:

1. Determining the classification of the development proposal;
2. Assessing and quantifying the impact on local air quality;
3. Determining the level of a mitigation required by the proposal to meet Local Development Plan requirements.

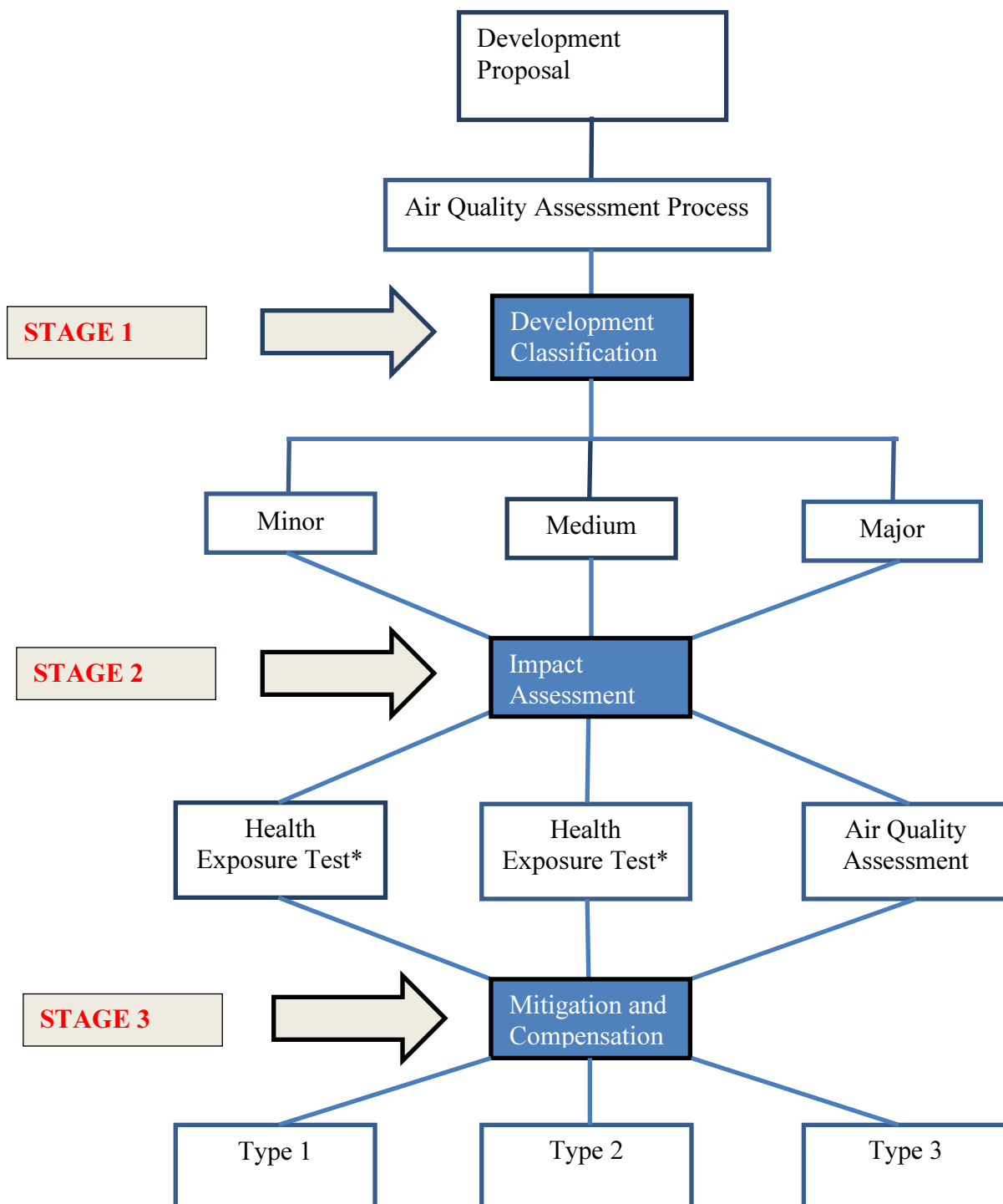
The assessment process is summarised in the flow chart overleaf.

1.1 Pre-Planning Discussions

In order to avoid unnecessary delays in the planning process and ensure optimum scheme design and sustainability, it is good practice for pre-application discussions with the air quality team are undertaken to confirm the scale of development and the assessment requirements. .

Figure 1

The Air Quality Assessment and Mitigation Flow Chart



* 'there is no safe level for exposure to particulate pollution, however all applications must ensure as a minimum a proposal does not expose existing or future residents to levels of pollutants above the Air Quality Objectives

2. Introduction

New developments have the potential to affect air quality and local planning policy will play a significant role in ensuring that development schemes are designed to be sustainable. This guidance has been developed to:

- Introduce an air quality assessment scheme which includes the quantification of impacts, formulating damage costs and identifying mitigation measures to be implemented to negate the impact.
- Tackle cumulative impact.
- Provide clarity and consistency of the process to developers, planners and local communities.

3. Planning Policy Framework

3.1 National Policy

National planning policy is now set by the National Planning Policy Framework (NPPF): [NPPF](#). The NPPF places a general presumption in favour of sustainable development, stressing the importance of local development plans. One of its 12 Core Planning Principles states that planning should:

“contribute to conserving and enhancing the natural environment and reducing pollution”, by: “preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability”. (Paragraph 109)

It goes on to state (paragraphs 120 and 124) that:

“To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account. Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with local air quality action plans”.

To support the NPPF, the Government has produced National Planning Policy Guidance (NPPG), including guidance relating to [air quality](#). Paragraph eight of this guidance (reference ID: 32 updated 06 03 2014) deals specifically with mitigating air quality impact and states:

“Mitigation options where necessary will be location specific, will depend on the proposed development and should be proportionate to the likely impact. **It is important therefore that local planning authorities work with applicants to consider appropriate mitigation so as to ensure the new appropriate for its**

location and unacceptable risks are prevented. [Planning conditions](#) and [obligations](#) can be used to secure mitigation where the relevant tests are met.

Examples of mitigation include:

- the design and layout of development to increase separation distances from sources of air pollution;
- using green infrastructure, in particular trees, to absorb dust and other pollutants;
- promoting infrastructure to promote modes of transport with low impact on air quality;
- controlling dust and emissions from construction, operation and demolition; and
- contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development.”

3.2 Local Planning Policy

The Planning and Compulsory Purchase Act 2004, amended by the Localism Act 2011 requires planning authorities to prepare Local Plans. The Local Plan will identify land areas for future development and include a number of strategic and development policies relating to local air quality management that fulfil National Planning Policy Framework sustainable development criteria. This technical guidance supports the implementation of the strategic and development policy framework. Rotherham MBC’s draft Sites and Policies document section ‘Creating Safe and Sustainable Communities’ includes draft policy SP53 - Pollution Control and Hazardous Installations.

4. Local Air Quality Management

The Environment Act 1995 established a local air quality management regime. It requires local authorities to review and assess ambient air quality in their areas against health based standards for a number of specific pollutants prescribed in the Air Quality Regulations 2000 and Air Quality (Amendment) Regulations 2002. If there is a risk that levels of air pollution in any part of the authority’s area will be higher than the prescribed objectives, the authority is required to designate an Air Quality Management Area (AQMA). It is then required to produce an Action Plan which sets out the measures it intends to take in pursuit of the objectives.

It is not necessarily the case that a proposed development in an area of poor air quality will have a negative impact. However, it is important to recognise when such development might introduce additional people into an area of poor air quality. The declaration of an AQMA does not mean that there will be no new development within that area. Rather, it means that greater weight must be given to the consideration of air quality impacts and their mitigation.

In addition, the boundary of an AQMA does not necessarily define the limit of the area of poor air quality. The only constraint on the boundary definition is that it should be at least as large as the area of exceedence, where there is relevant exposure.

The fact that a development is within or close to an AQMA does not mean that it is necessarily affecting an area of exceedence of the objective, or that it is being affected by air pollution that exceeds the objective. On the other hand, a development could introduce new exposure into an area of poor air quality, which has not been identified and declared as an AQMA, as previously there was no relevant exposure.

5. Air Quality and Emissions Mitigation Assessment Process

The process shown in Figure 1 involves a staged process:

Stage 1: Development Type Classification:

Three levels of development classification are determined using adapted criteria from the Department for Transport¹.

Table 1: Criteria for Development Classification

Land Use	Description	TA Required
Food Retail (A1)	Retail sale of food goods to the public – supermarkets, superstore, convenience food store	>800 m ² (GFA)
Non-Food Retail (A1)	Retail sale of non-food goods to the public; but includes sandwich bars or other cold food purchased and consumed off site	>1500 m ² (GFA)
Financial and professional services (A2)	Banks, building societies and bureaux de change, professional services, estate agents, employment agencies, betting shops.	>2500 m ² (GFA)
Restaurants and Cafes (A3)	Use for the sale of food for consumption on the premises.	>2500 m ² (GFA)
Drinking Establishments (A4)	Use as a public house, wine-bar for consumption on or off the premises.	>600 m ² (GFA)
Hot Food Takeaway (A5)	Use for the sale of hot food for consumption on or off the premises.	>500 m ² (GFA)
Business (B1)	(a) Offices other than in use within Class A2 (financial & professional). (b) Research & development – laboratories, studios. (c) Light industry	>2500 m ² (GFA)
General industrial (B2)	General industry (other than B1).	>4000 m ² (GFA)
Storage or Distribution (B8)	Storage or distribution centres – wholesale warehouses, distribution centres & repositories.	>5000 m ² (GFA)
Hotels (C1)	Hotels, boarding houses & guest houses	>100 bedrooms
Residential Institutions (C2)	Hospitals, nursing homes used for residential accommodation and care.	>50 beds
Residential Institutions (C2)	Boarding schools and training centres	>150 students
Residential institutions (C2)	Institutional hostels, homeless centres.	>400 residents
Dwelling Houses (C3)	Dwellings for individuals, families or not more than six people in a single household.	>50 units
Non-Residential Institutions (D1)	Medical & health services, museums, public libraries, art galleries, non-residential education, places of worship and church halls.	>1000 m ² (GFA)

¹ <http://webarchive.nationalarchives.gov.uk/20100409053417/http://www.dft.gov.uk/adobepdf/165237/202657/guidanceontaappendixb>

Assembly and Leisure (D2)	Cinemas, dance & concert halls, sports halls, swimming, skating, gym, bingo, and other facilities not involving motorised vehicles or firearms.	>1500 m ² (GFA)
Other		
1. Any development generating 30 or more two-way vehicle movements in any hour		
2. Any developments generating 100 or more two-way vehicle movements per day		
3. Any development proposing 100 or more parking spaces		
4. Any relevant development proposed in a location where the local transport infrastructure is inadequate		
5. Any relevant development proposed in a location in, adjacent to or impacting on an Air Quality Management Area (AQMA)		

1. **MINOR** Proposal: Development proposals that fall below the above criteria.
2. **MEDIUM** Proposal: Development proposals that meet the above requirements.
3. **MAJOR** Proposal: Development proposals that meet the above requirements and the additional criteria set out in table 2.

Table 2: Additional Trigger Criteria for Major Developments

<ul style="list-style-type: none"> • 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 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 canyons with >5000AADT. • Proposals that could introduce or significantly alter congestion (DfT Congestion) and includes the introduction of substantial road infrastructure changes. • Proposals that reduce average speeds by more than 10kph • Proposals which increase HGV movements to be more than 10% of total trips. • Where significant demolition and construction works are proposed.

Stage 2: Air Quality Impact Assessment

MINOR and MEDIUM Classified Proposals:

Smaller development proposals may not in themselves create an additional air quality problem but will add to local air pollution and potentially introduce more people likely to be exposed to existing levels of poor air quality. An assessment of the likelihood of introducing additional exposure will be determined using the following criteria:

The proposal is within, adjacent to or likely to impact on an AQMA;

- The proposal is in a location 20m ⁽²⁾ from roads at or above the relevant national objective highlighted on the DEFRA GIS modelled maps (<http://uk-air.defra.gov.uk/data/gis-mapping>).
- The proposal is one of the Land Use types:
 - C1 to C3 in table 1;
 - C4 (Homes of Multiple Occupation);

² Air Quality Consultants, 2008 "NO₂ Concentrations and Distance from Roads"

- D1 in table1.

and within 20m of roads with >10,000 AADT (Annual Average Daily Traffic).

The outcome of the exposure assessment will determine the level of mitigation required make the development acceptable. Should there be no acceptable mitigation the recommendation to the planning officer will be to consider refusing the proposal on air quality grounds.

MAJOR Classified Proposals

The scale and nature of this type of proposal is such that a detailed air quality assessment will be required to determine the impact on public health and the local environment. The assessment requires:

- A. The identification of the level of exposure through the change in pollutant concentrations including cumulative impacts arising from the proposal, during both demolition/construction operations and operational phases. Mitigation measures should be identified and modelled where practicable.
- B. The calculation of pollutant emissions costs from the development.

A. The methodology to be used for the determination of pollutant concentration change should meet the requirements of the Department for the Environment, Food and Rural Affairs (DEFRA) Technical Guidance Note LAQM TG(09)³. Further details of the air quality assessment requirements are shown in Appendix 1.

B. The pollutant emissions costs calculation will identify the environmental damage costs associated with the proposal and determine the amount (value) of mitigation that is expected to be spent on measures to mitigate the impacts. The calculation utilises the most recent DEFRA Emissions Factor Toolkit⁴ to estimate the additional pollutant emissions from a proposed development and the latest DEFRA IGCB Air Quality Damage Costs for the specific pollutant of interest, to calculate the resultant damage cost⁵. The calculation process includes:

- Identifying the additional trip rates generated by the proposal (from the Transport Assessment);
- The emissions calculated for the pollutants of concern (NO_x and PM₁₀) [from the Emissions Factor Toolkit];
- The air quality damage costs calculation for the specific pollutant emissions (from DEFRA IGCB);
- The result is totalled for a five year period to enable mitigation implementation.

The calculation is summarised below with further details of the process along with an example calculation are shown in Appendix 2.

Box 1: Road Transport Emission Calculation Summary

³ <http://laqm.defra.gov.uk/technical-guidance/index.html>

⁴ <http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html#eft>

⁵ <https://www.gov.uk/air-quality-economic-analysis>

Road Transport Emission Increase = \sum [Estimated trip rate for 5 years X Emission rate per 10 km per vehicle type X Damage Costs]
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Stage 3: Mitigation

The outcome of Stage 2 (Assessment) identifies the level of air quality impact and is then used to determine the level of mitigation required to negate the potential effects upon health and the local environment.

The scale of damage cost will determine the level of appropriate mitigation required for specific proposals. Measure identification will be assisted by:

- Outcomes from the Transport Statement/Assessment;
- Specific needs identified in site specific spatial policy allocations;
- Travel Awareness/Planning and Highway Development requirements;
- Defra air quality guidance ([Defra Measures Guidance](#))

Where mitigation is not integrated into a proposal, the Local Planning Authority will require this through planning conditions. The NPPF (paragraph 152) suggests that “where adequate mitigation measures are not possible, compensatory measures may be appropriate”. If on-site mitigation is not possible then the Local Planning Authority will seek compensation for the identified air quality impacts through a section 106 agreement. Default mitigation measures are presented for each type of proposal that demonstrate a minimum requirement. This is not an exhaustive list and will be adapted for particular locations and needs identified by relevant officers and the scale of damage costs. The authority would welcome the opportunity to work to devise innovative measures that will lead to improving local air quality.

TYPE 1 (Minor) Proposal Mitigation:

If the proposal meets the exposure criteria in Stage 2, further mitigation is required to reduce the level of exposure. This will be in the form of:

- Possible short term screening monitoring or utilising the distance calculation provided by Defra ([DEFRA Distance](#)) at the proposed location to identify the level of exposure;
- Redesigning the proposal to reduce the ingress of pollution;
- Including a stand-off distance and/or vegetation boundary from the development.

A key theme of the NPPF is that developments should enable future occupiers to make “green” vehicle choices and (paragraph 35) “incorporate facilities for charging plug-in and other ultra-low emission vehicles”. Therefore, an electric vehicle recharging provision rate is expected in addition to mitigation arising from the exposure assessment. To prepare for increased demand in future years, appropriate cable provision should be included in the scheme design and development, in agreement with the local authority and include the default mitigation listed below.

Box 2: TYPE 1 (Minor) Proposal Default Mitigation

Residential:

1 charging point per unit (dwelling with dedicated parking) or 1 charging point per 10 spaces (unallocated parking).

Commercial/Retail:

10% of parking spaces which may be phased with 5% initial provision and the remainder at an agreed trigger level.

Industrial:

Up to 10% of parking spaces which may be phased with 5% initial provision and the remainder at an agreed trigger level.

Demolition/Construction:

Adherence to the London Best Practice Guidance⁶ for all demolition and construction works.

Details of the electric charging specification are shown in Appendix 3.

TYPE 2 (Medium) Proposals Mitigation:

Proposals meeting the Type 2 criteria in table 1 will require a detailed Travel Plan as required by Rotherham MBC's guidance document: Transport Assessments, Travel Plans and Parking Standards: Good Practice Guidance 2014.

In respect of the Travel Plan it is essential that:

- The content of the travel plan is fully assessed prior to its approval in conjunction with local authority travel plan and highway development management officers. Pre-application advice will be essential.
- The agreed targets and objectives included in the travel plan are secured for implementation by mutual agreement of the local authority and the developer/applicant (normally by means of a Section 106 agreement).
- The outputs of the travel plan (typically trip levels and mode split) are annually monitored against the agreed targets and objectives.
- Should the travel plan not deliver the anticipated outputs or meet the targets and objectives further mitigation/alternative/compensation measures need to be identified and implemented.
- A named co-ordinator is essential to the success of the travel plan. For larger schemes a commitment in terms of staff resource allocation will be expected.

The NPPF identifies a Travel Plan as a “key tool” to promoting and delivering sustainable transport and that all transport mitigation measures may be included within the Travel Plan. The default mitigation measures to be incorporated into the scheme design include those listed below. The list is not exhaustive and there may be additional issues that are site-specific and reflect local conditions, as well as other material considerations.

Box 3: TYPE 2 (Medium) Proposal Default Mitigation

- MINOR proposal mitigation.
- Travel Plan including agreed mechanisms for discouraging high emission vehicle use and encouraging modal shift (i.e. public transport, cycling and walking) as well as the uptake of low emission fuels and technologies.
- Improved pedestrian links to public transport stops.
- Provision of new bus stops infrastructure including shelters, raised kerbing, information displays.
- Provision of subsidised or free ticketing (Travelmasters,).
- Site layout to include improved pedestrian pathways to encourage walking.
- Improved convenient and segregated cycle paths to link to local cycle network.

Commercial Specific:

⁶ http://legacy.london.gov.uk/mayor/environment/air_quality/docs/construction-dust-bpg.pdf

- All commercial vehicles should comply with current or the most recent European Emission Standards from scheme opening, to be progressively maintained for the lifetime of the development.
- Fleet operations should provide a strategy for reducing emissions, including the uptake of low emission fuels and technologies such as ultra-low emission service vehicles.

TYPE 3 (Major) Proposal Mitigation:

The pollution damage costs attributed to the proposal emission changes will determine the level of mitigation compensation required to negate the impact. A suite of default compensation measures beyond the proposal scheme design are listed below. This is not an exhaustive list and will be adapted for particular locations and needs identified by relevant officers. The type, scale and specificity of measures will be agreed with the planning authority.

Box 4: TYPE 3 (Major) Proposal Default Mitigation

MEDIUM proposal measures.

Support measures to reduce the need to travel:

- Alternative working practices – flexitime, teleworking, homeworking, videoconferencing, compressed work periods.
- Local sourcing of staff, products and raw materials.
- Development and use of hub distribution centres employing low emission deliveries.
- Provision of discounted on-site shopping, eating, child-care, banking facilities.

Support measures to reduce polluting motorised vehicle use:

- Development of car clubs and car sharing with financial incentives and promotion.
- Use of pooled low emission vehicles – cars, vans, taxis, bicycles.
- Support smart driving training schemes.
- Provision of dedicated low emission shuttle bus including managed pick-up and drop-off.
- Contribution to the emerging low emission vehicle refuelling infrastructure.
- Contribution to site low emission waste collection services.
- Incentives for the take-up of low emission vehicle technologies and fuels.

Measures to support improved public transport:

- Provision of new or enhanced public transport services to the site.
- Shuttle services to public transport interchange, rail station or park and ride facilities.
- Support improving information systems for public transport.
- Supporting city free bus expansion schemes.
- Promoting low emission bus service provision.
- Support air quality monitoring programmes.

Further measures to promote walking and cycling:

- Improvements to district walking and cycling networks including lighting, shelters, and information points and timetables.
- Support cycle training and awareness schemes.
- Bike/e-bike hiring schemes.
- Guaranteed ride home in emergencies.
- Support secure and safe cycle parking facilities.

Measures to promote sustainable travel plans:

- Support local travel to school and school travel plans initiatives.
- Marketing aimed at persuading a switch to sustainable modes with incentives;
- Promotion of subsidised/sponsored travel plan measures through social and other media.
- Supporting community/ local organisation groups to promote sustainable travel.

It is likely that there will be additional Travel Plan measures required outside the air quality requirements. Air quality measures should not be seen as the complete number of measures. Such agreed measures will be taken forward by condition where possible, or through the use of Section 106 agreements.

Proposal mitigation statement

Each development will require a brief mitigation statement which must include:

- The calculated damage cost (Major proposals).
- Proposed mitigation/compensation measures.
- Estimated mitigation cost (Major proposals) that is equivalent to the value of the emissions calculation (appropriate to the type and size of development and local policy requirements);
- A proposed demolition/construction management plan that includes:
 - A brief project description and likely sources of dust emissions;
 - Measures to be adopted to minimise dust emissions;
 - Emergency measures to be adopted in the event of unforeseen circumstances;
 - Incident logging and reporting procedures.

Validation checklist

A completed checklist is required for each of the proposals. Further details are provided in Appendix 4.

6. Planning Recommendation

The impact on air quality is a material planning consideration in the determination of a planning application. Each decision must be a balance of all material considerations depending upon the individual merits and circumstances. The weight to be given to the impact on air quality in the consideration of a planning application and the acceptability of proposed mitigation measures lies with the relevant local planning authority. Any agreed measures will be taken forward by condition where possible, or through the use of Section 106 agreements.

Appendix 1

Air Quality Assessment Protocol to Determine the Impact of Vehicle Emissions from Development Proposals

An air quality assessment should clearly establish the likely change in pollutant concentrations at relevant receptors resulting from the proposed development during both the construction and operational phases. It must take into account the cumulative air quality impacts of committed developments (i.e. those with planning permission).

Key Components of an Air Quality Assessment

The assessment will require dispersion modelling utilising agreed monitoring data, traffic data and meteorological data. The modelling should be undertaken using recognised, verified local scale models by technically competent personnel and in accordance with LAQM TG.09. The study will comprise of:

1. The assessment of the existing air quality in the study area for the baseline year with agreed receptor points and validation of any dispersion model;
2. The prediction of future air quality without the development in place (future baseline or do-nothing);
3. The prediction of future road transport emissions and air quality with the development in place (with development or do-something).
4. The prediction of future road transport emissions and air quality with the development (with development or do-something) and with identified mitigation measures in place.

The assessment report should include the following details:

- A. A detailed description of the proposed development, including:
 - Identify any on-site sources of pollutants;
 - Overview of the expected traffic changes;
 - The sensitivity of the area in terms of objective concentrations;
 - Local receptors likely to be exposed;
 - Pollutants to be considered and those scoped out of the process.
- B. The relevant planning and other policy context for the assessment.
- C. Description of the relevant air quality standards and objectives.
- D. The assessment method details including model, input data and assumptions:
 - For traffic assessment;
 - Traffic data used for the assessment;
 - Emission data source;
 - Meteorological data source and representation of area;
 - Baseline pollutant concentration including any monitoring undertaken;
 - Background pollutant concentration;
 - Choice of base year;
 - Basis for NO_x:No₂ calculations;
 - A modelling sensitivity test for future emissions with and without reductions;
 - For point source assessments:
 - Type of plant;

- Source of emission data and emission assumptions;
 - Stack parameters – height, diameter, emission velocity and exit temperature;
 - Meteorological data source and representation of area;
 - Baseline pollutant concentrations;
 - Background pollutant concentrations;
 - Choice of baseline year;
 - Basis for deriving NO₂ from NO_x.
- E. Model verification for all traffic modelling following DEFRA guidance LAQM.TG (09):
- F. Identification of sensitive locations:
- G. Description of baseline conditions:
- H. Description of demolition/construction phase impacts:
- I. Summary of the assessment results:
- Impacts during the demolition/construction phase;
 - Impacts during the operation phase;
 - The estimated emissions change of local air pollutants;
 - Identified breach or worsening of exceedences of objectives (geographical extent)
 - Whether Air Quality Action Plan is compromised;
 - Apparent conflicts with planning policy and how they will be mitigated.
- J. Mitigation measures.

Air Quality Monitoring

In some case it will be appropriate to carry out a short period of air quality monitoring as part of the assessment work. This will help where new exposure is proposed in a location with complex road layout and/or topography, which will be difficult to model or where no data is available to verify the model. Monitoring should be undertaken for a minimum of six months using agreed techniques and locations with any adjustments made following Defra technical guidance LAQM.TG (09).

Assessing Demolition/Construction Impacts

The demolition and construction phases of development proposals can lead to both nuisance dust and elevated fine particulate (PM₁₀ and PM_{2.5}) concentrations. Modelling is not appropriate for this type of assessment, as emission rates vary depending on a combination of the construction activity and meteorological conditions, which cannot be reliably predicted. The assessment should focus on the distance and duration over which there is a risk that impacts may occur. The Institute of Air Quality Management (IAQM)⁷ has produced a number of definitive guidance documents to which this guidance refers. The document 'Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance' should be the reference for reporting the construction assessment.

Cumulative Impacts

The NPPF (paragraph 124) recognises that a number of individual development proposals within close proximity of each other require planning policies and

⁷ IAQM www.iaqm.co.uk

decisions to consider the cumulative impact of them. Difficulties arise when developments are permitted sequentially, with each individually having only a relatively low polluting potential, but which cumulatively result in a significant worsening of air quality. This will occur where:

- A single large site is divided up into a series of units, such as an industrial estate or retail park;
- A major development is broken down into a series of smaller planning applications for administrative ease; and
- There are cumulative air quality impacts from a series of unrelated developments in the same area.

The first two cases the cumulative impact will be addressed by the likelihood that a single developer will bring forward an outline application for the whole site which should include an air quality assessment as part of an Environmental Assessment. For major developments that are broken down into a series of smaller planning applications, the use of a 'Master or Parameter Plan' that includes an air quality assessment will address the cumulative impact.

Appendix 2

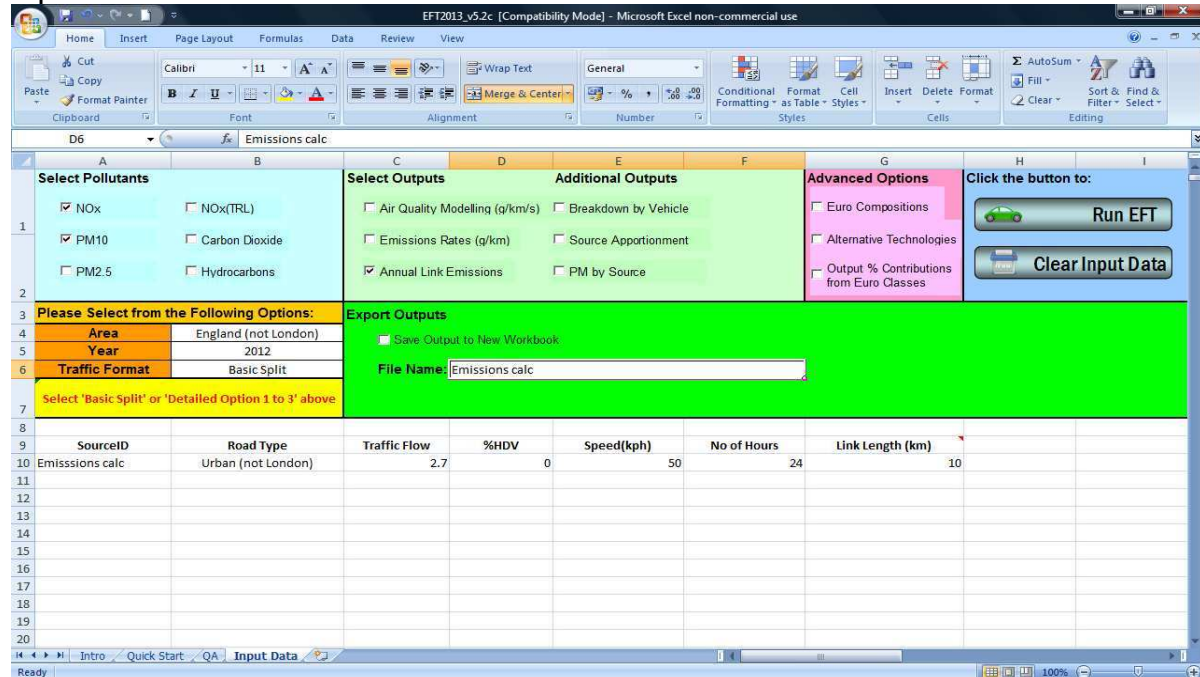
Emissions Assessment Calculator

The calculation utilises the current Emissions Factor Toolkit (EFT)* to determine the transport related emissions from a development proposal. If the proposal is to include alternative fuels or technology i.e. LPG, EV etc., then there are “advanced options” within the EFT to accommodate this.

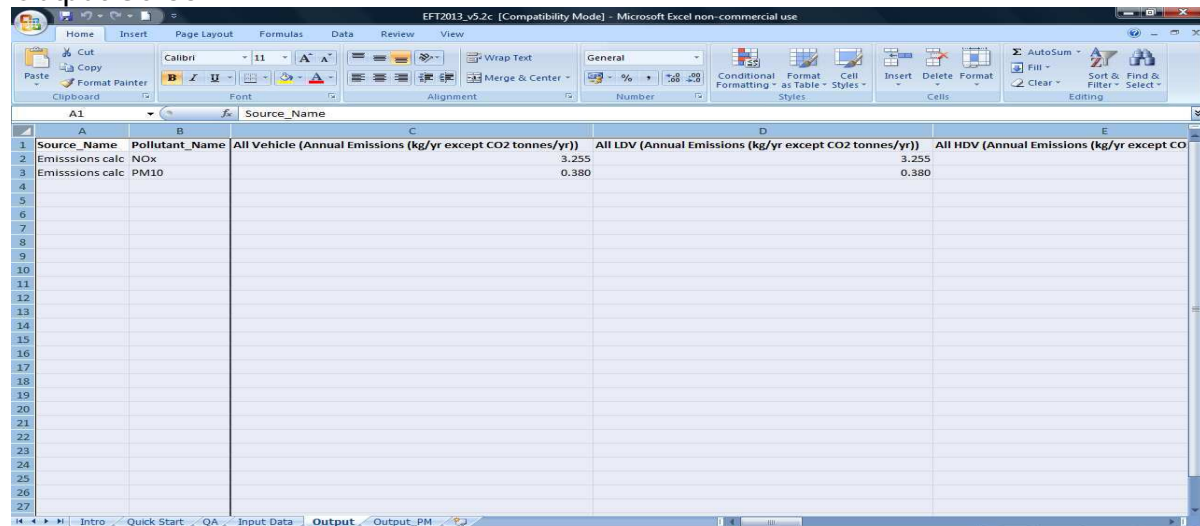
*<http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html#eft>

A screen shot of the input and output pages are shown below:

Input Screen



Output Screen



The output is in kg of specified pollutant per year and requires converting to tonnes per year. This is then multiplied by the IGCB damage costs for the specified pollutant.

The following example demonstrates the calculation based on a development with 10 domestic properties⁸.

EFT Input:

- 10 household (urban not London) (NOx and PM₁₀)
- X 27 (trip/traffic ratio for 10 houses)
- X cars only (0% HGV)
- X 50kph (avg. speed)
- X 10km (NTS UK avg.)

EFT Output = 32.55kg/annum (NOX) & 3.795kg/annum (PM₁₀)

- = 0.0325tonnes/annum (NOX) & 0.003795tonnes/annum (PM₁₀)
- X £955/tonne (NOx) + £48,517/tonne (PM₁₀)
- = £31.08 = £184.15
- X 5 (years)
- = £155.42 = £920.76
- Total = £1,076**

Notes:

1. Trip Rates are sourced from the Transport Assessments and local authority where available.
2. Trip Length uses the National Travel Survey⁹ - (UK average = 10km).
3. The IGCB damage costs are the central estimates (currently NOx = £955/tonne & PM₁₀ transport average £48,517).

⁸ Sussex Air Quality Partnership "Air Quality and Emission Mitigation Guidance for Sussex Authorities 2013"

⁹ <https://www.gov.uk/transport-statistics-notes-and-guidance-national-travel-survey>

Appendix 3

Electric Vehicle Charging Point Specification:

EV ready domestic installations

Cable and circuitry ratings should be of adequate size to ensure a minimum continuous current demand for the vehicle of 16A and a maximum demand of 32A (which is recommended for Eco developments).

- A separate dedicated circuit protected by an RCBO should be provided from the main distribution board, to a suitably enclosed termination point within a garage, or an accessible enclosed termination point for future connection to an external charge point
- The electrical circuit shall comply with the Electrical requirements of BS7671: 2008 as well as conform to the IET code of practice on Electric Vehicle Charging Equipment installation 2012 ISBN 978-1-84919-515-7 (PDF)
- If installed in a garage all conductive surfaces should be protected by supplementary protective equipotential bonding. For vehicle connecting points installed such that the vehicle can only be charged within the building, e.g. in a garage with a (non-extended) tethered lead, the PME earth may be used. For external installations the risk assessment outlined in the IET code of practice must be adopted, and may require an additional earth stake or mat for the EV charging circuit. This should be installed as part of the EV ready installation to avoid significant on cost later.

EV ready commercial installations

Commercial and industrial installations may have private 11,000/400 V substations where a TN-S supply may be available, simplifying the vehicle charging installation design and risk analysis. It is therefore essential for developers to determine a building's earthing arrangements before installation.

Commercial vehicles have a range of charge rates and it is appropriate to consider a 3-phase and neutral supply on a dedicated circuit emanating from a distribution board. More than one EV charging station can be derived from a source circuit, but each outlet should be rated for a continuous demand of 63Amps. No diversity should be applied throughout the EV circuitry. 3 phase RCBOs should be installed and the supply terminated in a switched lockable enclosure. If an external application (for example car park or goods yard) is selected, the supply should be terminated in a feeder pillar equipped with a multi-pole isolation switch, typically a 300mA RCD, a sub-distribution board (if more than one outlet is fed from the pillar). If an additional earthing solution is required, the earth stake can be terminated within this pillar. See IET guideline risk assessment.

Appendix 4: Validation Checklist

Development Proposal:

Pre-Planning Discussions:

Classification:

Minor

Medium

Major

Based on which trigger criteria?

Assessment

Exposure Test

Details provided

Air Quality Assessment

AQ Methodology followed

Damage Cost

Calculation Details

Mitigation/Compensation

Minor

Medium

Major

Mitigation Statement

Damage Costs

Mitigation Measures listed

Mitigation Measures Costed

Demolition/Construction Management Plan

Signature:	Position Held:
Print:	Date: