Low Emission Topic Note 2
Low emission planning policy and guidance review

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This review undertaken in late 2013 and early 2014 draws on published and draft Low Emission planning policies and guidance from Bradford, West Midlands, Sussex, Mid Devon and the Low Emission Partnership at that time. It compares the respective aims, approach, assessment requirements and mitigation expectations.

The note presents a summary of review work which helped feed recent revisions to the Partnership's own planning guidance and emissions assessment methods.

Topic notes provide communication of outputs from review and development work undertaken by the Low Emission Partnership. For more information on current work and publication time table please contact info@lowemissionstrategies.org. The Partnership would welcome feedback and questions relating to any aspect of this topic note as well as on wider related issues.

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1 Introduction

Background

1.1 According to National Policy, the purpose of planning is to '*help achieve sustainable development.*' It defines *Sustainable as 'ensuring that better lives for ourselves doesn't mean worse lives for future generations' and Development as 'growth*.' Local Authorities are under increasing pressure to expand housing provision, to provide opportunities for economic growth and to meet increasing demands for mobility. At the same time they have obligations to protect and improve local air quality and reduce greenhouse gas emissions.

1.2 The National Planning Policy Framework[1] recognises a role for the planning system to '*contribute to and enhance the natural and local environment*', including '*minimising*' air pollution and protecting the public from '*unacceptable levels*' of poor air quality.

1.3 Many local authorities have adopted general air quality planning guidance aimed at protecting and reducing concentrations of pollutants in AQMAs and preventing further public exposure to poor air quality. Typically this includes: information on current air quality conditions and the location of AQMAs conditions under which a quantitative concentration based air quality impact assessment is required. Typically the EPUK Guidance – Development Control: Planning for Air Quality[2] is used to assist with this judgment and also the interpretation of resulting assessments (note: The EPUK guidance note is currently under review following the publication of the NPPF and changes to local planning policies).

1.4 It is very rare for a concentration assessment of an individual development site to predict a '*significant*' impact on air quality concentrations. This does not however indicate that these developments have no significant impact on air quality, because site based concentration assessment is relatively crude, does not recognise the health impact of sub threshold pollutants nor those of cumulative emissions. These limitations are even more problematic when attempting to assess potential benefit from proposed mitigation. The consequence is 'false negatives', weak mitigation and continuing unacceptable harm from development.

1.5 For more than a decade there has been a move towards a stronger emphasis on mitigation and the adoption of alternative metrics for assessing air quality harm and benefits within the planning context. This work originated with precedent setting agreements in Greenwich and was subsequently codified in national guidance (Defra/LEP, 2008).

1.6 Across the country a growing number of local authorities are moving towards the adoption of low emission planning policies and supporting local/regional guidance. This review examines a number of these and considers the broader implications for the national picture.

1.7 The review draws on published and draft policies/guidance from Bradford, West Midlands, Sussex, Mid Devon and the Low Emission Partnership. These findings were supplemented through informal consultation with key practitioners, including: Bradford MBC, Sefton Council, Mid Devon Council, West Midlands Low Emissions Towns and Cities Programme (LETCP), City of York Council, Sussex Council and Leeds City Council.

Progress

1.8 The earliest examples of low emission mitigation measures delivered through the planning system are found within the former air quality Beacon Councils. These authorities, particularly Greenwich, pioneered the development of planning based low emission strategies and went on to help develop the DEFRA Good Practice Guidance *'Low Emission Strategies - using the planning system to reduce transport emissions'.* Within this document there are several early examples of low emission mitigation measures being delivered through the planning system. These include the minimum fleet emission standards achieved by Greenwich for a new Post Office sorting office and vehicle depot (2000) and the Low Emission Zone controls established for the development of the Greenwich Peninsular (2004).

1.9 The early adopters of low emission planning policies also made significant progress towards obtaining financial contributions from developers to support 'low emission funds'. The '*Greenwich formula'* required a low emission fund contribution for all residential schemes of 10 dwellings and above, and mixed use and commercial schemes of 500 m^2 and above. In Mid-Devon a successful set of standard mitigation charges within an SPD were linked directly to the cost of delivering the local Air Quality Action Plan. This approach was successful in delivering £92,000 towards a low emission mitigation fund.

1.10 Adoption of standardised approaches to 'emission mitigation' and 'low emission planning contributions' proved harder to achieve in less affluent areas with high regeneration needs. In response, further guidance on the development of Low Emission Strategy Supplementary Planning Guidance (SPGs) was produced (Low Emission Partnership, 2011). This document begins to establish practical standards for mitigation and proposes a more detailed methodology for undertaking Emissions Assessment, where by mitigation requirements are balanced against actual emission impacts. The approaches outlined in this document have formed the basis for the development of guidance considered within this review:

Document title	Local authority / organisation	Document type	Status at point of Review
Land use and road transport emissions guidance	Bradford MBC	Local guidance adopted as an addendum to AQAP	Adopted and operational
Good Practice Planning Guidance	West Midlands Low Emissions Towns & Cities Programme	Regional guidance for eventual integration into AQAPs	Draft guidance to support developing regional LES
Air quality and emissions mitigation guidance for Sussex authorities (2013)	Sussex Air Partnership	Regional guidance	Under public consultation.
Mid-Devon Local Plan Part 3 Development Management Policies	Mid-Devon	Development Management Plan (sub chapter)	Adoption imminent
Low emission strategies: supplementary planning document guidance	Low Emission Partnership	General guidance for all LAs	Published guidance (2011)

Table 1: *LES based planning documents forming the core of this review*

1.11 In some cases development of these documents was linked directly to the adoption of Low Emission Strategies and a desire to improve air quality across whole areas (not just within AQMAs). In others change has been driven by the limitations arising from a concentration only based air quality impact assessment system, the consequences of the resultant emission creep and the need to (re-)define what '*sustainable*' means for air quality in light of the new NPPF.

1.12 The documents generally specify when an emission assessment is required and set out the methods for determining the level of mitigation. The exact criteria for requiring an emission assessment and the level to which mitigation is prescribed varies between individual documents and is explored further within this note.

1.13 Broad comparison of the five guidance documents in table 1 provides a general of picture of emerging practice. The approaches are generally consistent with each other, though with some variation in the detail.

2 Aims

2.1 The main purpose of LES based planning documents is to ensure that a wide range of emission mitigation measures are put in place to offset the emission impact of development. All the documents reviewed share the common principle that the level of mitigation required should be proportionate to the level of emission and the damage costs arising (where these are known). Importantly, this moves away from the concept that significant impacts in air quality terms may only be demonstrated via site specific concentration assessment (see section 5.5).

3 Sites

3.1 Site classification is an important first step, providing the mechanism by which planning applications are 'funnelled' into the system. It is an opportunity to ensure that assessment, option appraisal and decision processes are tailored and proportionate to the potential impacts/benefits arising from the scheme

3.2 Site classification can be considered in two parts: identification of those sites which qualify for consideration under the policy, and broad classification of those that do. For low emission planning policies, step 1 is simple, since generally all sites qualify for consideration. Broad classification is then determined largely by size/scale, though refined using factors such as proximity to an AQMA.

3.3 There are some differences in how site classification is integrated with subsequent decisions on assessment need and expectations surrounding likely mitigation. The cleanest approach is for these to be entirely separate stages resulting in a simple set of possible site types, each with an associated set of requirements and expectations (eg Bradford and West Midlands). A more intertwined approach establishes a basic categorisation, and then uses this with supplementary considerations through the decisions process (e.g. Sussex).

3.4 All of the approaches examined classify sites by size:

Bradford	Minor /Medium / Major	Adapted TA/TP thresholds[1]
W. Midlands	Minor / Medium / Major	Adapted TA/TP thresholds[1]
Sussex	Minor / Major	T&CP definition of major development[2]
Mid Devon	Minor / Major	T&CP definition of major development[3]

[1] DfT guidance on transport assessments, triggers to transport assessment and travel plans (DfT, 2007)

[2] Town and Country Planning (Development Management Procedure) Order (England).

[3] note also that the LEP SPD guidance note suggests a fourth approach where developments are categorised as minor, medium, large or major based on bespoke size related criteria. Suggested size criteria are given in the guidance note though these could also be set at a local level offering greater flexibility. No examples of this 'bespoke' approach were identified in practice.

3.5 Bradford and West Midland policies apply area wide without reference to proximity of an AQMA (though exposure assessment may be triggered separately). While Sussex and Mid Devon tune their classification taking this into account:
- Mid Devon: for minor applications assessment only expected where significant impact on AQMA
- Sussex: proximity to and impacts on AQMA is included in tests for scope of assessment

3.6 In some cases land use descriptors are used to refine the initial classification:
- In the Bradford and West Midlands all B2 (general industrial) and B8 (storage and distribution) uses are treated as 'medium' size developments if they do not fall into the 'major' category. This reflects the high number of HGV movements and emissions generally associated with this type of development.

3.7 Some of the policies make use of additional criteria, including requirement for Environmental Impact Assessment (EIA), proximity to sensitive environments (e.g SSSIs, national parks), predicted changes in traffic volume and/or speed, levels of parking provision, coach or lorry parking and/or large numbers of HGV presence of existing congestion, movements, potential for cumulative impacts and/or presence of other large emission sources, potential for increased exposure to poor air quality.

3.8 Mid Devon base their classification on whether or not the site is considered likely to lead to 'significant increase in levels of movement'. The policy gives council discretion as to how it interprets this test, based on the T&CP threshold of major/minor plus other factors such as proximity to AQMA. None the less, it indicates that minor sites will generally not be considered generators of significant levels of movement. The policy also includes a further trigger for supplementary concentration assessment: *'where a demonstrable negative impact on ambient concentrations of air pollutants is considered likely*'.

3.9 The following 'effective classifications' are used:

Bradford:	- minor	Site not requiring TA/TP[1] and not intended for B2/B8 use[2]
& W. Mid	- medium	All non-major sites which meet TA / TP[1] threshold plus all other sites intended for B2/B8 use[2]
	- major	All sites meeting TA/TP[1] threshold or are intended for B2/B8[1], which require: EIA, increase traffic flow(> 5%[3]), change vehicle speeds (>10kph) and/or involve significant HGV movements (> 10% of trips)
Sussex	- minor no AQMA	
	- minor AQMA	
	- major[4]	
	- 'major plus'[5]	
Mid Devon	- low levels of movement[6]	
	- high levels of movement	

Notes

[1] Tables based on DfT national guidelines (abandoned 2014), for example food retail >800m2GFA, Residential > 80 units.

[2] general industrial (B2), storage and distribution (B8)

[3] on roads with >10,000 vehicles per day

[4]T&CP defn: Sites involving mineral workings, waste development, large housing (>10 houses 0.5 hectares), large building (floor space > 1,000 m2) and/or large sites (area > 1 hectare).

[5] Additional classification is applied (oblig) or may be (discretion) applied to major sites meeting additional criteria:

Major sites involving (discretion):
- parking(>100/>50 w/wo AQMA)
- vehicle movements (>+5%),
- vehicle speeds (+/-10kph),
- likely to cause congestion
- introduce > 15 HDV m'ments/d[3]
- introduce new sensitive receptors into, near an AQMA or into a candidate AQMA
- where there are other developments nearby that could result in cumulative impacts

Major Sites involving (obligatory):
- EIA requirement
- major development[4]
- biomass plant
- sensitive environments (e.g. national parks and SSSI)

[6] Classification based on test for 'significant increase in levels of movement'. Policy gives council discretion as to how it interprets this test, based on T&CP threshold of major/minor plus other factors such as proximity to AQMA. Indication is that minor sites will generally not be considered generators of significant levels of movement.

4 Measures

4.1 It is helpful to consider transport related planning in five categories:

Control of construction emissions: Typically will require adoption of a 'construction code of practice' which covers issues such as construction vehicle emission standards, construction staff travel planning and delivery arrangements, control of fugitive dust emissions etc.

Electric Vehicle Infrastructure: Aimed at encouraging the uptake of electric vehicles. Generally requires ground work for and/or installation of recharging infrastructure for electric vehicles (inside/outside, single/multiple users).

Traditional Travel Planning: Aimed at preventing and minimising the number of vehicle trips arising from the development on completion. Typically includes measures to enable and promote walking, cycling, public transport and car sharing (aka 'trip reduction').

Technology based low emission measures: Aimed at reducing emissions from individual vehicle trips that still arise after the application of 'traditional' travel planning measures. Typically include measures to encourage emission reduction technologies to existing vehicles or by enabling and promoting the uptake of newer and/or alternatively fuelled vehicles.

Financial contributions: Where the emission impact can't be fully mitigated by measures on, or in close proximity, to a development a financial contribution may be requested towards wider measures. Typically include investment in local fleets, road networks or low emission infrastructure.

4.2 Examples of the Travel Plans, Technology measures and contributions listed in the table below:

Travel Planning (Trips)	**Technology Measures**	**Financial Contributions**
Active travel - footpaths, bridges, road crossing points - cycling infrastructure - cycle storage facilities - changing and drying facilities for cyclists - cycle hire schemes - Incentives to purchase bikes Public Transport - bus lanes, bus stops, bus information - incentives to use public transport** - new bus services - support / upgrading of existing services Car use - car clubs and /or car sharing schemes - restricted or zero parking standards Communication & Management - provision of travel advice & information - travel plan management & reporting	Parking - priority for low emission vehicles - graduated charges Emission Standards - access controls - service vehicles Low Emission Vehicles - buses to service the site - refuse collection vehicles - social transport - school minibuses Car and Electric bikes - low emission taxi ranks - low emission car clubs - electric bike charging facilities Other - Food waste segregation and used for use in anaerobic digestion	Investment in Local Fleets - buses - refuse collection vehicles - social transport - school transport Investment in Local Infrastructure - BM/CNG refuelling - strategic EV charging networks (including rapid charge) - freight transhipment / consolidation Road network improvements Communication & Management - Operation and maintenance of air quality monitoring equipment

4.3 The scope of measures supported by the guidance documents reviewed are largely consistent with each other and with those outlined in the original LES planning guidance (Defra/LEP 2008). They build upon, rather than encompass, trip management measures, and so focus primarily upon the other four elements listed in section 4.

4.4 The grouping of measures presented in the table above is based on mode of action. Different grouping strategies have been adopted by the guidance documents reviewed:

+ Unstructured: Mid Devon and Sussex, do not group their measures. They simply present a single list of typical measures. Mid Devon explicitly exclude trip reduction via traditional travel plans, while Sussex more or less do the same by the choice of indicative measures.
+ Structured: Bradford and West Midlands adopt a bespoke structure which identifies 'type 1', 'type 2' and 'type 3' mitigation with each corresponding to elements of the mitigation options listed in para 4.2.

4.5 The structured approach considers construction practice and the provision of EV charging infrastructure as the most basic measures, followed by the agreement of basic technology measures (in combination with a traditional travel plan) and then thirdly, the most advanced level, are additional on-site technology measures and financial contributions.

4.6 The hierarchy, reflects current practice to the extent that many councils without LES guidance in place are routinely requesting Construction practice, EV infrastructure and traditional travel planning while 'bespoke technology measures' and 'financial contributions' are less common and more associated with those authorities pursuing explicit low emission policies. Inclusion of some technology measures as type 2 and some as type 3 does however appear to create a degree of ambiguity for practical use of the type based approach.

5 Air Quality Assessment

Scope

5.1 Each low emission planning policy lays out what impact assessment(s) is required for a given type of site in order to assess its acceptability on air quality grounds. Three distinct types of assessment were encountered: exposure, concentration (aka 'Air Quality Impact Assessment), and emissions, with requirements as follows:

Bradford:	- minor/medium	- simple exposure screening
	- major	- assessment of concentrations and emissions
West Mid	- minor/medium	- simple exposure screening
	- major	- assessment of concentrations and emissions
Sussex	- minor no AQMA	- no assessment required
	- minor AQMA	- concentration assessment (at LA discretion)
	- major	- emissions assessment only
	- 'major plus'[1]	- as major plus concentrations assessment
Mid Devon	- low levels of movement[2]	- no assessment required
	- high levels of movement	- emissions assessment plus a concentration assessment if triggered[3]

Notes
[1] major sites meeting additional criteria require or may require concentration and exposure assessments as well.
(oblig: EIA, Large Scale Major, Biomass, Sensitive Environments, discretion: In/near AQMA, parking spaces, traffic movements, receptors, cumulative)
[2] Classification based on test for 'significant increase in levels of movement'. Policy gives council discretion as to how it interprets this test, based on T&CP threshold of major/minor plus other factors such as proximity to AQMA. Indication is that minor sites will generally not be considered generators of significant levels of movement.
[3] Further trigger for concentration assessment: '*where a demonstrable negative impact on ambient concentrations of air pollutants is considered likely*'.
[4] MD could request EA for minor sites
[5] Though note that the definition of major site varies between documents

5.2 In summary:

- Two documents (B&WM) introduce a standalone exposure assessment for minor sites
- All introduce emission assessments, though almost exclusively[4] for major sites[5]
- Emissions Assessment may always be accompanied with a full concentration assessment (B&WM) or it may stand on its own unless additional criteria are met (S & MD)

Relationship between exposure, concentrations and emissions assessment

5.3 Observations for each document:

West Midlands: Treat exposure separately from emissions and concentrations, requiring a simple exposure screen, where it is relevant. Major sites will generally require both an emission assessment and a concentration assessment.

Bradford: document provides fewer details on exposure and concentration assessment, but given other similarities, it is likely to adopt the same approach as west Midlands.

Sussex: doesn't have an explicit option for simple exposure screening (ie where risk is exposure only), but have option of requiring (a presumably light touch) concentration assessment for small sites. In contrast to B&WM, all major sites require an emissions assessment, but only those that trigger additional criteria require a concentration assessment.

Mid Devon is similar to Sussex, there is no explicit option for simple exposure screening (ie where risk is exposure only), and major sites are generally assessed for emissions, supplemented by concentrations assessment where an additional trigger is met. There is also a standalone paragraph, which adds emphasis to the AQMA, both from exposure and mitigation perspective.

5.4 In summary:
- West Midlands and Bradford have separated exposure and pollution assessments thereby enabling streamlining for smaller sites (where exposure is a risk, but pollution is less so)
- West Midlands and Bradford have opted for all or nothing on emissions/concentration assessments, while Sussex and Mid Devon and have an option for just emissions assessment unless additional triggers are met requiring concentration assessment (and Sussex also have the option of concentration assessment only for smaller sites linked to an AQMA).

Treatment of Significance

5.5 Observations for each document:

Sussex
- Only considers significance explicitly in concentration terms (though contradicts this by requiring mitigation on 'AQIA insignificant sites'?)
- Requires a mitigation statement for all major sites, (which is an implicit 'size based' test for significance)
- The planning recommendations table usefully shows how the different drivers feed into decisions, though leaves some ambiguity as to how the different drivers are balanced in determining the final nature and scale of mitigation. (e.g. how is acceptable mitigation determined for Medium/High AQIA sites?)

Mid Devon
- Consider significance explicitly in terms of levels of traffic movement.
- And also implicitly in terms of the associated emissions calculations.
- Does not specify an explicit significance tests for exposure or concentrations

West Midlands
- Steps away from traditional approaches and redefines significance entirely
- Adopts 'policy driven determination of significance'
- Definition is presented in combination with underlying principles, assessment methods and mitigation outcomes*

Bradford
- Steps away from traditional approaches, no explicit mention of significance
- Bases the policy on a definition of '*sustainability in air quality terms*'
- No explicit/objective definition of sustainable outcomes (though implicit logic reflects that of the West Midlands Approach)
- No details on how concentration assessment will be interpreted/integrated

5.6 In summary:
- The new documents all represent departure from the treatment of significance within traditional AQIA
- Sussex uniquely sets out to integrate the assessment of concentrations and emissions, while the other three avoid explicit or detailed integration of the two.
- Bradford and West Midlands introduce terminology around '*sustainability in AQ terms*'.
- West Midlands comments includes clauses which make more room explicitly for supporting polluting developments on the basis of overall community benefit.
- Mid Devon considers significance in terms of traffic movement (a proxy for emissions) (and gives little specific on how concentration assessment is interpreted)

6 Emissions Assessment

Protocols

6.1 Use of emission assessment to inform planning decisions is relatively new and the methodology is undergoing further practical testing and development. There are, as yet, no recognised national standards, though there is a growing set of precedents and case examples. The following notes identify considerations and principles associated with the approach.

6.2 In broad terms the different assessment approach is comparable across the different documents albeit with some variation in the detail. One important area of variation (and also at this time, uncertainty) is the choice and definition the reference point scenarios, which underpin the emission assessments (see box).

Reference Points for Emission calculations

The following analogous terms may be useful when discussing reference points for the different approaches.

Emissions Terminology[1]	LES Terminology	Linkage with TA/TP
without measures (WOM)	base emissions	Travel Assessment (TA baseline)
with measures (WM)	with trip measures	Travel Plan (TA/TP)
with additional measures (WAM)[2]	with trip & on-site tech measures[3]	Enhanced TP (TA/TP+)

[1] Terminology recommended by the LET technical review (ref: Aether/AQC)
[2] WAM scenario may also be termed the 'on-site residual emissions' forming the basis for further off-site compensatory measures.
[3] or 'with all measures' when in context and abbreviation is justified.

Sussex Uses 'with trip measures' as basis for cost of on-site measures and contribution
(At least this is implied, though gudiance doesn't explicitly mention travel plans)

Mid Devon Uses 'with trip measures' as reference point for considering benefits of on-site mitigation
Uses 'with all measures' as basis for cost of supplementary contribution
(Though no detail provided as to how the with 'all measures' point should be calculated)

Bradford Creates an intermediate reference point: 'after type 1 & type 2' measures
(Though some uncertainty as to : + how the boundary is defined
+ how type 2 benefits are calculated.
+ whether type 3 on-site element is subtracted from contribution
+ if so whether this is done on the basis of cost or benefit value

West Mid Uses same approach as Bradford
- though some wording appears to consider type 3 mitigation as all/primarily contribution
(which would move the approach in line with the second part of Mid Devon approach)

Overall, at the time of the review, there was not enough method detail or examples on which to base firm conclusions and comparisons. Further review of emergent case studies would help to understand how the different polices drive assessment in practice.

6.3 Paragraphs 6.4 to 6.11 identify and provide initial discussion of a range or other technical issues relating to definition and use of the emissions assessment methodologies.

Geo-Boundaries

6.4 There are two broad options for defining the emissions baseline of a site, namely 'footprint' or 'envelope'. The former considers all emissions associated with the site when considered as a 'trip generator' (both origin and destination) *wherever* they occur, while the latter considers the same vehicle movements, but includes only the associated emissions arising from within a designated area or envelope (eg a local AQMA).

6.5 All four adopt an envelope approach, though there is variation in terms of how activity is estimated.

Pollutants

6.6 LES Guidance promotes combined assessment of NOx, PM and CO2. The Local and regional guidance notes reviewed in this study, restrict their scope to NOx and PM_{10}. For the latter, they include both exhaust and non-exhaust emissions.

6.7 Emission estimates for all of the guidance reviewed is based on the DEFRA emissions factor toolkit. Debates continue around the real world performance of this toolkit as does work to update and improve it.

6.8 *Traffic Data*

Assessment of site emissions relies on estimation of the associated traffic with key inputs being trip rates, trip distances and fleet composition. The different policies make different assumptions about availability of data and use of standardised values. Further discussion on data availability is provided in para 6.12.

Valuation of Emissions

6.9 A standard method for valuation of emissions in terms of the associated social damage is that defined by the IGCB (see table in Annexe). This can be achieved manually using the IGCB's own calculator, or as part of the overall emissions assessment, by using the Partnership's Low Emission Toolkit.

Timescales

6.10 Emission calculations are generally annualised to generate simple point in time metrics for reporting purposes. Selecting these points in time is an important consideration since the calculations are time sensitive and planning lead times may be considerable.

6.11 A related consideration is the timescale over which detrimental impacts and benefits of mitigation are considered to accrue. Bradford, West Midlands and Sussex have specified a 5 year period (ie multiply annualised impacts by 5), Mid Devon does not specify a period.

Availability of Traffic Data

6.12 Availability of traffic data varies considerably between developments depending on their size, type, location and estimated trip generation. Where TA/TP is required a development application will usually be accompanied by an estimation of additional trips to be generated by the scheme, information on current traffic levels and the steps being taken to minimise traffic generation and encourage sustainable travel. Where no TA/TP is required then traffic data may be very limited or absent entirely. The Box below summarises issues and options for the three main data inputs required for emissions assessment: Trip Rate, Distance and Fleet Composition.

Trip Rate

The activity component of the emissions calculation can be estimated from daily vehicle trip data. This is generally available for sites that qualify for transport assessment, though even here it may be focussed on certain hours of the day (e.g. peak periods) or it may assume 'worst case' rather than 'typical' activity. In the event that a detailed traffic assessment is not available then an estimate of trip rates can be built up using industry standard databases such as TRICS, GENERATE and TRAVL. TRICS database and/or local knowledge. Occasionally locally derived trip rates for similar developments in the area may also be used. In addition, the low Emission toolkit offers short cuts and alternative means of estimating trip data for a given site, including using a set of standard defaults (derived originally from interrogation of TRICS data).

<u>=> Options</u>

- utilise trip rates from TA/TP if available
- develop bespoke trip rates as an add-on to the TA/TP or independently
- utilise default trip rates based on land use type from a national reference set (e.g. LET)

Trip Distance

A normal TA/TP will not provide data on trip distance, so this must be estimated as part of the emissions assessment.

<u>=> Options</u>

- assume an average distance for all trips based on national average journey figures.
  (EfT sets value at 10km, this is the figure used by Sussex , Bradford and West Midlands)
- utilise a national reference set of typical trip distance by journey type
  (LET provides this option)
- develop site specific trip distance estimates as part of the TA/TP or emissions assessment

Fleet composition

A normal TA/TP will only provide vehicle numbers. Some fleet composition data may be provided when significant HGV movements are involved.

<u>=> Options</u>

- Derive a fleet composition for the site, based on national average fleet data
- Utilise the national reference fleets contained within a dedicated tools (such as EFT or LET)
- Derive a site specific fleet composition for the site based on locally derived factors.

Overall

In summary the main traffic data challenges for undertaking emissions assessment are:

- absence of trip data (if no TA/TP) or sub-optimal/worst case trip date (if TA/TP)
- absence of fleet composition data
- absence of trip distance data

<u>=> Options (near term)</u>

- make best use of TA/TP data
- make use of national average data and national reference datasets (incl. EFT/LET)
- extend individual TA/TP analysis or supplement to derive site specific poke locally derived data

<u>=> Options (longer term)</u>

- revise TA/TP processes to more explicitly provide inputs data for emissions assessment

7 Planning Outcomes

General

7.1 Scope of planning outcomes are similar across the group with three broad options:
(i) Refusal,
(ii) Approval, or
(iii) Approval subject to one or a combination of:
(a) Revisions to design, (b) On-site Mitigation, and (c) Financial Contribution.

Mitigation Outcomes

7.2 Table below summarises the indicated mitigation outcomes for different classes of site under the different guidance documents (NB classification of sites (eg major/minor) varies).

Bradford	- minor	- EV Charging and Construction Code
	- medium	- Basic Technology Measures[1]
	- major	- Additional Technology Measures[2] plus possible contribution
West Midlands	- minor	- EV Charging and Construction Code
	- medium	- Basic Technology Measures[1]
	- major	- Additional Technology Measures[2] plus possible contribution
Sussex	- minor not AQMA	- None
	- minor AQMA	- Discretionary
	- major	- On-site mitigation plan[3] and Construction Code plus possible contribution
	- 'major plus'[3]	- As major plus 'concentration based rec's'[4]
Mid Devon	- low levels movement	- None (plus possible EV charging[5])
	- high levels of movement	- On-site mitigation plan[6] plus possible supplementary contribution

[1] Scope: LEV parking policies, Service vehicle Standards (Euro /ULEVs), On-site Fleet Strategies and TP monitoring.
[2] Scope: Scope/delineation of 'type 3 on-site' element requires clarification
[3] major sites meeting additional criteria require or may require concentration and exposure assessments as well.
(oblig: EIA, Large Scale Major, Biomass, Sensitive Env's, discretion: In/near AQMA, parking spaces, traffic movements, receptors, cumulative)
[4] Rec's based on assessed impact: V. high (refusal), High (refusal/max mitgn), Medium (max mitgn), Low (min mitign)
[5] defined for AQMA sites via separate parking policy
[6] Classification based on test for 'significant increase in levels of movement'. Policy gives council discretion as to how it interprets this test, based on T&CP threshold of major/minor plus other factors such as proximity to AQMA. Indication is that minor sites will generally not require assessment.

7.3 Note that variation in the criteria may class a site as major in one location but medium or minor in another (see box para 7.5).
- difference in mitigation between major (S&MD) and minor (B&WM) is likely to be large.
- difference between major (S&MD) and medium (S&MD) may also be significant, though is harder to judge as type 2 mitigation outcomes are currently an unknown quantity.

Box 1: Example of inconsistency in site classification and mitigation needs

A developer wishes to build 25 houses in an area where air quality is currently not of concern - what will be required in terms of emission impact and site mitigation?

Sussex – site classification based on Town and Country Planning system
Under the Town and Country Planning Order the development would be classified as 'major' because it exceeds 10 units. It is therefore likely to require an emission assessment and mitigation to offset the damage costs. It does not meet the threshold for undertaking of a traffic impact assessment and provision of a travel plan so this may limit availability of Traffic data for input to the calculation. It may also mean that, in the absence of a travel plan, 'full trip reduction' is unlikely to be established for the site prior to considering low emission measures.

Bradford – site classification based on DfT thresholds for TA/TP
The development does not reach the 80 unit threshold that would trigger a TA/TP. It would therefore be classified as 'minor' and is likely only to require basic EV charging provisio. A detailed emission impact assessment and calculation of damage costs is unlikely to be required.

Mid Devon - site classification based on 'significant traffic pollution' test
Site is classed as a minor site (as for Sussex above) and therefore is unlikely to be considered to generate significant levels of movement and so is unlikely to require integrated assessment or on-site mitigation plan.

7.4 In summary,
- Mitigation for sites under the different policies are likely to comprise similar measures, though potentially with varying intensity/priority according to the respective guidance detail.
- Outcomes for the smallest sites may be relatively consistent, since both Mid Devon and Sussex have flexibility to require the same basic mitigation as Bradford and West Midlands (even though this isn't quite such an explicit aspect of their approach).
- Similarly, the approach for the largest sites, is roughly comparable, driven by an emissions calculation, translated into damage costs
- Variations may be greater for intermediate sites because differences in classification may class a site as major in one location but medium or minor under another (see box para 6.18).

Presentation of Mitigation

7.8 Some of the documents introduce new terminology/formats for presenting the overall package or scheme of mitigation to be associated with a site. Others adapt existing forms.

Mitigation Statement[1]	(Sussex)
On-site mitigation plan[2]	(Mid Devon)
[Low Emission] Travel Plan[3]	(Bradford, West Midlands)

Notes

[1] Sussex have defined a format for presenting results of emissions calc., alongside proposed mitigation and any requirements under the code of construction practice.

[2] Mid Devon guidance notes that results of emission calculations, proposed measures and contributions may be combined as '*a site emissions mitigation plan, with clear links to the Travel Plan.*'

[3] Both Bradford and West Midlands note that: '*In line with the NPPF and in order to avoid duplication it is proposed that where authorities require the production and implementation of a Travel Plan, appropriate air quality mitigation measures are included within the single Travel Plan document*'. (The term Low Emission Travel Plan is suggested here, as means of distinguishing a B/WM enhanced travel plan from a 'traditional travel plan')

Mitigation Standards

7.9 Selecting the type of mitigation is an important first step. Equally important is the second step of specification. Not least, this ensures that developers understand their commitments and implementation may be monitored/tested. Specification will also facilitate assessment of costs/benefits, where this is required. Specification may be site specific or derived from some form of reference standard.

7.10 Standards may be defined directly either for all sites, for each class of site or based on a more specific characteristic of the site (eg number of parking places). Or they may be scaled according to total emissions reduction required, a target/cap for cost of the measure, or by some other 'outcome' related criteria. Further discussion of models and approaches for standardisation and assurance is provided in the related scoping and feasibility study.

7.11 Specification is simplest where formal standards have been established for performance and/or practice. These may be published independently or as part of the planning guidance itself. As noted, standards are more likely to exist for travel planning, construction practice and (to a significant but lesser extent) EV infrastructure. Specification of low emission travel plans, onsite technology measures and financial contributions are at an earlier stage of evolution – pointing towards opportunities for further standardisation in future.

7.12 The new guidance documents included three standards for specific measures:

+ Code of Construction practice	(West Midlands, Sussex)
+ EV charging requirements	(Bradford, West Midlands, Mid Devon)
+ Service Fleet Euro Standard[1]	(Bradford, West Midlands and Sussex)

[1] Worded as: *'all commercial vehicles should comply with either current or previous European Emission to be progressively maintained for the lifetime of the development'*

Standard Phrases

7.13 Standard phrases, falling short of a full standard, may also help to streamline agreement processes, and the associated outcomes have potential to become more standardised over time. One example noted in the review is where Bradford and West Midlands require *'a strategy for considering and reducing emissions, including possibilities for the take up of low emission fuels and technologies'*. This amounts to a 'standard requirement' for a Low Emission Strategy for fleet operations. And while no standard or guidance for specifying such a strategy currently exists, with use a standard or best practice approach could emerge.

Determination of Contributions

7.14 Significant variation between the approaches:

Sussex
Mitigation costs are capped at the financial value of the emission damage cost calculation. If all required emission mitigation can't be accommodated on site then the rest will be collected via financial contributions. Measures must be appropriate to the site and are agreed through negotiation with the local authority. A list of possible, though non-exhaustive, mitigation is provided.
+ E-calc provides bottom bound, AQA could potentially drive higher requirements
+ E-calc creates a cost reference point (ie not linked to actual emission reductions achieved)

Mid Devon
Leave greater uncertainty on residual emissions calc (point to LET, don't specify a year multiplier). Also provisions for agreeing a possible contribution are worded flexibly, giving room for manoeuvre.
+ E-calc defines start point (with trip measures)
+ Though confusingly suggested mitigation then includes 'further trip redn'
+ E-calc creates reference point for on-site reductions in emission terms (not cost)
+ E-calc of site residual after all on-site measures provides basis for contribution (cost)

Bradford
+ E-calc starting point is ambiguous (with trip plus some tech measures?)
+ E-calc is then a basis for ambiguous type 3 measures (more on-site + contribution?)
+ not stated if/how type 3 on-site are assessed before considering contributions (and if so whether on cost or benefits basis)

West Midlands
+ generally consistent with Bradford, though a bit unclear whether type 3 is contribution only

7.15 In summary:
- All four approaches converge on the principle of translating an estimate of the residual site emissions after all mitigation into a financial contribution based on estimated damage costs.
- There is potentially significant variation in terms of how this is done hence the value of contributions required for a given site.
- These calculations form the crux of the overall approach, however it is hard to draw firm conclusions due to lack of method detail at this stage.