SUPPLEMENTARY HABITAT REGULATIONS ASSESSMENT FOR ASHDOWN FOREST

INTRODUCTION

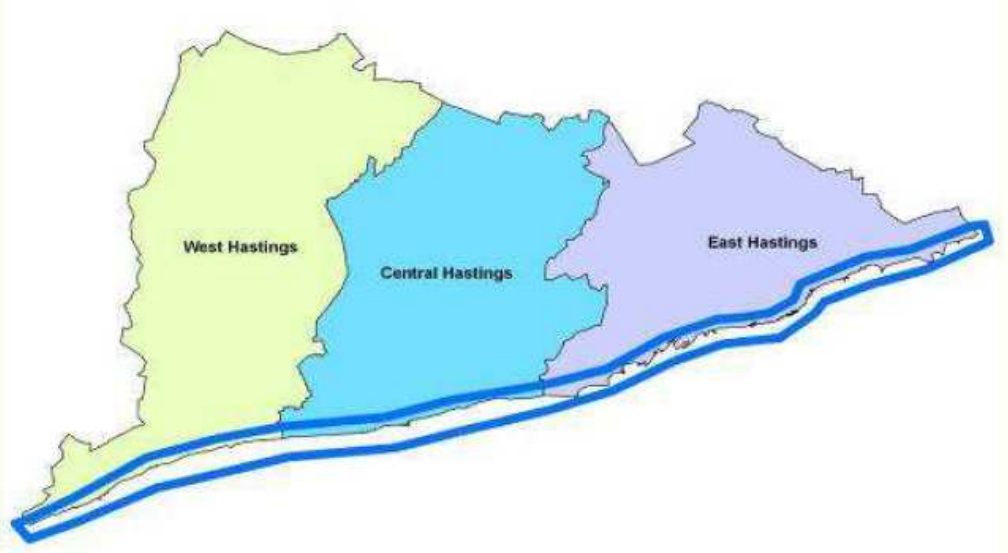
A Habitat Regulations Assessment of the Hastings Core Strategy was undertaken by URS (formerly URS/Scott Wilson) in March 2010 and its conclusions were agreed with Natural England. Subsequently Hastings Borough Council were advised by Natural England (see Appendix 1) that they should undertake a supplementary assessment to examine the projected increase in vehicle movements along the main roads (A22 and A26) that traverse Ashdown Forest SAC/SPA to determine whether the scale of increase was likely to be sufficiently great as to require air quality analysis, as the internationally important heathland features of the site are known to be susceptible to atmospheric nitrogen deposition which are associated with vehicle exhaust emissions.

Specifically, Natural England referred to the Department for Transport guidance[1] which identifies that roads 'likely to be affected' by changes in vehicle flows are defined as those for which *'daily traffic flows will change by 1,000 Annual Average Daily Traffic (AADT) or more, or Heavy Duty Vehicle flows will change by 200 AADT or more …*'. Natural England therefore advised that if a transport analysis for the Core Strategy housing levels and locations could identify that the increase in vehicle flows on the A22 and A26 through Ashdown Forest would be less than 1000 AADT traffic or less than 200 AADT for Heavy Duty Vehicles the contribution of the Hastings Core Strategy to any increase in vehicle movements through the Forest could be dismissed as effectively inconsequential and therefore it could be concluded that the Core Strategy would not have a Likely Significant Effect on Ashdown Forest SAC/SPA. That transport analysis is the purpose of this document.

TRANSPORT ANALYSIS

Proposed Development

The spatial strategy approach proposed by Hastings Borough Council (HBC) seeks to divide the Borough into three core areas; western, central and eastern, as shown below:



[1] Department for Transport. 2007. Design Manual for Roads and Bridges: Volume 11 (Environmental Assessment) Section 3 (Environmental Assessment Techniques) Part 1 (Air Quality), pages 2-3

Policy FA1 of the draft document, received on 7th February 2012, relates to the western area for which the following development is proposed, by 2028.

Area	Housing (units)	Employment (m^2)	Retail (m^2)
1. Little Ridge & Ashdown	220 – 280	23,400 (B1 / B2 / B8)	0
2. Greater Hollington	240 – 300	13,300 (B1 / B2 / B8)	0
3. Filsham Valley & Bulverhythe	620 – 690	0	0
Total	**1080 – 1270**	**36,700 (B1 / B2 / B8)**	**0**

Policy FA2 for the central area proposes the following development, by 2028:

Area	Housing (units)	Employment (m^2)	Retail (m^2)
4. St Helens Wood	210 – 250	0	0
5. Silverhill & Alexandra Park	200 – 240	0	0
6. Maze Hill & Burtons St Leonards	220 – 260	0	0
7. Central St Leonards & Bohemia	350 – 430	0	Local (district centre)
8. Hastings Town Centre	210 – 250	21,700 B1	20,500 town centre
9. West Hill	50 – 70	0	0
Total	**1240 – 1500**	**21,700 B1**	**20,500**

Policy FA5 for the eastern area proposes the following development, by 2028:

Area	Housing (units)	Employment (m^2)	Retail (m^2)
10. Old Town	50 – 70	0	0
11. Hillcrest & Ore Valley	440 – 540	11,400 (B1 / B2 / B8)	0
12. Clive Vale & Ore Valley	240 – 300	0	0
13. Hastings Country Park	0	0	0
Total	**730 – 910**	**11,400 (B1 / B2 / B8)**	**0**

The information available therefore indicates that the following combined level of development is proposed for Hastings, by 2028:

Area	Housing (units)	Employment (m^2)	Retail (m^2)
Western	1080 – 1270	36,700 (B1 / B2 / B8)	0
Central	1240 – 1500	21,700 B1	20,500
Eastern	730 – 910	11,400 (B1 / B2 / B8)	0

Combined	**3050 - 3680**	**21,700 B1 + 48,100 (B1 / B2 / B8)**	**20,500**

Principal Assumptions

In order to estimate the transport implications of the proposed development specifically on the A22 and A26 within the Ashdown Forest area and consider whether or not the impact criteria of 1000 additional vehicles per day would be triggered, it is necessary to make some assumptions regarding the proposed development. Taking each of the primary land uses in turn:

- Residential: Based on the information available, between 3050 and 3680 new homes are proposed for Hastings by 2028. For the purposes of this transport analysis and in order to ensure a robust assessment is undertaken, it will be assumed that the upper threshold of residential development will be delivered (3680 new homes)

- Employment: It is noted from the information available that 21,700sqm of proposed development has been specifically identified for B1 use and this will therefore be fed into the transport analysis. In addition, 48,100sqm of employment space is proposed which could comprise a mix of B1, B2 and B8 uses. For the purposes of this transport analysis and in order to ensure a robust assessment is undertaken, it will be assumed that 50% of this floor area will be for B1 use (as this is likely to generate more vehicle trips), with 25% for B2 use and 25% for B8 use

- Retail: Whilst the information available proposes that 20,500sqm of retail space will be provided, the majority of this will be targeted towards the existing retail centres, most notably including Hastings town centre itself. Whilst some additional vehicle trips will be generated by this retail, the majority of trips are likely to be local and may be undertaken using sustainable modes (eg. bus). Furthermore, a significant proportion of trips to / from these retail uses are likely to form part of other trips (trips to other shops or trips to / from work). For the purposes of this transport analysis, no consideration will therefore be given to the proposed retail development

A summary of the development proposals to be considered by this transport analysis is presented below:

Area	Housing (units)	Employment (m^2)	Retail (m^2)
Hastings (Combined)	3680	45,750 B1 12,025 B2 12,025 B8	0

Trip Generation

In order to estimate the number of vehicle trips that are expected to be generated by the combined development quantums envisaged for Hastings, approximate trip generation rates (per household or sqm, as appropriate) have been derived from the industry standard TRICS database, as follows:

Land Use	Daily Arrivals	Daily Departures
Residential (Mixed Housing)	1.805	1.878
B1	6.390	5.845
B2	1.515	1.573
B8	0.987	0.973

Application of the estimated trip rates shown above, to the combined development quantums, indicates the following levels of predicted trip generation:

Land Use	Daily Arrivals	Daily Departures	Daily Combined
Residential (Mixed Housing)	6642	6911	13553
B1	2923	2674	5597
B2	182	189	371
B8	119	117	236
Total Trips	**9866**	**9891**	**19757**

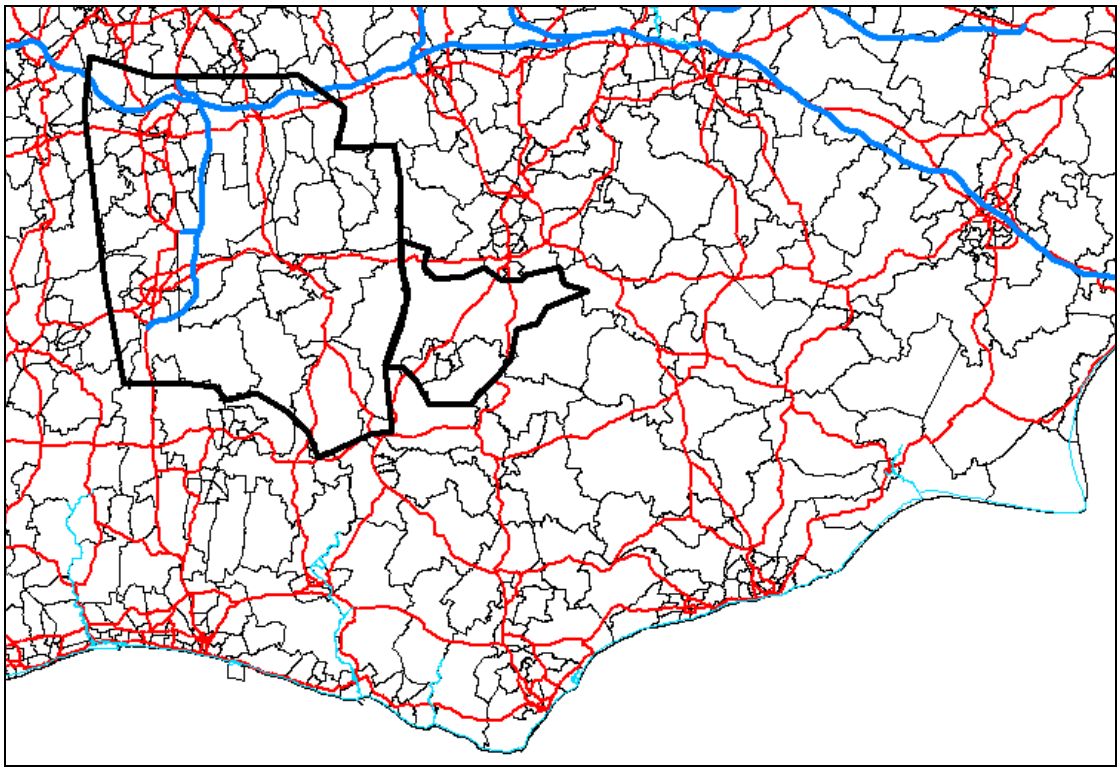
Trip Distribution

In order to consider the number of these trips which are expected to travel along the A22 and A26 through the Ashdown Forest, trip distribution calculations have been undertaken utilising Census 2001 journey-to-work data.

It is noted however that the A22 and A26 to the north west of the site are unlikely to form key desire lines between Hastings and the surrounding regions given that there are more direct routes to and from the Borough. For example, it is likely that drivers travelling on the strategic road network which includes the M25, would be more likely to utilise the A21 which passes north – south, immediately to the north of the Borough.

With the above in mind, it has been considered that trips utilising the A22 to / from Hastings are likely to be travelling to / from ward areas within the vicinity of the Ashdown Forest area or potentially along the M23. Trips utilising the A26 in the Ashdown Forest area are also likely to be local to that area, given that this south-west – north-east route does not form a key desire line to / from Hastings.

The two core areas considered as being origins and / or destinations for trips to and from Hastings are therefore shown below for the A22 and A26, with the larger zone relating to the former and the smaller zone the latter (both shown in bold).



On the basis of the above, the following trip distributions have been derived from the Census 2001 data, for trips travelling to and from Hastings:

Location	Residential Trips	Employment Trips
A22	3%	2%
A26	1%	1%

The trip distribution analysis has subsequently been applied to the predicted trip generation levels, discussed earlier, to estimate the number of trips which are predicted to utilise the A22 and A26 in the Ashdown Forest area. This analysis is summarised below:

Location	Residential Trips	Employment Trips	Combined Trips
A22	407	124	**531**
A26	136	62	**198**

Traffic Flow Assessment

Base Data

The existing vehicle flows for the A22 and A26 have been derived from traffic survey information provided by East Sussex County Council, as the relevant highway authority for this area. The traffic flows provided are for the A22 to the north of Wych Cross (north of the junction between the A22 and A275) and the A26 west of Crowborough (west of the junction between the A26 and Sheep Plain), in the Ashdown Forest, obtained on Tuesday 22nd June 2010 and Tuesday 15th June 2010, respectively.

The traffic flows cover the 12 hour daily period between 0700 and 1900. In order to consider the Annual Average Daily Traffic (AADT) at each of these locations, taking into account seasonal variability and traffic volumes for the whole 24 hour daily period, the 12 hour flows have been converted into AADT based on the COBA calculation methodology, as set out by the DMRB (Design Manual for Roads and Bridges). A summary is provided below:

Location	Two Way 12 Hour Flow	E Factor	M Factor	AADT*
A22	14317	1.15	337	**15202**
A26	15144	1.15	337	**16080**

*AADT = ((12 Hour Flow x E Factor x M Factor) / 8760) x 24

'Without Development' Scenario

In order to consider the comparative implications of delivering the proposed development at Hastings, it is necessary to estimate the baseline traffic flows on the A22 and A26 in 2028, prior to the proposed development being introduced. Traffic growth rates from 2010 to 2028 have therefore been derived from the Department for Transport's (DfT) TEMPRO database (version 6.2, NTM dataset 6.2).

In this instance, the Uckfield zone was selected as the main zone in which the forest is located, with the growth factors adjusted by NTM for Urban Principal roads, serving the region. It should be noted that the growth rates have been derived for the area in which the Ashdown Forest is located, as this comprises the study area for this analysis, as opposed to Hastings itself. With this in mind, given that the study locations on the A22 and A26 are also located outside of Hastings, the growth rates have not been adjusted to account for the potential development proposed within the Borough. It is considered that this contributes towards a worst case level of assessment however, as the growth rates will inherently include allowances for increases in housing and employment within the surrounding areas.

The resultant growth rate is shown below:

From	To	Growth Rate
2010	2028	**1.238**

The growth rate has subsequently been applied to the 2010 Baseline AADT flows, to estimate the 2028 AADT flows, prior to development being delivered in Hastings, as shown below:

Location	2010 AADT	2028 AADT Without Development
A22	15202	18820
A26	16080	19907

'With Development' Scenario

In order to consider the 'with development' scenario in 2028, the development traffic predicted to be generated by the proposals along the A22 and A26 has been added on to the 2028 without development flows. A comparison of the without and with development cases has therefore been undertaken, as shown below:

Location	2028 AADT Without Development	2028 AADT With Development	Change (Trips)	Change (%)

A22	18820	19351	531	2.8%
A26	19907	20105	198	1.0%

The analysis presented above indicates that should the developments be delivered within Hastings, according to the levels currently proposed, approximately 531 and 198 additional daily vehicle trips are expected to occur on the A22 and A26 respectively. In percentage terms, this is predicted to be equivalent to an increase of 2.8% and 1.0% on the A22 and A26 respectively, compared against the forecast situation in 2028, assuming that none of the proposed development is delivered.

Summary

The conclusion of the analysis presented above is that the threshold of 1000 additional vehicles on the A22 or A26 is not predicted to be triggered, as a result of the proposed development plans for Hastings, up to 2028.

It should be noted that the analysis presented herein is based on a number of 'high level' assumptions, relating to the following:

- Residential trip generation forecasts are based on 'mixed private / non-private housing', rather than any specific accommodation schedules (which are not available at this time)
- Employment trip rates have been derived for 'typical' B1, B2 and B8 land uses and applied on a proportional basis to the total amount of employment floorspace proposed (50% B1, 25% B2 and 25% B8, plus 21,700sqm of B1)
- Retail trips have not been included as it assumed that any future retail development will primarily cater for the local community within Hastings
- Traffic growth rates have been derived for the Uckfield zone as the main locality in which the study locations of the A22 and A26 are located. No adjustment has therefore been made to the level development which is inherently included within the growth rates for this area
- The trip distribution analysis has assumed that drivers will not choose to travel along the A22 and A26 for longer distance journeys in most cases, given that there are more direct routes to and from Hastings which utilise the strategic road network (eg. the A21). As such, trips utilising the A22 and A26 are mostly assumed to be local to the Ashdown Forest area (refer to zoning plan above).

CONCLUSION

Based upon this analysis it can be shown that the increase in vehicle flows on the A22 and A26 through Ashdown Forest as a result of Core Strategy development is sufficiently small that the Hastings Core Strategy will not lead to Likely Significant Effects on the Ashdown Forest SAC/SPA. No further analysis is therefore required.

APPENDIX 1 - NATURAL ENGLAND ADVICE TO HASTINGS COUNCIL CONCERNING NECESSARY ASSESSMENT (EMAIL FROM MARIAN ASHDOWN (NATURAL ENGLAND) TO CHANTAL LASS (HASTINGS COUNCIL) OF 30/11/10

Natural England feel that additional baseline information as obtained from extensive traffic modelling is unnecessary as it will bring little to the process. What is needed is not where the existing traffic is coming from, but how much traffic is currently using the A roads passing the Ashdown Forest (A22 and A26). This should be available from the County Councils as part of the capacity studies for their local transport plans (LTPs).

This information is required in order to assess what the process contribution (PC) will be from core strategies, whether mitigation measures are likely to be required and whether any necessary mitigation measures are sufficient.

The first part of the assessment is to establish whether the annual average daily traffic flows (AADT) would be increased by 1,000 cars or more (or 200 heavy vehicles). Any road where the AADT is not expected to increase by these numbers does not need to be assessed further. This is likely to screen out many, if not all, of the minor roads through the forest and for some authorities will screen out impacts on Ashdown Forest entirely. If the AADT is likely more than 1,000 cars from your individual core strategies then an assessment needs to be made as to whether your PC is more than 1% of the critical load.

Natural England previously received an AQ desk study for a MSDC development (Imberhorne Lane) which seems to provide an appropriate method for assessing Nitrogen deposition rates from traffic numbers and how this transfers to a percentage of the critical load. I have attached a copy of this assessment. An assessment such as this would be acceptable to Natural England to assess PC. Most of the information needed is likely to be available from relevant websites such as APIS and TRICS so should avoid the need for additional AQ or traffic studies. We acknowledge that the assessment will not be as simple as it requires a judgment as to how much traffic will use the A22 and A26 from different spatial development areas.

Mitigation may be necessary subject to the outcome of the AQ desk based assessment. Possible mitigation (if necessary) could include policies to encourage sustainable travel (public transport etc). We acknowledge that there cannot be 100% certainty regarding suitability of mitigation but this is based on best available knowledge. Mitigation for AQ is not an exact science so we recommend that a policy for monitoring AQ is included within a core strategy where there is an identified impact or that the core strategy provides a “hook” for a subsequent DPD. Monitoring is not mitigation in itself, but would cover the possibility of AQ impacts being more than anticipated. We also recommend that the core strategy includes a “hook” for further mitigation to be provided if this scenario is correct and other potential mitigation comes forward from emerging evidence.