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# AN INTEGRATED LANDSCAPE SENSITIVITY APPROACH TO SETTLEMENT EXPANSION WITHIN WEST BERKSHIRE

## METHODOLOGY

### 1 Background to study

- 1.1 As part of the Local Development Framework (LDF) process, West Berkshire Council (WBC) is currently identifying its preferred strategic development sites for the West Berkshire Planning Strategy. The Strategy includes a spatial vision, objectives and a spatial strategy for the District which sets out the approach for the fifteen years following adoption of the Plan. The spatial vision is one that builds upon the existing settlement pattern but shapes the scale and intensity of development in ways that builds sustainable communities. It aims to secure a spatial strategy which focuses the most intensive and intensively used developments on those areas which contain the infrastructure, services and facilities best able to support them.
- 1.2 The spatial strategy acknowledges that the evidence base shows that some development, particularly housing, must occur outside existing built up areas to meet planning objectives and regional responsibilities. Newbury is identified as the preferred principal focus for new development over the next ten years, including expansion beyond the existing built up area. The potential for that focus to extend to other areas of West Berkshire, particularly after 2016, is also explained.
- 1.3 The ability of a particular area to accommodate future growth without it having any significant effects on its character is an important consideration. Planning Policy Statement 1 - Delivering Sustainable Development (PPS1) and Planning Policy Statement 7 - Sustainable Development in Rural Areas (PPS7) make it clear that any development must be sited and designed to respect and, wherever possible, enhance the local landscape character and local distinctiveness. A simple constraints approach to development, based on designations and which was adopted in the past, is therefore no longer sufficient. A better understanding of the character of the landscape is now paramount. At the same time government guidance recognises that urban and urban fringe areas require a similar character-led approach.

### 2 The need for an integrated landscape sensitivity study

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- 2.1 The sensitivity to change of the landscape character around the main towns of West Berkshire is a key issue in determining future settlement expansion and it is very important that the LDF is informed by accurate landscape character studies which meet current national guidance.
  - 2.2 The study differs from the existing Newbury District Landscape Character Assessment 1993 (NDLCA) in a number of fundamental ways. The term *landscape* is now used to embrace the physical, visual, ecological, historical, access and recreational, cultural, economic and social issues which together make up our understanding and appreciation of our external landscape surroundings. The study also breaks down the landscape character types of the NDLCA into smaller local landscape character areas which reflect local differences.
  - 2.3 There is a need to define these local landscape character areas from accurate up to date mapping and recording. In this case, the new Historic Landscape Characterisation (HLC) polygons<sup>1</sup>, based as they are on a recent review, provide a detailed and accurate base to work from. The use of GIS also provides WBC with a tool that sets out the factors that have contributed to the assessment in a transparent manner and in a format that can be easily updated.
  - 2.4 This study is designed to provide a robust and transparent assessment of inherent landscape sensitivity of the landscapes around the main towns through an efficient use of existing data and resources (such as the HLC mapping), new work into the landscape and visual characteristics, access and recreational provision and cultural associations of each area, using a methodology which satisfies modern best practice. All land has been assessed on its intrinsic landscape merits.
  - 2.5 Planning policy and national landscape designations (eg AONB) have not been scored as part of the landscape sensitivity assessment as it is expected that the relevant policies would be applied separately at a later stage when considering the overall sustainability of potential strategic development sites.

### **3 Study area and study units**

- 3.1 The main study area covers a 1km belt out from the settlement boundary, as shown on the current West Berkshire District Local Plan 1991-2006, around the four towns of Reading, Thatcham, Newbury and Hungerford. The study area includes those HLC polygons that are wholly or partly within the 1km

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<sup>1</sup> Historic Landscape Characterisation (HLC) is a method of analysing and recording the way in which several millennia of human interaction with the land has produced the landscape we experience today. The HLC for West Berkshire was undertaken between 2004 and 2007 and the mapping and analysis were carried out by the Council's archaeology service. Sources such as historic and modern mapping, aerial photographs and documents were used to unpick the components of the landscape and develop a picture of how past land-use has created the shape of our landscape today. Each parcel of land was first assigned to a broad landscape group, such as woodland, settlement or fields, and then to a more specific type, such as historic settlement core or water meadow. This information is now stored in a GIS dataset.

zone. In most cases the HLC polygon boundaries follow recognisable boundaries on the ground. If this is not the case, the study area has been extended up to the first clear boundary. Where a large HLC polygon extended well beyond 1km and there is a clear boundary on the ground close to the 1km radius, a new boundary has been selected within the HLC polygon. These boundaries were checked in the field.

3.2 HLC polygons were then grouped under the Landscape Character Types (LCT) identified by NDLCAs (LCTs 1 to 18) resulting in 55no. local landscape character areas (LLCAs). In some cases the NDLCAs landscape character type boundaries were adjusted to the boundaries of the HLC polygons. There were a number of small areas that fell outside of the settlement boundary but were not included within the NDLCAs. These have been classified as a new landscape character type LLCA20.

3.3 Figures 1A to D show the location of each of the 55no. LLCAs within the Study Area. These are:

### **Hungerford**

LLCA2A:	Strongrove Hill Dipslopes
LLCA2B:	Leverton and Eddington Dipslopes
LLCA2C:	Hungerford Common and Park
LLCA2D:	Standon Chalk Lowlands
LLCA8A:	River Dun Valley
LLCA8B:	Upper Kennet Valley
LLCA18H:	Leverton Manor

### **Newbury**

LLCA2E:	Lower Henwick Dipslopes (shared with Thattham)
LLCA2F:	Shaw Farm Dipslopes
LLCA2G:	Bagnor Dipslopes
LLCA6A:	Bagnor Valley
LLCA8C:	Thattham Lakes (shared with Thattham)
LLCA8D:	South Thattham Valley Farmland (shared with Thattham)
LLCA8E:	Speen Valley
LLCA11A:	Enborne Wooded Lowland
LLCA11B:	Mousefield Wooded Lowland
LLCA13A:	Brickkiln Wood
LLCA13B:	Greenham Western Plateau Woodlands and Heath
LLCA14A:	Ashmore Green and Lower Cold Ash Plateau Edge (shared with Thattham)
LLCA14B:	Shaw Farm Plateau Edge
LLCA14C:	Donnington Plateau Edge
LLCA14D:	Deanwood Plateau Edge
LLCA14E:	Greenham Plateau Edge
LLCA14K:	Greenham Common Plateau Edge
LLCA15A:	West Thattham Farmland (shared with Thattham)
LLCA15B:	Wash Common Farmland
LLCA15C:	Enborne Valley Farmland
LLCA18A:	Donnington Park
LLCA18B:	Foley Park
LLCA18C:	Benham Park

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LLCA18E:	Sandleford Park
LLCA20A:	West Speen
LLCA20B:	West Greenham
LLCA20C:	Newbury Racecourse

### **Thatcham**

LLCA2E:	Lower Henwick Dipslopes (shared with Newbury)
LLCA8C:	Thatcham Lakes (shared with Newbury)
LLCA8D:	South Thatcham Valley Farmland (shared with Newbury)
LLCA13C:	Upper Cold Ash Plateau Woodlands
LLCA13D:	Hart's Hill Platerau Woodlands
LLCA14A:	Ashmore Green and Lower Cold Ash Plateau Edge (shared with Newbury)
LLCA14F:	Colthrop Manor Plateau Edge
LLCA14G:	Sayers and Aspen Copses
LLCA14H:	Highfield Copse
LLCA15A:	West Thatcham Farmland (shared with Newbury)
LLCA20D:	Colthrop Park

### **West Reading**

LLCA2H:	Lower Purley Chalk Lowlands
LLCA2I:	Upper Sulham Dipslopes
LLCA2J:	Lower Sulham Chalk Lowlands
LLCA8F:	Lower Kennet Meadows
LLCA8G:	Lower Kennet Wetlands
LLCA9A:	Lower Kennet Lakes
LLCA10A:	Purley River Valley
LLCA13E:	Little Heath Gravel Plateau
LLCA14I:	Purley Plateau Edge
LLCA14J:	Tilehurst Plateau Edge
LLCA16A:	Englefield Wooded Farmlands
LLCA17A:	Englefield Open Farmland
LLCA18F:	Englefield Park
LLCA18G:	Purley Hall
LLCA20E:	Theale-Calcot Gap
LLCA20F:	West Theale

## **4 Baseline data for main study area**

- 4.1 Baseline data for physical and visual landscape, ecological, historical and archaeological, recreational and access matters has been sourced from WBC and other published material. Appendix A lists the sources of data.
- 4.2 Further field studies were undertaken to fill the gaps in landscape and visual baseline data.

## **5 Identification of landscape sensitivity**

- 5.1 Each Local Landscape Character Area (LLCA) was analysed under eight themes:

- Theme 1: planning designations; AONB, county and district landscape character areas; and Environmental Stewardship
- Theme 2: physical landscape (geology, landform, landcover, water features and soils);
- Theme 3: built form;
- Theme 4: visibility (tranquility, visual exposure, screening and local landmarks);
- Theme 5: historic;
- Theme 6: access and recreation;
- Theme 7: bio-diversity, and
- Theme 8: cultural associations.

Appendix B sets out the attributes considered under each theme.

- 5.2 The study concentrated on identifying the relative sensitivity of each LLCA to others in the study area, to help guide the Council in planning settlement expansion to meet government targets for growth. The value of this approach is that it enables comparison of 'like with like' i.e. one urban fringe location with another. (If the whole of the District had been assessed and compared, or the LLCAs considered in the light of national landscape sensitivity, the results for each LLCA may have been different. For example if the sensitivity of the 55 LLCAs were to be compared with the more remote unspoilt protected landscapes, the sensitivity of the 55 LLCAs would have been lowered, providing little guidance to identifying the areas within the urban fringe LLCA where the least harm would be done.)
- 5.3 The study did not include an assessment of the condition or intactness of the landscape resources, as this would have required extensive further fieldwork outside the scope of the study.
- 5.5 Appendix C sets out the approach to scoring the themes and aggregating these to achieve an overall sensitivity score for each LLCA. All the themes were scored except Theme 1. Themes 2 to 8 consider the distinctive elements of the landscape character areas that go towards determining the inherent sensitivity of the area, whereas Theme 1 reflects government policy at the current time.

## **6 Results of the study**

- 6.1 Figures 2A to D illustrate the overall sensitivity scoring for the LLCAs. These are also supplied in GIS, with the Theme attributes set out in Access as a GIS shape file attribute table. Spreadsheets set out the individual scores for the Themes and the overall score for each LLCA.
- 6.2 With the primary baseline data and sensitivity assessment in GIS, a Summary Report for each town has been prepared which summarises the landscape character sensitivity of each LLCA. The key landscape sensitivity factors are

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set out under the 'main constraints' and 'lesser constraints' for each LLCA, all of which should be taken into account.

- 6.3 Under 'Wider landscape' the Summary Report describes the connections between the landscape character of the each LLCA and the surrounding landscape, and the intervisibility between the LLCA and adjacent areas. These two aspects together determine the value of the LLCA to the wider landscape. The wider landscape was then scored for its inherent sensitivity i.e. its importance to conserving and enhancing the character of the wider landscape.
- 6.4 Under 'Setting to the urban form' the Summary Report describes the relationship between each LLCA and the adjoining urban area and the contribution the rural area makes to the setting of the town. This analysis provides advice on the role played by the LLCA in defining settlement character and distinctiveness.
- 6.4 The above results have been used to inform the Report into Potential Strategic Development Sites being considered as part of the West Berkshire Planning Strategy. This Report is accompanied by Figures 3A to C showing the potential strategic development sites: Areas 1 to 13.
- 6.5 Neither the Summary Report nor the Report into Potential Strategic Development Sites identify landscape mitigation nor any new landscape features (such as, for example, re-establishment of hedgerows, new woodland planting, heathland restoration) in any detail, which would be a prerequisite of any settlement expansion within part of an LLCA.

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## APPENDIX A

### Sources of data

GIS data and reports and studies:

- OS MasterMap
- OS Contours
- Local Plan settlement boundaries
- Historic Landscape Characterisation polygons
- SMR records
- Conservation areas
- Public rights of way
- Agricultural land classification
- Ancient woodland
- BBOWT habitat survey
- Floodplain maps
- Open access land (CROW 2000 and Greenham and Crookham Commons Act 2002)
- Lakes
- Local nature reserves
- Main rivers and rivers
- Open space
- Railway lines
- Special Areas of Conservation
- Wildlife heritage sites
- SSSIs
- Aerial coverage 2003
- Newbury District Landscape Character Assessment 1993
- Berkshire Landscape Character Assessment 2003
- North Wessex Downs AONB Integrated Landscape Character Area Assessment 2002
- Parish plans and village design statements
- Biodiversity action plan (BAP)
- Parish data on local features of interest
- BAP priority habitats
- Register of historic parks and gardens
- Countryside sites and country parks
- North Wessex Downs AONB Management Plan
- National Trust land
- Register of Historic Battlefields

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## APPENDIX B

### Themes 1 to 8

*Theme 1: planning designations; AONB, county and district landscape character areas; and Environmental Stewardship*

- Landscape designations: Area of Outstanding Natural Beauty. In September 2007 the Areas of Special Landscape Importance (ASLI) were not saved under policy ENV.3
- Strategic gaps: as shown on the West Berkshire Local Plan 1991-2006
- Landscape character classifications and guidelines: from Newbury District Landscape Character Assessment 1993; Berkshire Landscape Character Assessment 2003; and North Wessex Downs AONB Integrated Landscape Character Area 2002
- Environmental Stewardship: existing Countryside Stewardship, Entry Level and Higher Level Stewardship schemes; and location within a Natural England Core Target Area, if applicable.

*Theme 2: Physical landscape analysis*

- Geology: Significant geological features which in their own right are a key feature of the current landscape character and make a significant positive contribution to landscape character
- Soils: GIS mapping from WBC is used to identify land that is grade 1, 2, 3 or 4 agricultural land
- Water: Each LLCA was examined for the incidence of water features: ponds, drains, streams, rivers, wetland areas and proximity to open water and to what extent these contribute to the character of the LLCA. This was assessed visually on the ground, from aerial photographs and from GIS mapping.
- Topography: The level of contribution to the character of an LLCA from significant topographical features. This was assessed from contour mapping, OS maps and visual observation.
- Landcover and land use: The predominant land uses are identified together with actual land cover at the time. For example land in agricultural use may have a land cover of arable crops, pasture, bio-fuels etc
- Internal enclosure: The scale of internal and boundary screening features (woodland, hedgerows, buildings, embankments but excluding natural topography) is assessed through fieldwork and used to determine the openness or enclosure within an LLCA.
- Vegetation pattern: The significance of the landscape pattern (incidence and layout of woodlands, hedgerows, parkland vegetation, heathland and



other significant vegetation) and their contribution to the landscape character

- Seclusion: the level of seclusion enjoyed in the LLCA. Areas may be secluded despite their proximity to the town. This is determined by the perception of enclosure and separation from the town; the level of visual and aural tranquility; and the contrast with adjacent more active or more open areas
- Connectivity with adjacent landscape character: This includes both continuity (or otherwise) of landscape character across LLCAs and into the wider landscape and intervisibility between LLCAs. This data was used to inform the 'wider landscape' sensitivity.

#### *Theme 3: Built Form*

- Relationship to the town: proximity, boundary treatment and inter-visibility. This data informed the role of the LLCA as a 'setting to the urban form'
- Settlement characteristics: settlement pattern; distribution of settlement in the LLCA; distinctiveness of settlement features
- Road characteristics: type and density of the road network
- Built form characteristics: distinctive features contributing to landscape character such as walls, types of buildings, means of enclosure.

#### *Theme 4: Visibility*

- Landmarks: Views to landmarks within a LLCA or from a LLCA
- Tranquility: Assessed through visual and aural perception in the field (see explanatory note at end of Appendix B)
- Key views into the LLCA and out from the LLCA: extent of view; identification of adjacent LLCAs or town with intervisibility with the LLCA.

#### *Theme 3: Historic character and built form*

- HLC: Historic landscape character types found in the LLCA and the relative sensitivity of those character types as defined in WBC's historic landscape sensitivity study
- Archaeology and historic features: significant features in the landscape (under ground features not recorded in the database)
- Common land: land registered as Commons
- Historic parks and gardens: on English Heritage register or a park or garden noted locally to be of historic interest
- Historic links with adjacent areas: The significance of the historic features in the LLCA may increase if there are historic physical or cultural associations with adjacent areas
- Historic built form: Identifies historic features that make a significant contribution to the local landscape character
- Battlefields: Remnants of the Newbury Battlefield survive in the landscape and contribute to the sensitivity of the landscape to change.

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*Theme 4: Access and Recreation*

- Significance: Nationally famous sites and landscapes; walks and other facilities which are well promoted
- Coverage: density of footpath network in the LLCA and provision of open access under CROW Act 2000
- Availability: Presence of land managed for public access by the local authority; and public sports and other recreation areas.

*Theme 7: Biodiversity*

- BAP habitats: Evidence and extent of these within the LLCA
- Bio-diversity sensitivity: Data from WBC's bio-diversity sensitivity study; coverage of the LLCA within either a SSSI, Ancient Woodland, or Wildlife Heritage Site
- Habitat composition: Data from Phase 1 habitat surveys to identify range of habitats in the LLCA
- Woodland: Identification of specific woodland characteristics (deciduous, mixed or coniferous) within the LLCA.

*Theme 8: Cultural Associations*

- Features of cultural importance (e.g. Watermill Theatre; Freeman's Marsh; Newbury Racecourse)
- Local cultural associations (e.g. Johnny Morris; E.H. Shepherd)
- Community value (e.g. Village Design Statements; Parish Plans).

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## **Tranquillity assessment**

Tranquillity is the relative absence of intrusive visual elements and noise. Intrusive visual elements and noise are generally man made, associated with urban areas or areas of intense human activity, out of keeping with the rural character of an area.

The following classification is being used to assess the relative perception of tranquillity between the 55 local landscape character areas within the Study Area.

As the purpose of the Study is to identify the relative sensitivity of the urban hinterland to urban expansion, the tranquillity assessment must also be relative. If assessed against national perceptions of tranquillity, these areas would all fall short of the higher levels found in our remoter landscapes and the results would not guide development away from those character areas which currently have relatively good levels of tranquillity despite the proximity of urban areas and major highways etc.

Visually intrusive elements may be:

- Visually exposed urban elements, or built form which is out of keeping with the local landscape character;

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- Lit environments or areas with higher levels of sky glow or other light pollution such as flood lighting or highway lighting.

Intrusive noise elements may be:

- Sound of traffic, machinery, commercial operations, air craft noise;

Tranquillity has been divided into day time visual and noise and night time visual in the database.

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## APPENDIX C

### Sensitivity scoring

The analysis led to a five level sensitivity score for each of these seven themes, which was then amalgamated and re-analysed to create a five level sensitivity score combining the seven themes.

#### Stage 1: Theme Scoring

Level 1 = low sensitivity

Level 2 = low - medium sensitivity

Level 3 = medium sensitivity

Level 4 = medium - high sensitivity

Level 5 = high sensitivity.

*Theme 1: Planning status and Environmental Stewardship*

No scores

*Theme 2: Landscape*

- Level 1. Poorer landscape quality with a lack of landscape features or characteristic patterns
- Level 2. Some landscape features but eroded and fragmented to leave a weak landscape structure
- Level 3. Good number of landscape features but fragmented and less cohesive landscape structure
- Level 4. Distinctive landscape character with a number of features
- Level 5. Strong landscape character with high level of distinct features

*Theme 3: Built Form*

- Level 1. Non-cohesive built form or settlement lacking integrity and quality
- Level 2. Built form or settlement of no distinguishing characteristics
- Level 3. No, or very little, existing built form or settlement
- Level 4. Built form or settlement of character
- Level 5. High incidence of high quality or historically intact built form or settlement

*Theme 4: Visual*

- Level 1. Little or no visual connectivity with the wider landscape and lack of any visual qualities. Poor level of tranquility
- Level 2. Some intervisibility with the wider landscape and good level of visual enclosure. Pockets of greater tranquility
- Level 3. Views from the wider landscape and glimpses and partial views out to the wider landscape. Tranquility at a level typical of the urban fringe.

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- Level 4. Exposed area with a good level of visual connectivity with the wider landscape and landmark features. Tranquility above typical level
  - Level 5. Highly exposed area with significant landmarks. Good level of tranquility.

*Theme 5: Historic*

- Level 1. Predominantly low HLC sensitivity with very little historic interest
- Level 2. Predominantly low or medium to low HLC sensitivity with some archaeology and historic interest
- Level 3. Predominantly medium HLC sensitivity and more varied or extensive archaeology and historic interest
- Level 4. Predominantly medium or medium to high HLC sensitivity with good archaeology and historic interest
- Level 5. Predominantly high or medium to high HLC sensitivity with a high incidence of archaeology and historic interest

*Theme 6: Access and Recreation*

- Level 1. Virtually no provision for access and recreation
- Level 2. Some public rights of way
- Level 3. Fair public rights of way coverage and some open access or special recreational provision
- Level 4. Good public rights of way coverage with open access or special provision
- Level 5. Open access, combined with good public rights of way network and/or recreational facilities –well promoted

*Theme 7: Biodiversity*

- Level 1. Little or no ecological interest
- Level 2. Low to medium bio-diversity sensitivity with localised habitats of lesser importance
- Level 3. Medium bio-diversity sensitivity and good variety, or more extensive coverage, of BAP habitats
- Level 4. Medium to high bio-diversity sensitivity with some important habitats
- Level 5. High level of important habitats and bio-diversity sensitivity

*Theme 8: Cultural*

- Level 1. No interest
- Level 2. Single interest
- Level 3. Evidence of community interest as expressed in a Parish Plan or Village Design Statement
- Level 4. Evidence of community interest as expressed in a Parish Plan or Village Design Statement and additional cultural associations
- Level 5. Multiple evidence of important cultural associations and of community interest as expressed in a Parish Plan or Village Design Statement

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The scores for each theme were added together and each LLCA scored as follows:

- Score 7 to 11 = low sensitivity (dark green)
- Score 12 to 17 = low to medium sensitivity (light green)
- Score 18 to 23 = medium sensitivity (yellow)
- Score 24 to 29 = medium to high sensitivity (orange)
- Score 30 to 35 = high sensitivity (red)

This was developed further, by identifying the value of each LLCA as part of a wider landscape. This was determined by the relationship of each LLCA with the wider countryside: either of the adjacent LLCAs or with the wider landscape beyond. Each LLCA is then scored for its contribution to conserving and enhancing the wider rural landscape character in and around the four towns. The wider landscape was scored:

- Level 1            Low sensitivity - area isolated from the wider landscape
- Level 2            Low - medium sensitivity - different landscape character but abuts an area linking to the wider landscape
- Level 3            Medium sensitivity - good physical and visual links to the wider landscape but the character area does not display all the characteristics of that wider area
- Level 4            Medium - high sensitivity - strong physical and visual links to a wider landscape with common landscape characteristics;
- Level 5            High sensitivity - A key part of the wider landscape with strong physical and visual links to that landscape.

Following this, the sensitivity of each LLCAs contribution to the wider landscape was added to the theme sensitivity score (giving equal weight to the role in the wider landscape to that of one theme) and an overall sensitivity score for each LLCA reached. Each LLCA received a final score as follows:

- Score 8 to 13 = low sensitivity (dark green)
- Score 14 to 20 = low to medium sensitivity (light green)
- Score 21 to 27 = medium sensitivity (yellow)
- Score 28 to 34 = medium to high sensitivity (orange)
- Score 35 to 40 = high sensitivity (red)