

Sustainability Appraisal (SA) of the Vale of White Horse District Local Plan Part 2

Interim SA Report

March 2017

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INTRODUCTION

1 BACKGROUND

- 1.1.1 AECOM is commissioned to lead on Sustainability Appraisal (SA) in support of the emerging Vale of White Horse Local Plan 2031: Part 2 (LPP2). LPP2 will allocate land for development, and also present policies (district-wide and site-specific) to guide future planning applications. Alongside Local Plan Part 1 (LPP1), which was adopted in December 2016, it will establish a planning framework for the District up to 2031.
- 1.1.2 SA is a mechanism for considering and communicating the likely effects of an emerging plan, and alternatives, with a view to avoiding and mitigating adverse effects and maximising the positives. SA of Local Plans is a legal requirement.¹

2 SA EXPLAINED

- 2.1.1 It is a requirement that SA is undertaken in-line with the procedures prescribed by the Environmental Assessment of Plans and Programmes Regulations 2004, which transposed into national law EU Directive 2001/42/EC on Strategic Environmental Assessment (SEA).²
- 2.1.2 In-line with the Regulations, a report (known as **the SA Report**) must be published for consultation alongside the draft plan that essentially ‘identifies, describes and evaluates’ the likely significant effects of implementing ‘the plan, and reasonable alternatives’.³ The report must then be taken into account, alongside consultation responses, when finalising the plan.
- 2.1.3 More specifically, the SA Report must answer the following **three questions**:
1. What has plan-making / SA involved **up to this point**?
 - Including in relation to ‘reasonable alternatives’.
 2. What are the SA findings **at this stage**?
 - i.e. in relation to the draft plan.
 3. What happens **next**?

2.1 This Interim SA Report⁴

- 2.1.1 This Interim SA Report is published alongside a draft version of the plan, under Regulation 18 of the Local Planning Regulations. The legally required SA Report will be published subsequently, alongside the final draft (‘Proposed Submission’) version of the Local Plan, under Regulation 19 of the Local Planning Regulations (see discussion of ‘next steps’ below).
- 2.1.2 Despite being an interim report, this report seeks, where possible, to provide the information required of the SA Report. As such, Questions 1 - 3 are answered in turn. Before answering Question 1, two initial questions are answered in order to further set the scene:
- i) What is the plan trying to achieve?
 - ii) What is the scope of the SA?

¹ Since provision was made through the Planning and Compulsory Purchase Act 2004 it has been understood that local planning authorities must carry out a process of Sustainability Appraisal alongside plan-making. The centrality of SA to Local Plan-making is emphasised in the National Planning Policy Framework (2012). The Town and Country Planning (Local Planning) (England) Regulations 2012 require that an SA Report is published for consultation alongside the ‘Proposed Submission’ plan document.

² Procedurally SA and SEA are one and the same, on the basis that there is no legislation or guidance to suggest that SA process should differ from the prescribed SEA process. SA and SEA differ only in terms of substantive focus. SA has an equal focus on all three ‘pillars’ of sustainable development (environment, social and economic), whilst SEA involves a degree of focus on the environmental pillar. SA can therefore be said to ‘incorporate’ SEA.

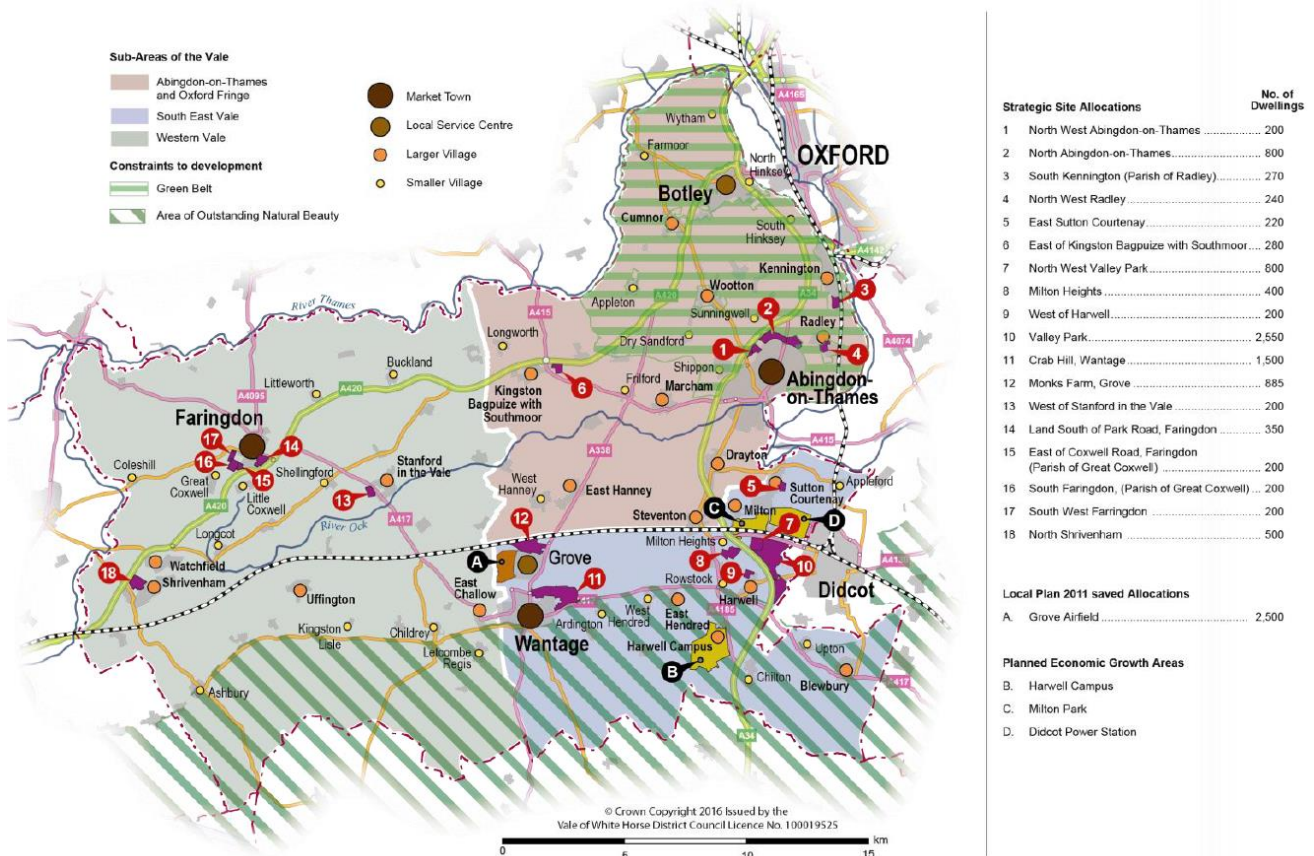
³ Regulation 12(2) of the Environmental Assessment of Plans and Programmes Regulations 2004.

⁴ See Appendix I for further explanation of the regulatory basis for answering certain questions within the SA Report, and a ‘checklist’ explaining more precisely the regulatory basis for presenting certain information.

3 WHAT IS THE PLAN SEEKING TO ACHIEVE?

- 3.1.1 The aim of LPP2 is to supplement LPP1, which was adopted by the Council in December 2016.⁵ **Figure 3.1** shows the key diagram from LPP1. The figure shows: each of the settlements that fall within the top four tiers of the settlement hierarchy; key constraints to development; the three sub-areas that have been defined for the purposes of planning; and the LPP1 site allocations (all of which are 'strategic', i.e. above 200 homes).

Figure 3.1: Key diagram from LPP1



- 3.1.2 In respect of site allocations, LPP2 must allocate sites in accordance with the broad spatial strategy and objectives established by LPP1. Specifically, **LPP1** establishes that LPP2 must –

- 1) Allocate sites, if necessary, to ensure that the District's objectively assessed housing needs (OAHN) are provided for over the plan period, recognising that LPP1 provides for a large proportion of OAHN through its allocations (see Figure 3.1), and also recognising that a proportion will be provided for through other means.
 - Specifically, LPP1 Core Policy 4 (Meeting Our Housing Needs) establishes that LPP2 should allocate land for **1,000 homes**, with a footnote explaining that this figure "will be reduced where dwellings are allocated in Neighbourhood Development Plans or come forward through the Development Management Process [i.e. planning permissions]."

⁵ See www.whitehorsedc.gov.uk/services-and-advice/planning-and-building/planning-policy/new-local-plan-2031-part-1-strategic-sites

- 2) Allocate sites to meet an apportionment of Oxford's un-met housing need. Specifically –
 - LPP1 Core Policy 2 (Cooperation on Unmet Housing Need for Oxfordshire) states that: *“To ensure Oxford's unmet need is addressed, the Council will allocate sites to contribute towards Oxford's unmet housing need within LPP2, to be submitted to the Secretary of State, within two years of adoption of LPP1.”*
 - Supporting text to LPP1 Core Policy 2 states that: *“In November 2015, the Oxfordshire Growth Board agreed a working assumption unmet need housing requirement figure of 15,000... The preparation of LPP2 will be closely informed by the Oxfordshire Growth Board process to apportion the ‘working assumption’ unmet figure of 15,000...”*
 - The Oxfordshire Growth Board published *A Countywide Approach to Meeting the Unmet Housing Need of Oxford* in October 2016, which concluded that 2,200 homes should be apportioned to the Vale. The Council has accepted this apportionment, and hence determined that LPP2 must allocate land for **2,200 homes** to meet unmet needs, subject to the plan-making process.⁶
- 3) Explore opportunities in the South East Vale Sub-Area to support Science Vale and Didcot Garden Town objectives. Specifically LPP1 para 5.85 states that: *“The Didcot area forms part of Science Vale and has been designated by central government as a Garden Town. To ensure our aspiration for this area of change is met, this will be considered further through LPP2, which will provide additional focus on delivery and implementation and on successful place making.”* This is a flexible provision; however, further impetus to allocate land for housing in the South East Vale to support Science Vale and Didcot Garden Town objectives was provided by an Interim Report received from the Planning Inspector examining LPP1 in June 2016. The report raised the possibility of allocating in the region of **1,400 homes** to support Science Vale and Didcot Garden Town objectives.

3.1.3 In respect of site allocations, LPP2 must also naturally respond to **changing circumstances**. In particular –

- the report of the Planning Inspectorate into the soundness of LPP1 (December 2016);
- latest understanding of unmet needs within the Oxfordshire Housing Market Area (HMA),
 - albeit recognising that there is a County-wide forum, in the form of the Oxfordshire Growth Board, that reduces the need for bilateral negotiations between individual authorities and helps to create certainty (see further discussion in Box 6.1, below); and
- the latest situation in respect of the predicted housing trajectory, given the requirement to maintain a five year supply of deliverable land across the entire plan period up to 2031.⁷

3.1.4 In addition to allocating development sites, LPP2 must also present a range of **development management policies** to supplement the Core Policies presented within LPP1, replace the extant ‘saved policies’ of Local Plan 2011, and ultimately provide a policy framework for determining planning applications.

3.2 What is the Local Plan not seeking to achieve?

3.2.1 It is important to emphasise that the plan will be strategic in nature (albeit less strategic in nature than LPP1). Even the allocation of sites / establishment of site-specific policy through this plan should also be considered a strategic undertaking, i.e. a process that omits consideration of some detailed issues (in the knowledge that these will be clarified and addressed at the planning application stage). The strategic nature of the Local Plan is reflected in the scope of the SA.

⁶ See <https://www.oxfordshire.gov.uk/cms/content/oxfordshire-growth-board>

⁷ Paragraph 47 of the NPPF requires not only that Local Plans make provision to meet the full, objectively assessed needs for housing in the housing market area (as far as is consistent with other policies in the NPPF), but also *“identify and update annually a supply of specific deliverable sites sufficient to provide five years’ worth of housing against the housing requirements...”*

4 WHAT IS THE SCOPE OF THE SA?

4.1 Introduction

4.1.1 The aim here is to introduce the reader to the scope of the SA, i.e. the sustainability issues / objectives that should be a focus of (and provide a broad methodological framework for) SA.

4.1.2 Further information on the scope of the SA – i.e. a review of sustainability issues/objectives as highlighted through a review of the sustainability ‘context’ and ‘baseline’ - is presented in **Appendix II**.

Consultation on the scope

4.1.3 The Regulations require that *“When deciding on the scope and level of detail of the information that must be included in the Environmental Report [i.e. the SA scope], the responsible authority shall consult the consultation bodies”*. In England, the consultation bodies are the Environment Agency, Historic England and Natural England.⁸ As such, these authorities were consulted on the SA scope in 2012.⁹ Since that time, the SA scope has evolved as new evidence has emerged; however, the scope remained fundamentally the same as that agreed through the dedicated scoping consultation.¹⁰

4.1.4 Most recently, in autumn 2016, work was undertaken to further update the SA baseline review, in-light of the specific objectives of LPP2. This work led to an SA Scoping Update being published for consultation with the consultation bodies in October 2016.¹¹ Consultation responses received have been taken into account within this report.

N.B. Stakeholders are also welcome to comment on the SA scope at the current time. Any comments received will be taken into account in due course (see Part 3 ‘Next Steps’).

4.2 Key issues / objectives

Table 4.1 presents the 11 sustainability objectives established through scoping work, including consultation, and presents each alongside a short list of more specific ‘issues’ and ‘appraisal questions’ (i.e. prompts for appraisal). N.B. **bold** text is used to highlight the key words within each objective, which are then used as shorthand later in this report.

4.2.1 Taken together, the sustainability objectives, issues and appraisal questions presented in Table 4.1 provide a methodological ‘framework’ for appraisal.

⁸ In-line with Article 6(3).of the SEA Directive, these consultation bodies were selected because ‘*by reason of their specific environmental responsibilities,[they] are likely to be concerned by the environmental effects of implementing plans and programmes.*’

⁹ An SA framework was established by the Vale of White Horse Core Strategy SA Scoping Report (2012). Subsequently, the Vale decided to pursue a two Part Local Plan, as opposed to a Core Strategy.

¹⁰ Scoping work was undertaken over the course of the plan-making / SA process for LPP1, in that there was ongoing review of the sustainability ‘context’ and ‘baseline’; however, at no point was the decision taken to update the SA framework. The SA Report submitted alongside LPP1 in 2015 presented the SA framework alongside a detailed review of the sustainability context and baseline.

¹¹ The SA framework presented within the Scoping Update remained unchanged from that presented within the 2012 Scoping Report and the LPP1 SA Report.

Table 4.1: The SA framework

Sustainability objective	Sustainability issues	Appraisal questions <i>Does the proposal...</i>
1. Provide sufficient suitable homes including affordable homes.	Shortage of housing, including affordable, market and supported living Need to preserve and enhance the quality of built environments Pressure for development, particularly housing	Provide enough homes of appropriate types in appropriate locations at the appropriate times? Provide enough affordable homes?
2. Ensure the availability of high-quality services and facilities in the Vale's towns and rural areas.	Rural isolation and limited access to services Deprivation in some parts of the Vale Protection and provision of recreational facilities including natural greenspace	Provide appropriate facilities and services in appropriate locations at the appropriate times? Support facilities including relation to health; education; recreation and sport; community, cultural and leisure; other essential services? Support schemes that are well designed and inclusive?
3. Reduce the need to travel and improve provisions for walking, cycling and public transport and reduce road congestion.	Congestion on strategic and local road network Lack of alternatives to the private car Rural isolation and limited access to services Need to mitigate/reduce effects of noise, air and light pollution	Reduce the need to travel through more sustainable patterns of land use and development? Encourage modal shift to more sustainable forms of travel? Enable key transport infrastructure improvements?
4. Improve the health and well-being of Vale residents.	Health of Vale residents Deprivation in some parts of the Vale	Provide and enhance the provision of community access to green infrastructure, in accordance with national standards? Reduce opportunities for crime and anti-social activities, and reduce fear of crime?
5. Reduce inequality , poverty and social exclusion in the Vale, and raise educational achievement and skills levels.	Low levels of educational achievement	Promote regeneration of deprived areas? Improve opportunities and facilities for all types of learning? Encourage an available and skilled workforce which meets the needs of existing and future employers; reduces skills inequalities; and helps address skills shortages?
6. Support a strong and sustainable economy within the Vale's towns and rural areas.	Provision of employment opportunities for residents Declining proportion of economically active population Low levels of educational achievement	Promote economic growth and a diverse and resilient economy? Provide opportunities for all employers to access: different types and sizes of accommodation; flexible employment space; and high-quality communications infrastructure? Build on the knowledge-based and high-tech economy in the Central Oxfordshire and Science Vale UK area, including the Science Vale UK Enterprise Zone? Promote and support a strong network of towns and villages and the rural economy?

Sustainability objective	Sustainability issues	Appraisal questions <i>Does the proposal...</i>
7. Improve and protect the natural environment including biodiversity, water and soil quality	Protection and improvement of biodiversity, particularly Special Areas of Conservation	<p>Protect and enhance natural habitats, wildlife, biodiversity and geodiversity?</p> <p>Protect the integrity of European sites and other designated nature conservation sites?</p> <p>Encourage the creation of new habitats and features for wildlife?</p> <p>Prevent isolation/fragmentation and re-connect / de-fragment habitats?</p> <p>Enhance water quality and help to meet the requirements of the Water Framework Directive?</p> <p>Protect groundwater resources?</p> <p>Minimise and reduce the potential for exposure of people to ground pollution?</p>
8. Protect the cultural heritage and provide a high-quality townscape and landscape .	<p>Protection of valued landscapes</p> <p>Need to preserve and enhance the quality of built environments</p> <p>Protection and provision of recreational facilities including natural greenspace</p>	<p>Protect and enhance archaeology and heritage assets, and areas of sensitive landscape including AONB and Green Belt?</p> <p>Improve access to, and enjoyment, understanding and use of cultural assets where this will not cause harm?</p>
9. Reduce air, noise and light pollution	<p>Need to mitigate/reduce effects of noise, air and light pollution</p> <p>Need to reduce use of fossil fuels and encourage development of renewables</p>	Minimise and reduce the potential for exposure of people to noise, air and light pollution?
10. Reduce greenhouse gas emissions and the use of resources and improve resource efficiency	<p>Need to reduce use of fossil fuels and encourage development of renewables</p> <p>Action to mitigate the causes and adapt to the effects of climate change</p>	<p>Reduce greenhouse gas emissions?</p> <p>Re-use existing buildings?</p> <p>Promote development on previously developed land and minimise land use?</p> <p>Encourage sustainable, low carbon building practices and design?</p> <p>Reduce energy use?</p> <p>Promote renewable energy generation?</p> <p>Reduce water use?</p> <p>Provide adequate infrastructure to ensure the sustainable supply of water and disposal of sewerage?</p> <p>Maximise opportunities for reuse, recycling and minimising waste?</p>
11. Increase resilience to climate change and flooding	<p>Reduction and prevention of flooding</p> <p>Action to mitigate the causes and adapt to the effects of climate change</p>	<p>Minimise and reduce flood risk to people and property?</p> <p>Respond to the likelihood of future warmer summers, wetter winters, and more extreme weather events?</p> <p>Minimise development on high-quality agricultural land?</p> <p>Provide for local needs locally?</p>

PART 1: WHAT HAS PLAN-MAKING / SA INVOLVED UP TO THIS POINT?

5 INTRODUCTION (TO PART 1)

5.1.1 Preparation of LPP2 began in 2016, subsequent to receipt of an Interim Report from the Planning Inspector presiding over the Examination of LPP1. The Interim Report established a remit for LPP2, in respect of the key matter of site allocations.

5.1.2 The aim here is not to recap the entire plan-making story to date, but rather to explain how work was undertaken to develop and then appraise **reasonable alternatives**, and how the Council then took into account appraisal findings when finalising preferred options.¹² Presenting this information is important given regulatory requirements.¹³

5.1.3 More specifically still, this part of the report presents information regarding the consideration of reasonable alternative approaches to housing growth, or “**alternative housing growth scenarios**”. It is clear that allocating land for housing growth is at the heart of the plan. It is a primary objective of the plan and key to realising its vision. Hence it is considered reasonable that alternatives appraisal should focus on this matter.¹⁴

N.B. readers are welcome to comment on what (‘reasonably’) should be the focus of alternatives appraisal. Comments will be taken into account when undertaking further SA work to inform plan finalisation (see further discussion within Part 4 “Next steps” of this report).

What about other plan issues?

5.1.4 Whilst the plan will set policy to address a range of other thematic issues through district-wide development management policy, these policy areas have not been a focus of alternatives appraisal, and are not discussed further within this part of the Report (but are a focus of the Draft Plan appraisal presented in Part 2). More information regarding how development management policy preferred options were arrived at is available within a supporting paper published at the current time.

What about site options?

5.1.5 Appraisal of site options in isolation has also been a focus of SA work. However, site options appraisal has been undertaken as an informal, interim step.¹⁵ The aim was primarily to feed into the development of spatial strategy alternatives (i.e. alternative combinations of site options) for *formal* appraisal. Site options are thus discussed in Chapter 6, which deals with “Developing the reasonable alternatives”.

Structure of this part of the report

5.1.6 This part of the report is structured as follows:

Chapter 6 - explains the process of **establishing** the reasonable alternatives

Chapter 7 - presents the outcomes of **appraising** the reasonable alternatives

Chapter 8 - explains reasons for **establishing** the preferred option, in light of the appraisal.

¹² Further information on the process of arriving at Preferred Options is available within supporting documents published as part of the consultation, most notably the Site Selection Topic Paper – available on the Local Plan webpage.

¹³ There is a requirement for the SA Report to present an appraisal of ‘reasonable alternatives’ and ‘an outline of the reasons for selecting the alternatives dealt with’. Whilst this report is not the SA Report, it is appropriate to present this information nonetheless.

¹⁴ Recent case-law (most notably Friends of the Earth Vs. Welsh Ministers, 2015) has established that planning authorities may apply discretion and planning judgement when determining what should reasonably be the focus of alternatives appraisal.

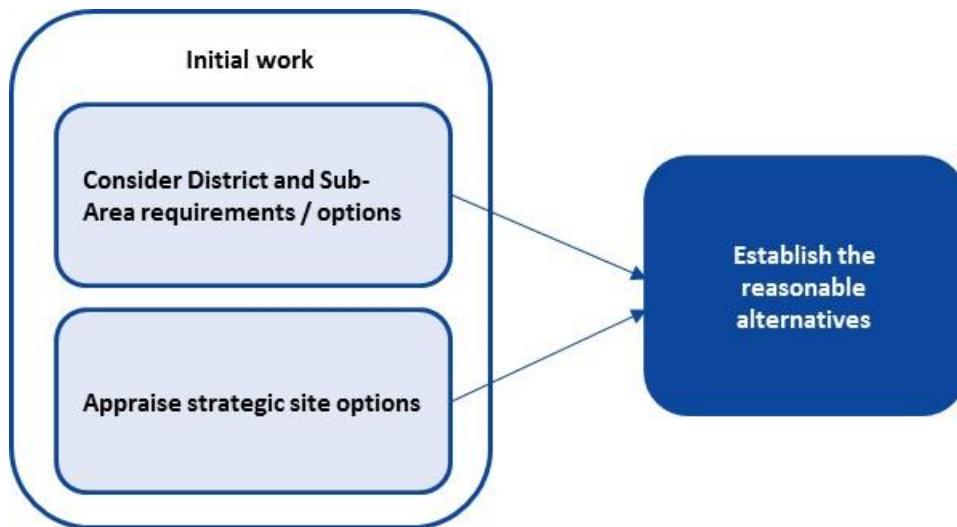
¹⁵ It is unnecessary to present detailed site options appraisal findings within this report, given that site options are not ‘alternatives’ where there is no mutually exclusive choice to be made between them.

6 ESTABLISHING THE REASONABLE ALTERNATIVES

6.1 Introduction

- 6.1.1 The aim here is to discuss the key steps taken in 2016 that led to the development of 'reasonable' alternative housing growth scenarios for appraisal and consultation.
- 6.1.2 Ultimately, the aim of this chapter is to present 'an outline of the reasons for selecting the alternatives dealt with', in accordance with the SEA Regulations.¹⁶
- 6.1.3 Specifically, this chapter explains how reasonable alternatives were established subsequent to two stages of initial work – see **Figure 6.1**.

Figure 6.1: Establishing reasonable alternatives



Structure of this chapter

- Section 6.2 - Explains the process of considering District and Sub-Area requirements / options, which led to **'top down' understanding**
- Section 6.3 - Explains the process of appraising strategic site options, which led to **'bottom-up' understanding**
- Section 6.4 - Explains how 'top down' and 'bottom-up' understanding was drawn upon to **establish the reasonable alternatives**.

¹⁶ Schedule II of the Environmental Assessment of Plans and Programmes ('SEA') Regulations 2004

6.2 Establish 'top down' understanding

Introduction

- 6.2.1 This section expands on the discussion presented in Chapter 3, above. Discussion under the first sub-heading examines more closely the **district-wide** housing target, expanding on the discussion presented within Chapter 3, above. Discussion under the subsequent three sub-headings then considers each of the three **sub-areas** (see Figure 3.1) in turn.

District-wide strategic context

- 6.2.2 LPP1 Core Policy 4 (Meeting Our Housing Needs) establishes that -
- The 'housing target' is the Objectively Assessed Housing Need (OAHN) figure assigned by the Oxfordshire Strategic Housing Market Assessment (SHMA, 2014) = 20,560 homes over the plan period.
 - The sum of completions (3,065 homes), commitments (4,468 homes),¹⁷ LPP1 allocations (12,495 homes) and windfalls (840 homes)¹⁸ = 20,868 homes over the plan period.
 - LPP2 should provide allocations for 1,000 homes.
 - Footnote (a) - references the need for LPP2 to also provide for Oxford's unmet needs.
 - Footnote (b) - explains that the 1,000 home figure reflects the understanding of commitments at a certain point in time – namely March 2016 – and that updated understanding could result in the 1,000 home figure decreasing.
- 6.2.3 In practice: the Vale's unmet need apportionment is 2,200 homes – see **Box 6.1**; and, as updated data on commitments is not yet available, the 1,000 homes figure still stands.

Abingdon-on-Thames and Oxford Fringe Sub-Area

- 6.2.4 This Sub-Area covers the northern and north eastern part of the Vale. It contains the market town of Abingdon-on-Thames, the local service centre of Botley and the larger villages of Cumnor, Drayton, East Hanney, Kennington, Kingston Bagpuize with Southmoor, Marcham, Radley, Steventon and Wootton. The Sub-Area contains the largest range of services and facilities within the District, a good employment base and excellent public transport links to Oxford. However, there are also constraints, in particular the Oxford Green Belt,¹⁹ two sites of international biodiversity importance²⁰ and known traffic congestion hot spots.
- 6.2.5 LPP1 Core Policy 8 (Spatial Strategy for Abingdon-on-Thames and Oxford Fringe Sub-Area) establishes that the Sub-Area should deliver 5,438 homes. The sum of completions (1,175 homes), commitments (2,011 homes), LPP1 allocations (1,790 homes) and windfalls (240 homes) is 5,216, i.e. **222 homes** short of the housing target.
- 6.2.6 Footnote (a) establishes that it may be necessary to provide for a proportion of the 2,200 home Oxford unmet need figure in the Sub-Area, and the work of the Oxfordshire Growth Board (see Box 6.1) potentially suggests a need for a high proportion of the **2,200 homes**, with all 'green' and 'amber' sites identified by the Board are located within the Sub-Area. The Abingdon to Oxford Fringe Sub Area is naturally well linked to Oxford.
- 6.2.7 Core Policy 8 also states that development should be in accordance with the settlement hierarchy, and that: *"Our over-arching priority for this Sub-Area is to maintain the service and employment centre roles for Abingdon-on-Thames and Botley and ensure growth is managed to minimise pressure on the highway network, whilst protecting the Oxford Green Belt."*

¹⁷ i.e. planning permissions and sites allocated through Neighbourhood Plans

¹⁸ Windfall sites are those that gain planning permission, on the basis of being compliant with plan policy, despite not being allocated.

¹⁹ There is a need to demonstrate 'exceptional circumstances' whenever releasing land from the Green Belt for development.

²⁰ Cothill Fen Special Area of Conservation (SAC) and Oxford Meadows SAC. The latter is located just outside the District.

South East Vale Sub-Area

- 6.2.8 This Sub-Area covers the southern and eastern part of the Vale. It contains the market town of Wantage, the local service centre of Grove, and a number of significant employment sites including Harwell Campus, Milton Park and Didcot A Power Station. The town of Didcot is expanding into the eastern part of the Sub-Area, reflecting Garden Town aspirations, and the Sub-Area also contains the larger villages of Blewbury, East Hendred, Harwell, Harwell Campus, Milton and Sutton Courtenay. The North Wessex Downs AONB constrains the southern part of the Sub-Area.
- 6.2.9 Core Policy 15 (Spatial Strategy for South East Vale Sub-Area) establishes that the Sub-Area should deliver 12,450 homes. The sum of completions (1,031 homes), commitments (1,725 homes), LPP1 allocations (9,055 homes) and windfalls (360 homes) is 12,171, i.e. **279 homes** short of the housing target.
- 6.2.10 Footnote (a) establishes that it may be necessary to provide for a proportion of the 2,200 home Oxford unmet need figure in the Sub-Area. The work of the Oxfordshire Growth Board (see Box 6.1) potentially suggests a need for a low proportion, with none of 'green' or 'amber' sites identified by the Board located within the Sub-Area. However, some locations within the South East Vale are well linked to Oxford by road and/or rail.
- 6.2.11 LPP1 Core Policy 15 also states that development should be in accordance with the established settlement hierarchy, and that: *"Our over-arching priority for this Sub-Area is to secure the aligned delivery of housing and employment growth together with the infrastructure required to achieve sustainable development."*
- 6.2.12 Additionally, as discussed above (para 3.1.2), there is the need to consider the possibility of LPP2 allocations in the Sub-Area in order to support Science Vale and Didcot Garden Town objectives. Specifically, there is a need to: achieve and maintain a sustainable balance of housing and employment across the Science Vale; deliver the Science Vale Strategic Infrastructure Package, through developer contributions; support the Oxfordshire Local Enterprise Partnership (LEP) priority to accelerate housing delivery within the Oxfordshire 'Knowledge Spine' growth corridor; and support specific growth objectives at Harwell Campus. Guidance was provided by paragraph 9.12 of the LPP1 Inspector's Interim Findings letter received on 6th June 2016. The letter confirmed the need to delete two allocations at Harwell Campus – total quantum **1,400 homes** – from LPP1, stating that the Council *"may wish to consider the need to allocate replacement sites in this area through the Part 2 plan."*

Western Vale Sub-Area

- 6.2.13 This is a more rural area stretching from the North Wessex Downs AONB to the River Thames, containing the market town of Faringdon and several larger villages, including East Challow, Shrivenham, Stanford-in-the-Vale, Uffington and Watchfield.
- 6.2.14 LPP1 Core Policy 20 (Spatial Strategy for Western Vale Sub-Area) establishes that the Sub-Area should deliver 3,173 homes. The sum of completions (860 homes), commitments (732 homes), LPP1 allocations (1,650 homes) and windfalls (240 homes) is 3,482, i.e. this Sub Area has already (March 2016 commitments data) delivered 309 homes above the target.
- 6.2.15 Footnote (a) establishes that it may be necessary to provide for a proportion of the 2,200 Oxford home unmet need figure in the Sub-Area. However, the work of the Oxfordshire Growth Board (see Box 6.1) potentially suggests a need for a low proportion, with none of 'green' or 'amber' sites identified by the Board located within the Sub-Area. The Western Vale is relatively poorly linked to Oxford.

Box 6.1: The Oxfordshire Growth Board 'Post-SHMA' workstream²¹

The Growth Board is a joint committee of the six councils of Oxfordshire together (Oxford City Council, four District Councils and Oxfordshire County Council) with key strategic partners. Its role is to oversee the delivery of projects that the councils of Oxfordshire are seeking to deliver collaboratively in the fields of economic development and strategic planning.

Subsequent to publication of the Oxfordshire SHMA (2014) and the Oxfordshire Economic Forecasting Report (2014), the Growth Board designed a 'Post SHMA Work Programme' – a collection of projects to examine the spatial options for accommodating Oxford City's unmet housing needs across the County.

Five projects were completed, with the following of particular note:

- A review of the capacity of Oxford City to address its housing need - before establishing unmet housing needs there was a need to establish the capacity for housing growth within Oxford City. In light of the report, all authorities agreed a working assumption of 15,000 homes unmet need to 2031.
- Green Belt study - the Oxford Green Belt was divided into parcels with each parcel assessed against each of the five Green Belt purposes. No attempt made to aggregate performance against the five purposes, i.e. reach an overall conclusion on each parcel's contribution to the Green Belt.
- Spatial Options Assessment – see discussion below.

The County Council's Spatial Options Assessment (LUC, 2016) provided a particularly important starting point for the consideration of site options within the Vale. The report examined 36 strategic site options – eleven within the Vale - against criteria covering a broad range of sustainability issues/objectives.

A particular focus of the assessment was the application of criteria to examine how well sites are related to Oxford, with nine of the 27 criteria dealing with this matter. The general conclusion (apparent from Table 5.1 and Figures 5.1 to 5.8 of the report) was that sites in close proximity to Oxford performed better, with none of the more distant sites highlighted as being well-linked to Oxford.

Within the Vale, sites at Botley and Cumnor were found to have comfortably the best links to Oxford, with North of Abingdon also found to perform well once account was taken of proposed infrastructure upgrades (namely Lodge Hill Park and Ride), and North of Radley also having some merit given its cycling links.

However, the study did have limitations (see discussion of 'data limitations' within the report). In particular, when reaching a conclusion on how well linked a site is via public transport, account was only taken of services defined as 'fast and frequent' on the basis of certain criteria, despite there being other services of a good standard. Also, with regards to future service enhancements to bus routes, account was taken only of the three proposed Rapid Transport Lines (one of which is located in the Vale, linking Abingdon to Oxford).

In light of the three workstreams discussed above, and also two other workstreams dealing with the implications of growth for transport and education infrastructure capacity, a report was published entitled "A Countywide Approach to Meeting the Unmet Housing Need of Oxford".²² Appendix 5 of the report classified the merits of each of the 36 sites on a red/amber/green (RAG) scale, with the total capacity of sites with a green RAG status then proposed as an appropriate unmet need apportionment figure for each of the four districts surrounding Oxford City.

Within the Vale, three sites were assigned a green RAG status – Abingdon North (1,100 homes), Botley (550 homes) and Cumnor (550 homes) – and, on this basis, the Vale was assigned an unmet housing needs apportionment figure of 2,200 homes.

Two other sites – Chawley (550 homes) and Kennington (550 homes) were assigned an amber RAG status, with five other sites – Abingdon South (1,100 homes), Kingston Bagpuize (1,100 homes), Radley (2,200 homes), Wootton (1,100 homes) and Appleford (1,100 homes) assigned a red RAG status.

²¹ See <https://www.oxfordshire.gov.uk/cms/content/oxfordshire-growth-board>

²² See <https://www.oxfordshire.gov.uk/cms/sites/default/files/folders/documents/communityandliving/partnerships/GrowthBoard/PostSHMAStrategicWorkProgramme.pdf>

6.3 Establish 'bottom up' understanding

- 6.3.1 Having established an understanding of 'top-down', strategic factors to account for when developing reasonable alternatives – i.e. alternative approaches to the allocation of land through LPP2 – the next step was to develop a 'bottom-up' understanding of site options.
- 6.3.2 The starting point was a list of **c.400 'HELAA suitable' sites** – i.e. sites identified as available, achievable and potentially suitable through the Housing and Economic Land Availability Assessment (HELAA).²³
- 6.3.3 The task was to identify a short list of sites for more detailed assessment. The focus was on strategic sites - i.e. 200+ homes capacity²⁴ - within the Abingdon-on-Thames / Oxford Fringe and South East Vale Sub-Areas (i.e. the Western Vale was not a focus, see discussion above).
- 6.3.4 As an initial step, a list of c.80 strategic site options was established. This list was made up of c.70 HELAA sites with a capacity over 200 homes, plus numerous smaller HELAA sites that might potentially form – or contribute to - a strategic site in combination. Also, several smaller HELAA sites were identified that could possibly be expanded to become a strategic site.²⁵
- 6.3.5 Subsequently, a **shortlist of 30 strategic site options** was established. This list was established by examining sites around each settlement in turn. The process reflected an understanding that several strategic allocations at one settlement would be highly improbable, and, as such, it was possible to rule out some sites due to poor performance at the settlement-scale, regardless of performance at the district-scale. **Box 6.2** and **Box 6.3** present examples.
- 6.3.6 **Figure 6.1** presents the 30 strategic site options, also showing how they were grouped into clusters.²⁶ The shortlist comprised -
- 30 sites spread across 20 settlements;
 - 7 single 'HELAA suitable' sites and 23 clusters of sites; and
 - 8 of the 10 sites assessed by the Oxford Spatial Options Assessment (see Box 6.1).
 - Chawley and Kennington were assigned an amber RAG status by the County, but on closer examination were found to be significantly constrained and were thus excluded from further consideration.
- 6.3.7 Having established strategic site options, the task was then to undertake an appraisal against the SA framework, informed by a range of technical studies and also the findings of an informal consultation with selected stakeholder organisations. Findings of the strategic site options appraisal are presented in **Appendix III**.
- 6.3.8 The Council then drew conclusions on which sites should progress to the next stage, namely development and appraisal of 'reasonable alternatives' – see **Table 6.1**.

²³ The HELAA is available on the Local Plan webpage.

²⁴ With regards to sites in the Abingdon-on-Thames and Oxford Fringe Sub-Area, the Council was guided by work commissioned by the County Council through the 'Post-SHMA' work-stream. With regards to sites in the South East Vale Sub-Area, the LPP1 Inspector's Interim Findings (June 2016) gave a clear steer, stating that the Council might wish to 'replace' two deleted strategic sites.

²⁵ Two sites were expanded to reflect the extent of broad areas examined through the County's Spatial Options work – see Box 6.1.

²⁶ The six clusters were defined for the purposes of Evaluation of Transport Impacts (ETI), but also prove useful for SA purposes.

Box 6.2: Establishing a shortlist of strategic site options for appraisal – worked example of Drayton

The HELAA established 14 sites in Drayton as ‘available, achievable and potentially suitable’, with a total area of 92 ha and therefore an indicative capacity of up to 2,306 homes. Subsequently -

- Three strategic site options were identified for appraisal:
 - **South of Drayton** comprising DRAY14 (N.B. the land to the north of this site is a commitment);
 - **North East of Drayton** comprising DRAY08, DRAY09 and DRAY10; and
 - **West of Drayton** comprising DRAY01, DRAY02, DRAY03, DRAY04, DRAY05, DRAY06 and DRAY07.
- DRAY11, DRAY12 and DRAY13 were ruled out on the basis of having a net capacity less than 200 homes. There might feasibly be potential to deliver sites in combination and/or extend sites; however, there was little reason to consider this option further, given that three strategic site options in Drayton had been identified.



Box 6.3: Establishing a shortlist of strategic site options for appraisal – worked example of Grove

The HELAA established 12 sites in Grove as ‘available, achievable and potentially suitable’, with a total area of 137 ha and therefore an indicative capacity of up to 3,411 homes. Subsequently -

- Two strategic site options were identified for appraisal:
 - **East of Grove** comprising GROV02, GROV03, GROV04, GROV05, GROV06, GROV07, GROV08, GROV09 and GROV10; and
 - **North West of Grove** comprising GROV01 (N.B. land to the south and east is committed).
- GROV11 has a net capacity above 200 homes, but was ruled-out nonetheless. This site is poorly related to the settlement, and associated with rising land indicating landscape sensitivity.
- GROV12 was ruled out on the basis of having a net capacity less than 200 homes. There might feasibly be potential to extend the site; however, there are landscape/coalescence sensitivities, given the committed Crab Hill LPP1 allocation (1,500 homes) to the south, on the northern edge of Wantage.

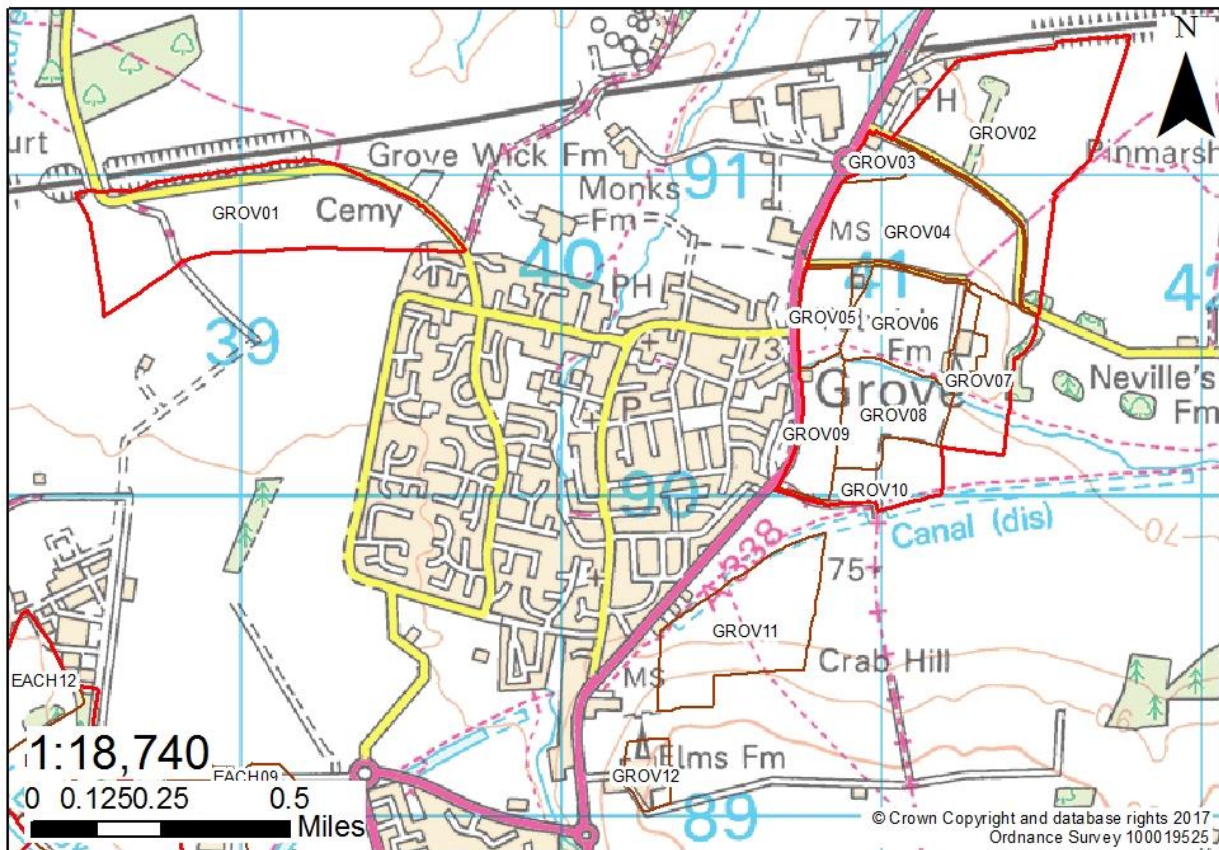


Figure 6.1: Strategic site options

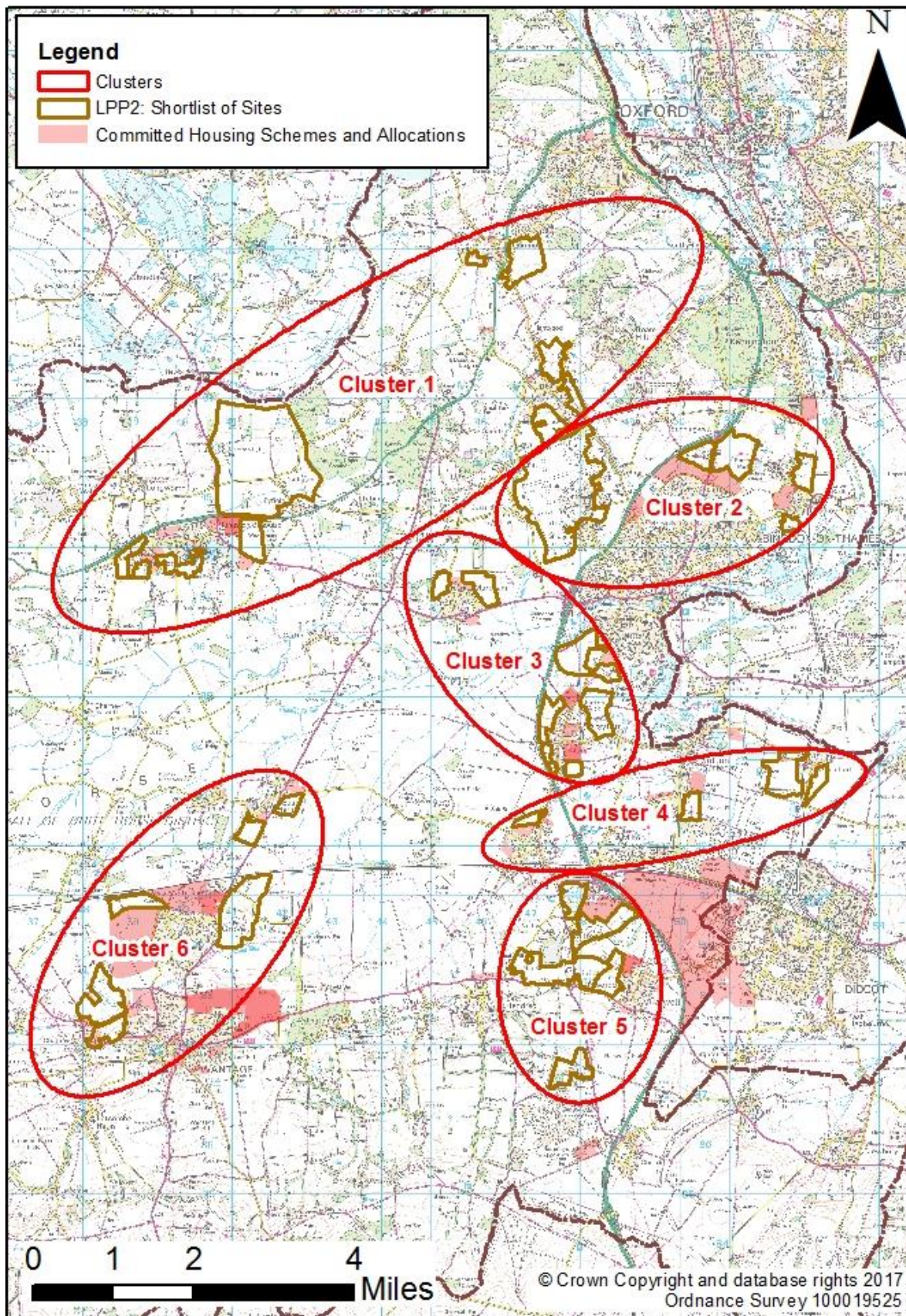


Table 6.1: Conclusions reached on strategic site options - by the Council, in light of appraisal, technical studies and informal consultation - for the purpose of establishing reasonable alternatives

Cluster	Site	Conclusion (for the purpose of establishing alternatives)
1	E of Kingston Bagpuize	Relatively unconstrained, and offering certain benefits / opportunities
	S of Kingston Bagpuize	Constrained, but some potential to deliver a non-strategic site
	W of Kingston Bagpuize	Constrained, but some potential to deliver a non-strategic site
	S of Cumnor	Constrained, but some potential to deliver a non-strategic site
	S of Wootton	Constrained, but some potential to deliver a non-strategic site
	E of Wootton	Constrained, but some potential to deliver a non-strategic site
	N of Wootton	Constrained, but some potential to deliver a non-strategic site
	SW of Botley	Ruled-out
	Fyfield	Ruled-out
2	Dalton Barracks	Supported, but uncertain deliverability, given MOD as land owner
	N of Abingdon	Ruled-out
	N of Radley	Ruled-out
	S of Radley	Ruled-out
3	N of Marcham	Relatively unconstrained, and offering certain benefits / opportunities
	S of Abingdon	Uncertain deliverability, given roads infrastructure
	NE of Drayton	Ruled-out
	S of Drayton	Ruled-out
	W of Drayton	Ruled-out
4	N of Steventon	Constrained, but potential to deliver a non-strategic site
	SE of Sutton Courtenay	Ruled-out
	Appleford	Ruled-out
5	Milton Heights	Uncertain sustainability and deliverability, given roads infrastructure
	Harwell Campus	Uncertain sustainability and deliverability, given AONB
	W of Harwell	Good potential to deliver a non-strategic site
	Rowstock	Uncertain sustainability, given adjacent AONB.
6	NW of Grove	Supported, but delivery within the plan period thought unlikely
	E of East Hanney	Constrained, but potential to deliver a non-strategic site
	W of Wantage	Ruled-out
	E of Grove	Ruled-out
	S of East Hanney	Ruled-out

6.4 Establish the reasonable alternatives

- 6.4.1 Having established top-down / bottom-up understanding, the Council was in a position to establish reasonable alternatives, i.e. alternative approaches to site allocation through LPP2.
- 6.4.2 In practice, the Council firstly established (and informally consulted on) three alternatives in October 2016, before subsequently establishing a fourth option, and concluding that the resulting four alternatives were (and still are) 'the reasonable alternatives'.
- 6.4.3 This section considers each Sub-Areas in turn, before presenting the reasonable alternatives.

Abingdon-on-Thames and Oxford Fringe Sub-Area

- 6.4.4 Initial understanding was a need to allocate land to deliver the Oxford City unmet need apportionment to the Vale, i.e. land for **2,200 homes**. This understanding was reflected in the three October 2016 alternatives. Subsequently, understanding moved on in light of new housing trajectory data, which indicated a need for additional allocations.²⁷ As such, the Council recognised the need to consider a **higher growth option** involving a mix of sites of different scales, types and locations capable of delivering throughout the plan period.
- 6.4.5 With regards to bottom-up considerations, taking into account the conclusions presented in Table 6.1, the decision was made to reflect the following location/site and quantum options across the reasonable alternatives –
- Dalton Barracks – strategic allocation is broadly supported, but deliverability is not certain, hence there is a need to reflect quantum **options** across the reasonable alternatives.
 - E of Kingston Bagpuize - strategic allocation is broadly supported, and it is fair to present the quantum as a **constant** across the reasonable alternatives.
 - Marcham –
 - N of Marcham - strategic allocation is broadly supported, but there remain issues to be considered, hence there is a need to reflect quantum **options** across the reasonable alternatives.
 - SE of Marcham - a non-strategic site emerged subsequent to the appraisal of strategic site options (see Section 6.3). Sustainability is uncertain, however, and so there is a need to reflect allocation and quantum **options** across the reasonable alternatives.
 - S of Abingdon – strategic allocation is of uncertain deliverability, and so there is a need to reflect allocation and quantum **options** across the reasonable alternatives.
 - East Hanney, Steventon, Kinston Bagpuize, Cumnor, Wootton – non-strategic site options exist, at undefined locations (both within and outside of the strategic site options tested – see Section 6.3). Sustainability is uncertain, however, and so there is a need to reflect allocation and quantum **options** across the reasonable alternatives.

South East Vale Sub-Area

- 6.4.6 The Council decided to allocate land to replace the two sites deleted from LPP1, i.e. land for **1,400 homes**. With regards to bottom-up considerations, taking into account the conclusions presented in Table 6.1, the decision was made to reflect the following location/site and quantum options across the reasonable alternatives –
- Harwell Campus - strategic allocation is broadly supported, but deliverability is not certain, hence there is a need to reflect quantum **options** across the reasonable alternatives.

²⁷ Paragraph 47 of the NPPF requires not only that Local Plans make provision to meet the full, objectively assessed needs for housing in the housing market area (as far as is consistent with other policies in the NPPF), but also “*identify and update annually a supply of specific deliverable sites sufficient to provide five years’ worth of housing against the housing requirements...*” The housing requirement is currently 20,560 homes, as established by LPP1 Core Policy 4. However, the housing requirement is set to increase by 2,200 homes in late 2018, i.e. two years after adoption of LPP1, to reflect the Oxford City Unmet need figure.

- W of Harwell - allocation of a non-strategic site is broadly supported, but there remain some issues, hence there is a need to reflect quantum **options** across the reasonable alternatives.
- Milton Heights - sustainability and deliverability of a strategic site is uncertain, and so there is a need to reflect allocation and quantum **options** across the reasonable alternatives.
- Rowstock - sustainability of a strategic site is uncertain, and so there is a need to reflect allocation **options** across the reasonable alternatives.
- NW of Grove – strategic allocation is broadly supported, but deliverability is not certain, hence there is a need to reflect allocation **options** across the reasonable alternatives.

Western Vale Sub-Area

- 6.4.7 As discussed above, there is already a housing supply within the Western Vale that exceeds the housing target assigned by LPP1. As such, there is little strategic argument for LPP2 allocations in the Western Vale. Given this absence of strategic argument for LPP2 allocations, sites in the Western Vale were not examined in detail, i.e. were examined only through the HELAA. As such, the alternatives reflect the possibility of allocation of a non-strategic site, or more than one non-strategic site, at locations yet to be defined.

The reasonable alternatives

- 6.4.8 These considerations led to the alternatives presented in **Table 6.2**. These alternatives were (and still are) deemed to be the 'reasonable' alternatives in that their appraisal would enable and facilitate discussion of numerous important issues/opportunities.

Table 6.2: The reasonable alternatives

	Location	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Abingdon and Oxford Fringe	Dalton Barracks	1350	525	200	1200
	E of Kingston Bagpuize	600	600	600	600
	N of Marcham	250	250	250	400
	SE of Marcham	0	0	0	120
	S of Abingdon	0	525	200	0
	East Hanney	0	150	150	130
	Steventon	0	150	150	0
	Kingston Bagpuize	0	0	350	0
	Cumnor	0	0	150	0
	Wootton	0	0	150	0
South East Vale	Harwell Campus	1000	400	250	1000
	W of Harwell	150	150	150	100
	Milton Heights	250	550	0	0
	Rowstock	0	0	700	0
	NW of Grove	0	0	0	300
Western Vale		0	300	300	0
Total		3,600	3,600	3,600	3,850

7 APPRAISING REASONABLE ALTERNATIVES

7.1 Introduction

7.1.1 The aim of this chapter is to present summary appraisal findings in relation to the reasonable alternatives introduced above. Detailed appraisal findings are presented in **Appendix IV**.

7.2 Summary alternatives appraisal findings

7.2.1 **Table 7.1** presents summary appraisal findings in relation to the reasonable alternatives introduced above. Appraisal methodology is explained in Appendix IV, but in summary:

Within each row (i.e. for each of the topics that comprise the SA framework) the columns to the right hand side seek to both categorise the performance of each option in terms of 'significant effects' (using **red** / **green**) and also rank the alternatives in relative order of performance. Also, '=' is used to denote instances where the alternatives perform on a par.

Table 7.1: Summary alternatives appraisal findings

Summary findings and conclusions				
Objective ²⁸	Categorisation and rank			
	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Homes	3	3	★1	2
Services and facilities	★1	2	3	3
Movement	★1	4	★1	★1
Health	=	=	=	=
Inequality and exclusion	=	=	=	=
Economy	=	=	=	=
Natural environment	=	=	=	=
Heritage	★1	3	4	2
Landscape	★1	3	4	★1
Pollution	★1	2	2	2
Climate change mitigation	=	=	=	=
Climate change adaptation	=	=	=	=

²⁸ A decision was made to 'split' landscape and heritage, i.e. give stand-alone consideration to each issue.

Summary findings and conclusions

	Categorisation and rank			
	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
<p>Conclusions</p> <p>The appraisal shows Option 1 to perform best in terms of the greatest number of objectives, primarily because it would involve concentrating growth at a small number of large sites.</p> <p>Option 4 also performs well, and performs notably better than Option 1 in terms of ‘housing’, as it reflects the latest understanding of housing delivery potential at Dalton Barracks, and proposes some additional smaller sites that could deliver early in the plan period. However, Option 4 performs worse than Option 1 in terms of ‘Pollution’ (due to air quality concerns at Marcham) and also ‘Services and facilities’ (due to a school capacity constraint at Marcham).</p> <p>Options 2 and 3 perform poorly in terms of a number of objectives, including ‘Pollution’ as development of the South of Abingdon site ahead of a new bypass road would worsen traffic congestion and air quality within Abingdon Town Centre. Option 3 would involve reliance on the most number of sites, which would have positive implications from a ‘Housing’ perspective, but negative implications in terms of: ‘Landscape’ (allocation at Rowstock being a key issue); ‘Heritage’ (issues would result from allocation at South of Abingdon, Cumnor and Wootton, plus high growth at Kingston Bagpuize); and ‘Services/facilities’ (issues would potentially result from high growth at Kingston Bagpuize, given distance to a GP facility). Option 3 is identified as preferable to Option 2 in terms of ‘Movement’ on the basis that Evaluation of Transport Impacts (ETI) work, and also because Option 2 assumes a focus of growth at Milton Heights, a location where there are infrastructure constraints.</p>				

8 DEVELOPING THE PREFERRED APPROACH

8.1 Introduction

- 8.1.1 The aim of this Chapter is to present the Council’s response to the alternatives appraisal / the Council’s reasons for developing the preferred approach in-light of alternatives appraisal.

8.2 The Council’s outline reasons

- 8.2.1 The following text is the Council’s response to the alternatives appraisal, i.e. reasons for supporting the preferred option (Option 4) in-light of the alternatives appraisal.

“The proposal is to allocate sites through LPP2 to complement those set out in LPP1. The proposal is for the Local Plan 2031 (Parts 1 and 2) to ‘fully’ meet the objectively assessed need for housing arising from the Vale of White Horse district (20,560 homes) and from neighbouring authorities (2,200 homes) and deliver an additional 1,400 homes within the South East Vale Sub-Area in accordance with the ‘spatial strategy’ and support infrastructure delivery.

The proposed LPP2 allocations are fully consistent with the ‘spatial strategy’ set out in LPP1 and support the housing requirements identified for each of the three sub-areas in the Part 1 plan. The appraisal of alternative approaches to allocation presented above (Table 7.1) highlights that the proposed package of allocations performs well in a number of respects. Issues are highlighted in terms of ‘access to services and facilities’ (specifically primary school capacity), ‘heritage’ and pollution (specifically the matter of air quality), all of which are site specific issues that can be addressed through further work subsequent to consultation.

It is also noted that Option 1 performs well, in terms of a number of objectives, because it involves concentrating growth at a small number of larger sites. The Council will examine further the potential to rely on a small number of larger sites, although the benefits would need to be balanced with the need for a range of sites that deliver throughout the plan period.”

PART 2: WHAT ARE SA FINDINGS AT THIS CURRENT STAGE?

9 INTRODUCTION (TO PART 2)

- 9.1.1 The aim of this chapter is to present an appraisal of the LPP2 Preferred Options consultation document – which is essentially a ‘Draft Plan’ - as currently published.

9.2 Methodology

- 9.2.1 The appraisal identifies and evaluates ‘likely significant effects’ of the plan on the baseline, drawing on the sustainability topics/objectives identified through scoping (see Table 4.1) as a methodological framework. The SA framework comprises 11 objectives, one of which is quite broad (covering both landscape and heritage), and hence deemed appropriate to ‘split’. As such, the appraisal considers the plan under the following 12 topic headings -

- Homes
- Services and facilities
- Movement
- Health
- Inequality and exclusion
- Economy
- Natural environment
- Heritage
- Landscape
- Pollution
- Climate change mitigation
- Climate change adaptation

- 9.2.2 Every effort is made to predict effects accurately; however, this is inherently challenging given the high level nature of the policies under consideration, and understanding of the baseline (now and in the future under a ‘no plan’ scenario) that is inevitably limited. Given uncertainties there is a need to make assumptions, e.g. in relation to plan implementation and aspects of the baseline that might be impacted. Assumptions are made cautiously, and explained within the text (with the aim to strike a balance between comprehensiveness and conciseness/ accessibility to the non-specialist). In many instances, given reasonable assumptions, it is not possible to predict ‘significant effects’, but it is nonetheless possible and helpful to comment on merits (or otherwise) of the draft plan in more general terms.

- 9.2.3 Finally, it is important to note that effects are predicted taking account of the criteria presented within Schedule 1 of the Environmental Assessment of Plans and Programmes Regulations (2004). So, for example, account is taken of the duration, frequency and reversibility of effects as far as possible. Cumulative effects are also considered, i.e. the potential for the draft plan to impact an aspect of the baseline when implemented alongside other plans, programmes and projects. These effect ‘characteristics’ are described within the appraisal as appropriate.

Adding structure to the appraisal

- 9.2.4 Whilst the aim is essentially to present an appraisal of the draft plan ‘as a whole’, it is appropriate to also give stand-alone consideration to elements of the draft plan. As such, within each of the eleven appraisal narratives below, sub-headings are used to ensure that stand-alone consideration is given to distinct elements of the draft plan, before the discussion under a final sub-heading concludes on the draft plan as a whole.

N.B. Specific policies are referred to only as necessary within the narratives below. It is not the case that systematic consideration is given to the merits of every plan policy in terms of every sustainability topic/objective.

10 APPRAISAL OF THE DRAFT PLAN

10.1 Introduction

- 10.1.1 As introduced above, the aim of this chapter is to present an appraisal of the draft plan ‘under’ the SA framework.

10.2 Homes

Commentary on the spatial strategy

- 10.2.1 **Core Policy 4a** (Meeting our Housing Needs) proposes LPP2 allocations to provide for 3,850 homes, which can be considered a ‘high growth’ strategy (see discussion of strategic requirements in Section 6.2, above). This is supported from ‘housing’ perspective. It can be appropriate to ‘buffer’ housing requirements, as a contingency for unforeseen delays in delivering sites.
- 10.2.2 **Core Policy 8a** (Additional Site Allocations for Abingdon-on-Thames and Oxford Fringe Sub-Area) makes provision for around 1,200 homes at Dalton Barracks, whilst recognising that the longer term potential for development is potentially in excess of 3,000 dwellings. This approach of making provision for long term housing supply is supported. It is also noted that the North West of Grove site, within the South East Vale, is likely to deliver partly beyond the plan period.
- 10.2.3 **Core Policy 15a** (Additional Site Allocations for South East Vale Sub-Area) makes provision for 1,000 homes at Harwell Campus, which is supported on the basis that this will involve addressing specific housing needs. A survey of existing Campus organisations, undertaken by CBRE for the Harwell Campus Partnership, has shown that there is predisposition towards social / community clustering among the Campus workforce.
- 10.2.4 Final points to make regarding the LPP2 spatial strategy, as understood from **Core Policies 4a, 8a and 15a** are as follows -
- The spatial distribution of housing meets the unmet needs requirement in an effective manner, in that there will be sufficient new housing in parts of the Vale that are well linked to Oxford. This is on the basis that several of the LPP1 allocations will contribute to the 2,200 home unmet need figure, notably sites at Abingdon-on-Thames and Radley / Kennington. Whilst these sites were allocated within LPP1 with the intention of meeting the Vale’s own OAHN, they are also well located to provide for Oxford’s unmet need. The LPP1 Planning Inspector’s Report states: “[I]n reality, it would be all but impossible to determine if a potential occupier of this housing (Part 1 allocations) represents a Vale or Oxford ‘housing need.’” Also, the Inspector highlighted that Oxford City’s unmet needs can be met by development at locations outside of the Abingdon and Oxford Fringe Sub-Area, stating: “[W]hilst the Abingdon-on-Thames/ Oxford Fringe Sub-Area is closer to Oxford, it is true that more than 3,000 dwellings proposed in the South East Vale (the two Valley Park sites) would also be close to Didcot Station with its fast and frequent rail service to Oxford.”
 - Several smaller site allocations are proposed - at East Hanney, Marcham and Harwell Village – an approach which is supported given an assumption that these sites can deliver early in the plan period, and thereby help to ensure a robust housing delivery ‘trajectory’, i.e. ensure a continual five-year supply of deliverable sites over the plan period. Proposed figures for Dalton Barracks, Harwell Campus and NW of Grove reflect latest understanding of what is deliverable at these sites over the plan period; however, these sites – or at least Dalton Barracks and NW Grove - are associated with specific deliverability issues, which means that there is inherently some risk of deliverability being delayed. There will be further discussions on deliverability, with site promoters and stakeholders, ahead of publication/submission.

- Development is spread between settlements (also taking into account commitments), which is a positive from a deliverability perspective (through reducing risk of local market saturation) and also from a perspective of wishing to ensure that ‘very local’ housing needs are met, i.e. needs at particular settlements, which will exist albeit are unquantified. No LPP2 allocations are proposed within the Western Vale; however, this is not necessarily an issue, recognising that most settlements here have high, or at least sufficient, committed development. N.B. Uffington is a ‘larger village’ in the Western Vale with just one committed site for 36 homes; however, a neighbourhood plan is in preparation.

Commentary on other policies

- 10.2.5 **Development Policy 1** (Space Standards) seeks to ensure internal space of housing is delivered to an appropriate standard to reflect the needs of the community, in light of the optional building regulations, the national described space standards and LPP1 (paragraph 6.21), which states the Council will consider the case for setting out higher accessibility, adaptability and wheelchair housing standards in LPP2. The policy reflects the draft Housing Strategy, which suggests that adaptable housing is required and that some smaller units in the district are not being built to National Described Space Standards. It is **recommended** that the finalised recommendations of the Housing Strategy are reflected once available.
- 10.2.6 **Development Policy 5** (Rural Workers’ Dwellings in the Open Countryside) sets out the Council’s approach to enabling rural workers’ dwellings to support rural businesses. This is important from a perspective of meeting specific housing needs. **Development Policy 4** (Replacement Dwellings in the Open Countryside) also covers rural workers dwellings.
- 10.2.7 Other policies that will directly support efficient and effective housing delivery include: **Development Policy 2** (Sub-Division of Dwellings), which sets out measures to ensure sub-division of housing is appropriately designed and executed; and **Development Policy 3** (Residential Annexes), which seeks to ensure that residential annexes are designed appropriately (N.B. this policy is particularly supported by the Council’s Enforcement Team).
- 10.2.8 **Supporting text** includes support for self-build housing, stating: “*The Council will therefore support opportunities for self-build in the district on small sites, or individual plots, where in accordance with [other policy]... Where opportunities arise for self-build plots to be provided through larger scale developments, the Council will support their provision in small clusters where they are appropriately designed and incorporated into the masterplan for the site...*” It is **recommended** that specific policy provision be made for self-build, given that local evidence (the self-build register) indicates a demand. Also, further consideration is needed in respect to whether the delivery of self-build should also be an affordable homes option.

Appraisal of the draft plan as a whole

- 10.2.9 The LPP2 spatial strategy performs well, in that the quantum and distribution of homes should ensure that housing needs are met at various scales (Oxfordshire Housing Market Area, Vale of White Horse District and specific areas / settlements), and help to ensure a robust housing trajectory across the plan period. However, there will be a need for further work to confirm deliverability at several sites – most notably Dalton Barracks.
- 10.2.10 The housing focused Development Policies perform well, and should appropriately compliment the Core Policies. In particular, detail is added in support of Core Policy 22 (Housing Mix) and Core Policy 26 (Accommodating Current and Future Needs of an Ageing Population). There is also a need to consider the effect of all other proposed Development Policies, in that requirements on developers can affect viability and in turn rates of housing delivery; however, a Viability Assessment has been completed, and determined that the effect of Development Policies in combination will not be to overly burden the development industry.
- 10.2.11 In **conclusion**, the Draft Plan is predicted to result in **significant positive effects**.

10.3 Services and facilities

Commentary on the spatial strategy

- 10.3.1 **Core Policies 4a, 8a and 15a** allocate sites in accordance with the broad spatial strategy established through LPP1, which has three main strands: Focus sustainable growth within the Science Vale area; Reinforce the service centre roles of the main settlements across the district; Promote thriving villages and rural communities whilst safeguarding the countryside and village character. This spatial approach reflects a desire to both concentrate and distribute housing growth, in order to maximise the benefits that housing growth can bring, in terms of maintaining and enhancing access to services /facilities / infrastructure with capacity.
- 10.3.2 Sites are well located in respect of enabling easy access to a service centre or larger village centre; however, no LPP2 allocations are proposed at a market town (Abingdon, Wantage, Faringdon); and the North West of Grove site is the only proposal at a service centre (the other service centre being Botley). This approach is not necessarily problematic, recognising that all of these settlements - other than Botley, which is constrained – are set to see considerable growth through the plan period (e.g. see LPP1 allocations in Figure 3.1, above).
- N.B. The possibility of LPP2 allocations at Abingdon, Wantage and Botley was explored in detail (see Part 1, above) before reaching a conclusion that LPP2 allocations are not appropriate. Faringdon was examined in less detail, as its location in the Western Vale means that there is less strategic argument for an LPP2 allocation, plus the town is already set to see considerable growth over the plan period.
- 10.3.3 With regards to specific sites, it is notable that **Core Policy 8a** (Additional Site Allocations for Abingdon-on-Thames and Oxford Fringe Sub-Area) makes provision for -
- 1,200 homes at Dalton Barracks, whilst recognising that the longer term potential for development is potentially in excess of 3,000 dwellings. This concentration of growth is supported, as there will be the potential to develop a new community that is self-sustaining to some extent, in that there would be access on-site to schools, a local centre, open space (in the form of a country park) and potentially some employment. Whilst there is no certainty at this stage, there is the potential to explore the option of a secondary school on-site, which would help to address existing issues in the Abingdon area. Furthermore, a critical mass will be achieved that enables enhanced public transport connections, potentially benefiting residents of existing communities as well as new residents. **Core Policy 8b** (Dalton Barracks Comprehensive Development Framework) reflects the opportunities that exist, and in particular suggests application of ‘Garden Village’ principles, including: *“strong cultural, recreational and shopping facilities in walkable, vibrant, social neighbourhoods”*.
 - 600 homes to the east of Kingston Bagpuize with Southmoor – would be expected to deliver a primary school on-site. Kingston Bagpuize is relatively distant from a higher order centre, but benefits from being on an existing premium bus corridor between Swindon and Oxford (plus Witney is accessible to the north). Oxfordshire Clinical Commissioning Group (OCCG) has raised concerns regarding access to a GP facility at Kingston Bagpuize, given no existing facility and significant committed growth.
 - 520 homes across two sites at Marcham – where there are concerns regarding primary school capacity, with the existing village school expanding to 1 form entry to meet already planned/permitted growth and there understood to be barriers to further expansion. There could be land available for a new primary school within the North of Marcham site, and so a new school could potentially be deliverable, on the assumption that funding would be achieved by pooling contributions from the two proposed allocations, and potentially also committed sites.
 - 130 homes at East Hanney – gives rise to relatively few issues. East Hanney is close to Wantage / Grove and on strategic transport corridor linking to Oxford. The sites are close to the village centre (albeit the A338 is a barrier for one) and close to the existing bus stop.

- 10.3.4 **Core Policy 15a** (Additional Site Allocations for South East Vale) notably provides for -
- 1000 homes at Harwell Campus – supported given potential to deliver new community infrastructure on-site. **Core Policy 15b** (Harwell Campus Comprehensive Development Framework) references the importance of “*incorporating on-site services and facilities*”.
 - 300 homes at North West of Grove - would complement the existing committed growth at Wantage and Grove and help to deliver infrastructure; however, whether there would be direct benefits in terms of community infrastructure is not clear. What is clear is that the location of this site, between the Monks Farm and Grove Airfield committed sites, will assist with delivering the North Grove Link Road.
 - 100 homes at Harwell Village - gives rise to relatively few issues. Harwell is well located in relation to Didcot Garden Town and employment opportunities in the Science Vale, and is located on the strategic bus corridor between Didcot and Wantage / Harwell Campus; however, the site is beyond 400m of the existing route (with new routes unlikely).

[Commentary on other policies](#)

- 10.3.5 **Development Policy 7** (Community Services and Facilities) sets out criteria to inform proposals that would involve new provision, or the loss of an existing facility. Proposals involving the loss of an existing facility will need to provide evidence to demonstrate how the facility is no longer economically viable and/or no longer meets a local need. The effect should be to support the protection of existing community services and facilities. Similarly, **Development Policy 8** (Public Houses) sets out policy criteria for proposals that would involve the loss of a public house, recognising that public houses are often valued as local facilities.
- 10.3.6 Also of relevance here are the retail policies, in particular: **Development Policy 11** (Change of Use of Retail Units to Other Uses), which sets out measures to support proposals involving the change of use of retail units; and **Development Policy 12** (Village and Local Shops), which seeks to protect existing village and local shops and supports proposals to meet local needs. See further discussion below, under ‘Employment’.
- 10.3.7 **Supporting text** includes support for village and community halls, referencing a new local standard developed to ensure quality and accessibility. New provision or improvements to existing facilities will be met through either the Community Infrastructure Levy (CIL), or Section 106 planning obligations in accordance with Core Policy 7.

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- 10.3.8 The LPP2 spatial strategy performs well, in that development is directed to sites/locations where there should be good potential to support accessibility to services and facilities; however, there remain some issues/uncertainties, including primary school capacity.
- 10.3.9 The ‘community facilities’ focused Development Policies perform well, and should appropriately compliment the Core Policies. In particular, detail is added in support of Core Policy 7 (Providing Supporting Infrastructure and Services).
- 10.3.10 In **conclusion**, the Draft Plan performs well in most respects; however, effects are mixed. The positives are not likely to be ‘significant’ in that the plan is not expected to *directly* deliver new community infrastructure of strategic importance, i.e. community infrastructure that will serve to address an existing issue, as opposed to ‘consuming the smoke’ of the new development (although there is the potential to explore the option of a new secondary school at Dalton Barracks). The negatives are also not likely to be ‘significant’, recognising the potential for further work to explore means of addressing primary school constraints.

10.4 Movement

Commentary on the spatial strategy

- 10.4.1 As discussed above, **Core Policies 4a, 8a and 15a** allocate sites in accordance with the broad spatial strategy established through LPP1, which has at its heart the need to ensure accessibility, and therefore minimise the need to travel and enable travel by 'sustainable' modes, i.e. walking, cycling and public transport. With regards to proposed sites –
- Dalton Barracks - is located between the two strategic transport corridors into Oxford (A34 and A420), although the A34 junction at Abingdon (Lodge Hill), with its proposed P&R, is relatively close (c.2km). There is an existing half hourly bus service that could be enhanced; however, this route is via Wootton and Cumnor, i.e. slightly indirect. There could be the potential to effectively link the site to Lodge Hill P&R, or Cumnor P&R to the north, such that rat-running concerns are addressed. In the absence of a high quality bus service there would be a risk of cars worsening congestion on route to Oxford. Abingdon is within easy cycling distance from the site but there is a need for significant infrastructure improvements.
 - Grove - is located at the western extent of the Science Vale, but nearby Wantage is a 'market town' in the settlement hierarchy, and Grove a 'service centre'. Furthermore, there is considerable committed growth in the area, set to deliver a premium bus service to Milton Park and Oxford, and potentially a new rail station at Grove (longer term). The North West of Grove site would enable the completion of a link road, and could also potentially provide land for a new rail station.
 - Harwell - is well located in relation to Didcot Garden Town and employment sites in the Science Vale, and is located on the strategic bus corridor between Didcot and Wantage / Harwell Campus; however, the site is beyond 400m of the existing route (with new routes unlikely). Car movements east along Grove Road, in the direction of Didcot, would reach the junction with the B4493 in the centre of Grove, whilst car movements west along Grove Road (in the Direction of the A34) would then reach the junction with the A4130, where there are congestion issues. Impacts to Milton Interchange are another consideration. Finally, there is an opportunity to improve the Science Vale cycling network.
 - Harwell Campus - would enable a very high incidence of walking to work, and an excellent bus service connects the Campus to Didcot / Milton Park / Abingdon and Oxford. The bus stop (Harwell Campus Bus Station) is well beyond 400m distant, but there is potential for a new stop in close proximity to the site (and the service would benefit from a more balanced demand across the day). Also, National Cycle Network route 544 passes through the site, linking to Didcot and Wantage (improvements required). The site is well located in relation to improvements to the highway network - A34 Chilton Slips and Harwell Link Road.
 - Kingston Bagpuize - is relatively distant from Oxford and the Science Vale, but is located on a strategic transport corridor (A420) and has an excellent bus service (3/hour, with good potential to increase to 4/hour). The East of Kingston Bagpuize site is somewhat distant from the village centre, but could have good access to the bus route. It would also be expected to deliver a new link road between the A420 and A415, thereby alleviating the current problem of traffic along the A415 through the village.
 - East Hanney - is relatively remote from Oxford and the Science Vale, but is located on a strategic transport corridor (A338), along which there are set to be enhancements to the bus service given committed growth at Wantage and Grove. The bus stop is at the northern end of the village, in proximity to the two sites.
 - Marcham - is located on the A415 – an east-west corridor linking to Abingdon, as opposed to a strategic corridor linking to Oxford and the science Vale to the south (albeit an A34 junction is within 2km). Housing growth to the north would be away from the transport corridor, although there may be potential for bus service enhancements, given growth at Kingston Bagpuize. The site is within an easy cycling distance of Abingdon and benefits from a shared pedestrian/cycle path; however, a barrier to easy cycling is difficulty crossing Marcham Interchange. Traffic passing through the village would be a concern, including given the existing AQMA. There could be an opportunity for a bypass.

- 10.4.2 **Core Policy 8b** (Dalton Barracks Comprehensive Development Framework) establishes that the new housing will reflect ‘Garden Village’ principles, which is deemed appropriate given the scale and location of the site. The Town and Country Planning Association (TCPA) have developed nine Garden Village principles including: *“strong cultural, recreational and shopping facilities in walkable, vibrant, social neighbourhoods”*; and *“integrated and accessible transport systems, with walking, cycling and public transport designed to be the most attractive forms of local transport.”*
- 10.4.3 **Core Policies 12a** (Safeguarding of Land for Strategic Highway Improvements within the Abingdon-on-Thames and Oxford Fringe Sub-Area) seeks to safeguard land for strategic highway improvements. There is a focus on the A34, with provision for upgrading the A34 interchange at Lodge Hill, providing for two new Park and Ride sites for accessing Oxford (at Cumnor and Lodge Hill, both close to Dalton Barracks) and the potential for a north-bound bus lane between Lodge Hill and the Hinksey interchanges; the latter two schemes being particularly important to support growth at Dalton Barracks. Finally, land is safeguarded for the possible future provision of a Southern Marcham Bypass, with a view to addressing the Marcham Air Quality Management Area (AQMA). Whilst there is currently no funding to support the delivery of a bypass, land is safeguarded to ensure its potential long-term provision is not prejudiced. There will be in-combination benefits with LPP1, which safeguards land for delivery of a South Abingdon-on-Thames Bypass; a diamond interchange at the A34 Lodge Hill Junction, and improvements to Frilford Lights.
- 10.4.4 **Core Policies 18a** (Safeguarding of Land for Strategic Highway Improvements within the South-East Vale Sub-Area) seeks to safeguard land for strategic highway improvements. In addition to land safeguarded for identified transport schemes set out in LPP1, CP18a safeguards land for: dedicated access to/from the A34 to Milton Park; provision for a new pedestrian and cycle bridge across the A34 at Milton Heights.

Commentary on other policies

- 10.4.5 LPP2 transport policies set out more detailed Development Management policies on a number of specific issues, recognising that LPP1 provides a comprehensive policy framework. LPP2 policies provide additional guidance to ensure proposals adequately evaluate their transport impacts and provide safe and suitable access; and there are also two specific policies addressing local issues relating to car parking and lorry services. The LPP2 transport focused policies are as follows:
- **Development Policy 14** (Access) sets out requirements for suitable and safe access within development proposals. It builds on Core Policy 37 (Design and Local Distinctiveness), which sets out twelve criteria that all development proposals should comply with to ensure they are comprehensively planned and these include consideration for connectivity and the safe movement and access for all users so developments are not dominated by vehicular traffic.
 - **Development Policy 15** (Transport Assessments and Travel Plans) provides additional guidance on the information required within Transport Assessments or Statements and Travel Plans, building on Core Policy 35 (Promoting Public Transport, Cycling and Walking). Ensuring that proposals for development are accompanied by appropriate supporting information helps to support a comprehensive approach to their assessment and the identification of appropriate mitigation measures, should they be necessary.
 - **Development Policy 16** (Public Car Parking in Settlements) seeks to protect and improve the quality of car parks in appropriate settlements. In a rural district like the Vale, it is important that high quality car parking continues to be made available, albeit there is a degree of tension with ‘sustainable transport’ objectives.
 - **Development Policy 17** (Lorries and Roadside Services) seeks to enable and focus lorry and roadside services at appropriate locations along the two main routes: the A34 and A420. The A34 trunk road has been identified by central government as having safety concerns; hence appropriate provision of service facilities along this route can help to contribute towards the promotion of road safety.

- 10.4.6 A number of other Development Policies are also supportive of ‘movement’ objectives, including: **Development Policies 11 -13**, which relate to retail (see discussion above, under ‘Services and Facilities’, and below under ‘Economy’); and **Development Policies 28 – 30**, which are supportive of green infrastructure objectives (see discussion under ‘Health’ and ‘Biodiversity’).

[Appraisal of the draft plan as a whole](#)

- 10.4.7 The LPP2 spatial strategy performs well, in that development is directed to sites/locations in accordance with the LPP1 broad spatial strategy and the settlement hierarchy, and concentrations of growth will help to secure/maintain funding for transport infrastructure and services (notably, a concentration of growth in the Science Vale will contribute to the established Science Vale Strategic Infrastructure Package, and Dalton Barracks will contribute to funding for upgrades to the Lodge Hill A34 junction). However, not all proposed sites are located directly on a strategic transport corridor.
- 10.4.8 The ‘transport’ focused Development Policies perform well, and should appropriately compliment the Core Policies. In particular, detail is added in support of Core Policies 33-36. A number of other policies also have positive implications for ‘movement’ objectives, including those that relate to retail / town centres, and those that relate to green infrastructure.
- 10.4.9 In **conclusion**, effects remain uncertain at this stage. There is a need for further work, including detailed Evaluation of Transport Impacts (ETI) that takes account of opportunities for additional transport infrastructure upgrades and other mitigation measures.

10.5 Health

[Commentary on the spatial strategy](#)

- 10.5.1 Health determinants / issues are wide ranging. The ageing population gives rise to a number of health issues; and other health issues relate to provision of health facilities. These matters relate closely to the discussion above, under ‘Housing’ and ‘Services/facilities’. There is also a need to consider environmental health constraints affecting sites; however, environmental health is given stand-alone consideration below, under ‘Pollution’.
- 10.5.2 Another health determinant is access to open space, greenspace and outdoor recreation facilities. In this respect, development at Dalton Barracks - **Core Policy 8a** - is supported, given the opportunity to deliver the western part of the site as a Country Park (to provide ‘suitable alternative natural greenspace’ (SANG) to ensure that the effect of housing is not to increase recreational pressure on nearby Cothill Fen Special Area of Conservation, SAC). **Core Policy 8b** (Dalton Barracks Comprehensive Development Framework) establishes that the new housing will reflect ‘Garden Village’ principles, which is deemed appropriate given the scale and location of the site. The Town and Country Planning Association (TCPA) have developed nine Garden Village principles including: *“beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy communities, and including opportunities to grow food”* and *“development that enhances the natural environment, providing a comprehensive Green Infrastructure network and net biodiversity gains...”*

[Commentary on other policies](#)

- 10.5.3 Focusing on Development Policies with a bearing on access to open space and support for active lifestyles, the following are of particular note -
- **Development Policy 28** (Watercourses) seeks to ensure that watercourses are positively integrated in the design of new development from the outset. By giving consideration to the watercourse in the design process from the start, it is possible to make the most of attractive riverside settings and maximise green infrastructure and ecosystem service benefits.

- **Development Policy 29** (Protection of Public Rights of Way, National Trails and Open Access Areas) seeks to support improvements to the Public Rights of Way Network and protect National Trails. Developers are encouraged to consider how access to rights of way can be improved for all users include provision for disabled access. It is noted that residents at the proposed Harwell Campus site (**Core Policies 15a and 15b**) would have good access to the North Wessex Downs AONB, via the Icknield Way long distance path (on-site), and the nearby Ridgeway National Trail.
- **Development Policy 30** (The Wilts and Berks Canal) seeks to support the long-term vision for the restoration of the Wilts and Berks Canal, which is an important historic feature in the landscape, linking the River Thames with the Kennet and Avon Canal. Once restored, the canal could form a key element of the green infrastructure network.
- **Development Policy 31** (Open Space) sets out measures and local standards for the provision of open space in association with new developments and the protection of existing open space. A combined standard for amenity green space, parks and gardens will apply for new developments to ensure multi-functional green space is incorporated and designed appropriately. 15 % of proposed residential development schemes should be open space.
- **Development Policy 32** (Leisure and Sports Facilities) sets out measures and local standards for the provision of leisure and sport facilities provision in association with new developments and the protection of existing leisure and sports facilities. Access to both indoor and outdoor leisure and sports facilities is clearly important to allow local communities and residents to participate in sporting activities and contribute towards their health and well-being. The Council will expect developers to consider how the provision of sports and leisure facilities can be coordinated locally, where more than one development is taking place.

Appraisal of the draft plan as a whole

- 10.5.4 The spatial strategy performs well, in the sense that allocation of Dalton Barracks should lead to delivery of a new Country Park.
- 10.5.5 The Development Policies perform well, and should appropriately compliment the Core Policies, which seeks to provide for good health through Core Policy 37 (Design and Local Distinctiveness), Core Policy 45 (Green Infrastructure) and the sustainable transport policies.
- 10.5.6 In **conclusion**, the Draft Plan performs well; however, it is not clear that there is the potential to conclude significant positive effects, recognising the wide ranging nature of health determinants.

10.6 Inequality and exclusion

Commentary on the spatial strategy

- 10.6.1 There is little potential for the LPP2 spatial strategy to have a bearing on the achievement of regeneration objectives. Areas of relative deprivation are found along the southern edge of Oxford, and within the northern part of Didcot, but none of the site options under consideration are adjacent, or close enough to affect regeneration objectives.
- 10.6.2 One possible consideration is the need to support village vitality, and potentially help to address or avoid any issues of 'rural deprivation' in the Western Vale; however, it is not clear that the decision not to allocate sites in the Western Vale is a draw-back of the strategy. Faringdon, which is the only market town in the Western Vale, is one rural settlement with a degree of relative deprivation (it comprises the third most deprived Lower Super Output Area in the District, out of 76); however, the town is allocated 950 homes through LPP1 across four strategic sites.

Commentary on other policies

- 10.6.3 A number of the Development Policies discussed above as performing well in terms of ‘housing’, ‘services/facilities’ and ‘health’ objectives could also have the effect of addressing any issues of inequality and exclusion that existing within communities. Perhaps most notably, **Development Policy 1** (Space Standards) seeks to ensure internal space of housing is delivered to an appropriate standard to reflect the needs of the community, including the needs of older people and the disabled. Also, **Development Policy 5** (Rural Workers’ Dwellings in the Open Countryside) sets out the Council’s approach to enabling rural workers’ dwellings to support rural businesses. Rural housing is important from a perspective of wishing to maintain the vitality of rural settlements, and in turn avoid issues of rural deprivation.

Appraisal of the draft plan as a whole

- 10.6.4 The spatial strategy has few implications for the achievement of ‘inequality and exclusion objectives’. However, the Development Policies will play an important role in this respect, in particular through their support for addressing specialist housing needs.
- 10.6.5 In **conclusion**, the Draft Plan performs well but significant effects are not predicted.

10.7 Economy

Commentary on the spatial strategy

- 10.7.1 Meeting housing needs within Oxfordshire is important from an economic growth perspective, as is the spatial distribution of growth. The Oxfordshire LEP’s Strategic Economic Plan (SEP) states: *“We will maintain the principal spatial focus on Oxfordshire’s Knowledge Spine – from Bicester in the north through Oxford to Science Vale in the south – as the main location for housing and employment growth.”* A key issue relates to supporting strategic growth within the Science Vale, and as such the proposal to allocate additional sites for 1,400 dwellings within the South-East Vale Sub-Area – **Core Policy 15a** - is supported. The future growth of Science Vale envisaged by the Local Plans and the Didcot Garden Town Masterplan includes: 6300 homes for Didcot; 4885 homes for Wantage and Grove; 3950 homes at Harwell and Milton; 220 homes for Sutton Courtney; and provision of 20,000 new jobs by 2031.
- 10.7.2 Of particular note is the proposal to deliver around 1,000 dwellings at Land North of Harwell Campus - **Core Policies 15a and 15b**, with both housing and future employment development is brought forward in line with a comprehensive development framework. The development of a new neighbourhood at the Campus offers the opportunity to create a purpose-built environment, tailored towards the housing needs of the Campus, and wider Science Vale employees. This should help Harwell Campus to achieve its full potential, evolving from a Science and Innovation Park, to a world class campus environment, or ‘Innovation Village’. There would be accommodation for both permanent and transient employees, fostering interconnectivity between the different individuals and organisations, and in turn engendering cooperation and cross-pollination of ideas. A survey of existing Campus organisations, undertaken by CBRE for the Harwell Campus Partnership, has shown that in addition to business sector clustering, there is predisposition towards social / community clustering among the Campus workforce. The CBRE survey equally revealed that the existing Campus organisations view accommodation costs locally and the lack of flexible (short-term) accommodation as a negative factor that is affecting their ability to attract qualified staff. Housing will be at the expense of land that could otherwise be developed for employment – and indeed land designated at an Enterprise Zone - however, it is anticipated that the Campus should still be able to accommodate at least 5,400 net additional jobs in the plan period up to 2031, as well as potentially further jobs beyond 2031, as ongoing decommissioning of the ‘licensed site’ takes place. The development of a new neighbourhood is strongly supported by Oxfordshire Local Enterprise Partnership (LEP).

- 10.7.3 **Core Policy 8b** (Dalton Barracks Comprehensive Development Framework) establishes that the new housing will reflect 'Garden Village' principles, which is deemed appropriate given the scale and location of the site. In accordance with Garden Village principles, the option of allocating some employment land will be explored.

[Commentary on other policies](#)

- 10.7.4 The employment focused Development Management Policies are proposed -
- **Development Policy 8** (Ancillary Uses on Key Employment Sites) seeks to support the provision of ancillary uses on existing employment land. The provision of facilities ancillary to the main business uses on large employment sites can support their employment function; and provision is particularly important at some of the Vale's most significant employment sites, such as the Enterprise Zone sites at Milton Park and Harwell Campus. However, it is important that any ancillary uses are appropriate to support the main employment uses of the sites. The provision of larger scale retailing, such as food superstores and non-food retail warehouses, for example, could prejudice the availability of land for other business uses.
 - **Development Policy 9** (Community Employment Plans) encourages a more localised approach to recruitment, associated with new development. The policy states: *"All new developments should consider how they can create opportunities for local employment and the development of local skills and expertise, including through apprenticeships. They should also seek to maximise opportunities for sourcing suppliers and services locally during construction. Where major developments are proposed, the Council may request developers to submit a Community Employment Plan (CEP) and/or a Local Sourcing Plan"*
 - **Development Policy 10** (Rural Diversification and Equestrian Developments) supports proposals for rural diversification and new equestrian uses and buildings in the countryside. The policy sets out guidance to support and promote proposals for rural diversification where they are ancillary to the main use of the site, or relate to the existing enterprise, and are appropriate within the landscape.
- 10.7.5 Alongside the LPP1 Core Policy 32 (Retail Development and other Main Town Centres Uses), the retail policies within the Part 2 plan provide additional guidance on retail. The proposed LPP2 retail policies are -
- **Development Policy 11** (Change of Use of Retail Units to Other Uses) sets out measures to support proposals involving the change of use of retail units, recognising that national policy supports the need to clearly define primary and secondary frontages in designated centres and to make clear which uses are acceptable in such locations. Change of use from retail to other uses is supported only subject to criteria including the impact on the function, character and appearance of existing provision. N.B. The Primary and Secondary Retail Frontages have been updated through a Retail and Town Centres Uses Study (March 2017). This work recommends some minor changes to these retail areas.
 - **Development Policy 12** (Village and Local Shops) seeks to protect the loss of existing village and local shops, subject to criteria, to ensure that local shopping provision is retained to help meet the local needs. Village shops located in the Larger and Smaller Villages and local shops, such as individual corner shops, located in the Market Towns and Local Service Centres, play a key role in creating and sustaining healthy, inclusive communities.
 - **Development Policy 13** (Retail Parks) sets out guidance for proposals for change of use on retail parks. In line with Core Policy 32 – which sets out a sequential test for retail development, with town centres being the highest priority – uses will be restricted to stores selling bulky goods at the existing retail parks at Fairacres in Abingdon-on-Thames and Seacourt Tower in Botley.

Appraisal of the draft plan as a whole

- 10.7.6 The LPP2 spatial strategy performs well, given a focus of housing growth in the Science Vale, and at Harwell Campus in particular (albeit at the expense of some employment land). It may transpire that some small scale employment uses can be delivered at the Dalton Barracks site.
- 10.7.7 The 'employment' focused Development Policies perform well, and should appropriately compliment the Core Policies. In particular, detail is added in support of Core Policies 28-32, which cover: Change of Use; Further and Higher Education; Development to Support the Visitor Economy; and New Development on Unallocated Sites and for Retail Development and other Main Town Centre Uses.
- 10.7.8 In **conclusion**, the Draft Plan is predicted to result in **significant positive effects**.

10.8 Natural environment

Commentary on the spatial strategy

- 10.8.1 A primary consideration is the potential for sites – **Core Policies 4a, 8a and 15a** – to impact on Cothill Fen Special Area of Conservation (SAC) or Oxford Meadows SAC, both of which are of international importance. The potential for impacts has been explored through a Habitats Regulations Assessment (HRA, 2017), the conclusions of which are presented within **Box 10.1**.

Box 10.1: Conclusions of the HRA (abridged)

New development at Dalton Barracks or North East or South East of Marcham should be required to provide details, in line with LPP1 CP45 (Green Infrastructure), of how the project will deliver accessible natural greenspace, or where this is not possible, how it will contribute to "the delivery of new Green Infrastructure and/or the improvement of existing assets". Such greenspace will provide added confidence that residents of the development can be recreationally self-sufficient without needing to place an undue burden on the few parts of Cothill Fen SAC that are potentially vulnerable to a significant increase in recreation. Given the proximity of the Dalton Barracks site to the SAC it will also be a useful precaution that any green infrastructure delivery or contribution fulfils the criterion of "at least one accessible 20 hectare site within two kilometres of home" and that this be in addition to Cothill Fen SAC. Core Policy 8b does provide details of project-specific measures that will aid in mitigating any potential effects of development at Dalton barracks on the SAC, including outline provision for a Country Park of 80 hectares.

It is considered likely that housing across Oxfordshire will result in an increase in nitrogen deposition and NOx concentration within a small part of the Oxford Meadows SAC as it lies adjacent to the A34 and A40. The Oxfordshire authorities are undertaking strategic studies to investigate transport scenarios and air quality effects within the SAC adjacent to the A34 and A40, which will in turn inform specific mitigation interventions. As a precaution, until that study is completed, it has been assumed in this analysis that an air quality effect may exist and appropriate plan-level measures to address the issue (as accepted for other local authorities) have been identified and are reflected in the Local Plan Part 1 which would enable a conclusion of no adverse effect to be reached (as has been the case in the Thames Basin Heaths area) for the allocations and policies contained within the Local Plan Part 2.

Core Policy 16b sets out Principles associated with any future development at Didcot Garden Town. This location, in combination with other development within the Vale and in the wider area has the potential to contribute to increased pressure on Oxford Meadows SAC through reduced air quality resulting from increased traffic utilizing the A34. However, it is noted that further details will be included in a future DPD and SPD relating specifically to this development, and at this point it will be appropriate to consider the HRA implications of this in combination with other plans and projects.

Effects of water quality on Oxford Meadows SAC are considered unlikely to occur, given the policy commitments in the Local Plan Part 1, informed by a Water Cycle Study, to provision of adequate infrastructure to accompany new development. This conclusion may be reaffirmed following the outcome of an updated Water Cycle Study currently commissioned.

It is concluded that, given the incorporation of the above recommendations and subject to development of strategic air quality studies relating to Oxford Meadows SAC, the LPP2 will not lead to likely significant effects on European sites either alone, or in combination with other plans and projects. [emphasis added]

- 10.8.2 In terms of wider, non-SAC related biodiversity issues, the proposed sites perform as follows -
- Dalton Barracks – In addition to Cothill Fen SAC (see Box 10.1), Dry Sandford Pit SSSI is adjacent (albeit away from the likely development area), and Barrow Farm Fen SSSI is a short distance away. Also, Gozzards Ford Fen Local Wildlife Site (LWS) is adjacent.
 - East Hanney and Grove – all three sites appear relatively unconstrained.
 - Harwell Campus - contains numerous mature trees (albeit no Tree Preservation Orders) and certain areas – notably the southwest – comprise deciduous woodland priority habitat.
 - Kingston Bagpuize - Appleton Lower Common SSSI and Frilford Heath, Ponds and Fens SSSI are within c.2km of the site, and the adjacent Millennium Green is associated with a population of Great Crested Newts.
 - Marcham - the North of Marcham site is the only site that falls within a Conservation Target Area, and Barrow Farm Fen SSSI and Frilford Heath, Ponds and Fens SSSI are in proximity. Also, Hyde's Copse at the western edge of the site is a small patch of ancient woodland.
- 10.8.3 **Core Policy 8b** (Dalton Barracks Comprehensive Development Framework) establishes that the new housing will meet exemplar design standards and following 'Garden Village' principles, which is deemed appropriate given the scale and location of the site. The Town and Country Planning Association (TCPA) have developed nine Garden Village principles including: *"development that enhances the natural environment, providing a comprehensive Green Infrastructure network and net biodiversity gains..."*
- [Commentary on other policies](#)
- 10.8.4 There are no dedicated biodiversity focused Development Policies proposed, recognising that LPP1 sets out to protect and enhance biodiversity through Core Policy 46, and seeks to ensure that new development contributes to green infrastructure through Core Policy 45.
- 10.8.5 However, biodiversity / green infrastructure considerations are a component of the following –
- **Development Policy 28** (Watercourses) aims to control development on land that contains or is adjacent to a watercourse where there would be a detrimental impact on the function of the watercourse, or associated biodiversity, unless the detrimental impact can be appropriately mitigated. The Policy requires buffer zones to be provided on either side of a watercourse to create a corridor of land and water favourable to the enhancement of biodiversity, and indicates that proposals which involve culverting a significant section of a watercourse are unlikely to be considered acceptable.
 - **Development Policy 30** (The Wilts and Berks Canal) seeks to support the long-term vision for the restoration of the Wilts and Berks Canal. The policy also ensures that proposals for restoring the canal demonstrate that the potential impacts of restoration on the existing wildlife and natural environment have been fully considered, both locally and as part of the whole restoration scheme. The policy ensures that invasive non-native species have been considered in terms of their presence in existing reaches of the canal, and how their spread, through any newly connected reaches of the canal network, will be prevented.
- [Appraisal of the draft plan as a whole](#)
- 10.8.6 The spatial strategy performs well in that there is a focus of growth in the South East Vale, where there are fewer biodiversity constraints; however, there are a number of site specific issues that will require further consideration. Most importantly, the HRA has been able to conclude that LPP2 will not lead to likely significant effects on Cothill Fen SAC or Oxford Meadows SAC, either alone or in combination with other plans and projects.

- 10.8.7 There are no dedicated biodiversity focused Development Policies proposed, recognising that LPP1 sets out to protect and enhance biodiversity through Core Policies 45 and 46; however, proposed policies on 'Watercourses' and 'The Wilts and Berks Canal' are supportive of biodiversity and green infrastructure objectives.
- 10.8.8 In **conclusion**, the Draft Plan performs well, although effects are mixed. There will be a need for mitigation measures, and in this respect it is notable that a Green Infrastructure Strategy is in preparation. On the assumption that mitigation will be put in place, it is possible to conclude that significant negative effects are not likely.

10.9 Heritage

Commentary on the spatial strategy

- 10.9.1 Several of the sites proposed for allocation - **Core Policies 4a, 8a and 15a** - are subject to strategic heritage constraints.
- East of Kingston Bagpuize partially abuts the Kingston Bagpuize Conservation Area, and would be highly visible on the approach to Kingston Bagpuize House (grade II*).
 - Dalton Barracks is adjacent village of Shippon has a historic centre, with listed buildings and a rural setting, although there is no designated conservation area; and also given that the airfield itself has a heritage value.
 - North of East Hanney – abuts the East Hanney Conservation Area, but is understood to be relatively contained in the landscape, and hence may contribute little to its setting.

Commentary on other policies

- 10.9.2 Several heritage focused Development Policies are proposed -
- **Development Policy 34** (Heritage Assets) sets out the Council's approach to conserve and enhance heritage assets in the Vale, in the context of the social, environmental, cultural and economic significance of the assets. The supporting text explains that the Historic Landscape Characterisation (HLC) prepared by Oxfordshire County Council and Historic England will be a material consideration in the determination of planning applications. Development proposals should also take into account the principles set out in the Council's Design Guide SPD, Conservation Area Character Appraisals and other relevant guidance. It is **recommended** that consideration is given to historic routes, which are understood to be a feature locally, including ranging from pre-historic tracks such as the Ridgeway, Roman roads, medieval coffin ways, salt roads, and droveways, to later turnpike roads and canals.
 - **Development Policy 35** (Conservation Areas) sets out measures to ensure Conservation Areas are protected from inappropriate development. Proposals located within a designated Conservation Area will need to satisfy a number of criteria to show that the special interest of the asset and its setting will be conserved. Importantly, there is a reference to 'local character', and a requirement to *"take into account important views within, into or out of the conservation area..."*
 - **Development Policy 36** (Listed Buildings) sets out the Council's measures for assessing development proposals that affect a Listed Building or its setting. The aim is to provide guidance to ensure applicants demonstrate that proposals affecting a Listed Building would enhance their significance, whilst respecting the existing local character and distinctiveness. Proposals involving demolition may be permitted only in exceptional circumstances.

- **Development Policy 37** (Archaeology) sets out the Council's approach to the conservation and enhancement of Scheduled Monuments, nationally important archaeological remains and other non-designated archaeological sites. Proposals will need to demonstrate that development would not have a detrimental impact on the site and/or its setting. An assessment should be undertaken that refers to records such as the Oxfordshire Historic Landscape Characterisation (HLC) and Oxfordshire County Council's Historic Environment Record (HER) to determine whether a site has or is likely to contain known archaeological remains. Depending on the outcome of this assessment, developers may be required to submit a field evaluation conducted by a suitably qualified archaeological organisation.

- 10.9.3 Other policies with positive implications for the achievement of heritage objectives include **Development Policy 27** (Settlement Character and Gaps) which sets out measures to ensure that proposals do not compromise important gaps between settlements; and **Development Policy 30** (The Wilts and Berks Canal), which seeks to support the long-term vision for the restoration of the Wilts and Berks Canal.

Appraisal of the draft plan as a whole

- 10.9.4 The spatial strategy performs well, in that growth is focused primarily at locations that are relatively unconstrained; however, a large scheme to the east of Kingston Bagpuize gives rise to some concerns, given proximity to the conservation area.
- 10.9.5 The heritage focused Development Policies perform well, and should appropriately compliment the Core Policies. In particular, detail is added in support of Core Policy 39 (The Historic Environment).
- 10.9.6 In **conclusion**, the Draft Plan performs well, although effects are mixed. There will be good potential for mitigation through masterplanning, design and landscaping measures, and on this basis significant negative effects are not likely.

10.10 Landscape

Commentary on the spatial strategy

- 10.10.1 Careful account of landscape capacity has informed the site selection process, and as such most of the proposed allocations - **Core Policies 4a, 8a and 15a** - are relatively unconstrained. Nonetheless, there are some site-specific issues, as follows -
- Dalton Barracks - is washed over by the Green Belt, and the large scale open aspect across the airfield allows wide ranging views to distant higher ground; however, it has the characteristics of a military installation, with security fencing, and built area contains large military buildings and hangars. A detailed Green Belt Study of the site and its surroundings has been completed, and found that the area proposed to be removed from the Green Belt – which extends beyond the Dalton Barracks site, given a need to ensure permanence - does not contribute strongly to the purposes of the Green Belt, particularly as much is previously developed land. The openness between Abingdon-on-Thames and Shippon, Shippon and Wootton and of the existing airfield area would be substantially maintained. It is **recommended** that further work be completed, alongside masterplanning, to define a precise defensible / permanent Green Belt boundary.
 - East Hanney – the village falls within an open 'vale' landscape; both sites are relatively contained; indeed, the site to the northeast of the village would involve infill development.
 - West of Harwell - the site does not relate particularly well to the village, but is relatively contained within the landscape. The Landscape Capacity Study (2017) concludes 'medium/high' capacity.

- Harwell Campus - falls within the AONB; however, this is a mainly brownfield site and the entire site is a current employment allocation; hence there is good potential for redevelopment without breaching landscape capacity, also recognising that further detailed masterplanning work is programmed. See further discussion, below.
- East of Kingston Bagpuize - the site contributes to the approach to the village, but has 'high' capacity for development, from a landscape perspective.
- N of Marcham - the western fields have a strong relationship to new development to the west, but land to the east is more sensitive ('medium/high' capacity).
- SE of Marcham – is thought to have some capacity, from a landscape perspective; however, this is uncertain, with the Landscape Capacity Study (2017) not having examined this site.

10.10.2 **Core Policy 8b** (Dalton Barracks Comprehensive Development Framework) establishes that the new housing will meet exemplar design standards and following 'Garden Village' principles, which is deemed appropriate given the scale and location of the site. The Town and Country Planning Association (TCPA) have developed nine Garden Village principles including: *"beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy communities, and including opportunities to grow food."*

10.10.3 **Core Policy 15b** (Harwell Campus Comprehensive Development Framework) sets out to ensure that housing and future employment development is brought forward in line with a comprehensive development framework. This is important not only to ensure that new development supports the vision for the Campus, but to ensure development is fully integrated with the Campus and reflects its location within the North Wessex Downs Area of Outstanding Natural Beauty (AONB) and is developed to ensure that any further strategic infrastructure improvements are delivered in parallel. A comprehensive development framework will be adopted as a Supplementary Planning Document (SPD), and a Local Development Order (LDO) will also be prepared to accelerate development. Amongst other things, the development framework / SPD will cover: landscape and visual issues, including development of a 'heights parameters'; exemplar design; light pollution; and travel plans.

Commentary on other policies

10.10.4 **Development Policy 27** (Settlement Character and Gaps) aims to ensure that proposals do not compromise important gaps between settlements. In interpreting this policy the Council will take into account both the individual effects of the proposal and the cumulative effects of existing and other proposed development. The effect should be to secure the separate identity and characteristics of individual settlements, and should thereby contribute to local character and distinctiveness. This policy will compliment LPP1 Core Policy 44 (Landscape), which sets out to protect, and where possible enhance, the important landscape settings of settlements.

10.10.5 **Development Policies 4, 5 and 33** deal with specific types of development in the open countryside. Similarly, **Development Policy 10** (Rural Diversification and Equestrian Developments) supports proposals for rural diversification and new equestrian uses and buildings in the countryside. Development proposals involving new equestrian use and buildings that are associated with the keeping of horses for private use and the business of horse breeding, training and livery will be supported, where they are appropriate within the landscape and fully accord with other policies.

10.10.6 Other policies with landscape (or townscape) implications are those that deal with amenity and the public realm, including –

- **Development Policy 18** (Public Art), which seeks to support or encourage the promotion of public art in new development
- **Development Policy 19** (External Lighting), which sets out measures to ensure that development involving external lighting is appropriately designed and located.

- **Development Policy 20** (Advertisements), which sets out measures to ensure that development involving advertisements is appropriately designed and located
- **Development Policy 21** (Impact of Development on Amenity), which sets out measures to minimise the impact of development on neighbouring amenity

Appraisal of the draft plan as a whole

- 10.10.7 The spatial strategy performs well in that careful account of landscape capacity has informed the site selection process, and as such the majority of proposed allocations are relatively unconstrained in this respect. Nonetheless, there are some site-specific issues, including at Harwell Campus, which lies within the North Wessex Downs AONB (albeit the site is an existing employment allocation, and good potential to avoid impacts through careful masterplanning and design has been established).
- 10.10.8 The Development Policies perform well, and should appropriately compliment the Core Policies. In particular, detail is added in support of Core Policy 37 (Design and Local Distinctiveness) and Core Policy 44 (Landscape).
- 10.10.9 In **conclusion**, the Draft Plan performs well, but there remain some uncertainties ahead of further work. Significant negative effects are not predicted, recognising that there is much potential to examine landscape closely through site specific work ahead of plan finalisation.

10.11 Pollution

Commentary on the spatial strategy

- 10.11.1 **Core Policy 8a** (Additional Site Allocations for Abingdon-on-Thames and Oxford Fringe Sub-Area) makes provision for around 520 homes at Marcham (in addition to existing commitments). There are concerns associated with highway impact from development at Marcham and the main road through the village is identified as an Air Quality Management Area (AQMA). It is likely that the majority of additional traffic associated with the proposed allocations at Marcham would travel towards Oxford, Abingdon-on-Thames and Science Vale, thereby avoiding the centre of Marcham; however, it is noted that the South East of Marcham site intersects the AQMA (at its eastern end), and hence any new access junction would be within the AQMA. It is **recommended** that further work be undertaken to predict the increases in traffic congestion within the AQMA that would result from proposed housing growth.

Commentary on other policies

- 10.11.2 **Development Policy 19** (External Lighting) sets out measures to ensure that development involving external lighting is appropriately designed and located, recognising that light can be seen as a form of pollution. The Council's Environmental Health Team is supportive of a policy on external lighting, particularly given the need locally to assess nuisance from sources such as floodlit sports pitches, and given increasing demand for all types of outdoor lighting. In certain circumstances, applicants may be required to take appropriate measures to control the level of illumination, glare, spillage of light, angle and hours of operation. In assessing proposals that would generate external lighting, reference must also be made to **Development Policy 20** (Advertisements).
- 10.11.3 **Development Policy 21** (Impact of Development on Amenity) sets out measures to minimise the impact of development on neighbouring amenity, supplementing the high design standards required through Core Policies 37 and 38 and the Design Guide SPD. Amenity can be compromised by new development in a number of ways such as: through detrimental loss of daylight and sunlight to existing and adjacent occupiers; loss of privacy and outlook, harmful noise, odour, vibration and air pollution from existing and proposed developments.

- 10.11.4 **Development Policy 22** (Effect of Neighbouring or Previous Uses on New Developments) requires applicants to consider any potential adverse impacts from existing and potential sources. Where proposals for new development are likely to lead to adverse impacts to occupiers by neighbouring uses, appropriate mitigation measures should be incorporated into the proposal as agreed with Council officers.
- 10.11.5 **Development Policy 23** (Noise Pollution) seeks to ensure that development proposals set out a scheme of mitigation, where noise-generating development would otherwise result in an unacceptable impact on neighbouring uses, environment or biodiversity. Noise and associated vibration can have an adverse impact on environmental amenity and on biodiversity and may have a range of sources, which can include: road traffic; trains; aircraft; commercial uses; and entertainment premises. Noise pollution can lead to harmful impacts on health and well-being, which may be from direct or indirect sources, for example, through the loss of sleep or by affecting relaxation and social interaction. The planning process can assist by ensuring that, as far as possible, 'noise sensitive' developments, such as dwellings, schools, hospitals and nursing homes are located away from existing sources of noise. Furthermore, development types that may be associated with generating noise, can be located in areas where noise will be less likely to lead to harmful impacts.
- 10.11.6 **Development Policy 24** (Air Quality) sets out measures to ensure development proposals located adjacent or near to an existing AQMA are appropriately located and mitigated. Proposals should take into account the Council's Air Quality Developers Guidance. Early engagement with the Council's Air Quality Officer is also encouraged to help ensure the approach taken is acceptable. It is likely that an Air Quality Assessment will be required, where proposals are of a large scale and/or likely to significantly impact upon air quality, particularly where development is located in or near an AQMA. The level of assessment will depend on the nature, extent and location of the development.
- 10.11.7 **Development Policy 25** (Land Affected by Contamination) will be used by the Council to assess and determine the suitability of development proposals, by considering the potential implications of any existing contamination for the new development, environment, controlled waters and adjacent land and to also ensure that developers are able to demonstrate that the proposal will prevent unacceptable risk from pollution in the future. Where development, redevelopment or re-use is proposed on or adjacent to land that is suspected, or known to be contaminated, proposals should be accompanied by an appropriate level of information in the form of a Contaminated Land Preliminary Risk Consultant Report. This would typically consist of a desk-based study and a site walkover as a minimum. Where development involves a particularly vulnerable use to contamination and land is not suspected, or known to be contaminated, a Contaminated Land Questionnaire will be required as a minimum. The need for policy on land affected by contamination should be consistent with current legislation, e.g. the Water Framework Directive, the Environmental Protection Act 1990, Building Regulations and Environmental Permitting Regulations.

Appraisal of the draft plan as a whole

- 10.11.8 The proposal to focus growth at Marcham gives rise to significant concerns, given that one of the District's three designated Air Quality Management Areas (AQMA's) is found here. In other respects the spatial strategy performs well, including on the basis that no allocations are proposed in locations that would lead to worsened traffic congestion within the Abingdon Town Centre AQMA.
- 10.11.9 The pollution, environmental quality and amenity focused Development Policies perform well, and should appropriately compliment the Core Policies. In particular, detail is added in support of Core Policy 37 (Design and Local Distinctiveness) and Core Policy 43 (Natural Resources).
- 10.11.10 In **conclusion**, it is appropriate to 'flag' the potential for the plan to result in **significant negative effects**, given the Marcham AQMA issue. This matter will need to be examined in detail, ahead of plan finalisation.

10.12 Climate change mitigation

Commentary on the spatial strategy

- 10.12.1 There is a need to minimise per capita CO₂ emissions from transport, and the built environment. In respect of the former, there is little to add to the discussion presented above, under ‘Services and facilities’ and ‘Movement’. In respect of the latter, a key consideration is the need to support larger developments – in excess of 500 homes – where there will be the economies of scale that make deliver of decentralised heat and power generation a possibility.
- 10.12.2 Proposals for decentralised heat and power generation have not yet been advanced for any of the schemes under consideration; however, there could well be opportunities at Dalton Barracks, recognising that the site capacity could potentially reach as high as 3,000. There is also the possibility of exploring the option of a mixed use development, which could be supportive of decentralised heat and power, as demand would be spread more evenly across the day. It is noted that **Core Policy 8b** (Dalton Barracks Comprehensive Development Framework) establishes that the new housing will meet exemplar design standards and following ‘Garden Village’ principles, which is deemed appropriate given the scale and location of the site. The Town and Country Planning Association (TCPA) have developed nine Garden Village principles including: *“development that... uses zero-carbon and energy-positive technology to ensure climate resilience.”*

Commentary on other policies

- 10.12.3 No proposed LPP2 Development Policies are focused on climate change mitigation / low carbon development, recognising that a strong policy framework is provided by Core Policy 40 (Sustainable Design and Construction) and Core Policy 41 (Renewable Energy). However, the plan is set to perform well in terms of ‘Movement’ objectives (see discussion above), which in turn can be considered a ‘positive’, from a climate change mitigation perspective.

Appraisal of the draft plan as a whole

- 10.12.4 Focusing on the matter of minimising per capita CO₂ emissions from the built environment (as opposed to emissions from transport), the proposed spatial strategy performs well in that there is a concentration of growth at larger sites, potentially leading to opportunities to design-in low carbon infrastructure. However, there is little certainty, at this early stage.
- 10.12.5 No proposed LPP2 Development Policies are focused on climate change mitigation / low carbon development, recognising that a strong policy framework is provided by Core Policy 40 (Sustainable Design and Construction) and Core Policy 41 (Renewable Energy). See also the discussion above, regarding the performance of policies in terms of ‘Movement’ objectives.
- 10.12.6 In **conclusion**, effects are uncertain. Further work should examine the capacity of sites to deliver low carbon infrastructure. Significant effects are not predicted, recognising that climate change is a global issue (and hence local actions can have only limited effect).

10.13 Climate change adaptation

Commentary on the spatial strategy

- 10.13.1 A key climate change adaptation issue is flood risk, and in this respect there are few issues associated with the sites proposed through **Core Policies 4a, 8a and 15a**. The majority of sites are associated with a degree of surface water flood risk, although the risk is relatively minor in all instances (recognising good potential for avoidance and mitigation).

- 10.13.2 Water resource and water quality issues can also be considered here -
- In respect of water resources - A Water Cycle Study (WCS) Technical Note (2017) states: *"It is assumed that additional growth put forward for LPP2... is part of the need identified within the SHMA and is therefore already incorporated within the Water Resources Statement of Common Ground. On this basis, the conclusions and recommended actions on water availability within the 2015 WCS remain unchanged."*
 - In respect of waste water treatment, there is known to be variable capacity at Waste Water Treatment Works (WwTWs) locally; however, this matter will be examined more closely though the forthcoming detailed WCS. In terms of site specific water supply infrastructure, the WCS Technical Note (2017) states: *"this should be subject to a more detailed review by [Thames Water] in the next stage of work."*

Commentary on other policies

- 10.13.3 No proposed LPP2 Development Policies are focused on flood risk, water or other climate change adaptation related issues. However, the policies discussed above as performing well in 'Biodiversity' terms are relevant.
- 10.13.4 In respect of water quality, **Development Policy 30** (The Wilts and Berks Canal) states that proposals for the restoration of the canal must take into account the status and objectives of relevant existing waterbodies in the area, as set out in the Thames River Basin Management Plan (2015), prepared under the Water Framework Directive. The proposals will need to identify where the source of water will be obtained from to ensure that it will not have a detrimental impact on existing waterbodies, or aquatic and semi-aquatic habitats.

Appraisal of the draft plan as a whole

- 10.13.5 The spatial strategy performs well in that areas at risk of flooding are set to be avoided. Other climate change adaptation issues relate to water resources and water quality, and in this respect there is a need to await the findings of a detailed Water Cycle Strategy.
- 10.13.6 No proposed LPP2 Development Policies are focused on flood risk, water or other climate change adaptation related issues. However, the policies discussed above as performing well in 'Biodiversity' terms are relevant.
- 10.13.7 In **conclusion**, the Draft Plan performs well; however, significant effects are not predicted.

11 CONCLUSIONS AT THIS CURRENT STAGE

- 11.1.1 The appraisal finds the Draft Plan to perform well in terms of the majority of objectives, with 'significant positive effects' predicted in terms of 'Housing' (as objectively assessed housing needs should be met) and 'the Economy' (given the proposed high growth strategy within Science Vale). However, significant negative effects are predicted in terms of 'Pollution', given a risk that growth focused at Marcham would worsen traffic congestion within the designated Air Quality Management Area (AQMA). Issues or uncertainties are also highlighted in terms of 'Movement' (given a need for further evidence through Evaluation of Transport Impacts, ETI); 'Services and Facilities' (given a need to explore means of ensuring sufficient primary school capacity) and 'Landscape' / 'Biodiversity' (given several site specific issues that will need further work, including in relation to the avoidance/mitigation of AONB impacts at Harwell Campus).

PART 3: WHAT HAPPENS NEXT?

12 INTRODUCTION (TO PART 3)

- 12.1.1 The aim of this chapter is to explain next steps in the plan-making / SA process.

13 PLAN FINALISATION

- 13.1.1 Subsequent to the current consultation, the Council's intention is to prepare the Proposed Submission version of the Plan for publication. This will be the version of the plan that the Council believes to be 'sound' and intends to submit to the Government for Examination in Public. The SA Report will be published alongside the Proposed Submission Plan, with a view to informing representations.
- 13.1.2 Subsequent to publication stage, the main issues raised will be identified and summarised by the Council, who will then consider whether the plan can still be deemed to be 'sound'. Assuming that this is the case, the plan (and the summary of representations received) will be submitted for Examination. At Examination a government appointed Planning Inspector will consider representations (in addition to the SA Report and other submitted evidence) before determining whether the plan is sound (or requires further modifications).
- 13.1.3 If found to be 'sound' the plan will be formally adopted by the Council. At the time of Adoption an 'SA Statement' will be published that sets out (amongst other things) *the measures decided concerning monitoring*.

14 MONITORING

- 14.1.1 At the current time, it is appropriate (in-line with Regulations) to present 'measures envisaged concerning monitoring'.
- 14.1.2 A proposed monitoring framework is presented within Appendix H of LPP1, and links to Policy CP47 (Delivery and contingency). The LPP1 monitoring framework should provide a good basis for monitoring the effects of LPP1.
- 14.1.3 The appraisal of Draft LLP2 presented above serves to suggest that there might be a focus on monitoring indicators relating to air quality.

APPENDIX I - REGULATORY REQUIREMENTS

As discussed in Chapter 2 above, Schedule 2 of the Environmental Assessment of Plans Regulations 2004 explains the information that must be contained in the SA Report; however, interpretation of Schedule 2 is not straightforward. Table A links the structure of this report to an interpretation of Schedule 2 requirements, whilst Table B explains this interpretation.

N.B. This report is not the SA Report, but aims to present the required information nonetheless.

Table A: Questions answered by this SA Report, in-line with an interpretation of regulatory requirements

Questions answered		As per regulations... the SA Report must include...
Introduction	What's the plan seeking to achieve?	<ul style="list-style-type: none"> An outline of the contents, main objectives of the plan and relationship with other relevant plans and programmes
	What's the sustainability 'context'?	<ul style="list-style-type: none"> Relevant environmental protection objectives, established at international or national level Any existing environmental problems which are relevant to the plan including those relating to any areas of a particular environmental importance
	What's the SA scope?	<ul style="list-style-type: none"> Relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan The environmental characteristics of areas likely to be significantly affected Any existing environmental problems which are relevant to the plan including those relating to any areas of a particular environmental importance
	What's the sustainability 'baseline'?	<ul style="list-style-type: none"> Key environmental problems / issues and objectives that should be a focus of (i.e. provide a 'framework' for) assessment
Part 1	What has plan-making / SA involved up to this point?	<ul style="list-style-type: none"> Outline reasons for selecting the alternatives dealt with (and thus an explanation of the 'reasonableness' of the approach) The likely significant effects associated with alternatives Outline reasons for selecting the preferred approach in-light of alternatives assessment / a description of how environmental objectives and considerations are reflected in the draft plan
Part 2	What are the SA findings at this current stage?	<ul style="list-style-type: none"> The likely significant effects associated with the draft plan The measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the draft plan
Part 3	What happens next?	<ul style="list-style-type: none"> A description of the monitoring measures envisaged

Table B: Questions answered by this SA Report, in-line with regulatory requirements

<u>Schedule 2</u>	<u>Interpretation of Schedule 2</u>	
<i>The report must include...</i>	<i>The report must include...</i>	
(a) an outline of the contents, main objectives of the plan and relationship with other relevant plans and programmes;	An outline of the contents, main objectives of the plan and relationship with other relevant plans and programmes	i.e. answer - <i>What's the plan seeking to achieve?</i>
(b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan	Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance	i.e. answer - <i>What's the 'context'?</i>
(c) the environmental characteristics of areas likely to be significantly affected;	The relevant environmental protection objectives, established at international or national level	
(d) any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;	The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan'	
(e) the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation;	The environmental characteristics of areas likely to be significantly affected	
(f) the likely significant effects on the environment including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors;	Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance	i.e. answer - <i>What's the 'baseline'?</i>
(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan;	Key environmental problems / issues and objectives that should be a focus of appraisal	
(h) an outline of the reasons for selecting the alternatives dealt with and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information	An outline of the reasons for selecting the alternatives dealt with (i.e. an explanation of the 'reasonableness of the approach)	i.e. answer - <i>What has Plan-making / SA involved up to this point?</i> [Part 1 of the Report]
(i) a description of the measures envisaged concerning monitoring.	The likely significant effects associated with alternatives, including on issues such as... ... and an outline of the reasons for selecting the preferred approach in light of the alternatives considered / a description of how environmental objectives and considerations are reflected in the draft plan.	
	The likely significant effects associated with the draft plan	i.e. answer - <i>What are the assessment findings at this current stage?</i> [Part 2 of the Report]
	The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects of implementing the draft plan	
	A description of the measures envisaged concerning monitoring	i.e. answer - <i>What happens next?</i> [Part 3 of the Report]

Whilst Tables A and B signpost broadly how/where this report meets regulatory requirements, as a supplement, Table C presents a discussion of more precisely how/where regulatory requirements are met.

Table C: ‘Checklist’ of how and where (within this report) requirements have been, are and will be met.

Regulatory requirement	Discussion of how requirement is met
Schedule 2 of the regulations lists the information to be provided within the SA Report	
a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes;	Chapter 3 (‘What’s the plan seeking to achieve’) presents this information.
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;	These matters have been considered in detail through dedicated scoping work, which has involved consultation on a Scoping Report (2012), a Scoping Update report (2016) and also opportunities to comment on the SA scope as presented in LPP1 SA documents (e.g. the SA Report, 2014).
c) The environmental characteristics of areas likely to be significantly affected;	
d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC.;	<p>The outcome of scoping was an ‘SA framework’, and this is presented within Chapter 4 (‘What’s the scope of the SA’).</p> <p>Also, more detailed messages - i.e. messages established through context and baseline review - are presented within Appendix II.</p>
e) The environmental protection, objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental, considerations have been taken into account during its preparation;	<p>The Scoping Report presents a detailed context review, and explains how key messages from the context review (and baseline review) were then refined in order to establish an ‘SA framework’.</p> <p>The SA framework is presented within Chapter 4 (‘What’s the scope of the SA’). Also, messages from the context review are presented within appendix II.</p> <p>With regards to explaining “<i>how... considerations have been taken into account</i>” -</p> <ul style="list-style-type: none"> • Chapters 6 explains how reasonable alternatives were established in 2017 in-light of earlier consultation and SA. • Chapter 8 explains the Council’s ‘reasons for supporting the preferred approach’, i.e. explains how/why the preferred approach is justified in-light of alternatives appraisal (and other factors).
f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (Footnote: These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects);	<ul style="list-style-type: none"> • Chapter 7 presents alternatives appraisal findings (in relation to the spatial strategy, which is the ‘stand-out’ plan issue and hence that which should be the focus of alternatives appraisal/consultation). • Chapters 10 presents the Draft Plan appraisal. <p>As explained within the various methodology sections, as part of appraisal work, consideration has been given to the SA scope, and the need to consider the potential for various effect characteristics/dimensions.</p>

Regulatory requirement	Discussion of how requirement is met
g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;	At the current time, the appraisal of the Draft Plan (Chapter 10) identifies how the plan might potentially 'go further' in certain respects, and makes a number of specific recommendations.
h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;	<p>Chapters 5 and 6 deal with 'Reasons for selecting the alternatives dealt with', in that there is an explanation of the reasons for focusing on particular issues and options.</p> <p>Also, Chapter 8 explains the Council's 'reasons for selecting the preferred option' (in-light of alternatives appraisal).</p> <p>Methodology is discussed at various places, ahead of presenting appraisal findings, and limitations are also discussed as part of appraisal narratives.</p>
i) description of measures envisaged concerning monitoring in accordance with Art. 10;	Chapter 13 presents measures envisaged concerning monitoring.
j) a non-technical summary of the information provided under the above headings	The NTS is a separate document.
The SA Report must be published alongside the draft plan, in-line with the following regulations	
authorities with environmental responsibility and the public, shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme (Art. 6.1, 6.2)	At the current time, this Interim SA Report is published alongside the Draft Plan, under Regulation 18, in order to ensure informed consultation responses. This report essentially presents the information required of the SA Report.
The SA Report must be taken into account, alongside consultation responses, when finalising the plan.	
The environmental report prepared pursuant to Article 5, the opinions expressed pursuant to Article 6 and the results of any transboundary consultations entered into pursuant to Article 7 shall be taken into account during the preparation of the plan or programme and before its adoption or submission to the legislative procedure.	<p>Consultation responses made in relation to the Draft Plan, informed by this Interim SA Report, will be taken into account when preparing the Proposed Submission Plan for publication and submission.</p> <p>Appraisal findings presented within the SA Report will inform a decision on whether or not to submit the plan, and then (on the assumption that the plan is submitted) will be taken into account when finalising the plan at Examination (i.e. taken into account by the Inspector, when considering the plan's soundness, and the need for any modifications).</p>

APPENDIX II - CONTEXT AND BASELINE REVIEW

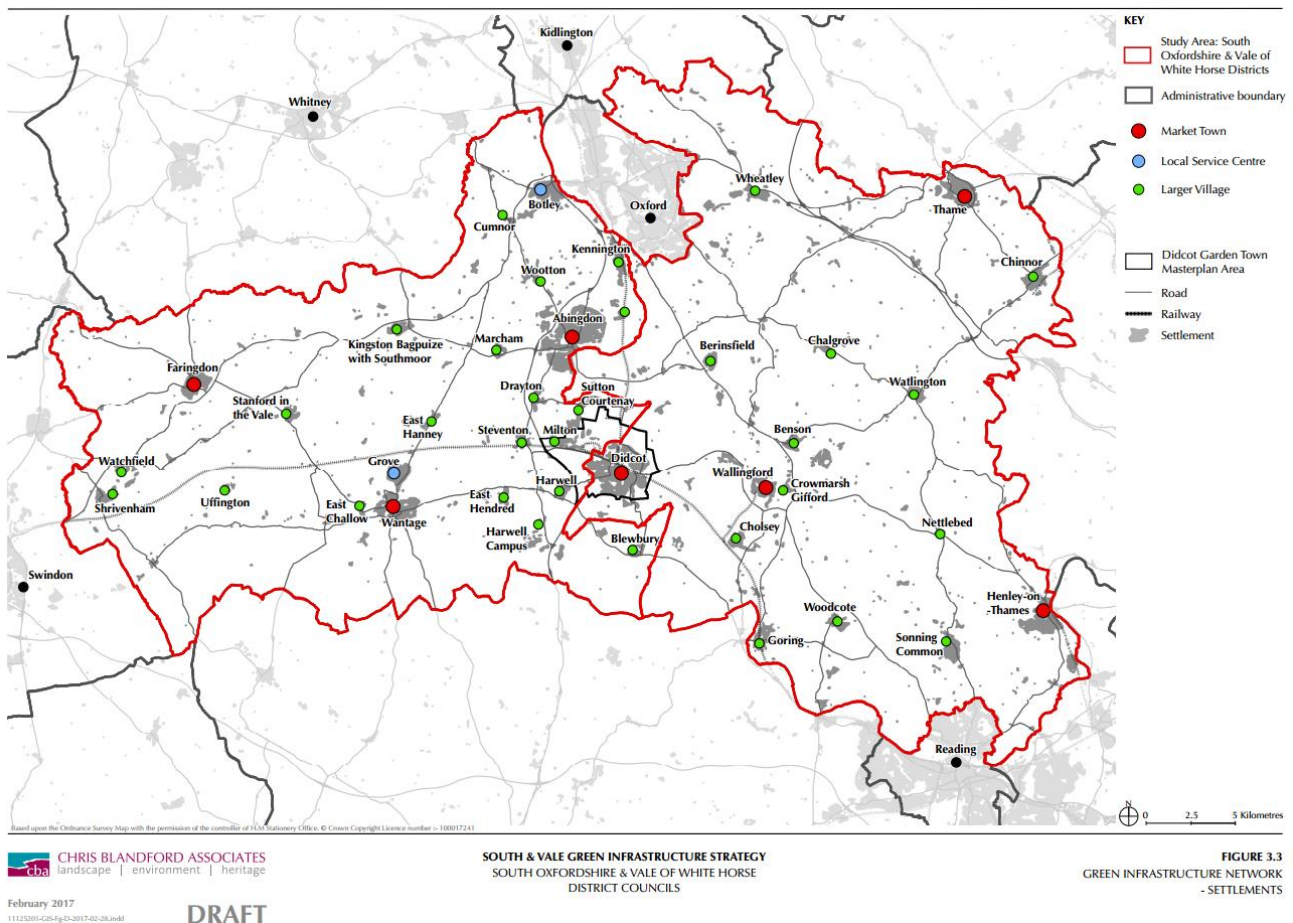
Introduction

As discussed in Chapter 4 ('What's the scope of the SA?') the SA scope is primarily reflected in a list of objectives ('the SA framework'), which was established subsequent to a review of the sustainability 'context' / 'baseline', analysis of key issues, and consultation. The aim of this appendix is to present a summary key issues emerging from context / baseline review.

Overview

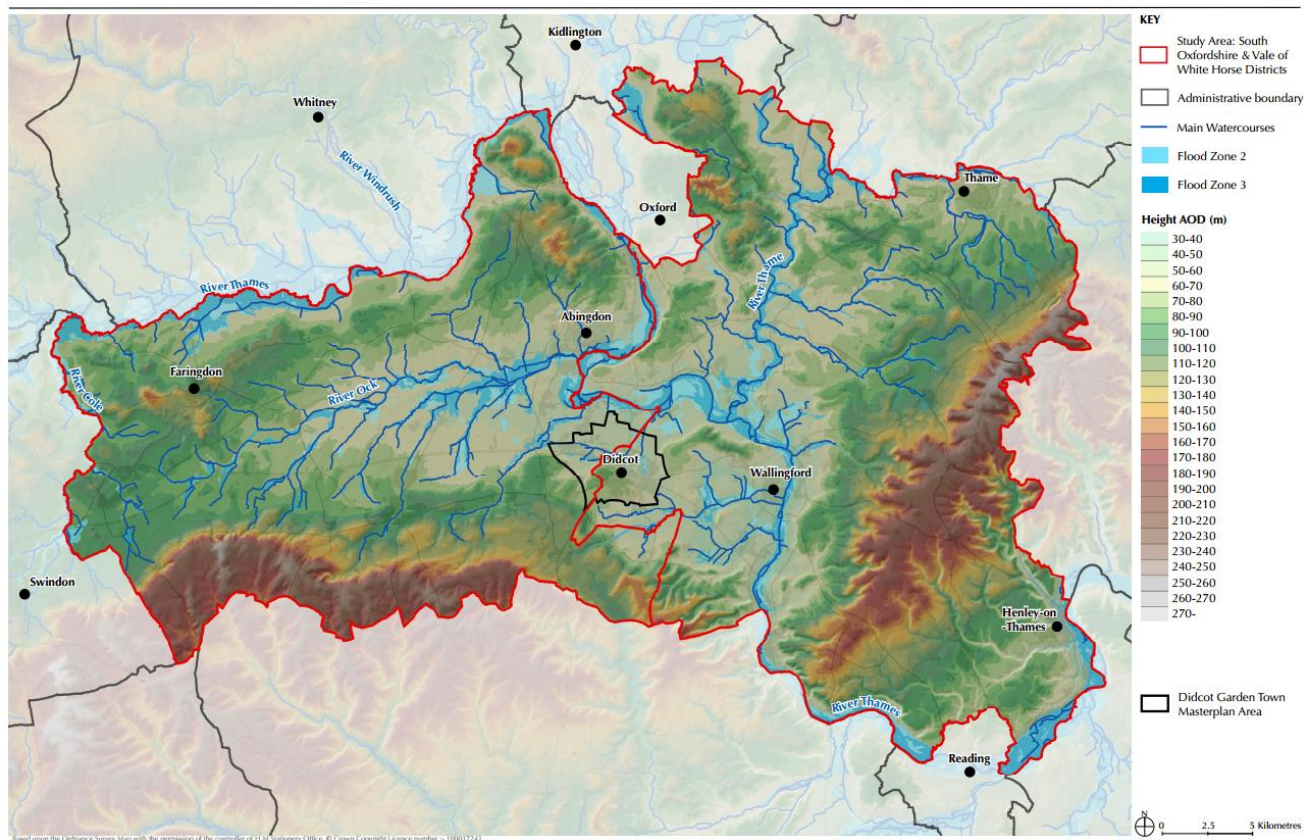
Vale of White Horse District is located in southern Oxfordshire, to the southwest of Oxford, with Swindon (Wiltshire) to the west and Reading (Berkshire) to the east. Figure A shows the main settlements within the Vale, i.e. those that fall within the top three tiers of the settlement hierarchy. It also shows settlements in neighbouring South Oxfordshire District, to the east, including the large and expanding town of Didcot. As can be seen, South Oxfordshire is a more rural district, although the Western Vale is also distinctly rural.

Figure A: Settlements in the Vale of White Horse and South Oxfordshire Districts



The District is covered by three of Natural England's broad scale National Character Areas - Midvale Ridge, the Upper Thames Clay Vales, and Berkshire and Marlborough Downs – which are evident in the topographical map below (moving north to south). Each of the character areas is associated with specific environmental sensitivities, with the latter partly comprising the North Wessex Downs Area of Outstanding Natural Beauty (AONB). The River Ock and its tributaries are also evident from Figure B, with areas of flood risk particularly constraining the south of Abingdon, as well Steventon and East Hanney.

Figure B: Topography and flood risk



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SOUTH & VALE GREEN INFRASTRUCTURE STRATEGY
SOUTH OXFORDSHIRE & VALE OF WHITE HORSE
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FIGURE 1.2
TOPOGRAPHY & HYDROLOGY

The Vale is a relatively affluent district, performing well above the England and Wales average for a range of key socio-economic indicators – see Table A. However, the Vale does perform worse than neighbouring South Oxfordshire in terms of the latter three criteria.

Table A: Population statistics

Criteria (People aged 16 and over – 2011)	VoWH	SODC	England and Wales
Ethnicity (percentage white)	95%	96%	86%
Degree or professional qualification	44.3%	44%	31.5%
No qualifications	16.7%	16.5%	22.5%
Employed in senior positions	50%	50%	41%
Home ownership	70.3%	72.9%	
Social rented homes	13.3%	11.4%	17.7%
Car or van availability within households	86.9%	88.4%	74%

Homes

Key aims of the NPPF are to widen the choice of high quality homes (paragraph 9) and boost significantly the supply of housing (paragraph 47). Local planning authorities are required to ensure their Local Plan meets the full, objectively assessed needs for market and affordable housing in the housing market area.

The NPPF (paragraph 159) is clear that all local planning authorities are expected to prepare a Strategic Housing Market Assessment (SHMA) to assess their full housing needs, working with neighbouring authorities. The SHMA needs to identify the scale, mix and range of housing tenures required to meet needs, including the needs of specific groups such as older people, people with disabilities and people wishing to build their own homes.

An important finding of the Oxfordshire SHMA (2014) is that the older person population of Oxfordshire is projected to increase significantly up until 2031, resulting in increased specialist housing needs, e.g. sheltered or extra care provision. Also, whilst currently 22% of households contain someone with a long-term health problem or disability, this percentage figure is set to increase significantly up to 2031. The Joint Strategic Needs Assessment (JSNA) – Needs Analysis for Older People in Oxfordshire (2016) - is another source of evidence.

Housing space standards is a related policy area. The PPG advises that local planning authorities should consider adopting the nationally established standards, but also states that local planning authorities have the option to set additional technical requirements which exceed the minimum standards. The SHMA along with any other available datasets will provide the evidence and it is then for the local planning authority to set out how it intends to approach demonstrating the need for additional requirements, including relating to accessible and adaptable dwellings and wheelchair user dwellings.

The Council, in partnership with South Oxfordshire District Council have commissioned Wessex Economics to produce a joint Housing Strategy for the Councils. Emerging draft findings further highlight the need for housing to meet specialist and older population needs, including adaptable and flexible housing to meet the changing needs of households. The Strategy sets out some options for the Council to consider making more specific provision for specialist housing, which could include allocating specific sites to meet this need or consider opportunities as part of Didcot Garden Town. The Strategy suggest suggests the following space standards:

- All affordable homes should meet the nationally described space standards.
- In the market sector, the Councils should apply the minimum space standard for 1 bed properties.

Services and facilities

Community services and facilities play a key role in creating and sustaining healthy and inclusive communities. The quality and accessibility of community services, such as schools, places of worship, village and community halls and libraries is important as part of maintaining sustainable and viable places.

National policy is clear that development should support local services and facilities to meet local needs. Paragraph 70 of the NPPF, for example, sets out the need to plan positively for the provision of community facilities and to protect against their unnecessary loss.

The Town and Village Facilities Study Update (Feb 2014) recorded the key community services and facilities within each settlement, such as; schools, shops, places of worship, pubs, restaurants, post office, building society, medical centres, library, and community or village halls.

The Local Leisure Facilities Study (2016) included assessment of needs for village and community halls and identified standards for accessibility, quantity and quality of such provision. It recommends to apply a local standard of 120sq m per 1000 population.

Movement

A focus of LPP1 is on support for sustainable modes of transport and a reduction in the need to travel. This is consistent with the objectives set out in the NPPF and the Oxfordshire Local Transport Plan 4 (LTP4, 2016). The Local Transport Plan includes Area Strategies for the Science Vale area and the A420, which are both located within the Vale of White Horse.

LPP1 identifies a number of site-specific proposals. In particular, the spatial focus for new jobs and homes to be located in the Science Vale area is recognised by LPP1 as requiring a comprehensive package of supporting transport infrastructure, and this is set out in more detail by Core Policy 17. Core Policies 12, 18, 19 and 21 also safeguard land to support the future delivery of strategic highway improvements.

In general, established strategy involves diverting traffic away from the A34, including by a new Thames crossing near Culham and utilising the A415 and A4074 as alternative routes between Didcot, Oxford and Abingdon, and implementing upgrade schemes on the A420, A417, A338 and A4130, and enhanced public transport.

The Part 1 plan also identifies a number of strategic policies (Core Policies 33-36) which seek to promote sustainable transport modes and accessibility and through supporting key improvements to the transport network, including a specific policy relating to the A34. Specifically

- Core Policy 33 - sets out how the Council will work with the County Council and others to promote sustainable transport accessibility to new development, including LTP4 measures;
- Core Policy 34 - recognises that the Council will continue to work with Highways England and Oxfordshire County Council in planning for managing traffic on the A34, including addressing air quality;
- Core Policy 35 - sets out how the Council will ensure that new development promotes public transport, cycling and walking; and
- Core Policy 36 - sets out the district's intention to ensure that superfast broadband is provided in new development, which will maximise opportunities for working and accessing services at home.

Health

There is also a need to support strong, vibrant and healthy communities by creating a high quality built environment that supports health, social and cultural well-being and *"encourage multiple benefits from the use of land in urban and rural areas, recognising that open land can perform a function for recreation"* (NPPF paragraph 17). To ensure development promotes health, social and cultural well-being, local planning authorities should:

- aim to achieve places which promote safe and accessible developments containing.....high quality public spaces which encourages the active and continual use of public areas (paragraph 59);
- ensure planning policies are based on robust and up-to-date assessments of the needs for open space, sports and recreation facilities and opportunities for new provision (paragraph 73); and
- protect existing open space, sports and recreational buildings and land, including playing fields subject to certain criteria (paragraph 74).

Health determinants / issues are wide ranging. The ageing population gives rise to a number of health issues; and other health issues relate to provision of health facilities. These matters relate closely to the discussion above, under 'Housing' and 'Services/facilities'.

Open space, greenspace and leisure facilities

There is a good level of access to a range of open spaces across the district, although the provision of open space does vary within individual settlements. The Open Spaces Report (2016) highlights where any shortfalls in open space provision exist across the district and provides an assessment of the quantity, quality and accessibility of open spaces and identifies any future requirements.

The Green Infrastructure Strategy (2017) has examined access to accessible natural greenspace (ANG) across the Vale, considering three different classes of ANG: Sites Greater than 2 Hectares; Sites Greater than 20 Hectares; and Sites Greater than 100 Hectares. The analysis found deficits in ANG at all three size classes. The deficit varies across – see Table B.

The Vale has a good level of provision and access to a range of leisure and sports facilities. The Playing Pitch Study (2015) and the Leisure Facilities Study (2014) provide an up-to-date assessment of the quality, quantity, and accessibility of each type of leisure and sport facility in the district. The Local Leisure Facilities Report (2016) then examined local leisure facilities, including community halls, outdoor bowls and outdoor tennis.

Table B: Accessible Natural Greenspace Deficits by Settlement

Settlement	2ha+ site within 300m	20ha+ site within 2km	100ha+ site within 5km
Market Towns			
Abingdon-on-Thames	Partial deficit	Partial deficit	No deficit
Faringdon	Partial deficit	Partial deficit	No deficit
Wantage	Partial deficit	No deficit	Deficit
Local Service Centres			
Botley	Partial deficit	Partial deficit	No deficit
Grove	Partial deficit	No deficit	Deficit
Larger Villages			
Blewbury	Partial deficit	Deficit	Deficit
Cumnor	Partial deficit	Partial deficit	No deficit
Drayton	Partial deficit	Deficit	Deficit
East Challow	No deficit	Partial deficit	Deficit
East Hanney	Partial deficit	Deficit	Deficit
East Hendred	Partial deficit	Deficit	Deficit
Harwell	Partial deficit	Deficit	Deficit
Harwell Campus	Partial deficit	Deficit	Deficit
Kennington	Partial deficit	No deficit	No deficit
Kingston Bagpuize with Southmoor	Partial deficit	Deficit	Deficit
Marcham	Partial deficit	Deficit	Deficit
Milton	Partial deficit	Deficit	Deficit
Radley	Deficit	No deficit	No deficit
Shrivenham	Partial deficit	Deficit	Deficit
Stanford in the Vale	Partial deficit	Deficit	Deficit
Steventon	Partial deficit	Deficit	Deficit
Sutton Courtney	Partial deficit	Partial deficit	Partial deficit
Uffington	No deficit	Deficit	Deficit
Watchfield	Partial deficit	Deficit	Deficit
Wootton	Partial deficit	Partial deficit	Partial deficit

Inequality and exclusion

As discussed above, the Vale is an affluent district. Areas of relative deprivation are found along the southern edge of Oxford, and within the northern part of Didcot; however, there is seemingly little potential to support any regeneration objectives through LPP2, beyond providing for an apportionment of Oxford's unmet housing needs, and supporting objectives for Science Vale / Didcot Garden Town.

The Index of Multiple Deprivation Dataset also indicates a degree of relative deprivation in Faringdon (it comprises the third most deprived Lower Super Output Area in the District, out of 76), which is the only market town in the Western Vale. This is potentially indicative of there being some wider issue of rural deprivation, i.e. deprivation relating from poor access to services, facilities and employment.

Focusing on the matter of ‘rurality’, the NPPF supports: housing located where it will enhance or maintain the vitality of rural communities (paragraph 55); the retention and development of local services and community facilities in villages (paragraph 28); and a strong rural economy, including through the sustainable growth and expansion of all types of business and enterprise in rural areas (paragraph).

LPP1 supports appropriate development to help meet the local needs of the Vale’s rural communities. For example, Core Policy 28 (New Employment Development on Unallocated Sites) sets out the Council’s approach for the provision of new employment development on unallocated sites, including in rural areas. This policy supports the re-use, conversion and adaptation of buildings for employment in rural areas, subject to criteria.

Economy

The NPPF (paragraph 7), identifies that the planning system plays an economic role in contributing to building a strong, responsive and competitive economy. One of the core land-use planning principles is that planning should ‘proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs’.

The NPPF is clear that Local Planning Authorities should have a good understanding of business needs in their area, and should use their evidence base to assess the needs for employment land and floorspace and assess the existing supply of land (paragraph 161). The NPPF (paragraph 21) encourages consideration existing business sectors and new or emerging sectors, including support for clusters or networks of knowledge driven, creative or high technology industries.

In order to identify needs, the PPG states that authorities should work with other local authorities in their functional economic market area in line with the ‘duty-to-cooperate’. There is also a need to work closely with the Local Enterprise Partnership.

The Vale of White Horse Employment Land Review 2013 Update, URS, 2013 (including Addendum 2014) identifies the amount of land that is required to be designated to enable the jobs target to be met. The report supports the retention of around 219 ha of developable employment land, comprising the following sites safeguarded through LPP1 (ahead of further information on the availability of land at Didcot A Power Station) –

- Harwell Campus (saved LP2011 allocation): 94 ha
- Milton Park (saved LP2011 allocation): 28 ha
- Other saved LP2011 allocations: 13 ha
- Didcot A Power Station: 29 ha
- North Grove Monks Farm: 6 ha
- Faringdon South Park Road: 3 ha
- Milton Hill Business and Technology Centre: 11.2 ha
- Harwell Campus (other land outside of the EZ): 35 ha

A key objective relates to employment growth within the Science Vale, which comprises the majority of land within the South East Vale Sub Area (see Figure 3.1, above). Science Vale sits at the southern end of the Oxfordshire ‘Knowledge Spine’; arguably one of the most important growth corridors in the region. Science Vale is established as a key growth area by the Oxfordshire Strategic Economic Plan and is the focus of significant investment from the Oxford and Oxfordshire City Deal, announced in 2014. The City Deal seeks to support a wave of innovation-led growth. The research and development activity that takes place in Science Vale is primarily located within the three centres for science, at Harwell Campus, Culham Science Centre and Milton Park. These centres contain certain facilities that are unique to the UK, including the Diamond Light Source (the UK’s national synchrotron facility), the ISIS neutron facility and the JET (Joint European Torus) facility. Outside these centres for science, there is an array of businesses, including Williams F1 headquarters at Grove.

Town centres

The NPPF sets out the Government’s approach towards “Ensuring the vitality of town centres”. Two of the key aims of the NPPF are the need to take account of the different roles and character of different areas and; promote vitality of urban areas (paragraph 17). The NPPF (paragraph 23) indicates that, ‘in drawing up local plans, Local Planning Authorities should, amongst other things:

- recognise town centres as the heart of their communities and pursue policies to support their viability and vitality;
- define a network and hierarchy of centres that is resilient to anticipated future economic changes; and
- define the extent of town centres and primary shopping areas, based on a clear definition of primary and secondary frontages in designated centres, and set policies that makes clear which uses will be permitted in such locations.

LPP1 seeks to maintain and enhance the vitality and viability of the Vale's town centres and local shopping centres and to strengthen their service centre roles. The Spatial Strategy reinforces the service centre roles of the Vale's main settlements, by concentrating retail provision in the town centres of Abingdon-on-Thames, Wantage and Faringdon and the smaller centres of Grove and Botley. Key policies are Core Policy 10 (Abbey Shopping Centre and the Charter) and Core Policy 11 (Botley Central Area). Core Policy 32 (Retail Development and other Main Town Centre Uses) then supports proposals for new retail development and town centre uses in the Market Towns and Local Service Centres.

The Retail and Town Centres Study Update (2016) presents an audit of the main town centre, primary and secondary shopping frontage boundaries, and updated the retail and leisure capacity predictions to accommodate the additional growth proposed in LPP2. The study indicates that previous saved policies from the 2011 Local Plan have been successful in retaining existing retail uses and preventing changes of use to non-A1 uses in the town centres. The percentages of Class A1 uses within the district's town centres are all at, or above, the national average of 56.5% and show that:

- Within the primary frontages in Abingdon the proportion of Class A1 retail uses within the primary frontages was 62.6% at the end of 2016. The equivalent figure for secondary frontages was 46.5%. The number of ass A1 and other A uses has not reduced significantly and the number of vacant units has reduced.
- In Wantage the primary frontages have 59.2% Class A1 and the secondary frontages 54.2%.
- In Faringdon town centre the proportion of Class A uses is 56.8%

Natural environment

At the European level, the EU Biodiversity Strategy was adopted in May 2011 in order to deliver an established new Europe-wide target to 'halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020'.

The NPPF states that planning policy should:

- contribute to the government's commitment to halt the overall decline in biodiversity by minimising impacts and achieving net gains in biodiversity wherever possible;
- promote the 'preservation, restoration and recreation of priority habitats, ecological networks' and the 'protection and recovery of priority species'; and
- plan for biodiversity at a landscape-scale, across local authority boundaries.

LPP1 seeks to protect and enhance biodiversity through Core Policy 46, and ensure that new development provides an appropriate contribution to delivering Green Infrastructure (Core Policy 45), taking account of the Council's Green Infrastructure Strategy, which sets out a vision for the creation of an interconnected, multifunctional network of green and blue spaces and corridors in the Vale.

Whilst difficult to decipher, concentrations of biodiversity assets are evident from Figure C. The figure shows a concentration of assets – including ancient woodland, several local wildlife sites (LWSs), several nationally important sites of special scientific interest (SSSIs), and one internationally important special area of conservation (SAC) – to the north and west of Abingdon. Much of this area is also designated as a Conservation Target Area (CTA), i.e. an area where there is an established opportunity to contribute to the Biodiversity Action Plan Targets in the South East Biodiversity Strategy (February 2009), through creating, restoring and enhancing priority habitats. Concentrations of habitats are more easily deciphered from Figure D; in particular, a concentration of woodland along the Corralian Ridge is evident, as are significant patches of wetland habitat associated with the River Ock.

Water courses are not evident from the figures below, despite comprising a key element of the Vale's ecological and green (blue) network. Of specific note are the Vale's globally rare chalk streams. There are only around 200 chalk streams in the world, and 85% of these are found in England. LPP1 recognises the contribution of waterways and river corridors to the character, biodiversity and landscape quality in the Vale.

Figure C: Biodiversity assets

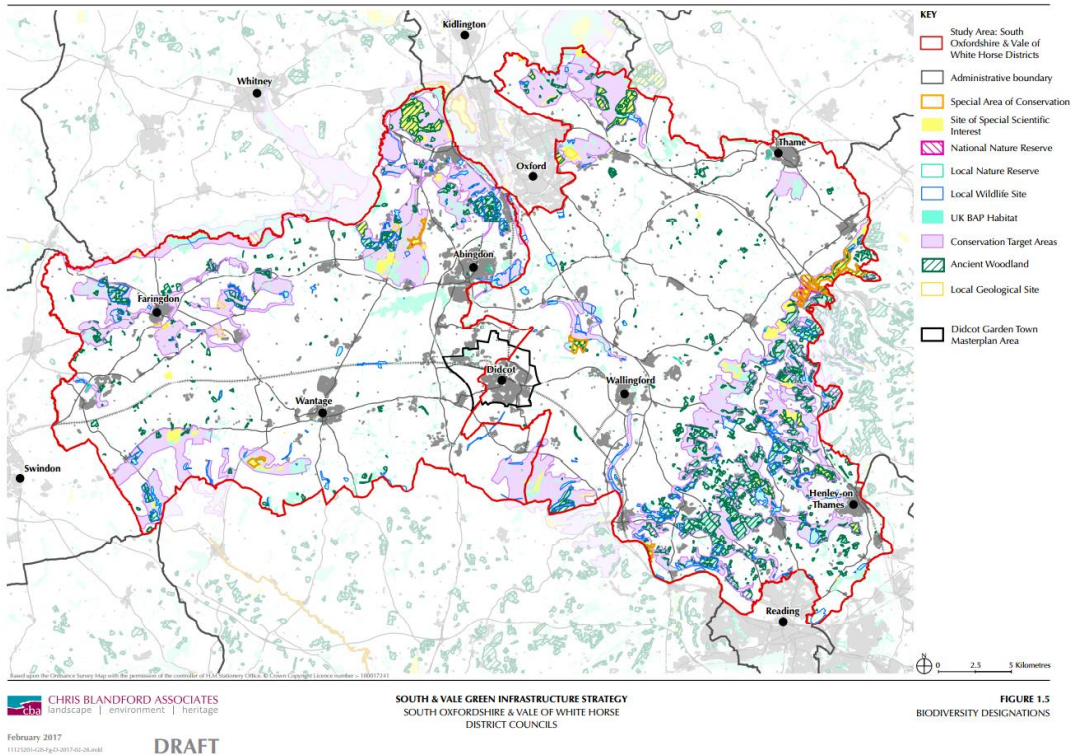
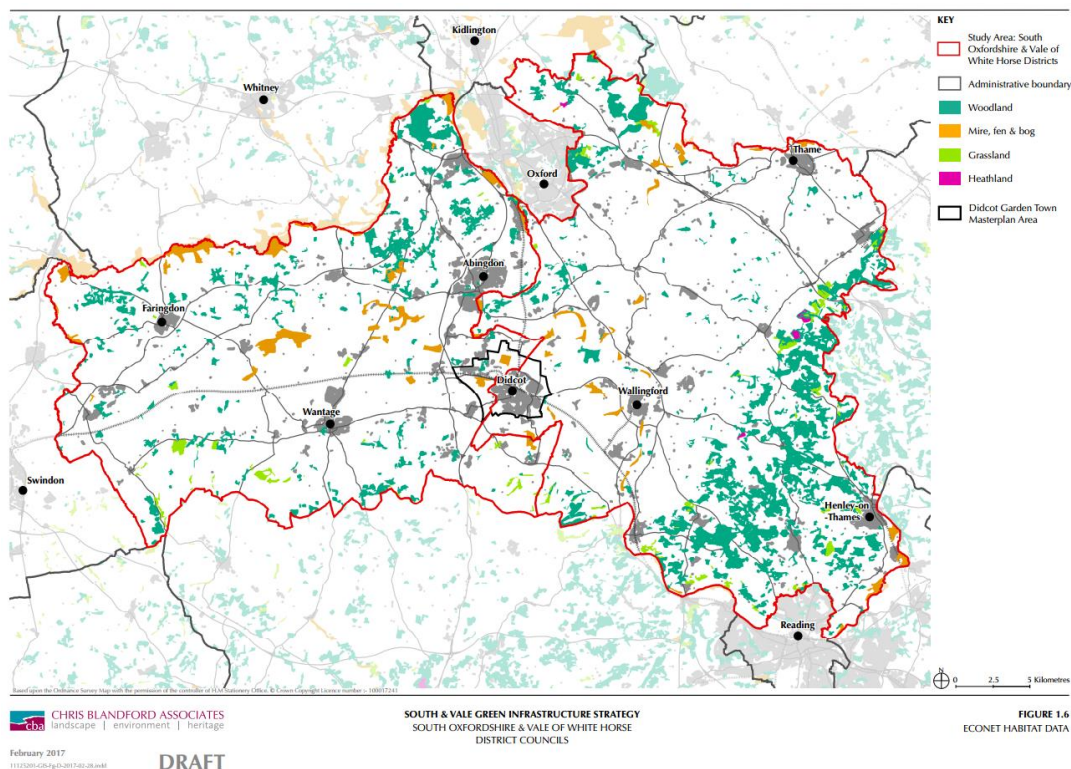


Figure D: BAP Priority Habitat



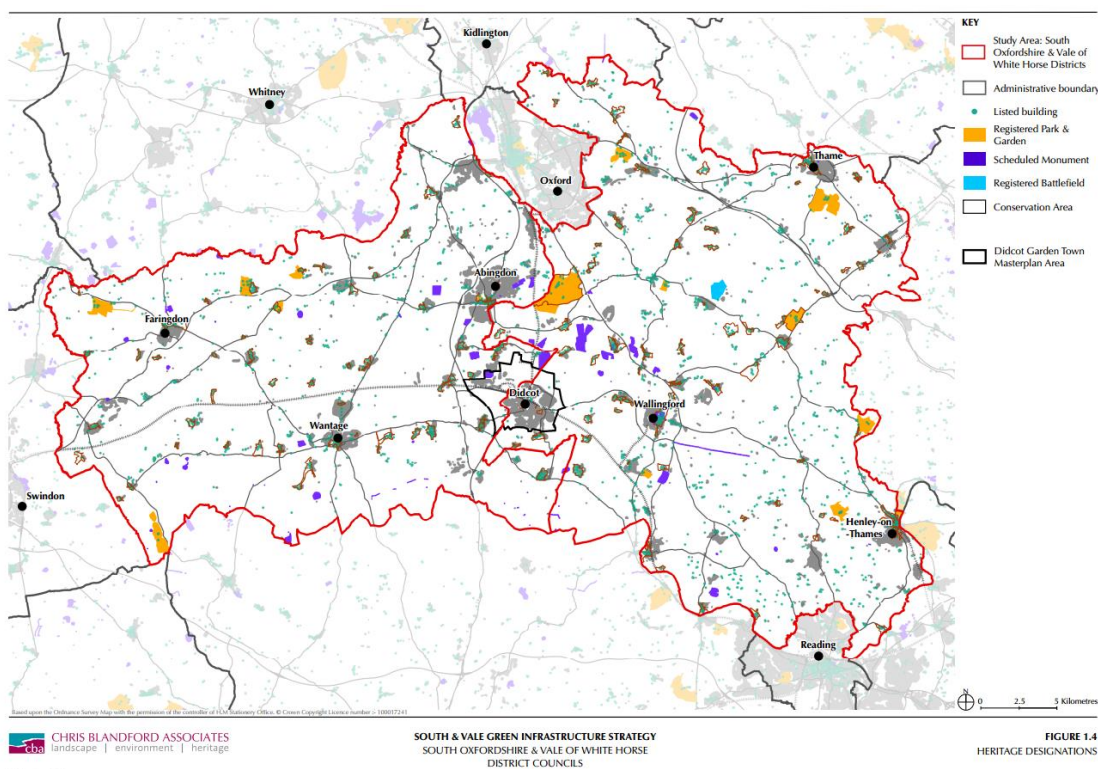
Heritage

National policy and guidance places significant emphasis on the need to conserve heritage assets in a manner appropriate to their significance so they can be enjoyed and continue to contribute towards the quality of life of current and future generations. LPP1 seeks to ensure all new development conserves and enhances the natural, historic, cultural and landscape assets of the Vale. Core Policy 39 (Historic Environment) sets a framework to ensure proposals conserve and enhance heritage assets.

The Vale of White Horse benefits from substantial heritage assets that make a positive contribution towards the district's local character and distinctiveness. Assets also have wider social, cultural, economic and environmental benefits by encouraging community pride, and promoting tourism. Heritage assets may be 'designated' or 'non-designated'. Whilst difficult to decipher, there are a number of points to take from Figure E, which show heritage assets within the District. Points to note include –

- Most, but not all settlements are associated with a conservation area (there are 52 in total). Abingdon and Wantage are both associated with two conservation areas.
- There is a 'string' of historic villages with conservation areas along the springline at the foot of the downs scarp slope, either side of Wantage, with East Challow and Rowstock notable for not having a conservation area.
- Other notable settlements without conservation areas include Botley, Wootton, Radley and Kennington (N.B. settlements without conservation areas tend to be in the Abingdon and Oxford Fringe area).
- Most settlements have extended well beyond their conservation areas, although there is considerable variation. For example, Marcham has extended east beyond its conservation area.
- There are concentrations of listed buildings outside of conservation areas, for example at Shippon and Kingston Bagpuize. Also, there listed buildings associated with certain roads, for example through Grove and to the north of Wootton.
- There is a high concentration of scheduled monuments in the Didcot/Abingdon area, associated with ancient settlement sites.
- Registered Parks and Gardens are found only in the Western Vale.

Figure E: Heritage assets



Landscape

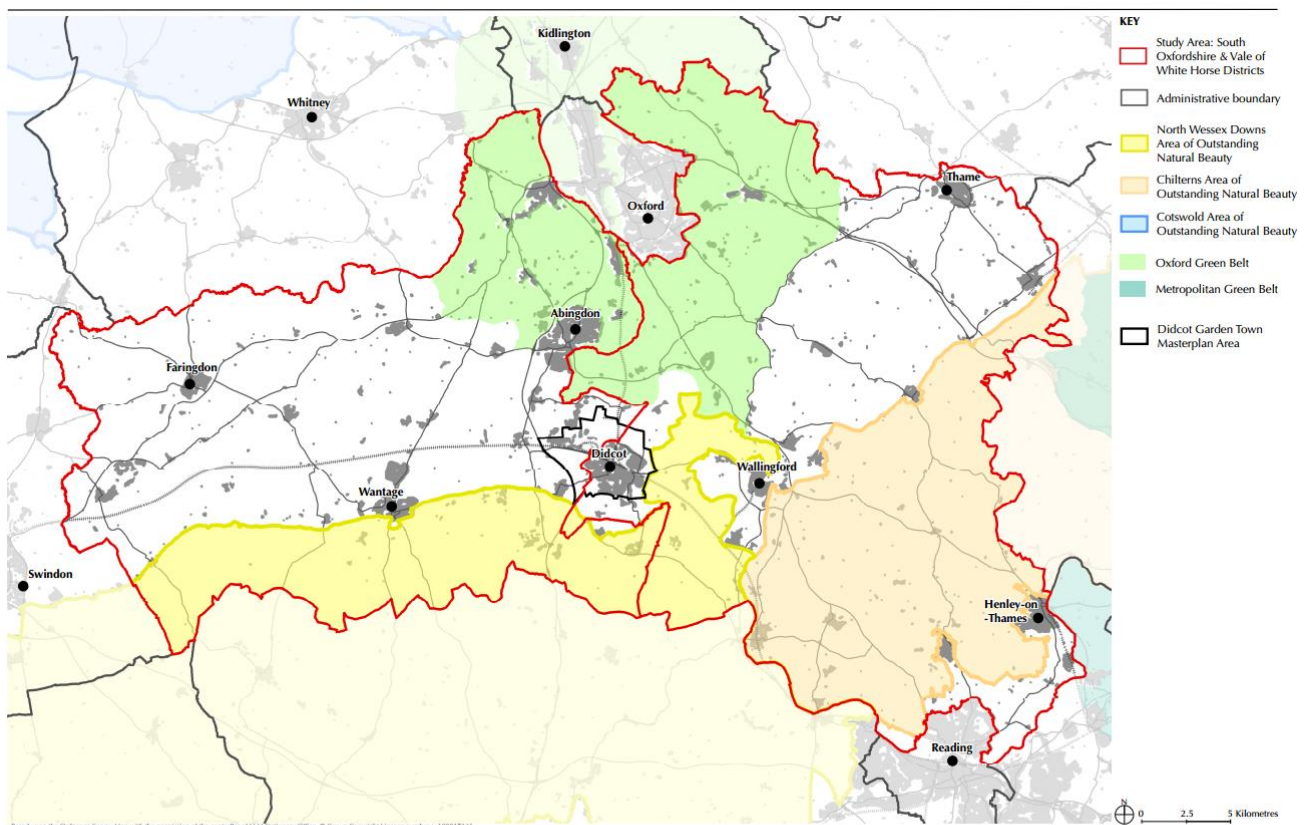
Key aims of the NPPF are the need to contribute to conserving and enhancing the natural environment, to take account of the different roles and character of different areas and recognising the intrinsic character and beauty of the countryside (paragraph 17).

The following LPP1 policies are of key relevance:

- Core Policy 44 (Landscape) ensures the Vale's distinctive and intrinsic landscape and key features are protected from harmful development
- Core Policies 37 and 38 ensures new development responds positively to the surrounding local context, including key features and assets within the Vale's landscape.

The District is covered by three of Natural England's broad scale National Character Areas: the Upper Thames Clay Vales, Midvale Ridge, and Berkshire and Marlborough Downs. A county-wide assessment is provided by the Oxfordshire Wildlife and Landscape Study (OWLS 2004) which divides Oxfordshire into 9 large scale 'character areas' which broadly accord with the National Character Areas. Each character area consists of a mosaic of smaller 'landscape types'. The southern portion of the District lies within the North Wessex Downs Area of Natural Beauty (AONB) – see Figure F.

Figure F: AONB and Green Belt



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FIGURE 1.3
PROTECTED LANDSCAPES & GREEN BELT

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The Landscape Character Assessment (2017) characterises each of the following Landscape Character Types (LCTs): Downs Open Farmland, Downs with Woodland, Downs Scarp, Downs Footslopes, Corallian Limestone Ridge with Woodland, Wooded Corallian Limestone Ridge, River Floodplain, River Valley Floor, Lower Vale Farmland, Upper Vale Farmland, Upper Vale with Woodland, Former Airfield. Given the spread of sites in contention for allocation, understanding of the following LCTs is particularly pertinent (moving north to south) –

- The Wooded Corallian Limestone Ridge protrudes above the clay and alluvial landscapes to the north and south. The LCT includes extensive tracts of woodland which are predominantly ancient woodland. The Woodland is prominent in the local landscape, located on high ground including Wytham Hill to the north-west of Oxford, Boars Hill to the south-west of Oxford, and on the north side of the ridge near Appleton. The density of woodland breaks down in places, giving way to groups of low density dwellings set within surrounding tree cover, in particular around Boars Hill. This LCT is not extensive, and not likely to be a focus of housing growth, given its sensitivity.
- The Corallian Limestone Ridge wraps around the LCT discussed above, and is much more extensive, stretching east-west across the north of the District, affecting settlements including Cumnor, Wootton, Marcham and Kingston Bagpuize. The north facing slopes are relatively steep, whilst the south facing slopes are gentler and form a transition to Upper Vale to the south. It is predominantly a landscape of relatively large scale arable farmland, with areas of estate land, and pasture and smaller scale parcels of land including paddocks associated with settlement. There are dispersed blocks of significant woodland across the landscape, including areas of ancient woodland. There are nucleated settlements, of varying size, as well as scattered large country house and farmsteads, often located on high points. The eastern end of the Corallian Limestone Ridge has intervisibility with the city of Oxford.
- The Lower Vale Farmland LCT, together with the Upper Vale Farmland LCT, forms a band of low lying farmland through the centre of the District between the rising slopes of the Corallian Limestone Ridge to the north and North Wessex Downs to the south. The Lower Vale consists of large scale, intensively managed arable farmland and pasture resulting in a relatively open landscape, with views of high ground on the horizon. Lower Vale Farmland landscapes are associated with Grove, East Hanney and Drayton.
- Other settlements within the South East Vale fall within the Downs Footslopes LCT. The footslopes are formed by a shelf of rolling landscape and hills, descending gently north from the foot of the downs scarp. It consists of a medium to large scale landscape, of mainly arable farmland with some significant areas of population. A number of watercourses flow north from chalk springs towards the River Ock and Thames, and form a focus for rural settlement, including villages to the west, known as 'spring line' villages. There are views across the farmland of the prominent Downs Scarp to the south, as well as more distant glimpsed of the, often wooded, Corallian Limestone Ridge on the horizon to the north.

Pollution

The NPPF aims to reduce pollution (paragraph 17) by preventing 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 stability (paragraph 109). The NPPF also requires remediating and mitigating.....contaminated and unstable land where appropriate (para 109).

The NPPF also establishes that to ensure high quality design for new development and to provide a good standard of amenity for existing and future occupants planning policies should: Limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation (paragraph 125).

The following LPP1 policies are of key relevance:

- Core Policy 43 (Natural Resources) ensures that land is of a suitable quality for development and that remediation of contaminated land is undertaken.
- Core Policy 44 (Landscape) ensures the need to protect the key landscape features of the Vale against intrusion from light pollution, noise and motion.

Air quality

The NPPF is clear on the importance of taking into account the potential impacts of air quality when assessing development proposals. Furthermore, legislative limits are set for concentrations of major air pollutants that may impact on public health, amenity and local biodiversity, such as airborne particulate matter and nitrogen dioxide.

Within LPP1, criteria vi) of Core Policy 43 (Natural Resources) applies to development proposals located within an Air Quality Management Area (AQMA). LPP2 will need to consider including an additional policy to assess proposals adjacent or near to an AQMA and to setting the necessary measures to mitigate such impacts.

Air quality within the Vale of White Horse is predominantly good, although there are specific areas where air pollution exceeds the levels set by European and UK regulations. For this reason, the Council has declared three Air Quality Management Areas (AQMA), which relate to elevated levels of nitrogen dioxide (NO₂). These are located at Abingdon-on-Thames, Botley and Marcham. AQMAs are sensitive to increases in traffic, and there is also the possibility of rising average temperatures worsening air quality; however, on the other hand, a shift to electric vehicles could help to alleviate poor air quality. Also, in the case of the Abingdon AQMA, the planned new slips at Lodge Hill (creating a 'Diamond Interchange') will reduce traffic through the AQMA, once delivered, as residents approaching the north and east of Abingdon from the south will use the new slips.

Climate change mitigation

The Government has set a target under the Climate Change Act 2008 to reduce CO₂ emissions by 80% by 2050, with an interim target of 34% by 2020, both against a 1990 baseline. The Government requires local planning authorities to adopt proactive strategies to mitigate climate change. For example, the impact of new development on climate change can be reduced by locating it where possible in places where it is not entirely necessary to rely on having access to a car; and by the design of carbon neutral homes which seek to achieve energy efficiency through sustainable construction and by increased use of renewable energy.

With regards to 'sustainable design and construction', the Local Plan's more limited, following Government's withdrawal of the Code for Sustainable Homes in March 2015. There is, however, the potential to minimise carbon emissions from the built environment by supporting decentralised, low carbon heat and electricity generation/transmission.

Within LPP1 Core Policy 40 (Sustainable Design and Construction) sets out the requirement for new development to incorporate measures to ensure resilience to climate change, whilst Core Policy 41 (Renewable Energy) sets out the Council's approach to supporting proposals for renewable energy.

Climate change adaptation

The NPPF states that planning plays a key role in helping shape places to minimise vulnerability and provide resilience to the impacts of climate change. The NPPF also states that local planning authorities should adopt a proactive approach to mitigating and adapting to climate change in line with the objectives and provisions of the Climate Change Act 2008. The NPPF stipulates that local plans should take account of climate change over the long term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape.

Flood risk is a key climate change adaptation issue locally. Flooding arises from a number of sources including rivers and streams (fluvial flood risk – see Figure B, above), surface water run-off, rising groundwater and sewer overflow. Increases in peak rainfall intensity and river flow as a result of climate change, could result in more frequent and severe flood events. This could mean that a site currently in a lower risk zone (for example Zone 1) could in future be in a higher risk zone (for example Zone 2).

Water resource issues are also appropriately discussed under the banner of 'climate change adaptation'. A Water Cycle Study (WCS) 'technical note' has recently been completed (AECOM, 2017), to provide an interim position on key technical water cycle issues prior to development of the full WCS, including:

- highlighting where there are issues with the capacity of a Wastewater Treatment Works (WwTW);
- assessing available water planned by Thames Water and whether the current Water Resource Management Plan (WRMP) adequately caters for the proposed growth; and
- completing a high level site assessment, covering wastewater network and water supply network constraints, with information provided by Thames Water.

The full WCS will include: an assessment of the current wastewater treatment facilities in regards to both capacity and compliance with legislation and environmental permits; an assessment of each site, identifying local receptors such as watercourses, outlining current and future flood risks (inclusive of surface water and groundwater flood risks) and assessing the current wastewater network; and recommendations in regards to wastewater, water supply, surface water management and flood risk, ecology and stakeholder liaison.

The table considers capacity at each of the local WwTWs.

Table C: Capacity at WwTWs

WwTW	Current DWF consent m ³ /d	Measured Flow m ³ /d	Current DWF capacity m ³ /d	Dwelling capacity (approx.)	Phase 1 growth (LPP1)	Phase 2 growth (to 2031) (LPP2)	Total New Growth (LPP1 + LPP2)	Capacity post growth (LPP1 and LPP2 growth) m ³ /d ³	Dwelling capacity
Abingdon STW (lagoon & new outfall)	12859	10939	1,920	7,300	1,032	6,500	7,532	-57	-200
Appleton STW	2559	987	1,572	6,000	438	2,550	2,988	788	3,000
Didcot STW	11476	9390	2,086	7,950	5,115	6,360	11,475	-926	-3,500
Drayton STW	1672	1198	474	1,800	730	2,580	3,310	-395	-1,500
Faringdon STW	2812	1548	1,264	4,800	679	0	679	1,086	4,100
Kingston Bagpuize STW	633	626	7	<50	679	3,700	4,379	-1,142	-4,350
Oxford STW	50985	53618	-2,633	-10,030	1,164	860	2,024	-3,164	-12,050
Shrivenham STW	2842	1220	1,622	6,200	904	300	1,204	1,306	5,000
Stanford in the Vale STW	650	339	311	1,200	355	0	355	218	850
Wantage STW	6250	4891	1,359	5,200	5,038	4,575	9,613	-1,164	-4,400

It was identified in the previous WCS (2015) that LPP1 growth would lead to a requirement for upgrades at the following works: Didcot; Drayton; Faringdon; Kingston Bagpuize; Oxford; and, Shrivenham. The additional growth from LPP2 will compound these identified issues and must be factored into consideration for upgrades to WwTWs in the District. Analysis of volumetric flow carried out for the combined growth of LPP1 and LPP2 indicates that the following WwTWs would also see issues: Abingdon; and Wantage. The previous WCS (2015) also highlighted that LPP1 growth would bring a number of works close to their current capacity limit.

With regards to water supply, the most recent Thames Water WRMP was published prior to the publication of the Oxfordshire Strategic Housing Market Assessment (SHMA). The councils involved (including VOWH) indicated housing growth may be 65% greater than the numbers which informed the previous WRMP. This prompted Thames Water and the Environment Agency to produce a 'Statement of Common Ground' in 2015 in which it was established that:

- Thames Water can maintain security of supply in the Water Resource Zone in the 5 years to 2020; Further short term mitigation measures have been identified which could be introduced with a short lead time to provide additional supply to 2020 if needed;
- Thames Water has a statutory obligation to review performance on an annual basis, during which they will formally review population and housing growth against forecasts and identify any measures needed;
- Thames Water will publish their next draft WRMP covering 2020 – 2045 in Spring 2018 which will fully incorporate the increased population and property growth forecasts in close liaison with Local Authorities.

In the WRMP, Thames Water identifies three potential options to address its long term water resource management in the south east, including its preferred option of the development of a large storage reservoir called the Upper Thames Reservoir. This is proposed to be located within the Vale between the villages of East Hanney, Steventon and Marcham. An alternative to the preferred option is a smaller reservoir solution to support a storage reservoir or water transfer scheme at a site to the north of Longworth in Vale or in South Oxfordshire at Chinnor. A decision is expected by Thames Water on its chosen long term water resource option by 2019, following the conclusion of the TWRMP 2019.

Table A: The strategic site options

Cluster	Site	Area (Ha)	Indicative capacity
1	E of Kingston Bagpuize	34.73	868
	S of Kingston Bagpuize	25.14	629
	W of Kingston Bagpuize	28.81	720
	S of Cumnor	8	200
	S of Wootton	32.19	805
	E of Wootton	16.71	418
	N of Wootton	31.6	790
	SW of Botley	53.95	1,349
	Fyfield	381.02	9,526
2	Dalton Barracks	288.67	7,217
	N of Abingdon	82.27	2,057
	N of Radley	24.94	624
	S of Radley	9.82	246
3	N of Marcham	43.08	1,077
	S of Abingdon	61.35	1,534
	NE of Drayton	43.83	1,096
	S of Drayton	9.6	240
	W of Drayton	34.27	857
4	N of Steventon	10.46	262
	SE of Sutton Courtenay	17.75	444
	Appleford	69.49	1,737
5	Milton Heights	77.44	1,936
	Harwell Campus	34.45	861
	W of Harwell	30.19	755
	Rowstock	85.61	2,140
6	NW of Grove	28.35	709
	E of East Hanney	15.03	376
	W of Wantage	87.84	2,196
	E of Grove	92.85	2,321
	S of East Hanney	20.2	505

Methodology

Table A presents a narrative on the 30 site options, under the following 12 headings –

- Homes
- Services and facilities
- Movement
- Health
- Inequality and exclusion
- Economy
- Natural environment
- Heritage
- Landscape
- Pollution
- Climate change mitigation
- Climate change adaptation

Within each narrative there is a discussion of sites that perform notably well, or notably poorly. The aim is not to systematically discuss each of the 30 strategic site options in terms of each of the 12 SA objectives.

Each of the 12 narratives begins with a brief discussion of evidence-base and key issues, drawing upon the discussion presented within Appendix II above and site specific understanding generated through the informal consultation on strategic site options (October 2016).

Table B presents conclusions on each site in turn, drawing upon the analysis presented in Table A. The opportunity is also taken to briefly conclude on the six clusters of sites (see Figure A).

Appraisal findings

Table A: Informal appraisal of site options under the SA framework headings

Sustainability Objective: <u>Homes</u>
<p>It is difficult to differentiate between the site options, in terms of the potential to support the achievement of housing objectives. All sites are large enough to ensure that an appropriate housing mix can be delivered (to include a proportion of affordable housing in accordance with policy), and it is not appropriate to suggest that larger sites are preferable, given that smaller sites can be delivered in combination to the same effect.</p> <p>One site that stands out as performing well is Harwell Campus given the potential to meet particular housing needs, namely the needs of those wishing to live and work at the campus. There is the potential to deliver innovatively designed higher density housing at this site, suited to Campus and Science Vale employees.</p> <p>Finally, there is a need to consider the possibility that the deliverability of some sites is inherently more uncertain than others, thereby leading to a risk that the intended ‘trajectory’ of housing delivery will not be achieved, with periods over the course of the plan-period where there is not a five-year supply of deliverable sites (and hence a risk either of low housing delivery, or delivery of housing via ‘planning by appeal’ in less suitable locations). Sites that stand-out as having uncertain deliverability include –</p> <p>Dalton Barracks – Whilst the Ministry of Defense (MOD) has indicated that the site will be released no later than 2029, there is inherently some risk of slippage, resulting in an inability to deliver sites in the plan period.</p> <p>South of Abingdon – Achievability is heavily dependent on the ability to deliver a major new bypass road to the south of Abingdon, linking the A415 to the A34 (and thereby reducing traffic along the current route of the A415, though Abingdon Town Centre).</p> <p>North of Abingdon - Access to the site could be problematic, given that the existing North of Abingdon LPP1 allocation has not been masterplanned with access to an adjacent scheme in mind, and access to the A34 via a dedicated arm (or arms) at Lodge Hill Junction is untested.</p> <p>North West Grove – Delivery is uncertain given the scale of committed growth at adjacent sites (Monks Farm and Grove Airfield). The assumption is that the committed sites would deliver first.</p> <p>Milton Heights – Deliverability could well prove dependent on further upgrades to the ‘Milton Interchange’ junction of the A34 and the A4130.</p> <p>Other sites that would need to be of a significant scale, but which are not being actively promoted at the current time, including Fyfield and Appleford.</p>

Sustainability Objective: Services and facilities

Most sites are well located in respect of enabling easy access to a town or larger village centre, including via walking, cycling and public transport. These settlements all contain services and facilities, to varying extents.

Sites at **Rowstock**, **Milton Heights** and **Appleford** are associated with a smaller village, and **Fyfield** is classed as 'open countryside' within the settlement hierarchy (LPP1 Core Policy 3); however, the assumption is that strategic development would only be acceptable alongside delivery of new community facilities. At Rowstock it is assumed that any scheme would be of sufficient scale to deliver a primary school (although there is uncertainty, with a consultee suggesting that: *"700 houses would be unable to fully fund a new 1FE primary school, let alone the preferred size of a 2FE school"*); and a scheme at Milton Heights could potentially be masterplanned alongside the existing allocation (albeit a planning application has now been submitted).

Other sites mostly benefit from good accessibility to one or more of the larger settlements (Oxford, Didcot, Abingdon and Wantage; the latter two being classed as market towns in the settlement hierarchy). **Kingston Bagpuize** is relatively distant from a higher order centre, but benefits from being on an existing premium inter-urban corridor (service 66), with three busses to Oxford per hour and the potential to increase this to four. Also, Oxfordshire Clinical Commissioning Group (OCCG) has raised concerns regarding access to a GP facility, given no existing facility in Kingston Bagpuize and significant committed growth. The scale of growth under consideration could facilitate delivery a new facility; however, this is uncertain, and all of the sites under consideration are peripheral to the existing village centre.

With regards to primary education infrastructure, there is good potential to ensure good access to primary schools with capacity at the majority of locations, with larger sites having potential to deliver a new school and certain existing schools having the potential to expand, funded by development; however, some issues have been identified at Marcham and Steventon. At **Marcham** the existing village school is expanding to 1 form entry to meet already planned/permitted growth and there are barriers to further expansion. At **Steventon** the existing village school is expanding from an admission number of 25 to an admission number of 30, to meet the needs of permitted housing, and the school's area would not support further expansion.

With regards to secondary education, there are particular capacity issues in the Abingdon area, but it is not clear that this is a barrier to growth, i.e. there are options to increase capacity / ensure access that might be explored. No site has been identified as suited to delivering a new secondary school; however, there is land available at Dalton Barracks, and hence this is an option that could be explored.

Similarly, no site been identified as particularly suited to delivering a strategic medical facility (to accommodate the possible consolidation of healthcare facilities within Oxfordshire).²⁹

Sustainability Objective: Movement

Traffic congestion is a major issue at certain locations on the strategic road network (A34, A4130, A417, A338, A415), and so a considerable amount of work has been completed, and remains ongoing, examining how best to accommodate housing growth whilst managing the transport impacts. The County Council consulted on a draft Local Transport Plan in 2016 ('Connecting Oxfordshire'),³⁰ and also undertook work to assess 36 'spatial options' for strategic housing growth (ten in the Vale) with a particular focus on transport / movement criteria.³¹ At the district-level, ongoing Evaluation of Transport Impacts (ETI) has involved modelling the traffic impacts of housing growth on roads and junctions.

It is necessary to consider all settlements in turn, in very broad 'order of preference', i.e. beginning with the settlement that poses the fewest concerns:

Harwell Campus would enable a very high incidence of walking to work, and an excellent bus service connects the Campus to Didcot / Milton Park / Abingdon and Oxford. The bus stop (Harwell Campus Bus Station) is well beyond 400m distant, but there is potential for a new stop in close proximity to the site (and the service would benefit from a more balanced demand across the day). Also, National Cycle Network route 544 passes through the site, linking to Didcot and Wantage (improvements required). The site is well located in relation to improvements to the highway network - A34 Chilton Slips (completed) and Harwell Link Road.

North of Abingdon is supported by the Oxfordshire Growth Board (OGB), with the Spatial Options Report (LUC, 2016) identifying it as one of the three 'green-rated' sites in the Vale, largely on the basis of transport considerations. The site is 3-4km distant from Abingdon Town Centre, and adjacent A34 northbound is well

²⁹ See <http://www.oxonhealthcaretransformation.nhs.uk/>

³⁰ See https://consultations.oxfordshire.gov.uk/consult/ti/CO_LTP4/consultationHome

³¹ See Box 6.1 of this report and <https://www.oxfordshire.gov.uk/cms/content/oxfordshire-growth-board>

over capacity; however, development would be adjacent to the proposed Lodge Hill Park and Ride (P&R) and associated 'Rapid Transport Route 3', with development helping to fund/secure upgrades. There are opportunities for improvements to the cycling network towards Oxford, Abingdon and Culham.

Cumnor is supported by the Oxfordshire Growth Board (OGB), with the Spatial Options Report (LUC, 2016) identifying these sites as the other two 'green-rated' sites in the Vale, largely on the basis of transport considerations. Cumnor village centre is served two half hourly services (one Oxford/Abingdon; one Oxford/Wantage), and the nearby A420 is a strategic transport corridor (proposed Rapid Transport Route 3). Other planned transport upgrades could also be funded/facilitated, namely a new P&R (potentially at Site 15), A420 capacity improvements and Botley interchange upgrade / Botley Rd Cycle Super Route. Congestion on the A420 is currently an issue, but could be eased following upgrades.

Radley has a rail station (30 mins max frequency), and current allocated development may lead to a 4/hour bus service. Radley is within easy cycling distance of Oxford, Abingdon and Culham, although route improvements are needed. Could contribute to traffic congestion issues in Abingdon.

Wantage / Grove is located at the western extent of the Science Vale, but Wantage is a 'market town' in the settlement hierarchy, and Grove a 'service centre'. Furthermore, there is considerable committed growth in the area, set to deliver a premium bus service to Milton Park and Oxford, and potentially a new rail station at Grove (longer term). The North West of Grove site would enable the completion of a link road, and could also potentially provide land for a new rail station. Large scale growth at the West of Wantage site would necessitate a Wantage Western Relief Road. The West of Wantage site is distant from the centre of Wantage, where bus services operate from. There is an opportunity to upgrade the canal for cycling.

Harwell is well located in relation to Didcot Garden Town and employment sites in the Science Vale, and is located on the strategic bus corridor between Didcot and Wantage / Harwell Campus; however, the site is beyond 400m of the existing route (with new routes unlikely). Car movements east along Grove Road, in the direction of Didcot, would reach the junction with the B4493 in the centre of Grove, whilst car movements west along Grove Road (in the Direction of the A34) would then reach the junction with the A4130, where there are congestion issues. Impacts to Milton Interchange are another consideration. Finally, there is an opportunity to improve the cycling network to Harwell Campus, Didcot, Milton Park and Abingdon.

Wootton is in relatively close proximity to Oxford, but not on a strategic transport corridor, being equidistant between the A34 and the A420. There are currently two busses per hour during the day, and there is low potential to secure a more frequent service (although Dalton Barracks could lead to opportunities). In the absence of a high quality bus service there would be a risk of cars worsening congestion on route to Oxford. Wootton is beyond easy cycling distance of Oxford, with Abingdon Town Centre c.4-5km along a B-road.

Dalton Barracks is also located between the two strategic transport corridors into Oxford (A34 and A420), although the A34 junction at Abingdon (Lodge Hill), with its proposed P&R, is relatively close (c.2km). There is an existing half hourly bus service that could be enhanced; however, this route is via Wootton and Cumnor, i.e. slightly indirect. There could be the potential to effectively link the site to Lodge Hill P&R, or Cumnor P&R to the north, such that rat-running concerns are addressed. In the absence of a high quality bus service there would be a risk of cars worsening congestion on route to Oxford. Abingdon is within easy cycling distance from the site but there is a need for infrastructure improvements.

Kingston Bagpuize is relatively distant from Oxford and the Science Vale, but is located on a strategic transport corridor (A420) and has a very good bus service (3/hour, with good potential to increase to 4/hour). The site to the east is somewhat distant from the village centre, but would have good access to the bus route, and indeed it could prove feasible to divert the route through the site (with minimal impact to journey times). It would also be expected to deliver a new link road between the A420 and A415, thereby alleviating the current problem of traffic along the A415 through the village. Any new junction on the A420 would be expected to be a roundabout, in recognition of safety concerns that would result from a 'T' junction.

Fyfield is marginally closer to Oxford than Kingston Bagpuize, along the A420. The possibility has been mooted of a new settlement delivering a P&R.

East Hanney is relatively remote from Oxford and the Science Vale, but is located on a strategic transport corridor (A338), along which there are set to be enhancements to the bus service given committed growth at Wantage and Grove. The bus stop is at the northern end of the village, distant from the site to the south.

Steventon is within walking/cycling of two key Science Vale employment sites (Harwell Campus and Milton Park), but walking and cycling infrastructure is limited. Steventon is not on a main road / strategic bus corridor, and there is a risk of traffic adding to congestion at Milton Interchange (A34) to the east, and/or traffic along the B4017/Marcham Road corridor to the north.

Marcham is located on the A415 – an east-west corridor linking to Abingdon, as opposed to a strategic

corridor linking to Oxford and the science Vale to the south, albeit an A34 junction is within 2km. Housing growth to the north would be away from the transport corridor, although there may be potential for bus service enhancements, given growth at Kingston Bagpuize. The site is within an easy cycling distance of Abingdon and benefits from a shared pedestrian/cycle path; however, a barrier to easy cycling is difficulty crossing Marcham Interchange. Traffic passing through the village would be a concern, including given the existing AQMA. There could be an opportunity for a bypass.

Milton Heights is a smaller village adjacent to Milton Interchange, a major junction that has seen recent upgrades but still suffers from congestion issues. The village is within walking distance of employment at Milton Park and Harwell Campus, if good access can be secured. There is an existing LPP1 commitment, and further growth could potentially secure delivery of services/facilities and infrastructure upgrades. Options could include a pedestrian/cycle link over A34, and potentially even a bus only bridge.

Rowstock is a small village, with no local facilities; however, Rowstock is in proximity to Didcot Garden Town and lies on the bus route between Didcot and Wantage / Harwell Campus. There could potentially be significant improvement to the cycling network to Harwell Campus, Didcot and Milton Park and Abingdon; however, according to the County Council: *“Rowstock is an isolated location, not suitable for walking and cycling and not well-served by public transport although some improved bus services to Didcot/Harwell employment areas are planned on the back of growth at Wantage-Grove.”* Northbound traffic would put pressure on the A34 Milton Interchange.

Drayton would worsen traffic congestion in Abingdon, given a need to travel to Abingdon before accessing the A34. Traffic would focus on B4017 / A415 / A34 Marcham Interchange route; however, there could also be worsened traffic within the Abingdon Town Centre AQMA. Drayton is in proximity to Milton Park and Didcot, although cycling is currently an unattractive option. Not on a main road / strategic bus corridor.

South of Abingdon would necessitate a major new South Abingdon bypass, providing direct access to the A34. Without this major infrastructure there would be severe impacts on the B4017 / A415 / A34 Marcham Interchange corridor, and also a strong likelihood of worsened traffic within Abingdon Town Centre AQMA. The site is c.1km from Abingdon Town Centre (closer than the northern edge of Abingdon). A South Abingdon bypass, linking to the A415 at Culham, could form part of a wider scheme to better link the Science Vale to the M40 (taking in growth areas at Chalgrove and Berensfield), as part of the Oxford-Cambridge Expressway.

Sutton Courtenay is in close proximity to employment north of Didcot and at Milton Park; however, it is not located on a main road / strategic bus corridor. Without the proposed Culham River Crossing, there would be a risk of congestion on the current crossing (north of Sutton Courtenay), which is at capacity, albeit a new signalised lights system is planned. Traffic would also contribute to Abingdon congestion problems; and there are safety concerns on the Drayton Road.

Appleford is a small village with a poor bus service; however, the village is well located for employment areas in Didcot, Milton Park and (subject to road) Culham. Appleton station currently has a limited rail service with little scope for improvements (recognising that Culham is in competition). One part of site lies on one of two possible alignments of new Culham crossing road; therefore could offer funding possibilities.

Sustainability Objective: Health

The matter of access to healthcare facilities has already been discussed above, under the ‘services and facilities’ heading, with the conclusion reached that there is little potential to differentiate between the site options, although there are some constraints at Kingston Bagpuize.

Focusing on other health determinants, it is difficult to confidently differentiate the site options, but one factor is access to greenspace and outdoor recreation facilities. All sites should be able to ensure good access, but **Dalton Barracks** potentially stands-out as performing well, given the likelihood that the western part of the site would be used to provide ‘suitable alternative natural greenspace (SANG) to ensure that the effect of housing is not to increase recreational pressure on nearby Cothill Fen Special Area of Conservation (SAC).

West of Wantage is also notable for including the route of the Wilts and Berks Canal, with there being the possibility of restoration.³² Also, **Harwell Campus** has excellent access to the North Wessex Downs AONB, with the Icknield Way long distance path passing through the site, and the Ridgeway National Trail nearby.

There is also a need to consider environmental health constraints affecting sites; however, environmental health matters are given stand-alone consideration below, under the ‘Pollution’ heading.

³² See <https://www.wbct.org.uk/>

Sustainability Objective: Inequality and exclusion

The County Council's Spatial Options Report (LUC, 2016) assessed 36 sites around Oxford for the potential to support regeneration of relatively deprived neighbourhoods, but was unable to identify any opportunities in respect of the ten sites within Vale, and ultimately not able to differentiate the alternatives in terms of this criterion. Areas of relative deprivation are found along the southern edge of Oxford, and within the northern part of Didcot, but none of the site options under consideration are adjacent, or close enough so that the effect of development could be to support regeneration.

Sustainability Objective: Economy

None of the site options are being promoted for mixed use development, although there is the potential to explore this option at Dalton Barracks.

Harwell Campus would be supportive of economic growth objectives, in that the site could well be delivered with a covenant to ensure that housing is available to employees of the campus only, thereby helping to ensure that this internationally renowned centre for science and research continues to thrive. Part of the site has Enterprise Zone status, and is an existing employment allocation; however, the view is that ultimately development of the site for residential (for campus employees only) will help to ensure that the employment capacity of Harwell Campus is fully realised. A significant area of undeveloped Enterprise Zone to the east of the campus would remain.

There is also an argument to suggest that housing in the **Science Vale** area more widely is supportive of economic growth objectives. Sites located within the Science Vale should: help to achieve and maintain a sustainable balance of housing and employment within the area; help to deliver the Science Vale Strategic Infrastructure Package through developer contributions; and support the Oxfordshire LEP priority for accelerating housing delivery within the Oxfordshire 'Knowledge Spine' growth corridor.

Finally, it is important to state that sites well linked to Oxford are to be supported, given that Oxford is a major centre of employment. The Oxfordshire LEP's Strategic Economic Plan (SEP) states: *"We will maintain the principal spatial focus on Oxfordshire's Knowledge Spine – from Bicester in the north through Oxford to Science Vale in the south – as the main location for housing and employment growth."*

Sustainability Objective: Natural environment

A primary consideration is the potential for sites – either alone or in combination – to impact on Cothill Fen Special Area of Conservation (SAC) or Oxford Meadows SAC, both of which are of international importance. The potential for impacts is being explored in detail through a stand-alone Habitats Regulations Assessment (HRA), but suffice to say here that:

- sites that could potentially pose risk to Cothill Fen are those in closest proximity, namely **Dalton Barracks** which is almost adjacent (albeit there is an expectation that only the brownfield portion of the site, which is the furthest part from the SAC, would be developed) and sites at **Wootton** and **Marcham**; and
- sites that could potentially pose some risk to Oxford Meadows SAC are those that would load the greatest amount of additional traffic onto the A34, as this road runs adjacent to the SAC and leads to air pollution impacts. Most sites within the **Abingdon-Oxford Fringe** Sub-Area fall into this category, and it is difficult to single-out any specific site(s).

Focusing on biodiversity considerations other than those that relate to the SACs, a number of sites are associated with constraints. The following considers locations in alphabetical order -

Abingdon – both sites are constrained. The North of Abingdon site intersects Radley Park, which is an area of wood pasture and parkland priority habitat, and Blake's Oak is an Ancient Woodland within the site boundary. The South of Abingdon site is in proximity (c.1.5km) to Barrow Farm Fen Site of Special Scientific Interest (SSSI), and the adjacent River Ock Floodplain comprises grazing marsh priority habitat, and is managed as a nature reserve.

Botley – the South West of Botley site is in close proximity to Hurst Hill SSSI, which is associated with ground flora that could be sensitive to recreational impacts.

Dalton Barracks – In addition to Cothill Fen SAC (discussed above), Dry Sandford Pit SSSI is adjacent (albeit away from the likely area of development), and Barrow Farm Fen SSSI is a short distance to the southwest. Also, Gozzards Ford Fen Local Wildlife Site (LWS) is adjacent. There are also thought to be some on-site habitats of note.

East Hanney – South of East Hanney is adjacent to Letcombe Brook (a chalk stream, with water vole records) and Cowslip Meadows LWS is adjacent. Also a small patch of traditional orchard priority habitat is on site.

Fyfield – adjacent to Appleton Lower Common SSSI, and Frilford Heath, Ponds & Fens SSSI is within c.1km.

Harwell Campus - the site contains numerous mature trees (albeit no Tree Preservation Orders) and certain areas – notably the southwest part of the site – are identified as deciduous woodland priority habitat.

Kingston Bagpuize - Appleton Lower Common SSSI and Frilford Heath, Ponds and Fens SSSI are within c.2km, and the adjacent Millennium Green is associated with a population of Great Crested Newts.

Marcham - the North of Marcham site is the only site that falls within a Conservation Target Area,³³ and the western parcel (the site being split into two parcels) comprises lowland wood pastures and parkland priority habitat. Barrow Farm Fen SSSI and Frilford Heath, Ponds and Fens SSSI are in proximity. Also, Hyde's Copse at the western edge of the site is a small patch of ancient woodland.

Milton Heights and Rowstock – both contain areas of traditional orchard priority habitat.

Wantage - Woodhill Brook passes through the West of Wantage site, as does the route of the former Wilts and Berks Canal. Both features are thought to be associated with notable riparian habitat, and act as wildlife corridors. The possibility of development supporting enhancement has been mooted, particularly in respect of the canal corridor, recognising that any future restoration would disturb established habitats.

Sustainability Objective: Heritage

A primary consideration is the need to avoid impacts on the setting of designated conservation areas and clusters of listed buildings. Impacts on individual listed buildings are also a consideration, although it will often be possible to avoid or sufficiently mitigate impacts through masterplanning, design and landscaping. Having made these initial points, the following lists notable locations in alphabetical order –

Abingdon – both sites are notably constrained. The North of Abingdon site would likely impact on the setting of listed buildings at Radley College; and development would cause substantial harm to Radley Park, which is not designated but could possibly be a Capability Brown landscape. The South of Abingdon site wraps around three sides of Sutton Wick Scheduled Monument. Through consultation Heritage England have commented that development could be harmful to the significance of the Monument, through the loss of any contribution to that significance made by its current undeveloped setting; and concluded 'significant reservations'. Also, the site includes the grade II listed Stonehill House and outbuildings.

Appleford – the part of the site to the east is possibly within the setting of a number of listed buildings to the north and abuts a Scheduled Monument (the implication being that remains may extend into the site).

Cumnor – the South of Cumnor site partially abuts Cumnor Conservation Area. The Conservation Area Character Appraisal identifies a number of important views across the potential site.

Dalton Barracks – Shippon has a historic centre, with listed buildings and a rural setting, although there is no designated conservation area. The airfield itself has a heritage value.

Drayton – The Northeast of Drayton site abuts the conservation area along the B4016, where there is a clear demarcation between country and village. A large development in the southern part of the proposed area would involve a high degree of harm. Therefore, development should be restricted to the northern part of the site (albeit the Sutton Wick area is proposed to be included in an extended Conservation Area). The site also lies within the setting of the grade II Haywards Farmhouse and possibly of the grade II The Cottage.

East Hanney – the East of East Hanney site is likely to contribute to the setting of the conservation area, and the South of East Hanney site may contribute to the setting of the conservation area's southern extent.

Fyfield – heavily constrained, given that the site contains two conservation areas – one associated with Fyfield itself and the other with Netherton, a small hamlet to the north. It would inevitably be the case that the historic relationship between the two settlements would be severely impacted, as would the relationship between the settlements and the surrounding rural landscape.

Grove – the East of Grove site includes the grade II listed Tulwick Farmhouse and cartshed. The development of this site would likely harm the significance of these buildings as their context – i.e. the surrounding land farmed from these buildings – would be lost.

Kingston Bagpuize – the East of Kingston Bagpuize sites partially abuts the Kingston Bagpuize Conservation Area, and would be highly visible on the approach to Kingston Bagpuize house (grade II*). Also, the Old Oxford Road is a bridleway and cycle path running through the site. The South of Kingston

³³ See <http://www.wildoxfordshire.org.uk/biodiversity/conservation-target-areas/>

Bagpuize site is also constrained by the setting of several listed buildings.

Radley – the North of Radley site is very close to the grade II* listed medieval church of St James, which forms a good group with the adjacent 15th C vicarage (also grade II listed) and the grade II barn to the south. Development of the land around these assets could harm their rural setting. The South of Radley site is situated between two Scheduled Monuments, and the intervisibility between the sites may be of significance. Heritage England consider it likely that development would be harmful.

Sutton Courtenay – the Southeast of Sutton Courtenay sites is in close proximity to a Scheduled Monument and potentially contributes to the setting of the conservation area to the north.

Wantage – the West of Wantage site contains the route of the Wilts and Berks Canal, and development of the south-western extent would likely impact on the setting of a grade II listed barn at Park Farm.

Wootton – the East of Wootton site is adjacent to and within the setting of the grade II listed Manor Farmhouse and medieval Church of St Peter, which has a rural setting. The North of Wootton site is within the setting of four grade II listed buildings.

Sustainability Objective: Landscape

The primary issue locally is the North Wessex Downs Area of Outstanding Natural Beauty (AONB), which extends across the southern part of the District, and also serves to constrain a significant area of land to the north that falls within its setting. However, leaving aside AONB considerations, there are landscape constraints at the majority of sites. The following lists all locations in alphabetical order –

Abingdon – the North of Abingdon site falls within a high value landscape in a prominent Green Belt location. Also, the site to the south has already been subject to masterplanning, with a strong defensible GB boundary, resulting in challenges in respect of scheme integration. The South of Abingdon site is also constrained, in that it contributes to the separation between Abingdon and Drayton, with the Landscape Capacity Study concluding ‘low’ capacity for the western part of the site (and ‘medium’ capacity for the eastern part).

Appleford – the western parcel of this site is a degraded landscape, but feels unrelated to the village. The eastern parcel is more constrained.

Botley – the site falls within an open landscape within the Green Belt. The Landscape Capacity Study concludes ‘low’ capacity.

Cumnor – the site is located within the Green Belt; however, comprises small enclosed agricultural fields with mature hedgerows that offer good screening from both the immediate and wider landscape. The Landscape Capacity Study concludes ‘medium’ capacity.

Dalton Barracks – is washed over by the Green Belt, and the large scale open aspect across the airfield allows wide ranging views to distant higher ground; however, it has the characteristics of a military installation, with security fencing, and built area contains large military buildings and hangers.

Drayton – the Northeast of Drayton site lies within an open landscape, crossed by numerous rights of way. The other two sites are less constrained, although the South of Drayton site is poorly related to the existing village, and the northern part of the West of Drayton site is open to the wider landscape.

East Hanney – both sites fall within an open landscape and feel somewhat disconnected from the village. The Landscape Capacity Study concludes that both sites have ‘low’ landscape capacity.

Fyfield – a very rural landscape, with a nucleated settlement pattern.

Grove – the East of Grove site would ‘break the boundary’ of the A338, and impinge on a landscape with intact rural character. Conversely, the North West of Grove site has ‘high’ capacity.

Harwell Campus – Falls within the AONB; however, this is a mainly brownfield site and the entire site is a current employment allocation; hence there may be potential for redevelopment without breaching landscape capacity. A site with a very similar ‘red line’ boundary was proposed for allocation within LPP1, but then dismissed by the Inspector on landscape grounds, as part of the plan’s examination. However, the boundary has been amended to reflect the concerns raised, with a field to the north now outside the site boundary. The corollary is that a field to the south has been added to the site; however, this site is less sensitive, on the basis that it is an employment allocation. The Landscape Capacity Study concludes ‘high/medium’ capacity, but notes that capacity varies across the site.

Harwell Village – the site is constrained by the adjacent AONB, and also gives rise to concerns in respect of coalescence with Rowstock. The part of the site north of Grove Road is considerably less constrained in landscape terms, although integration with the existing village could be a challenge. The Landscape Capacity Study concludes ‘low’ capacity to the south, but ‘medium/high’ capacity to the north.

Kingston Bagpuize – The East of Kingston Bagpuize site is least constrained, with the Landscape Capacity Study concluding ‘high’ capacity. The other two sites are found to have ‘medium’ capacity.

Marcham - the western segment is a former parkland landscape, contributing to the setting of Marcham Conservation Area. As for the eastern segment – the western fields have a strong relationship to new development to the west, but land to the east is more sensitive. The Landscape Capacity Study concludes ‘medium/high’ capacity overall for the eastern segment.

Milton Heights - the Landscape Capacity Study concludes ‘medium/high’ capacity to the east, but ‘medium’ capacity to the west.

Radley – the North of Radley site lies within an open landscape within the Green Belt, contributes to the setting of the village and provides separation between Radley and Oxford (Kennington). The South of Radley site is also constrained, including given the presence of a recreation ground.

Rowstock – adjacent to the North Wessex Downs AONB. The western area functions as part of the wider open rural landscape. The eastern part is less open but, nonetheless contributes to the setting of the AONB; plus there is the issue of coalescence with Harwell. The Landscape Capacity Study concludes ‘low’ capacity.

Steventon – the site is bounded by existing development to the east and new development to the south. The northern part is more sensitive and exposed to views from the north. A line of mature trees lining the access road to the west of the site provide good screening of views from the west. The Landscape Capacity Study concludes ‘medium/high’ capacity.

Sutton Courtenay – the site performs the function of a landscape gap between Sutton Courtenay and Didcot. Proximity of the Thames Path potentially leads to sensitivities.

Wantage - the southern part of the West of Wantage site is in proximity to the North Wessex Downs AONB; however, this land slopes away from the AONB, reducing the impact on the setting of the AONB. The majority of the site acts as a key landscape gap separating the settlements of Wantage, Grove and East Challow. The northern part of the site is less constrained in this respect; however, this area does not relate well to the existing settlement and there would be a risk of coalescence with the committed Grove Airfield scheme.

Wootton – The South of Wootton site is the least constrained (in particular the parcel to the north), with the Landscape Capacity Study concluding ‘medium/high’ capacity. The East of Wootton site has ‘medium’ capacity, reflecting fewer urban influences. The North of Wootton site is most constrained (‘low’ capacity), given an open landscape separating Wootton and Henwood.

Sustainability Objective: Pollution

Air quality is a primary concern, particularly given the designated Air Quality Management Areas (AQMA) in the centres of Abingdon and Marcham. There are also a number of other environmental health concerns, including contaminated land (which can usually be remediated, at a cost); noise from rail and roads and odour from sewage treatment works or waste facilities. Pylons crossing sites is another consideration, particularly in the vicinity of Didcot Power Station, although generally this can be addressed through development, either by burying cabling underground or by ensuring a buffer either side of pylons. Finally, there is a need to take into account the fact that there are numerous level crossings within the District.

Taking locations in alphabetical order, notable issues include the following –

Abingdon – the South of Abingdon site would give rise to a high risk of increased traffic within the Abingdon AQMA. A new bypass would address concerns, although some risk to the AQMA could remain. N.B. The planned new slips at Lodge Hill (creating a ‘Diamond Interchange’) will reduce traffic through the AQMA, once delivered, as residents approaching the north and east of Abingdon from the south will use the new slips.

Appleford - includes a large area of formal landfill, and there is little reason to suggest that remediation of the land, to enable housing, could be achievable.

Dalton Barracks – use of the site as an airfield and barracks gives rise to a likelihood of contaminated land.

Drayton – the West of Drayton stands out as being at risk of significant road noise pollution, given the adjacent A34. Also, all sites at Drayton give rise to the risk of increased traffic within the Abingdon AQMA.

Grove – the Northwest of Grove site is subject to a number of constraints that might limit capacity. Two extra high voltage power lines (33kV) intersect the site; the site is adjacent to the railway, leading to noise pollution concerns; and a bridle-way level crossing is in close proximity.

Marcham – there is a designated AQMA, although if the predominant direction of travel from North of Marcham were to be in the direction of Oxford and/or Abingdon, then, impacts to the AQMA could be limited.

Steventon – the North of Steventon site is constrained by power lines, and also an intermediate pressure

gas main. No mechanical excavations should take place within 3m of this line.

Sutton Courtenay – the site here is heavily constrained, given the waste facility to the east (odour and noise) and significant contaminated land issues. There are also several power lines, including 2 extra high voltage.

Sustainability Objective: Climate change mitigation

There is a need to minimise per capita CO₂ emissions from transport, and the built environment. In respect of the former, there is little to add to the discussion presented above, under 'Services and facilities' and 'Movement'. In respect of the latter, a key consideration is the need to support larger developments – in excess of 500 homes – where there will be the economies of scale that make deliver of decentralised heat and power generation a possibility. Proposals for decentralised heat and power generation have not yet been advanced for any of the schemes under consideration; however, there could well be opportunities at **Dalton Barracks**, recognising that the site capacity could potentially reach as high as 3,000. There is also the possibility of exploring the option of a mixed use development, which could be supportive of decentralised heat and power, as demand would be spread more evenly across the day.

Sustainability Objective: Climate change adaptation

The key issue here is flood risk, given limited potential to differentiate between site in respect of other climate change adaptation issue (e.g. increased temperatures and drought).

Abingdon – the South of Abingdon site has some fluvial flood risk on the northern periphery; and one area of surface water pooling at the southern extent of the site.

Appleford - some fluvial flood risk on the periphery of the site. The western part of the site is bounded by a ditch, associated with surface water flows, and there are significant areas of surface water pooling nearby. There are identified drainage problems in the area.

Botley – the Southwest of Botley site contains notable areas at risk of surface water pooling (low probability) in the southeast segment.

Cumnor – a ditch runs through the centre of the South of Cumnor site, associated with a notable area at risk of surface water pooling.

Dalton Barracks - Some risk of surface water pooling (high probability) in Shippon, to the south of the site.

Drayton – the West of Drayton site contains some notable areas at risk of surface water pooling in the centre of the site; and the South of Drayton site contains a notable area at risk of surface water pooling (low probability) in the northwest segment.

East Hanney - notable area of surface water flood risk along the northern edge of East of East Hanney.

Fyfield - a ditch with significant surface water flood risk (high probability) runs between Fyfield and Netherton.

Grove – the Northwest of Grove site contains one notable area with the potential for pooling of surface water (high probability). The East of Grove site contains several small areas with the potential for pooling of surface water. This part of the district is also associated with high groundwater flood risk.

Harwell Campus - numerous small patches of surface water flood risk (mainly low probability).

Harwell Village - a ditch runs through the northern part of the West of Harwell Village site, associated with surface water flows, and an area of surface water pooling is downstream.

Kingston Bagpuize – the South of Kingston Bagpuize site contains notable areas of surface water flood risk, in particular at the site's south-eastern extent.

Radley – both sites are associated with some land at risk of surface water pooling.

Rowstock - one notable area at risk of surface water pooling (high probability) on the edge of Rowstock.

Sutton Courtenay - a significant area of surface water flood risk is found at the northern extent of the site. This part of the district is associated with high groundwater flood risk.

Wantage – the northern part of the West of Wantage site is constrained by the floodplain of Woodhill Brook.

Wootton – the East of Wootton site is associated with some surface water flood risk (low probability) in the southeast segment. As for the North of Wootton site, a ditch through the centre of the site, associated with notable surface water floor risk.

Table B: Summary findings from the informal appraisal of strategy site options

Site	Summary appraisal findings
East of Kingston Bagpuize	Good public transport connectivity. Development would deliver a new school, and a new road could divert traffic away from the existing village centre. Heritage is a constraint, given the adjacent Kingston Bagpuize Conservation Area.
South of Kingston Bagpuize	Good public transport connectivity, as per the site discussed above, but less potential for a larger scheme that delivers new infrastructure. Heritage is a constraint, given listed buildings on the village's southern edge.
West of Kingston Bagpuize	Poorly related to the existing village. Again, little potential for a larger scheme that delivers new infrastructure.
Fyfield	A new settlement could potentially deliver certain benefits, on the assumption of major infrastructure upgrades, given the location of Fyfield on a main transport corridor in proximity to Oxford. However, this is a rural area and the site contains two settlements with conservation areas.
South West of Botley	Very well linked to Oxford, relative to other sites, and Botley is the second largest settlement in the Abingdon and Oxford Fringe Sub-Area. However, this site is not well related to Botley, and falls within a sensitive, open landscape within the Green Belt. Land rises across the site towards Hurst Hill, where the woodland is a SSSI.
South of Cumnor	Very well linked to Oxford, relative to other sites, and well related to the large village of Cumnor. However, the site lies within the Green Belt, and contributes to the setting of the Cumnor Conservation Area.
South of Wootton	Relatively well linked to Oxford, although not on a strategic road corridor. Fairly well related to the larger village of Wootton, although the majority of the site has been identified as a sensitive landscape (in the Green Belt).
East of Wootton	Relatively well linked to Oxford, although not on a strategic road corridor. Within a landscape identified as a highly sensitive (in the Green Belt).
North of Wootton	Relatively well linked to Oxford, although not on a strategic road corridor. Fairly well related to the larger village of Wootton, although an open landscape (in the Green Belt).
Cluster 1 overview	
The Evaluation of Transport Impacts (ETI, 2017) concludes that Cluster 1 is “forecast to affect the A420 at Botley interchange.” There are other notable ‘in combination’ considerations in respect of Kingston Bagpuize (community infrastructure within the village), and Wootton (given proximity to Cothill Fen SAC).	
Dalton Barracks	Redevelopment would involve making best use of brownfield land, and it is understood that the greenfield part of the site would mainly be used as a Country Park. This is a Green Belt location, but it is likely that the existing barracks could be redeveloped with minimal adverse effect to the Green Belt. Biodiversity is a key environmental constraint, given nearby Cothill Fen SAC and other designated sites associated with the Sandford Brook. The site is well linked to Abingdon, and relatively well linked to Oxford, although not directly on a strategic road corridor. This is a large site that will enable delivery of significant new infrastructure, potentially to include a connection to the proposed new Lodge Hill Park and Ride.
North Abingdon	Very well linked to Oxford, relative to other sites, and Abingdon is the largest settlement in the Abingdon and Oxford Fringe Sub-Area; however, this site is distant from the town centre. This is a sensitive location within the Green Belt, given topography, Radley Park and nearby Radley College. There is a need to secure upgrades to the adjacent Lodge Hill Junction and Proposed Park and Ride; however, development would not necessarily support this.
North of Radley	Well linked to Oxford, given a train station, although not on a strategic road corridor. Well related to the larger village of Radley, although an open landscape in the Green Belt that contributes to a settlement gap. Also contributes to the setting of heritage assets.

Site	Summary appraisal findings
South of Radley	Well linked to Oxford, given a train station, although not on a strategic road corridor. Well related to the larger village of Radley, although an open landscape in the Green Belt that contributes to the setting of heritage assets.
Cluster 2 overview	
The Evaluation of Transport Impacts (ETI, 2017) concludes that Cluster 2 is “forecast to affect the already congested A34”. There are other notable ‘in combination’ considerations in respect of Radley Parish, recognising LPP1 allocations in the Parish and on the edge of Abingdon nearby.	
North of Marcham	Well linked to Abingdon, and relatively well linked to Oxford, although not on a strategic road corridor into Oxford. Part of the site has been identified as having capacity for development from a landscape perspective, in that it is well related to an adjacent new development. Traffic is a concern, particularly given Marcham AQMA, as is primary school capacity. Biodiversity is also a consideration given nearby designated sites.
South Abingdon	Well linked to Abingdon; however, traffic is a major issue along this road corridor, and Abingdon Town Centre AQMA is a consideration. A new bypass road would be necessary. There are heritage and biodiversity constraints, and the site contributes to the separation between Abingdon and Drayton.
North East of Drayton	Traffic generated from growth at Drayton would impact upon traffic congestion in Abingdon. This site abuts the Drayton Conservation Area, and lies as within a sensitive landscape.
West of Drayton	Traffic generated from growth at Drayton would impact upon traffic congestion in Abingdon. Development would in some respects involve a logical infill; however, the adjacent A34 leads to environmental health concerns.
South of Drayton	Traffic generated from growth at Drayton would impact upon congestion in Abingdon. Development would extend an existing allocation, and is not well related to the settlement.
Cluster 3 overview	
The Evaluation of Transport Impacts (ETI, 2017) concludes that Cluster 3 is “forecast to affect the already congested A34 and the A415”. There is a significant ‘in combination’ consideration in respect of worsened traffic and also the Abingdon Town Centre AQMA.	
North of Steventon	Within walking/cycling of two key Science Vale employment sites (Harwell Campus and Milton Park), but walking and cycling infrastructure is limited. Steventon is not on a main road / strategic bus corridor, and there is a risk of traffic adding to congestion at Milton Interchange (A34) to the east, and/or traffic in Abingdon to the north. Fairly well related to the large village of Steventon and limited on-site constraints; however, primary school capacity at Steventon is a constraint.
South East of Sutton Courtenay	In close proximity to employment north of Didcot and at Milton Park; however, not on a main road / strategic bus corridor, and there are traffic concerns. The site is constrained, in particular from a landscape (coalescence) and environmental health perspective.
Appleford	Appleford is a small village with no meaningful bus service; however, well located for employment areas in Didcot, Milton Park and (subject to road) Culham. Appleton station currently has a limited rail service with little scope for improvements. Contaminated land is a major constraint, and thought prohibitive.
Cluster 4 overview	
The Evaluation of Transport Impacts (ETI, 2017) concludes that Cluster 4 is “forecast to affect the already congested A34 but have some limited impact on the A4130.” However, there could be positive ‘in combination’ considerations, in respect of funding/delivering new infrastructure.	

Site	Summary appraisal findings
Milton Heights	Milton Heights is a smaller village adjacent to Milton Interchange, a major junction that has seen recent upgrades but still suffers from congestion. The village is within walking distance of employment at Milton Park and Harwell Campus, if good access can be secured. There is an existing LPP1 commitment, and further growth could potentially be masterplanned in conjunction, helping to secure delivery of services/facilities and infrastructure. Options could include a pedestrian/cycle link over A34, and potentially even a bus only bridge.
Harwell Campus	Redevelopment would involve making best use of brownfield land, although part of the site is greenfield, and there will be a need for careful masterplanning to avoid AONB impacts. Development would deliver major benefits from an economic growth perspective, and the site also performs very well from a sustainable transport perspective.
West of Harwell Village	Harwell is well located in relation to employment opportunities in the Science Vale, and is located on the strategic bus corridor between Didcot and Wantage / Harwell Campus; however, the site is beyond 400m of the existing route (with new routes unlikely). Development of the whole site would give rise to landscape concerns, particularly given the adjacent AONB, and there are also traffic constraints.
Rowstock	Rowstock is a small village, with no local facilities; however, it lies on the bus route between Didcot and Wantage / Harwell Campus, and employment locations are within cycling distance. Large scale development would deliver a primary school, but there are landscape concerns, particularly given the adjacent AONB.

Cluster 5 overview

The ETI, 2017 concludes that Cluster 5 is “forecast to affect the already congested A34 and is also forecast to affect the A417 and A4130, but have some limited impact on the A415 and A4185”. Also, the Landscape Capacity Study (2017) states that: “Development of these sites in their entirety would cause Harwell village, Rowstock and Milton Heights to merge and would have adverse impacts on the setting of the AONB.” However, there could be positive ‘in combination’ infrastructure delivery benefits.

West of Wantage	Wantage is a market town with a good offer, and committed growth in the area is set to deliver a premium bus service, and potentially a new rail station at Grove (longer term); however, Wantage is located at the western extent of the Science Vale, and the site is some way distant from the town centre. Large scale growth would likely necessitate a Wantage Western Relief Road, and there is also an opportunity to upgrade the canal as a cycle route. Development would erode the important settlement gap to East Challow.
North West of Grove	A relatively unconstrained site, and development would support the achievement of objectives for the expansion of Grove, alongside existing allocations.
East of Grove	Grove is a service centre in the settlement hierarchy; however, development would result in a significant adverse impact on the landscape in this highly sensitive location and would ‘break the barrier’ of the A338.
East of East Hanney	East Hanney is relatively remote from Oxford and the Science Vale, but is located on a strategic transport corridor (A338), along which there are set to be enhancements to the bus service given committed growth at Wantage and Grove. There are landscape and heritage concerns associated with this site, which would involve expanding into an open landscape.
South of East Hanney	East Hanney is relatively remote from Oxford and the Science Vale, but is located on a strategic transport corridor (A338), along which there are set to be enhancements to the bus service given committed growth at Wantage and Grove. The bus stop is at the northern end of the village, distant from the site to the south. There are landscape, heritage and biodiversity concerns associated with this site, including given the adjacent chalk stream and Local Wildlife Site.

Cluster 6 overview

The Evaluation of Transport Impacts (ETI, 2017) concludes that Cluster 6 is “forecast to have limited impacts on the A338, A417”. However, there could be positive ‘in combination’ considerations, in respect of funding/delivering new infrastructure.

APPENDIX IV –REASONABLE SPATIAL STRATEGY ALTERNATIVES

Introduction

As explained within ‘Part 1’ above, a focus of work has been on the development and appraisal of ‘reasonable’ spatial strategy alternatives, with a view to informing determination of the preferred strategy.

The reasonable alternatives are as follows –

Sub-Area	Location	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Abingdon and Oxford Fringe	Dalton Barracks	1350	525	200	1200
	E of Kingston Bagpuize	600	600	600	600
	N of Marcham	250	250	250	400
	SE of Marcham	0	0	0	120
	S of Abingdon	0	525	200	0
	East Hanney	0	150	150	130
	Steventon	0	150	150	0
	Kingston Bagpuize	0	0	350	0
	Cumnor	0	0	150	0
	Wootton	0	0	150	0
South East Vale	Harwell Campus	1000	400	250	1000
	W of Harwell	150	150	150	100
	Milton Heights	250	550	0	0
	Rowstock	0	0	700	0
	NW of Grove	0	0	0	300
Western Vale		0	300	300	0
Total		3,600	3,600	3,600	3,850

Appraisal methodology

For each of the options, the assessment examines **likely significant effects** on the baseline, drawing on the sustainability objectives identified through scoping (see Table 4.1) as a methodological framework. **Green** is used to indicate significant positive effects, whilst **red** is used to indicate significant negative effects. Every effort is made to predict effects accurately; however, this is inherently challenging given the high level nature of the policy approaches under consideration. The ability to predict effects accurately is also limited by understanding of the baseline (now and in the future under a 'no plan' scenario). In light of this, there is a need to make considerable assumptions regarding how scenarios will be implemented 'on the ground' and what the effect on particular receptors would be. Where there is a need to rely on assumptions in order to reach a conclusion on a 'significant effect' this is made explicit in the appraisal text.³⁴

Where it is not possible to predict likely significant effects on the basis of reasonable assumptions, efforts are made to comment on the relative merits of the alternatives in more general terms and to indicate a **rank of preference**. This is helpful, as it enables a distinction to be made between the alternatives even where it is not possible to distinguish between them in terms of 'significant effects'.

Finally, it is important to note that effects are predicted taking into account the criteria presented within Regulations.³⁵ So, for example, account is taken of the duration, frequency and reversibility of effects. Cumulative effects are also considered (i.e. where the effects of the plan in combination with the effects of other planned or on-going activity that is outside the control of the LPP2).

Appraisal findings

Appraisal findings are presented below within 12 separate tables (each table dealing with a specific sustainability objective) with a final table drawing conclusions.

The appraisal methodology is explained above, but to reiterate: For each sustainability topic the performance of each scenario is categorised in terms of 'significant effects (using **red** / **green**) and also ranked in order of preference. Also, ' = ' is used to denote instances of all alternatives performing on a par.

³⁴ Conclusions reached on significant effects in relation to Option 4 - the Council's preferred option - are supplemented within Chapter 10 of this report, which presents an appraisal of the draft plan - i.e. the preferred spatial strategy plus supporting policies.

³⁵ Schedule 1 of the Environmental Assessment of Plans and Programmes Regulations 2004.


Sustainability Objective: <u>Homes</u>				
	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	3	3	1	2
Significant effects?	No		Yes	
Discussion	<p>The first point to make is that all alternatives would involve delivering a quantum of homes sufficient to provide for objectively assessed housing needs (OAHN) over the plan period, taking into account the Vale's apportionment of Oxford City's unmet housing needs. It is also clear that the spatial distribution of housing under all options would meet the unmet needs requirement in an effective manner, in that there would be sufficient new housing in parts of the Vale that are well linked to Oxford.³⁶</p> <p>In seeking to differentiate the alternatives, a primary consideration is the need to support sites that will deliver early in the plan-period, thereby helping to ensure a robust housing delivery 'trajectory', and also minimise reliance on sites where there is a risk of delayed delivery.</p> <p>Option 4 performs well, in that: the proposal is to allocate several smaller sites with the potential for early delivery; and the proposed figures for Dalton Barracks, Harwell Campus and NW of Grove reflect latest understanding of what is deliverable at these sites over the plan period. However, these sites – or at least Dalton Barracks and NW Grove - are associated with specific deliverability issues, which means that there is inherently <i>some</i> risk of deliverability being delayed, potentially into the next plan period. There will be further discussions on deliverability - with site promoters and stakeholders - subsequent to the current consultation.</p> <p>N.B. There is now relatively high certainty that Harwell Campus can deliver 1,000 homes in the plan period. Harwell Campus is also notable, from a housing perspective, in that there is the potential to meet particular housing needs, namely the needs of Science Vale employees.</p> <p>Option 3 performs well as it would involve least reliance on large sites, which are inherently associated with greater deliverability risks than smaller sites. It would also spread development quite widely between settlements (also taking into account LPP1 allocations), which is a positive from a deliverability perspective (i.e. it helps to remove risk of local market saturation), and also from a perspective of wishing to meet 'very local' housing needs, i.e. needs associated with particular settlements, which will exist albeit are unquantified. In this respect, it is notable that Option 3 would involve some additional development (i.e. development in addition to what is already committed) within the Western Vale. Most settlements in the Western Vale have high, or at least sufficient, committed development; however, there is some variation in this respect (notably, Uffington is a 'larger village' with just one site for 36 homes; however, a neighbourhood plan is in preparation). In the South East Vale there would be strategic scale development at Rowstock, which is not subject to known deliverability constraints (albeit significant road infrastructure upgrades would be required).</p> <p>Option 2 performs less well, in particular given a reliance on South of Abingdon and Milton Heights, where there are deliverability issues (see discussion of these sites in Appendix III).</p> <p>Option 1 performs poorly as there would be low reliance on smaller sites, and also on the basis that there would be a significant risk of Dalton Barracks failing to deliver the quantum of homes anticipated in the plan period. Through the October 2016 informal consultation on alternatives, Oxfordshire County Council raised concerns regarding reliance on Dalton Barracks on the</p>			

³⁶ This is on the basis that several of the LPP1 allocations can be considered to contribute to the 2,200 home figure, notably sites to the north and north-west of Abingdon-on-Thames and at the larger villages of Kennington (within Radley parish) and Radley. Whilst these sites were allocated within LPP1 with the primary intention of meeting the Vale's own OAHN, the sites are also well located to provide for Oxford's unmet housing need. The Planning Inspector's Report of the Examination into LPP1 states: "[I]n reality, it would be all but impossible to determine if a potential occupier of this housing (Part 1 allocations) represents a Vale or Oxford 'housing need.'"

basis that: “Scenarios... need to be based on realistic figures for anticipated housing delivery by 2031. Research by Nathaniel Litchfield & Partners (November 2016) found that the average lead-in on large scale sites is generally about 5 years... Also, typically build rates on strategic sites in Oxfordshire have rarely been more than about 200pa.” However, understanding regarding deliverability has improved since October 2016.

In **conclusion**, Option 3 (‘least reliance on large sites’) performs best, followed by Option 4 (the preferred option). Both of these options would result in significant positive effects, on the basis that OAHN would be provided for, and there would be robust housing trajectory. Options 1 and 2 perform less well, and could potentially result in a situation whereby OAHN is not provided for, or at least a situation whereby there is a lack of a five-year supply of deliverable sites at certain times in the plan period (leading to a risk of housing via ‘planning by appeal’).

Sustainability Objective: Services and facilities

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	 1	2	3	3
Significant effects?	No			

Discussion

Most sites that appear across the alternatives are well located in respect of enabling easy access to a town or larger village centre, including via walking, cycling and public transport. Rowstock (Option 3) and Milton Heights (Options 1 and 2) are ‘smaller villages’ within the settlement hierarchy (LPP1 Core Policy 3); however, at both sites the assumption is that strategic development would only be acceptable alongside delivery of new community facilities. For example, any scheme at Rowstock would need to deliver a primary school.

Other sites mostly benefit from good accessibility to one or more of the larger settlements (Oxford, Didcot, Abingdon and Wantage; the latter two being classed as market towns in the settlement hierarchy). Kingston Bagpuize (highest growth under Option 3) is relatively distant from a higher order centre, but benefits from being on an existing premium bus corridor between Swindon and Oxford (plus Witney is accessible to the north). Also, Oxfordshire Clinical Commissioning Group (OCCG) has raised concerns regarding access to a GP facility at Kingston Bagpuize, given no existing facility and significant committed growth. The scale of growth under Option 3 could potentially help to deliver a new facility.

With regards to primary education infrastructure, there is good potential to ensure suitable access to primary schools with capacity at the majority of locations, with larger sites having potential to deliver a new school and certain existing schools having the potential to expand, funded by development; however, issues have been identified at Marcham (highest growth under Option 4) and Steventon (growth under Options 1 and 2). It is not thought possible to differentiate the alternatives in respect of secondary education, or matters relating strategic medical facilities / consolidation of healthcare facilities within Oxfordshire.

With regards to secondary education infrastructure, whilst there is no certainty at this stage, there is the potential to explore the option of a secondary school on the Dalton Barracks site, which would help to address existing issues in the Abingdon area.

In **conclusion**, it is difficult to differentiate the alternatives. It is not possible to simply conclude that Options 1 and 4 perform well due to greatest reliance on large sites that will deliver new strategic community infrastructure, as the assumption under all options is that these large sites would be built out eventually, i.e. beyond the current plan period. It is worthwhile concluding on each option individually –

- Option 1 – Primary school capacity at Marcham is a constraint.

- Option 2 – As above, plus primary school capacity at Steventon is a constraint. On the ‘plus side’, growth would be directed to Abingdon, the District’s largest settlement.
- Option 3 – As above, plus higher growth at Kingston Bagpuize could lead to issues, and growth at Rowstock is questionable.
- Option 4 – Higher growth at Marcham leads to concerns. On the ‘plus side’, growth would be directed to Grove, which is a ‘service village’ in the settlement hierarchy.

On balance, Option 1 performs best, followed by Option 2. Significant positive effects are not predicted, given that there is little or no potential to deliver new community infrastructure of strategic importance, i.e. community infrastructure that will serve to address an existing issue, as opposed to ‘consuming the smoke’ of the new development.

It is difficult to differentiate Options 3 and 4, and so they are judged to perform on a par. Both are associated with notable issues; however, it is not clear that significant negative effects would result. Primary school constraints can often be addressed – e.g. it may transpire that higher growth at NE Marcham could enable delivery of a new primary school.

Sustainability Objective: Movement

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	★ 1	4	★ 1	★ 1
Significant effects?	No	Yes	No	

There is considerable variation between the sites/locations, as discussed in Appendix III. It is difficult to aggregate site-specific understanding to inform appraisal of the reasonable alternatives; however, an overriding site specific issue perhaps relates to the traffic congestion that would result from a South of Abingdon scheme in the absence of a bypass.

There is some potential to draw upon the findings of an Evaluation of Transport Impacts (ETI, Atkins, 2017); however, a limitation is that the ETI evaluated Options 1 – 3 only. Option 4 is yet to be evaluated, i.e. run through the traffic model that forms the basis of the ETI.

The ETI examines the effect of each option in terms of ‘delay’ – see table below.

	% increase on the baseline (‘do minimum’) scenario		
	Option 1	Option 2	Option 3
AM	6	5	5
PM	5	6	5

This potentially serves to demonstrate that Option 3 performs well; however, the difference in performance does not appear significant; and a closer examination of specific road corridors shows that the situation is not clear cut. Notably, Option 3 performs worst in respect of increased delay on the A4120 corridor, reflecting higher growth at Kingston Bagpuize. Option 3 would also involve growth at South of Abingdon; however, the great majority of development would occur beyond the plan period, by which time a new bypass might be deliverable.

Option 4, in comparison to Option 3, would involve no reliance on South of Abingdon, more restrained growth at Kingston Bagpuize and an increased focus of growth at Harwell Campus and Grove (which is a ‘plus’). However, Dalton Barracks would see higher growth in the plan period, as opposed to delayed growth under Option 3, potentially meaning that phasing of growth with A34 infrastructure upgrades becomes a challenge. Option 4 would also involve higher growth at Marcham, which does give rise to certain transport and traffic concerns.

In **conclusion**, on the basis of the ETI and also the discussion of specific sites presented in Appendix III, it seems that Option 2 is worst performing, and would result in significant negative

Discussion

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In **conclusion**, on the basis of the ETI and also the discussion of specific sites presented in Appendix III, it seems that Option 2 is worst performing, and would result in significant negative

effects, given that significant development at South of Abingdon without a new bypass would likely contribute to severe traffic congestion in Abingdon. Also, Option 2 would involve additional growth at Milton Heights, with implications for the A34 Milton Interchange. It is difficult to differentiate the other options, and so they are judged to perform broadly on a par.

Sustainability Objective: Health

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	=	=	=	=
Significant effects?	No			
Discussion	<p>The matter of access to healthcare has already been discussed above. Another health determinant is access to greenspace and outdoor recreation facilities; however, there is little potential to differentiate the alternatives in this respect. Development at Dalton Barracks is potentially to be supported, from an 'open space' perspective, given the likelihood that the western part of the site would be used for a Country Park (to provide 'suitable alternative natural greenspace' (SANG) to ensure that the effect of housing is not to increase recreational pressure on nearby Cothill Fen Special Area of Conservation, SAC); however, a scheme at Dalton Barracks would be delivered under all four scenarios.</p> <p>In conclusion, the alternatives perform on a par and significant effects are not predicted.</p> <p>N.B. There is also a need to consider environmental health constraints affecting sites; however, environmental health is given stand-alone consideration below, under 'Pollution'.</p>			

Sustainability Objective: Inequality and exclusion

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	=	=	=	=
Significant effects?	No			
Discussion	<p>The analysis presented in Appendix III finds that there is no potential to differentiate between the various sites/locations, in respect of the potential to support regeneration of relatively deprived neighbourhoods. Equally, there is no potential to differentiate the alternative scenarios, as it is not clear that any sites will act in combination to support regeneration. Areas of relative deprivation are found along the southern edge of Oxford, and within the northern part of Didcot, but none of the site options under consideration are adjacent, or close enough so that the effect of development could be to support regeneration.</p> <p>One possible consideration is the need to support village vitality, and potentially help to address or avoid any issues of 'rural deprivation' in the Western Vale; however, it is not thought that this is sufficient reason to suggest that Options 2 and 3 perform well. The sites that would be delivered are unspecified, and there would be a high likelihood of sites being allocated at one of the larger villages, as opposed to one of the smaller villages, where local services/facilities could tend to be most at risk due to lack of patronage.³⁷ Faringdon, which is the only market town in the Western Vale, is one rural settlement with a degree of relative deprivation (it</p>			

³⁷ This is on the basis that Neighbourhood Plans are well placed to allocate small sites at smaller villages, with a view to addressing localised needs / issues.

comprises the third most deprived Lower Super Output Area in the District, out of 76); however, the village is allocated 950 homes through Local Plan Part 1, across four strategic sites.

Sustainability Objective: Economy

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	=	=	=	=
Significant effects?	No			
Discussion	<p>None of the options would involve allocation of employment land, or support for mixed used development schemes, but housing growth at Harwell Campus would be supportive of economic growth objectives. The site could well be delivered with a covenant to ensure that housing is available to employees of the campus only, thereby helping to ensure that this internationally renowned centre for science and research continues to thrive. Part of the site has Enterprise Zone status, and is an existing employment allocation; however, the view is that ultimately development of the site for residential (for campus employees only) will help to ensure that the employment capacity of Harwell Campus is fully realised. A significant area of undeveloped Enterprise Zone to the east of the campus would remain.</p> <p>There is also a strong argument to suggest that housing in the Science Vale area more widely is supportive of economic growth objectives. Sites located within the Science Vale should: help to achieve and maintain a sustainable balance of housing and employment within the area; help to deliver the Science Vale Strategic Infrastructure Package through developer contributions; and support the Oxfordshire LEP priority for accelerating housing delivery within the Oxfordshire 'Knowledge Spine' growth corridor. All of the sites represented across the alternatives that fall within the South East Vale – i.e. Harwell Campus, W of Harwell, Milton Heights, Rowstock and NW of Grove – also fall within Science Vale; however, NW of Grove is notably furthest from Didcot, and the main Science Vale employment sites.</p> <p>In conclusion, it is not possible to differentiate between the alternatives. All alternatives would involve a similar quantum of growth in Science Vale, and development of Harwell Campus to its full capacity in the long term (and it is not clear that the rate of delivery has a bearing on the achievement of objectives for the Campus). All alternatives would result in significant positive effects, recognising the regional importance of achieving growth within the Science Vale.</p>			

Sustainability Objective: Natural environment

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	=	=	=	=
Significant effects?	No			
Discussion	<p>A primary consideration is the potential for sites – either alone or in combination – to impact on Cothill Fen Special Area of Conservation (SAC) or Oxford Meadows SAC, both of which are of international importance. The potential for impacts is being explored in detail through a stand-alone Habitats Regulations Assessment (HRA), but suffice to say here that:</p>			

- sites that could potentially pose some risk to Cothill Fen SAC are those in closest proximity, namely Dalton Barracks which is almost adjacent (albeit there is an expectation that only the brownfield portion of the site, which is the furthest part from the SAC, would be developed) and sites at Wootton and Marcham; and
- sites that could potentially pose some risk to Oxford Meadows SAC are those that would load the greatest amount of additional traffic onto the A34, as this road runs adjacent to the SAC and leads to air pollution impacts. Most sites within the Abingdon and Oxford Fringe Sub-Area fall into this category, and it is difficult to single-out any specific site(s).

Having made these initial points, in relation to the SACs, the first point to note is that Option 4 would involve additional housing in the 'Ab-Ox' Sub-Area. However, it is not clear that the additional 250 homes would have a significant bearing. Secondly, there is a need to consider the implications of different rates of growth at Dalton Barracks (lowest under Option 3; highest under Option 1). There could be some implications, in that delay could enable time for mitigation measures to be implemented (notably Suitable Alternative Natural Greenspace, SANG, and road upgrades); however, it is not clear that this would have a significant bearing either. The degree to which growth is focused at Wootton (150 homes under Option 3) and Marcham (higher growth under Option 4) is another issue, given proximity to the SAC.


In terms of wider, non-SAC related biodiversity issues, the analysis presented in Appendix III highlights numerous sites as constrained to some extent. One site that stands-out as notably unconstrained is NW of Grove, which potentially suggests that Option 4 performs well; however, a draw-back to Option 4 is its focus of growth at Marcham, where there are designated sites in proximity.

In **conclusion**, it is difficult to differentiate the alternatives. The main issues relate to the Abingdon and Oxford Fringe Sub-Area, with the sites in the South East Vale Sub-Area all being associated with relatively few issues (Harwell Campus has on-site constraints, but it is not clear that faster build-out under Options 1 and 4 would lead to issues); however, even having established this point, it remains difficult to differentiate. There is an argument to suggest that:

- Option 1 performs well, given a focus of growth, thereby avoiding the need for development (or enabling lower development) at sensitive sites; however, the rate of development at Dalton Barracks could potentially give rise to concerns.
- Option 2 performs well, as it would involve: a slower rate of development at Dalton Barracks and a focus of growth at S of Abingdon, which is relatively unconstrained (although there are issues, given the adjacent River Ock); however, A34 traffic impacts resulting from a focus of growth at Milton Heights and S of Abingdon could potentially have biodiversity implications.

There will be a need for mitigation measures under all of the options, and in this respect it is notable that a Green Infrastructure Strategy is in preparation. On the assumption that mitigation will be put in place, it is possible to conclude that significant negative effects are not likely under any of the options.

Sustainability Objective: Heritage

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	 1	3	4	2
Significant effects?	No		Yes	No
Discussion	Relatively few of the sites in question are constrained, in terms of strategic heritage issues. Specifically, sites that are constrained are (in alphabetical order) –			

- S of Abingdon – the site wraps around three sides of Sutton Wick Scheduled Monument. Through consultation Heritage England have commented that development could be harmful to the significance of the Monument, through the loss of any contribution to that significance made by its current undeveloped setting; and concluded ‘significant reservations’. Also, the site includes the grade II listed Stonehill House and outbuildings.
- Cumnor – Under Option 3 there could well be a focus of growth to the south of the village, where an available site partially abuts Cumnor Conservation Area. The Conservation Area Character Appraisal identifies a number of important views across the potential site.
- Dalton Barracks – Shippon has a historic centre, with listed buildings and a rural setting, although there is no designated conservation area. The airfield itself has a heritage value.
- East Hanney – Sites to the north, south and east either abut, or potentially contribute to the setting of, the conservation area.
- Kingston Bagpuize – the E of Kingston Bagpuize sites partially abuts the Kingston Bagpuize Conservation Area, and would be highly visible on the approach to Kingston Bagpuize house (grade II*). Also, the Old Oxford Road is a bridleway and cycle path running through the site. Sites to the south of the village are also constrained by the setting of several listed buildings.
- Wootton – there is no designated conservation area; however, there are number of listed buildings to the north / north east of the village, which constrain sites in this area.

In **conclusion**, a focus of growth at Dalton Barracks and Harwell Campus is supported, which indicates support for Option 1 (albeit it is recognised that in practice it will simply be the case that deliverability issues dictate the rate of growth at these sites). A 600 home scheme to the east of Kingston Bagpuize gives rise to concerns; however, this scheme is a constant across the alternatives.

Option 2 also performs well, as there would be a focus of growth. NW of Grove is unconstrained; higher growth at Marcham does not give rise to major heritage concerns; and at East Hanney the assumption is that two relatively unconstrained sites would come forward (the site to the north abuts the conservation area, but is not thought to contribute to its setting).

Option 3 performs poorly, given issues at the S of Abingdon site (the assumption is that the site would be developed to its full extent in the long term, i.e. beyond the plan period) and there also being concerns in respect of Kingston Bagpuize, Cumnor and Wootton. There would be much potential for avoidance (through site selection) and mitigation (through masterplanning, design and landscaping) of impacts; however, Heritage England has raised ‘significant reservations’ in relation to the South of Abingdon site, and so on this basis ‘significant negative effects’ are predicted.


Sustainability Objective: Landscape

	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	★ 1	3	4	★ 1
Significant effects?	No		Yes	No
Discussion	<p>A number of the sites in question are constrained, in strategic landscape terms. Specifically, sites that are constrained are (in alphabetical order) –</p> <ul style="list-style-type: none"> • S of Abingdon - contributes to the separation between Abingdon and Drayton, with the Landscape Capacity Study concluding ‘low’ capacity for the western part of the site (and ‘medium’ capacity for the eastern part). • Cumnor – A Green Belt location, but with ‘medium’ capacity’. 			

- Dalton Barracks – is washed over by the Green Belt, and the large scale open aspect across the airfield allows wide ranging views to distant higher ground; however, it has the characteristics of a military installation, with security fencing, and built area contains large military buildings and hangers.
- East Hanney – is surrounded by an open an expansive landscape; however, certain available sites are relatively contained (indeed, one of the sites would involve infill development).
- NW of Grove – relatively unconstrained.
- Harwell Campus - Falls within the AONB; however, this is a mainly brownfield site and the entire site is a current employment allocation; hence there may be potential for redevelopment without breaching landscape capacity. There is good potential for careful masterplanning to mitigate impacts to the AONB.
- Harwell Village – the W of Harwell site does not relate particularly well to the village, but is relatively contained within the landscape ('medium/high' capacity).
- E of Kingston Bagpuize – the site contributes to the approach to the village, but has 'high' capacity for development, from a landscape perspective.
- N of Marcham - the western fields have a strong relationship to new development to the west, but land to the east is more sensitive ('medium/high' capacity).
- SE of Marcham – is thought to have some capacity, from a landscape perspective; however, this is uncertain, with the Landscape Capacity Study (2017) not having examined this site.
- Milton Heights – the Landscape Capacity Study concludes 'medium/high' capacity to the east, but 'medium' capacity to the west. Given varying sensitivity, it is notable that there could be the potential to masterplan Milton Heights expansion as a whole.
- Rowstock – adjacent to the North Wessex Downs AONB. A scheme of limited scale could possibly 'fit'; however, the Landscape Capacity Study concludes 'low' capacity.
- Steventon – the likely location of growth would be to the north, where an available site is bounded by existing development to the east and new development to the south; however, the northern part of this site is more sensitive and exposed to views from the north.
- Wootton – whilst there are certain areas where a smaller scheme could integrate with the existing built form reasonably well, other areas have only 'medium' or 'low' capacity.

In **conclusion**, Options 2 and 3 perform relatively poorly as several additional sites would be allocated with landscape sensitivity. Option 3 performs worse, on the basis that Rowstock is more sensitive than Milton Heights, and there would be a need for additional allocations in the Green Belt at Cumnor and Wootton. Option 3 is predicted to result in significant negative effects, on the basis that a 700 home scheme at Rowstock could impact on the setting of the AONB, and given the potential for development within sensitive landscapes within the Green Belt at Wootton.

It is difficult to differentiate between Options 1 and 4. Option 4 would involve allocation of additional sites, but these sites are of relatively low landscape sensitivity.

Sustainability Objective: <u>Pollution</u>				
	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank		2	2	2
Significant effects?	No	Yes		
Discussion	<p>Air quality is a primary concern, particularly given the designated Air Quality Management Areas (AQMA) in the centres of Abingdon and Marcham. There are also a number of other environmental health concerns.</p> <p>Taking locations in alphabetical order, notable issues include the following –</p> <ul style="list-style-type: none">• Abingdon – the South of Abingdon site would give rise to a high risk of increased traffic within the Abingdon AQMA. A new bypass would address concerns, although some risk to the AQMA could remain. N.B. The planned new slips at Lodge Hill (creating a ‘Diamond Interchange’) will reduce traffic through the AQMA, once delivered, as residents approaching the north and east of Abingdon from the south will use the new slips.• Dalton Barracks – use of the site as an airfield and barracks gives rise to a likelihood of contaminated land.• Grove – the Northwest of Grove site is subject to a number of constraints that might limit capacity. Two extra high voltage power lines (33kV) intersect the site; the site is adjacent to the railway, leading to noise pollution concerns; and a bridle-way level crossing is in close proximity.• Marcham – there is a designated AQMA. Traffic from the North of Marcham site (highest growth under Option 4) could tend to avoid the AQMA, given a likely predominant direction of travel in the direction of Abingdon; however, the South East of Marcham site (Option 4) is adjacent to the AQMA (at the Abingdon end), and hence any new junction would be within the AQMA, potentially contributing to congestion.• Steventon – the North of Steventon site is constrained by power lines, and also an intermediate pressure gas main. No mechanical excavations should take place within 3m of this line. <p>In conclusion, Options 2, 3 and 4 perform poorly, and would result in significant negative effects, given AQMA concerns. This matter will require further investigation.</p>			

Sustainability Objective: <u>Climate change mitigation</u>				
	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	=	=	=	=
Significant effects?	No			
Discussion	<p>There is a need to minimise per capita CO₂ emissions from transport, and the built environment. In respect of the former, there is little to add to the discussion presented above, under 'Services and facilities' and 'Movement'. In respect of the latter, a key consideration is the need to support larger developments – in excess of 500 homes – where there will be the economies of scale that make deliver of decentralised heat and power generation a possibility.</p> <p>Proposals for decentralised heat and power generation have not yet been advanced for any of the schemes under consideration; however, there could well be opportunities at Dalton Barracks and/or Harwell Campus. There could also potentially be opportunities associated with a large scheme to the South of Abingdon; however, there is no certainty in this respect.</p> <p>In conclusion, it is not possible to differentiate the alternatives, as Dalton Barracks and Harwell Campus would be developed to full capacity under all of the alternatives. Significant effects are not predicted, recognising that climate change is a global issue (and hence local actions can have only limited effect).</p>			

Sustainability Objective: <u>Climate change adaptation</u>				
	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Rank	=	=	=	=
Significant effects?	No			
Discussion	<p>The key issue here is flood risk, given limited potential to differentiate between sites – and therefore the alternatives - in respect of other climate change adaptation issue (e.g. increased temperatures and drought).</p> <p>The South of Abingdon site sits between the flood plains of the River Thames and the River Ock; however, the flood risk zone only encroaches on the site to a small extent, and it is assumed that this area of land would remain open space. It is also important to note that development of the site would necessitate a South Abingdon Bypass, crossing both floodplains.</p> <p>The majority of sites are associated with a degree of surface water flood risk, although the risk is relatively minor in all instances (recognising good potential for avoidance and mitigation).</p> <p>In conclusion, it is not possible to differentiate between the sites, and significant effects are not predicted.</p> <p>N.B. Water resource and water quality issues will be examined in further detail through a Water Cycle Study, prior to plan finalisation. Variable capacity of Waste Water Treatment Works (WwTWs) is known to be an issue to some extent (see discussion in Appendix II).</p>			

Summary findings and conclusions

Objective	Categorisation and rank			
	Option 1 Reliance on large sites	Option 2 Less reliance on large sites	Option 3 Least reliance on large sites	Option 4 The preferred option
Homes	3	3	1	2
Services and facilities	1	2	3	3
Movement	1	4	1	1
Health	=	=	=	=
Inequality and exclusion	=	=	=	=
Economy	=	=	=	=
Natural environment	=	=	=	=
Heritage	1	3	4	2
Landscape	1	3	4	1
Pollution	1	2	2	2
Climate change mitigation	=	=	=	=
Climate change adaptation	=	=	=	=

Conclusions

The appraisal shows Option 1 to perform best in terms of the greatest number of objectives, primarily because it would involve concentrating growth at a small number of large sites.

Option 4 also performs well, and performs notably better than Option 1 in terms of 'housing', as it reflects the latest understanding of housing delivery potential at Dalton Barracks, and proposes some additional smaller sites that could deliver early in the plan period. However, Option 4 performs worse than Option 1 in terms of 'Pollution' (due to air quality concerns at Marcham) and also 'Services and facilities' (due to a school capacity constraint at Marcham).

Options 2 and 3 perform poorly in terms of a number of objectives, including 'Pollution' as development of the South of Abingdon site ahead of a new bypass road would worsen traffic congestion and air quality within Abingdon Town Centre. Option 3 would involve reliance on the most number of sites, which would have positive implications from a 'Housing' perspective, but negative implications in terms of: 'Landscape' (allocation at Rowstock being a key issue); 'Heritage' (issues would result from allocation at South of Abingdon, Cumnor and Wootton, plus high growth at Kingston Bagpuize); and 'Services/facilities' (issues would potentially result from high growth at Kingston Bagpuize, given distance to a GP facility). Option 3 is identified as preferable to Option 2 in terms of 'Movement' on the basis that Evaluation of Transport Impacts (ETI) work, and also because Option 2 assumes a focus of growth at Milton Heights, a location where there are infrastructure constraints.