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The Assessment of Strategic Development Opportunities in Cheltenham Borough, Gloucester City, Tewkesbury Borough, Stroud District and Parts of Forest of Dean District

Final Report

Prepared by LUC in association with ITP, HDH Planning and Navigus Planning

May 2020



Project title: The Assessment of Strategic Development Opportunities in Cheltenham Borough, Gloucester City, Tewkesbury Borough, Stroud District and Parts of Forest of Dean District

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1 Introduction and Study Context

Introduction

- 1.1 LUC and its sub-consultants were jointly commissioned by Gloucester City Council, Cheltenham Borough Council, Tewkesbury Borough Council, Stroud District Council and Forest of Dean District Council to undertake an assessment that will inform the search for suitable strategic development land beyond the existing settlement boundaries in the study area. This assessment will form a key part of the evidence base for the review of the Local Plans, helping each participating local planning authority to identify development options to meet their own needs in each authority area. The assessment will also inform the Joint Core Strategy (JCS), helping to identify strategic locations for growth across the Study area as a whole.
- 1.2 This report has been prepared by LUC with assistance from ITP (transport consultants), Navigus Planning (infrastructure consultants) and HDH Planning (viability consultants). The methodology used to undertake the study was developed through an iterative process with close ongoing liaison between the consultants, Steering Group (comprising representatives from each of the respective local authorities and Gloucestershire County) and wider stakeholders, principally the statutory consultees.
- 1.3 This chapter sets out the aim of the study, its scope and background context. This is followed by a review of relevant national and local planning policy and a summary of the consultation undertaken to inform the study's preparation.

Study Aim and Scope

- 1.4 The overall aim of the study is to assist in the process of identifying strategic housing development land, defined as areas with capacity for 500 or more dwellings, which may appropriately meet long term housing needs that have not been met in adopted plans within the study area. These include in the first instance those needs originating within the JCS area which will be met during the JCS review period (2040/2041) within the JCS plan area and/or within adjacent districts, but also the individual needs of each of the participating local planning authorities.
- 1.5 The study area comprises of the entire local authority areas of Cheltenham Borough, Gloucester City, Stroud District, Tewkesbury Borough, and the area within the Forest of Dean District that is functionally related to Gloucester¹. Figure 1.1 shows the location of the five authority areas and the study area. The existing main built up urban areas are excluded from the study. The study considers the potential for development in the form of urban extensions and/or new settlements. Cotswold District Council was initially involved in discussions regarding the study; however because of the AONB landscape constraints preventing major development in the District, it was agreed that the scope of the study would not include Cotswold District Council.
- 1.6 The study provides evidence to support reasoned consideration, at an early stage in the plan making process, of the relative planning merits of strategic housing development options of various scales and at various locations across the study area. It includes an assessment of development options in relation to the following parameters:

¹ This is defined as all areas within the Forest of Dean District that lie within 30mins (by public transport) of Gloucester. Further explanation of this is provided in Chapter 2 of this report.

- key environmental constraints and sensitivities;
- transport accessibility;
- infrastructure constraints and opportunities; and
- viability.

- 1.7 For the purpose of this study, Green Belt is not treated as a constraint to development. The intention is to identify all areas with potential suitability for development, including land designated as Green Belt. However, it is recognised that if the decision is taken to progress sites within the Green Belt, the Councils will need **to set out the 'exceptional circumstances' for release** of Green Belt land. Further details on this are provided in Chapter 4 of this study.
- 1.8 As it is intended to support the early stages of the plan making process, the study scope encompasses as broad a range of development options within the study area as is reasonably feasible, commensurate with the need for the study to be sufficiently concise to be both deliverable and of practical use. The study has included a review of all land within the study area rather than being informed by where there is known developer interest in an area or site (ie as obtained through the JCS Call for Sites process). Consideration of the deliverability of land for development will be undertaken at a later stage in individual Local Plan-making and JCS development processes. This study therefore provides a 'bottom up' analysis of the suitability (or otherwise) of land within the study Area using the parameters outlines above.
- 1.9 The study does not draw conclusions about which areas may be more or less suitable for development, as that requires consideration of how the various criteria should be weighted. The weighting of the parameters is a plan-making decision that will be informed by the evidence base and the visions and objectives of the JCS and associated Local Plans. (A separate process for defining these visions and objectives is currently being undertaken by the JCS). Once these have been agreed, the detailed information included in this study will be used to assist in the identification of which areas best meet the desired objectives. Further information on this is set out in Chapter 4 of this report.

Housing Need

- 1.10 The JCS was adopted in December 2017 by Gloucester City, Cheltenham Borough, and Tewkesbury Borough Councils and plans for 35,175 new homes to be delivered over the Plan period (2011-2031). This figure is an economically-led objectively assessed need (OAN) figure, with an additional 5% uplift to assist with affordability. In addition, the Adopted Stroud Local Plan sets out a housing requirement of 11,400 units up to 2031 and the Adopted Forest of Dean Core Strategy states 5,126 houses are needed by 2026.
- 1.11 **The Inspector's report on the Examination of the JCS noted** in the section on housing land supply that a shortfall of 3,351 dwellings exists, but that there are a number of possibilities for locating housing on additional land. This study will help the authorities identify suitable locations for housing, arising not only from the JCS but also the revised NPPF which introduced a Standard Housing Needs Assessment.
- 1.12 The Standard Housing Needs Assessment methodology (**'the standard method'**) was published alongside the revised NPPF in July 2018. This simplified methodology takes the household projections for an area as a starting point, and applies a percentage uplift depending on the scale of affordability issues in that area. When the methodology was published, the latest household projections were the 2014-based projections. Projected household formation rates, both nationally and within many local authority areas, were substantially reduced in the subsequently published 2016-based household projections. However, the Government has stated clearly that assessments of housing need using the standard method must for now continue to be employ 2014-based projections, not the lower 2016-based projections².

² Ministry of Housing, Communities and Local Government (consulted January 2020), *Planning Guidance: Housing and Economic Needs Assessment* (<https://www.gov.uk/guidance/housing-and-economic-development-needs-assessments#history>)

- 1.13 For the longer term, the Government committed in February 2019 to review the formula **employed in the standard method as a whole 'with a view to establish a new approach that balances the need for clarity, simplicity and transparency for local communities with the Government's aspirations for the housing market'** (Government response to the technical consultation on updates to national planning policy and guidance, February 2019). This review is yet to be completed.
- 1.14 Despite the consequent uncertainty regarding the exact housing need figure that will apply within the present study area according to the revised standard method in the future, there is still a need to address the shortfall of land identified in the JCS and to support the JCS Review and neighbouring Local Plan reviews. Furthermore, needs are considered most likely to increase under the final methodology adopted by the Government and bearing in mind the significant amount of growth that will need to be accommodated during the extended Plan period of the JCS and associated neighbouring Local Plans up to 2040/41.

Duty to Cooperate

- 1.15 A Memorandum, of Understanding was prepared in 2014 to cover all of the Gloucestershire authorities to ensure constructive, ongoing engagement in issues relevant to spatial planning matters. Cheltenham Borough Council, Gloucester City Council, Cheltenham Borough Council, Cotswolds District Council, Forest of Dean District Council, Stroud District Council, Tewkesbury Borough Council and Gloucestershire County Council (also as Highway Authority) agreed to:
- "take a strategic approach in their Local Plans and will seek to develop a strategy which seeks to meet objectively assessed development and infrastructure requirements within the relevant local authority boundaries. Consideration will be given to meeting unmet requirements from other local planning authorities in the housing market areas where it is reasonable to do so and consistent with achieving sustainable development."***
- 1.16 In January 2015, the JCS authorities including Cheltenham Borough, Gloucester City and Tewkesbury Borough signed a Duty to Cooperate Statement, in line with the requirements of the 2011 Localism Act and paragraphs 24-27 of the National Planning Policy Framework (NPPF)³. The statement outlines that the commissioning authorities have strong functional, economic, infrastructure, policy and cross-boundary relationships, which mean that working together on their respective and joint plan-making work makes good planning sense. The Duty to Cooperate Statement states:
- "In line with the NPPF, all signatories want to deliver sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs. We want to work together to address strategic and cross boundary issues. Specifically, relevant signatories will (amongst other things):***
- c) Work together to assess the overall quantity, mix and broad distribution of development required within Gloucestershire, including its delivery through necessary strategic infrastructure;*
- d) Work together to consider whether, if objectively assessed housing needs arising from one area cannot be met wholly within that area, those unmet housing needs can be met, where it is reasonable to do so, elsewhere in the same Housing Market Area"*
- 1.17 It has long been accepted that Gloucester City and Cheltenham Borough cannot meet their housing requirements within their boundaries, calling for cross-boundary delivery of housing.

³ Gloucestershire Memorandum of Understanding (MoU), January 2015: <https://www.stroud.gov.uk/media/1166279/gloucestershire-memorandum-of-understanding-january-2015.pdf>

Existing Planning Policy Context

National Policy

National Planning Policy Framework

- 1.18 The latest version of the NPPF was published in February 2019. Chapter 2, Achieving Sustainable Development, paragraph 8 sets out three overarching objectives in favour of achieving sustainable development and growth through creating synergies between economic, social and environmental aims. The economic objective sets out to build a strong economy by ensuring sufficient land is available in the right place for economic growth and the provision of infrastructure. The social objective aims to ensure sufficient homes can be provided to create vibrant and healthy communities. The environmental objective aims to help protect and enhance natural, built and historic environments, as well as efficient use of land. It goes on to state that when plan-making, strategic policies should as a minimum provide for objectively assessed needs for housing and other uses.
- 1.19 Paragraph 59, Chapter 5, Delivering a sufficient supply of homes, states that to support the Government's objective of significantly increasing the supply of homes, it is important that a sufficient amount and range of land can come forward where it is needed. It also states that a local housing need assessment should be conducted using the standard method in the national planning guidance and should inform strategic policies and determine the minimum number of homes needed. Furthermore, any needs that cannot be met within neighbouring areas should also be taken into account when establishing the amount of housing to be planned for.
- 1.20 The NPPF also makes it clear that strategic policy-making authorities should establish a housing requirement figure for their whole area and any needs that cannot be met over the plan period can be met within neighbouring areas (para 65). In doing so however, authorities making strategic policies should have a clear understanding of the land available in their area through the preparation of a strategic housing land availability assessment. Local authorities can then use this to for planning policies, so policies identify a sufficient supply and mix of sites, taking into account their availability, suitability and likely economic viability. These planning policies should identify a supply of deliverable, specific sites for years one to five of the plan period, then broad locations for growth or developable sites for years 6-10 and if possible years 11-15.
- 1.21 In terms of the scale of development, paragraph 72 states that the supply of a large number of homes can often be best achieved through planning for larger scale development, such as new settlements or significant extensions to existing towns or villages, but only if necessary infrastructure and facilities are provided. Therefore, it is acceptable for local planning authorities to meet up to 90% of their housing requirements via larger sites.
- 1.22 Previous key NPPF provisions with respect to viability are no longer included, with national policy in this regard now chiefly being contained within the National Planning Practice Guidance. According to the NPPG, viability assessment is primarily to be undertaken at plan making, rather than application stage.

The Local Policy Context

- 1.23 The three JCS authorities have a long history of working together, including prior to the production of the JCS. The JCS itself was adopted in December 2017 in order to set out long-term vision and objectives for the region and a set of strategic policies for guiding the location of new development up to 2031. It is this JCS which is currently under review. Consultation on the Issues and Options for forthcoming JCS took place for eight weeks between November 2018 and January 2019. The consultation asked 15 key questions around issues such as;
- What timeframe should the Plan cover?
 - How many and what type of new homes are needed to provide for communities?
 - How can the plan support existing and new businesses?

- What infrastructure is needed to support growth
- 1.24 The Adopted JCS plans for 35,175 new homes to be delivered over the Plan period (2011-2031). While the JCS sets out higher level strategic policies, The District Plans produced by the three individual authorities sit underneath the strategic-level JCS and outline local-level growth strategies and should reflect and be consistent with the JCS. These documents address more detailed local policies, non-strategic allocations, local infrastructure issues and development management policies.
 - 1.25 The Draft Cheltenham Plan (2011-31) was submitted to the Secretary of State for independent inspection in October 2018. Cheltenham Borough Council received the report from the inspector nominated to examine the Local Plan by the Secretary of State on the 17th March 2020. The report concludes that the Cheltenham Plan provides an appropriate basis for the planning of the Cheltenham Borough Council, on the understanding that a series of main modifications are made. Following the Inspector's Report, the Council will meet to decide whether to adopt the Plan. It was originally hoped to hold this meeting in April but this was delayed due to the uncertainty over the coronavirus. Once adopted the Plan will replace the Cheltenham Borough Local Plan Second Review which was adopted in 2006. The Draft Plan contains a number of housing and mixed-use allocations, within and at the edge of Cheltenham, which are additional to the strategic allocations contained in the JCS (policies H1 and H2). It also updates the contribution of Cheltenham Borough to delivery of JCS housing requirements, which is now predicted to be 11,632 rather than 10,917 units.
 - 1.26 Consultation on the Pre-Submission Tewkesbury Borough Plan (2011-2031) was completed in November 2019. Once adopted, the Plan will replace the previous Local Plan adopted in 2006. The Local Development Scheme (LDS) projects that the plan will be adopted in spring/summer 2020. Policy RES1 contains the housing allocations additional to those within the JCS.
 - 1.27 The Pre-Submission Gloucester City Plan consultation ended in February 2020. The City Council is now preparing for the submission of the Gloucester City Plan to the Planning Inspectorate for examination. Following completion of the examination process, the Gloucester City Plan will be adopted. Until then, the Adopted Plan consists of the saved policies from the Gloucester Local Plan (1983) together with the JCS. The housing requirements in Gloucester City are 14,359 according Pre-Submission Gloucester City Plan; however, the overall planned supply of housing for Gloucester City is 13,393, leaving a shortfall of 966 homes.
 - 1.28 Stroud District Council adopted its current Local Plan in November 2015, which sets out the planning strategy for the District up to 2031 and replaces policies in the previous 2005 Local Plan. It set out a housing requirement of 11,400 units and proposes allocations at Stroud, Stonehouse, Cam/Dursley, south of Gloucester and Sharpness. Once the Plan was adopted, an early review was commenced in order to ensure that the Plan remains up to date and can meet future needs for development over the 20 year period up to 2040. Consultation on the Draft Plan, took place from 20th November 2019 to 22nd January 2020. This is the final stage of engagement on the plan before the Pre-submission consultation takes place in Autumn 2020. The Draft Plan seeks to deliver at least 12,800 dwellings, with housing growth focussed at Tier 1 settlements (Cam and Dursley, Stonehouse and Stroud) and new settlements at Sharpness (2,400 dwellings) and Wisloe (1,500 dwellings) within the Severn Vale.
 - 1.29 Forest of Dean Local Plan is comprised of the Forest of Dean Core Strategy and Cinderford Northern Quarter Area Action Plan (both adopted in February 2012) and an Allocations Plan (adopted in June 2018). Together the documents guide development until 2026. The Core Strategy states 5,126 houses are needed by 2026. The Council are in the preliminary stages of developing a new Local Plan. An issues and options was carried out in September and October 2019. The Council are now in the process of updating their evidence base to help inform the preparation of a Draft Local Plan for consultation towards the end of 2020.

Other Relevant Background Reports

- 1.30 There are a number of additional reports that are informing the preparation of the JCS and Local Plans in Gloucestershire and are therefore relevant to this study, including:
- **Broad Locations Report 2011:**
Recognising that it would not be possible to meet JCS growth requirements within existing urban areas, the Broad Locations Report appraised the development potential of 21 broad locations adjacent to Gloucester, Cheltenham and Tewkesbury. The report drew on information collated from Strategic Housing Land Availability Assessments (the main sources of the broad locations themselves), the wider JCS evidence base, previous planning history and infrastructure studies. The report contained a qualitative SWOT assessment of development potential at each of the 21 broad locations; all options were also subject to a **sustainability appraisal. The report informed the 'Developing the Preferred Option' version of the JCS.**
 - **Strategic Allocations Report 2013:**
This report went beyond the Broad Locations report to provide a more detailed appraisal of **six potential strategic allocations detailed in the 'Developing the Preferred Option' version of the Joint Core Strategy**, together with eight other areas within the Broad Locations. It provided a synthesis of all the key components of the JCS evidence base, including constraint mapping, site boundary work and landscape and urban design work. It set out set out how the strategic allocations in the JCS had been generated, and provided further assessment of matters such as design requirements and development mix.
 - **Gloucestershire's Local Transport Plan:**
The Local Transport Plan (LTP) sets out the transport strategy for Gloucestershire for 2015-2041 and considers changes in national, regional and county priorities and policies. Consultation on the LTP Review closed in March 2020. The plan aims to help provide 'a resilient transport network that enables sustainable economic growth by providing door travel choices'. The plan has also been updated to support the delivery of the emerging Local Plans and the Strategic Economic Plan.
- 1.31 The methodologies for these studies have been reviewed and taken into account in the preparation of this study.

Consultation

- 1.32 The study included a variety of consultation measures at both the methodological development and assessment stages.
- 1.33 At the outset of the study, a client Steering Group was established, including representatives from each of the JCS districts plus Stroud District. The Forest of Dean District was added to the Steering Group following expansion of the study area as the study progressed (**see 'Geographical Scope of the Study' below**). LUC undertook ongoing liaison with the Steering Group in relation to all key aspects of the study and at all study stages. This liaison took place via a mixture of email correspondence, individual and group calls, and group meetings, and included discussion and agreement of the scope of wider consultation.
- 1.34 A Method Statement setting out the proposed study method was compiled in June 2019. Various professional and technical consultees were consulted on this Method Statement during the period 17th-28th June 2019. The consulted parties were agreed with the Steering Group and included:
- Gloucestershire County Council (transport and minerals and waste).
 - Highways England.
 - Network Rail.

- The Environment Agency.
 - Natural England.
 - Gloucestershire Wildlife Trust.
 - The Cotswolds AONB Board.
 - Historic England.
 - Severn Trent.
 - Wessex Water.
- 1.35 The results of this consultation were reviewed and are summarised in Appendix 1. LUC considered whether its proposed method was robust and defensible in the light of the comments received, modifying the method where it considered this to be appropriate.
- 1.36 The assessment stage of the study involved consultation with a variety of infrastructure providers. Information was sent to the providers regarding potentially developable land areas and the type and scale of development that they might accommodate, with responses being requested on the infrastructure requirements and constraints that development options may face. The consulted providers included:
- The Environment Agency.
 - Gloucestershire County Council (transport and minerals and waste).
 - Severn Trent (drinking and waste water).
 - Thames Water (drinking and waste water).
 - Wessex Water (drinking and waste water).
 - National Grid Gas.
 - National Grid Electricity.
 - Western Power Distribution.
- 1.37 Gloucestershire County Council provided further comments on both the study method and with regard to transport infrastructure requirements/constraints shortly before and following publication of interim study outputs in September-October 2019. Following receipt of these comments, further consultation and engagement was undertaken with the County Council, along **with Highways England, Network Rail and Stagecoach, in order to refine the study's approach** overall with respect to transport/access and associated infrastructure. This consultation took place via a combination of meetings, conference calls and email communication. Further consultation took place with Gloucestershire County Council on the transport assessment in December - January 2020.



Structure of this Report

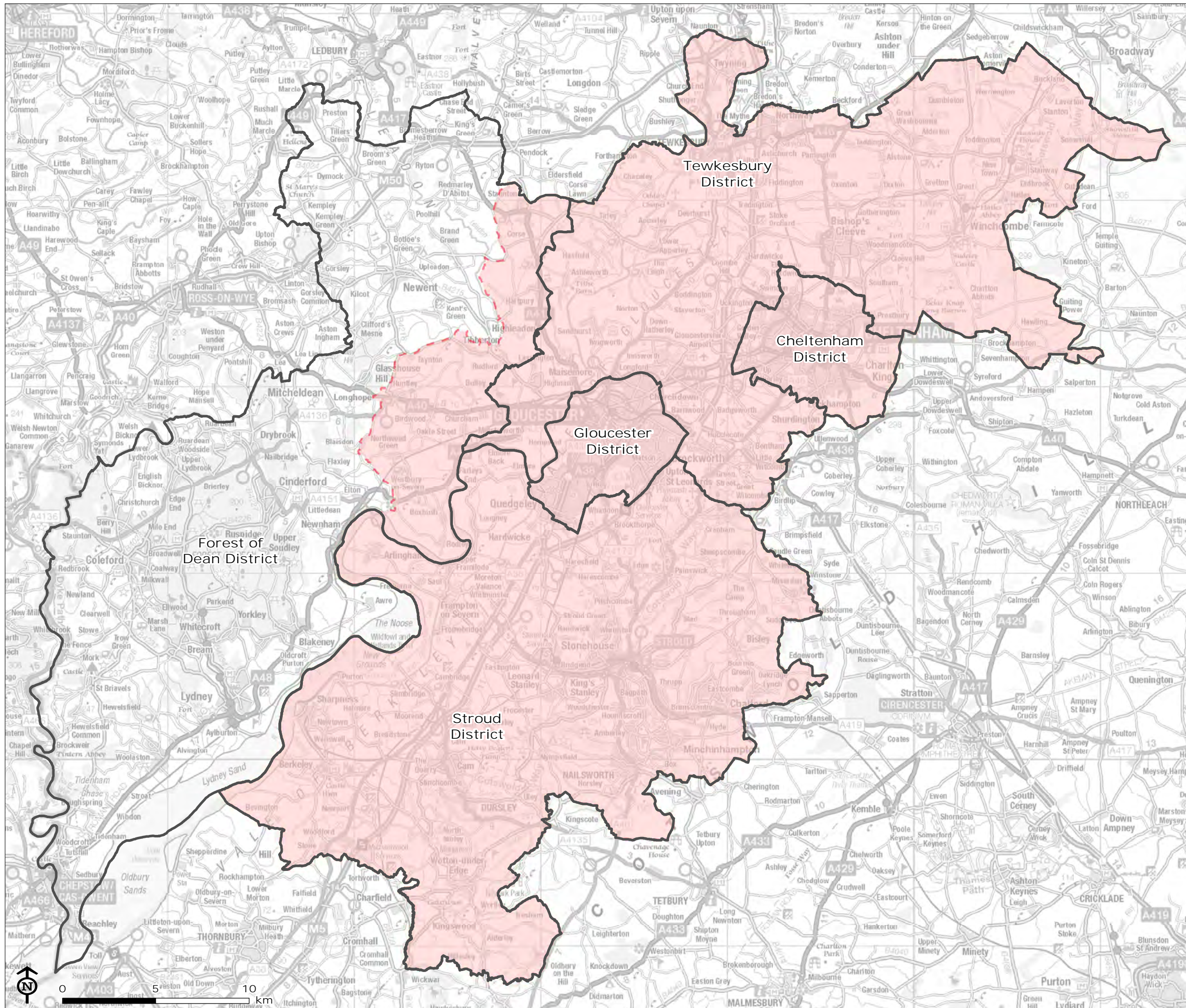
- 1.38 The remainder of this report is structured as follows:
- Chapter 2: sets out the methodology that was used to undertake the study.
 - Chapter 3: provides a summary of the general study findings.
 - Chapter 4: outlines the key next steps.
- 1.39 This report is accompanied by a series of appendices including:
- Appendix 1: provides a summary of the consultation responses to the methodology.
 - Appendix 2: contains the detailed Assessment Area Proformas.

- Appendix 3: sets out the methodology used to assess the potential impacts on the historic environment.
- Appendix 4: includes the detailed criteria used in the landscape sensitivity assessment.
- Appendix 5: contains the detailed transport assessment methodology.
- Appendix 5: sets out the detailed viability assessment.

Gloucestershire:
Assessment of Strategic
Development Opportunities

Figure 1.1: Districts Included in the Study

-  District Boundary
-  Study Area



Map Scale @A3: 1:200,000

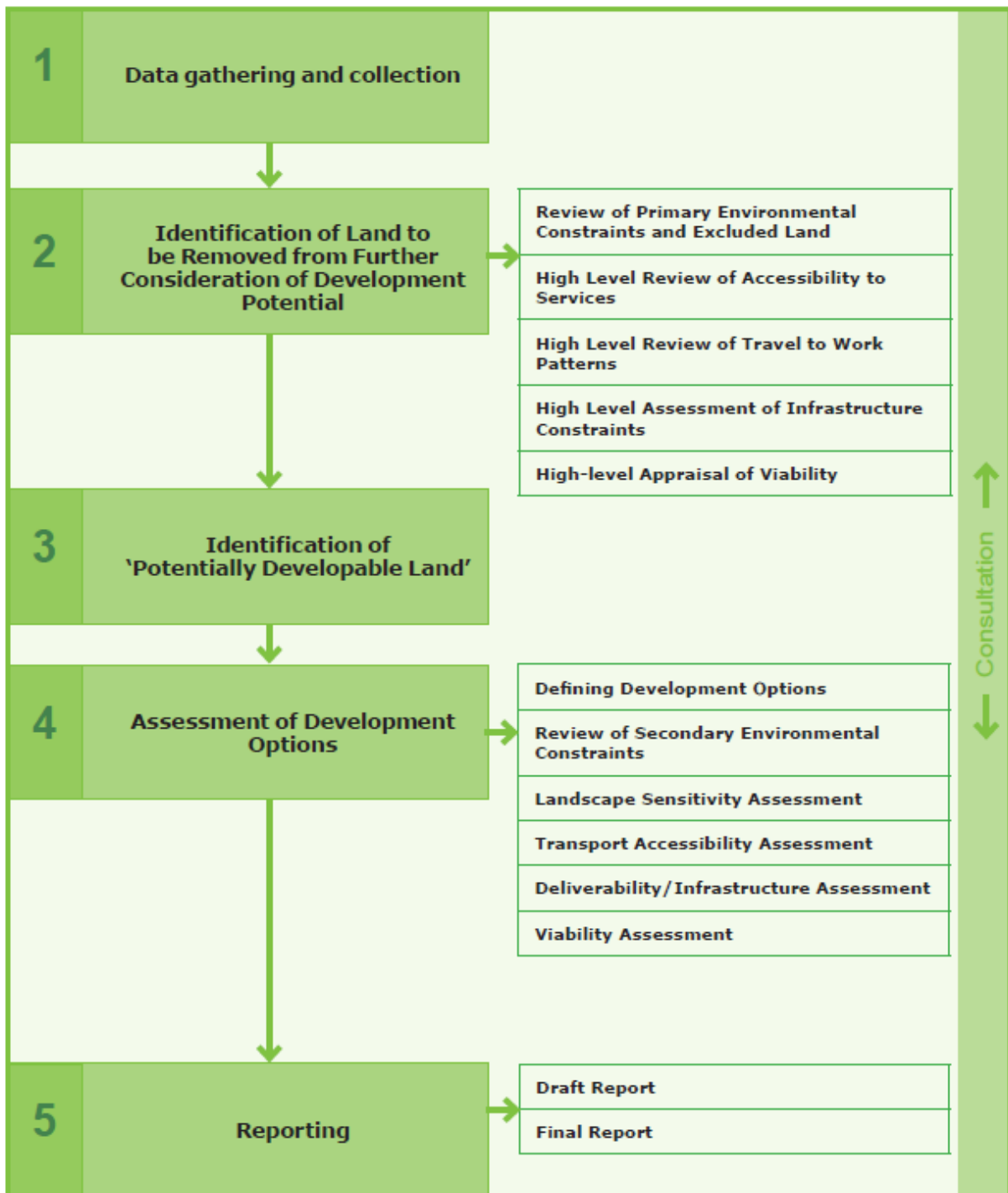


2 Methodology

Overview of Approach

- 2.1 The study was undertaken in two key stages, both of which involved consultation as described in Chapter 1. These stages included:
1. Methodology development.
 2. Assessment and reporting.
- 2.2 There is no standard established methodology for undertaking growth option studies of this kind, and appropriate approaches vary depending upon the characteristics of the study area and their overall aims and objectives. The development of the methodology involved four key tasks:
- Defining the extent of land to be considered for its strategic housing development potential (ie the study area).
 - Subdividing this land into discrete assessment units.
 - Defining the appropriate nature and scope of the assessment of housing development potential within these units.
 - Consultation on the above.
- 2.3 For each of these tasks, the study method was developed in an iterative manner: initial methods were formulated and then tested, and the methods were then refined following consultation feedback. The final study scope and approach was modified significantly from the original methodology, particularly in relation to the definition of the assessment units. It had initially been anticipated that the study would include the assessment of a relatively small number of discrete development sites. However, it became clear during the early stages of the study (steps 1-3 in Figure 2.1 below) that it would not be possible to reduce the scope of land under consideration to a small-to-medium number of discrete sites on a defensible basis. The scope of the study therefore altered in practice so that assessment focused not on development sites, but on potential development options within a large number of much broader '**Assessment Areas**'.
- 2.4 The following section of this report sets out the study approach in further detail. The five key steps and sub-tasks that were undertaken are shown in Figure 2.1

Figure 2.1: Assessment Steps



Step 1: Data Gathering and Collection

- 2.5 The first step of the study involved gathering spatial data from multiple sources including:
- Relevant local planning authorities.
 - Ordnance Survey.
 - The Environment Agency.

- Natural England.
- Historic England.
- Sustrans.
- Defra.
- National Grid.
- Western Power Distribution (WPD).
- The Office for National Statistics.

2.6 Potential constraints to development, or other environmental sensitivities were initially mapped under the following themes:

- developed/physically occupied areas (including existing commitments⁴);
- historic environment;
- biodiversity;
- hydrology, including flood risk;
- open space, sport and recreation areas; and
- soil quality.

2.7 Further information on the datasets and assumptions used is set out under Step 2 in Table 2.1 and in Step 3 Table 2.3. All gathered data was reviewed based on a consideration of its relevance/applicability to the study and its consistency across the study area. For example, certain datasets within the initial assessment (including local cycle routes and Air Quality Management Areas) were not used where equivalent data was not available for all of the study **area's** districts. The data selection process and application of the data within later study steps is described further below.

2.8 Datasets were reviewed throughout the study and they were updated if found to be out of date, and removed or supplemented where this was indicated to be appropriate by the Steering Group and/or wider consultation.

Step 2: Identification of Land to be Removed from Further Consideration of Development Potential

2.9 An assessment of constraints and opportunities was undertaken in order to define the parts of the study area that could appropriately be removed from further consideration with respect to their strategic development potential. Step 2 was in practice undertaken iteratively with Step 3, as is described further below. It is important to note that this step related to defining a suitable pool of land to consider further within the study with respect to its strategic development potential. Removal of land from this pool did not result in the conclusion that strategic development on this land would necessarily be unacceptable in all circumstances.

2.10 This step of the study involved undertaking a high review of the following:

- a) the primary environmental constraints to development;
- b) the accessibility to key services;
- c) travel to work patterns;

⁴ It was agreed with the client group for commitments to include development plan allocations only, not other planning permissions. Allocations were treated as committed (and therefore to be excluded from consideration) whatever their status in terms of development in practice.

- d) infrastructure constraints; and
- e) viability.

2.11 These are described in more detail below:

a) Identification of Environmental Constraints

2.12 Data collected within Step 1 of the study was reviewed and collated into an overall dataset defining:

- land that would likely be unavailable for strategic development (for example due to already being developed); and
- land subject to environmental constraints that would be likely to either prohibit strategic development, or which would reasonably justify preferential consideration of alternative land (for example Flood Zone 3 was excluded on the basis that the Councils would prefer to prioritise areas outside of this zone.). These constraints were **defined as 'primary constraints'**.

2.13 The primary environmental constraints and other excluded areas are set out in Table 2.1 below:

Table 2.1: Summary of Primary Environmental Constraints and Other Excluded Areas

Theme	Constraint	Comments/Justification	Data used for the assessment	Data gaps and limitations
Settlement Boundaries	Land within settlement boundaries	The purpose of the study is to identify strategic development opportunities beyond the settlement boundaries.	<ul style="list-style-type: none"> Settlement Boundary data was obtained from Stroud District, Tewkesbury Borough and Forest of Dean District Built-Up Area extents for Cheltenham Borough and Gloucester City were obtained from the Office of National Statistics 	Settlement boundary data was not available for Cheltenham Borough and Gloucester City, and so the Built-Up Area dataset from the Office of National Statistics was used as a proxy.
Committed Development Sites	Committed development sites	<p>Site allocations within adopted local planning policy were excluded as established commitments.</p> <p>The JCS contains 'safeguarded sites' in addition to its strategic allocations. Although referenced as being set aside for long term development requirements within the JCS they are not allocations within the Current version of the Plan and therefore were not excluded from further consideration.</p>	<ul style="list-style-type: none"> Site allocations data was received from the district councils Existing out of town employment / retail centres data were received from the district councils <p>In addition, the following datasets were received separately and added to the datasets above:</p> <ul style="list-style-type: none"> Tewkesbury Borough Retail / Town centre primary shop front Stroud Hunts Grove allocation Tewkesbury Borough existing employment allocations EMP1 Tewkesbury Borough existing rural business centre EMP3 Tewkesbury Borough new employment allocations EMP1 	Data was missing for Gloucester City but based on visual inspection of available mapping it was concluded that there were no allocations outside the urban area that would affect the assessment.

Theme	Constraint	Comments/Justification	Data used for the assessment	Data gaps and limitations
			<ul style="list-style-type: none"> Tewkesbury Borough new rural business centre EMP2 Cheltenham Borough Key Employment Sites 	
Waste Sites	Safeguarded and planned waste sites	Operational waste sites also represent established commitments where development is not possible.	<ul style="list-style-type: none"> Data was obtained from Gloucestershire County Council via the District Councils 	Received 2012 Waste Core Strategy allocations. Safeguarded waste sites were not available in a GIS compatible format and with agreement of the client group they were not therefore included in the assessment.
Historic Environment	Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields, Listed Buildings, Conservation Areas (CA)	<p>Historic assets of national significance are referenced in Chapter 16 of the NPPF and are required to be conserved in a manner appropriate to their significance.</p> <p>Listed building point data was included with an initial, indicative 'footprint' buffer applied. Although settings of heritage assets may be important constraints, it is not possible to map them in a consistent way as they vary on a case by case basis.</p>	<ul style="list-style-type: none"> Listed Buildings, Scheduled Monuments, Registered Battlefields and Registered Parks and Gardens data was obtained from Historic England Conservation Areas data was obtained from the District Councils 	A 20m buffer was applied to listed building point locations to approximate a footprint.
Ecological and Geological Environment	<p>All internationally or nationally designated sites: Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Area of Conservation (SAC), Ramsar, Special Protection Area (SPA)</p> <p>Other: Ancient Woodland Inventory (AWI)</p>	International and national ecological assets including irreplaceable habitats are listed in Chapter 15 of the NPPF and are required to be protected and enhanced.	<ul style="list-style-type: none"> Internationally and nationally designated site (SSSI, NNR, SAC, Ramsar, SPA), as well as AWI data was obtained from Natural England 	

Theme	Constraint	Comments/Justification	Data used for the assessment	Data gaps and limitations
Landscape and Townscape Designations	Area of Outstanding Natural Beauty (AONB)	Paragraph 172 of Chapter 15 of the NPPF states: 'Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues.'	<ul style="list-style-type: none"> AONB data was obtained from Natural England 	
Water Quality	Ponds, lakes, reservoirs, tidal areas, rivers, streams, canals	The footprints of these waterbodies/ features were excluded from the assessment due to the fact that they could not reasonably accommodate strategic scale development.	<ul style="list-style-type: none"> OpenMap Local and OS OpenRivers data on water features was obtained from Ordnance Survey 	A 2.5 buffer was applied to linear water features to approximate a footprint.
Flood Risk	Flood Zone 3	<p>Paragraph 155 of Chapter 14 of the NPPF states: 'Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). ' In the absence of detailed flood risk assessment data for the entire study area, all areas of Flood Zone 3 have been excluded, in acknowledgement of the fact that any land within Flood Zone 3 could be part of the 'functional floodplain' (Flood Zone 3b) and therefore inappropriate for strategic scale development.</p> <p>Although flooding is acknowledged to be a particularly sensitive issue for the study area, it was concluded in consultation with the Steering Group that development in Flood Zone 2 should not be excluded as an absolute constraint due to the fact that strategic development may be appropriate in Flood Zone 2 subject to the necessary 'Exception Test'.</p>	<ul style="list-style-type: none"> All data was obtained from the Environment Agency 	Data is not available on the split between Flood Zone 3a and 3b data. Therefore the Flood Zone 3 dataset was applied as a primary constraint in its entirety.
Infrastructure	Buffer zone of 60m either side of high voltage (400kV and	This is based on safety considerations derived from guidance by the Energy Network Association.	<ul style="list-style-type: none"> 400kV overhead lines data was obtained from National Grid 	

Theme	Constraint	Comments/Justification	Data used for the assessment	Data gaps and limitations
	132kV) electricity lines		<ul style="list-style-type: none"> 132kV overhead lines data was obtained from Western Power Distribution. 	
Mineral Resources	Safeguarded and allocated mineral extraction sites	<p>Operational mineral sites represent established commitments where development is not possible.</p> <p>The County Council provided data for the draft 2018 Minerals Local Plan due to its advanced stage of preparation and the age of the adopted MLP.</p>	<ul style="list-style-type: none"> All data from the draft Minerals Local Plan was obtained from the County Council via the District Councils Two safeguarded minerals sites (Site at Land at Shurdington Road and Site at Land at Cowfield Mill, Northway Lane) required manual digitisation by LUC based on PDFs provided by the client 	
Open Space, Sport and Recreation Areas	Open Access Land	Open Access Land is protected under the Countryside and Rights of Way Act 2000.		<p>Existing open space, sports and recreational buildings and land, including playing fields, should not be built on unless provision of areas of equivalent or better quality is made elsewhere (para. 97 of the NPPF). However, coverage of received open/green space data was incomplete. As this data relates mainly to settlements, which are excluded from the study, open/green spaces were therefore not included in the assessment as a mapped constraint.</p> <p>Data on local cycle routes was not available for all the JCS area and therefore was not included in the assessments.</p>

b) High Level Review of Accessibility to Services

- 2.14 A high-level review was undertaken by ITP of accessibility across the study area to strategic services. This was undertaken in two ways:
- A **'beeline' analysis of distances to services**, was undertaken identifying **'desirable' and 'acceptable' catchment areas following standards set out in national guidance**; and
 - An analysis of modelled journey times was undertaken using **Gloucestershire County Council's Accessibility Modelling Matrix** (last updated in 2016).
- 2.15 Both analyses indicated that the highest levels of sustainable accessibility were around existing larger settlements. The results of the journey time analysis are shown in Figures 2.2-2.3. It was agreed in discussion with the Steering Group that no areas of the study area could be definitively excluded from further assessment based on the findings of these analyses. This was due in part, for example, to the concern that an approach of this kind might unduly restrict the **study's** consideration of options for new settlements, which may in practice influence their own accessibility by providing new services.

c) High Level Review of Travel to Work Patterns

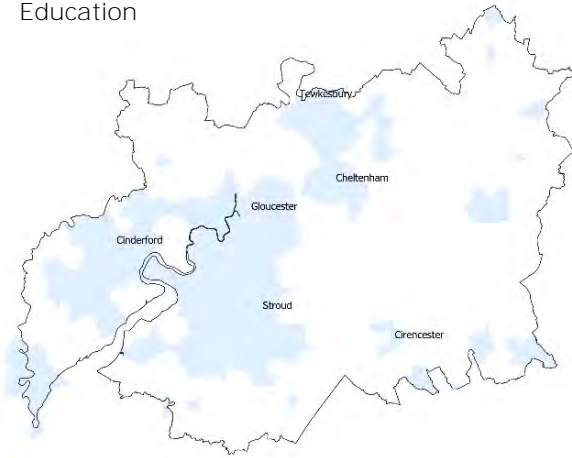
- 2.16 An initial analysis was also undertaken by ITP **of the 2011 Census 'Travel to Work' question** responses to illustrate where the highest and lowest levels of non-car based commuting (e.g. walking, cycling, and public transport) occurred in 2011 across Gloucestershire. Whilst this Census dataset is relatively old, it was considered the most robust available evidence base for understanding commuter travel patterns across a wide area of the county. The results of this analysis are shown in Figures 2.4-2.11. Again, it was found that the greatest proportions of people who walk, cycle or use public transport to travel to work are at and around established urban areas, where employment opportunities and other amenities are concentrated. It was agreed with the Steering Group that this could not be used as a basis for excluding particular parts of the study area from further consideration with respect to strategic development opportunities. This was based on considerations such as that fact that strategic housing growth, for example, may be accompanied by new employment provision.

d) High Level Assessment of Infrastructure Constraints

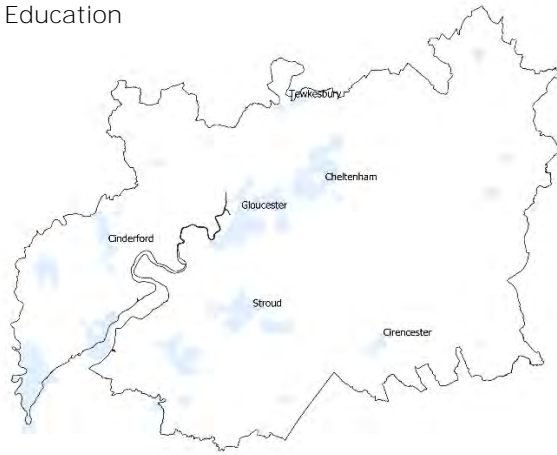
- 2.17 The transport review was complemented by a high-level infrastructure review by Navigus Planning. Navigus Planning undertook a desktop exercise to determine whether there were any current constraints on the capacity of the strategic infrastructure network which could potentially be an issue for areas of search for possible strategic development options. The approach taken excluded infrastructure items not considered likely to represent a fundamental constraint to growth. These include:
- Common infrastructure types which could be delivered on site (assuming sites of at least 500 dwellings). This includes leisure, green space, youth and play facilities.
 - Infrastructure which could be delivered off-site or on-site depending on the scale of growth and the existing capacity but would require a very exceptional set of circumstances to represent an absolute constraint to new development. This includes education and health facilities.
 - Infrastructure which is generally delivered off-site. This includes emergency services, waste, bus services, walking and cycling improvements.

Figure 2.2: Accessibility to Local Services in 15 Minutes by Bus

Primary Education



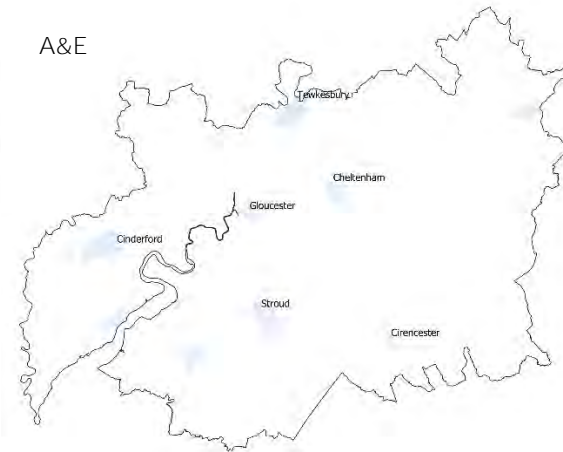
Secondary Education



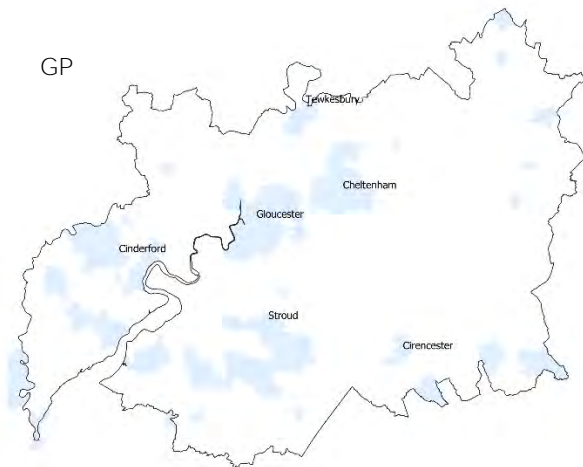
College



A&E



GP



Pharmacy

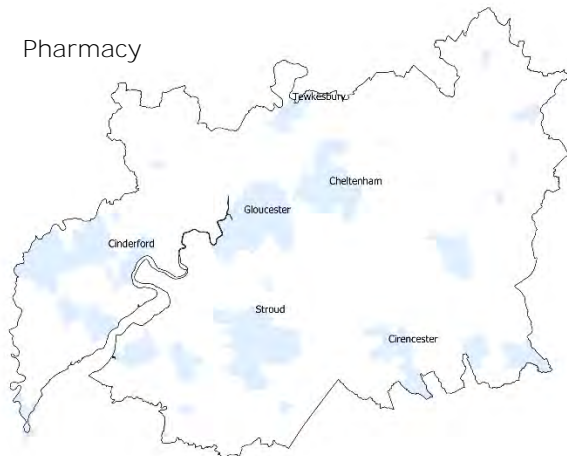


Figure 2.3: Accessibility to All Amenities Within 15 Minutes

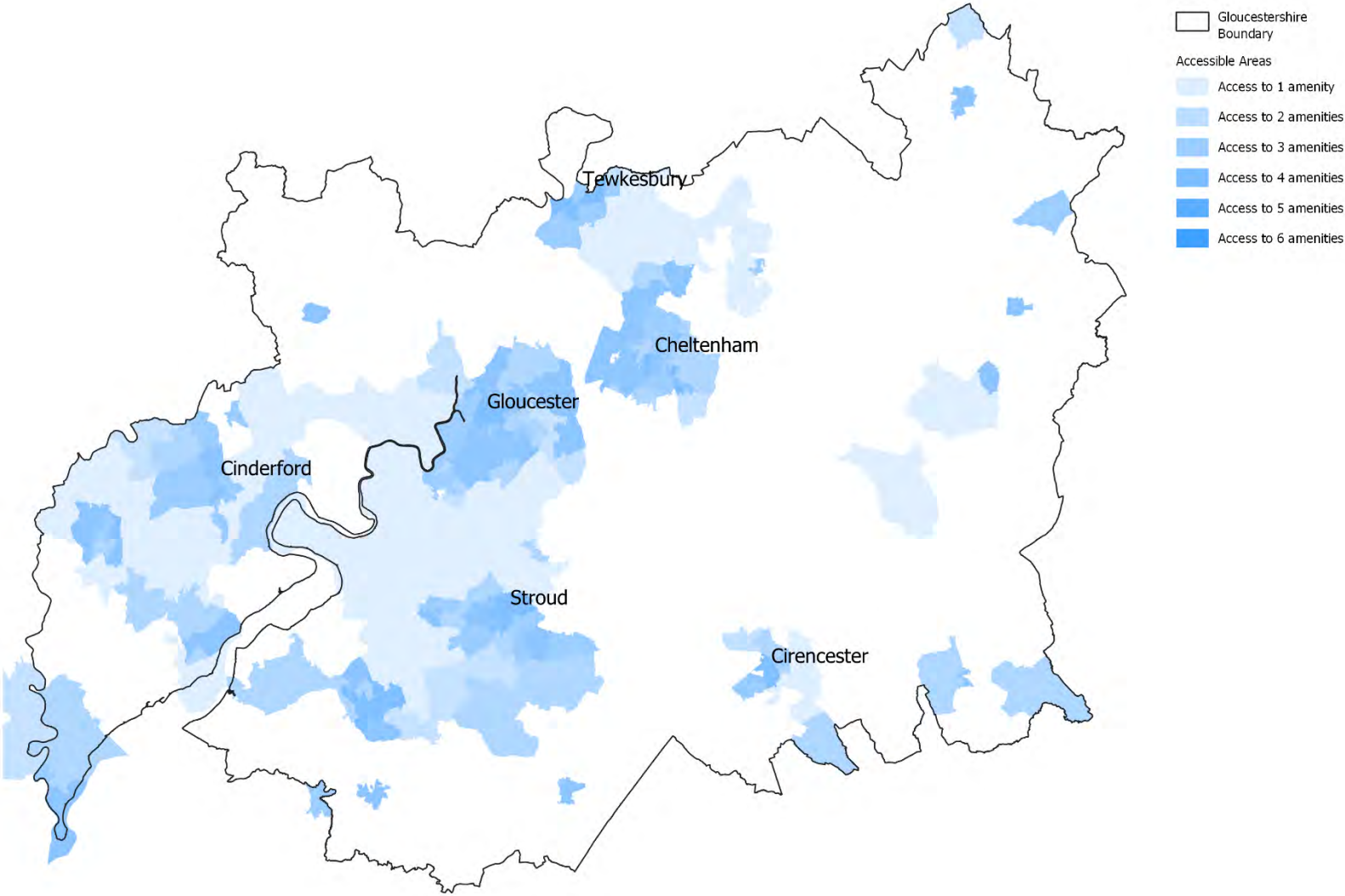


Figure 2.4: Active Travel to Work by Lower Super Output Areas (LSOAs): Gloucestershire Overview

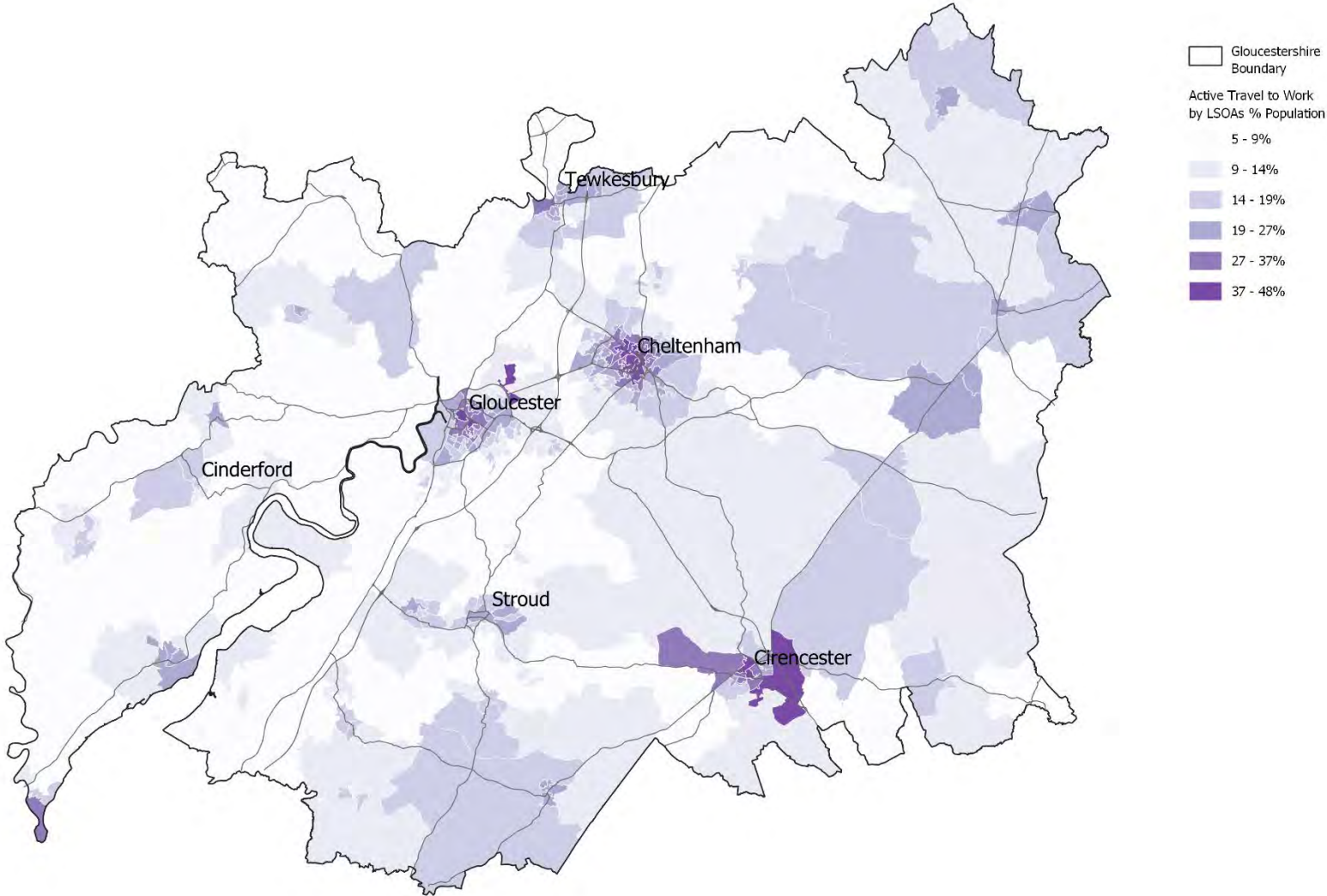


Figure 2.5: Active Travel to Work by Lower Super Output Areas (LSOAs): Cheltenham Borough and Gloucester City

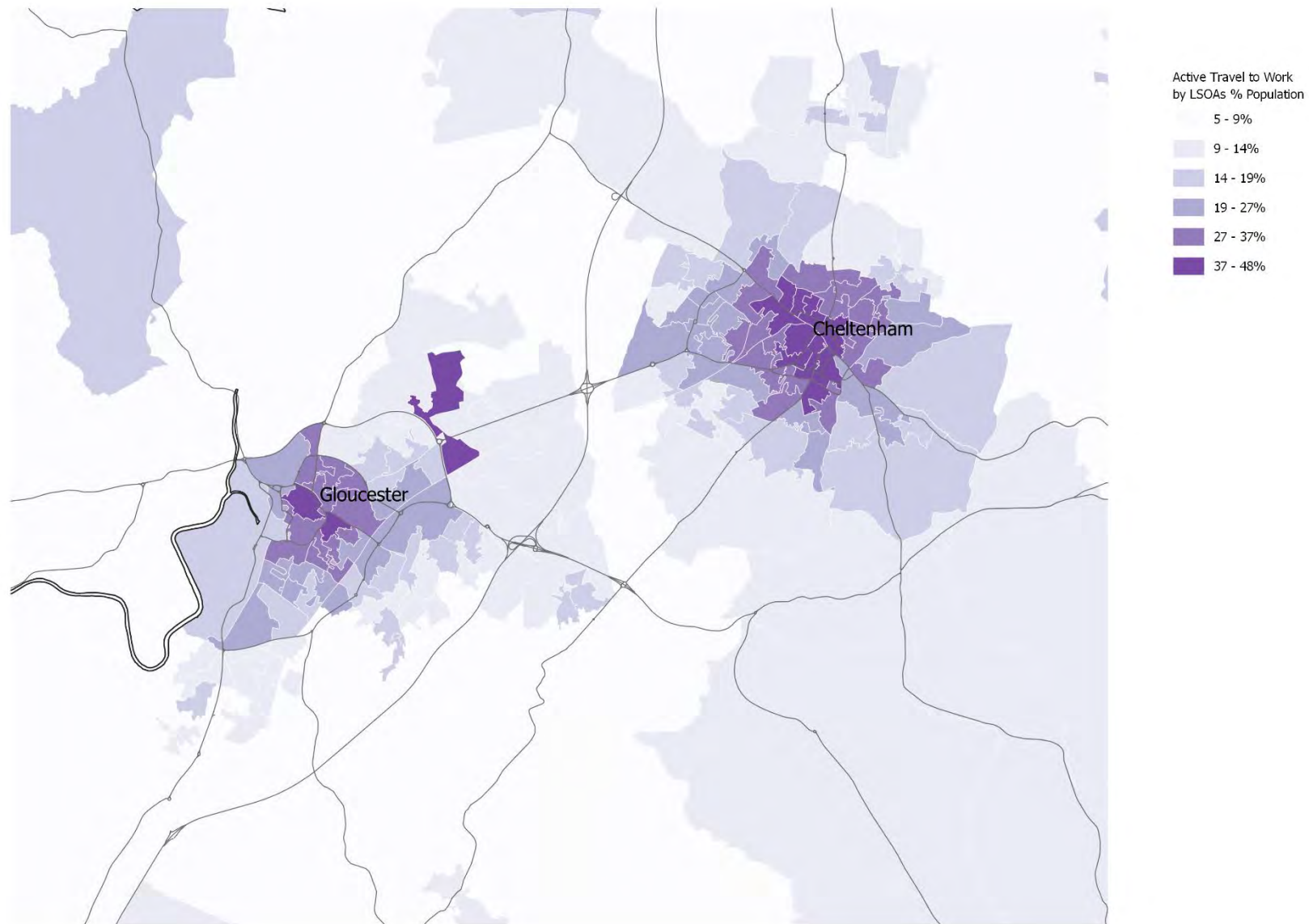


Figure 2.6: Public Transport to Work by LSOAs: Gloucestershire Overview

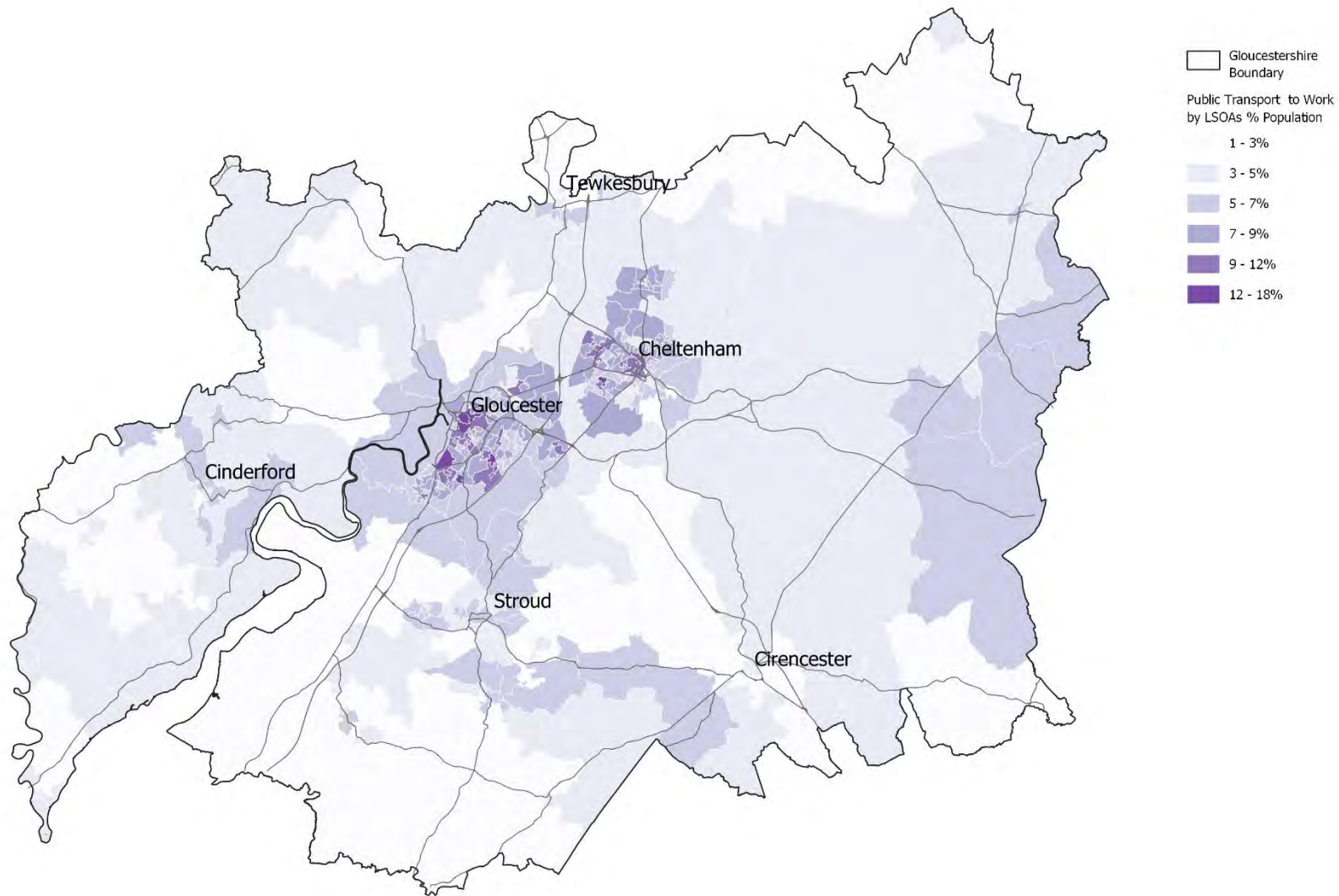


Figure 2.7: Public Transport to Work by LSOAs: Cheltenham Borough and Gloucester City

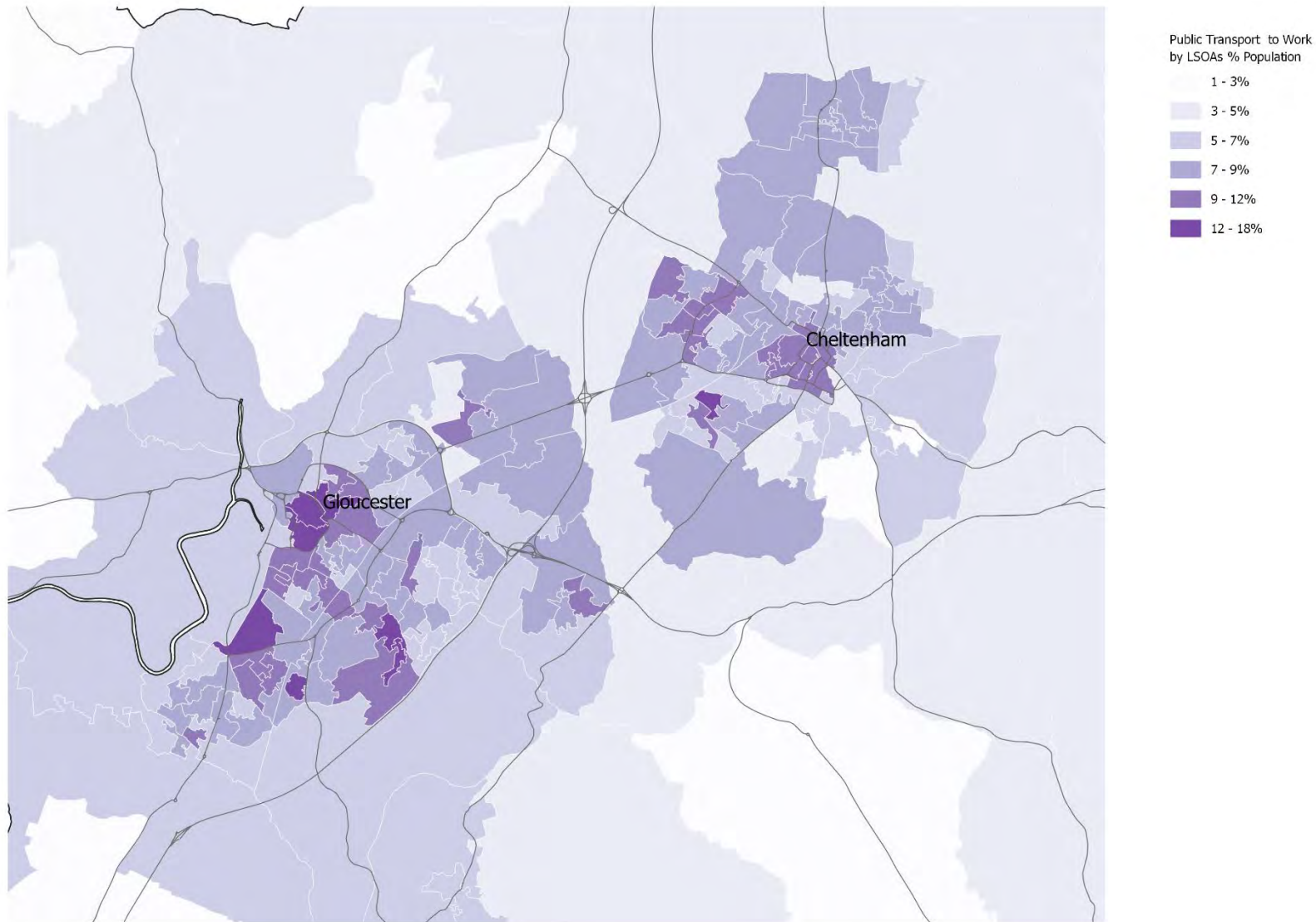


Figure 2.8: Sustainable Transport to Work by LSOAs: Overview of Gloucestershire

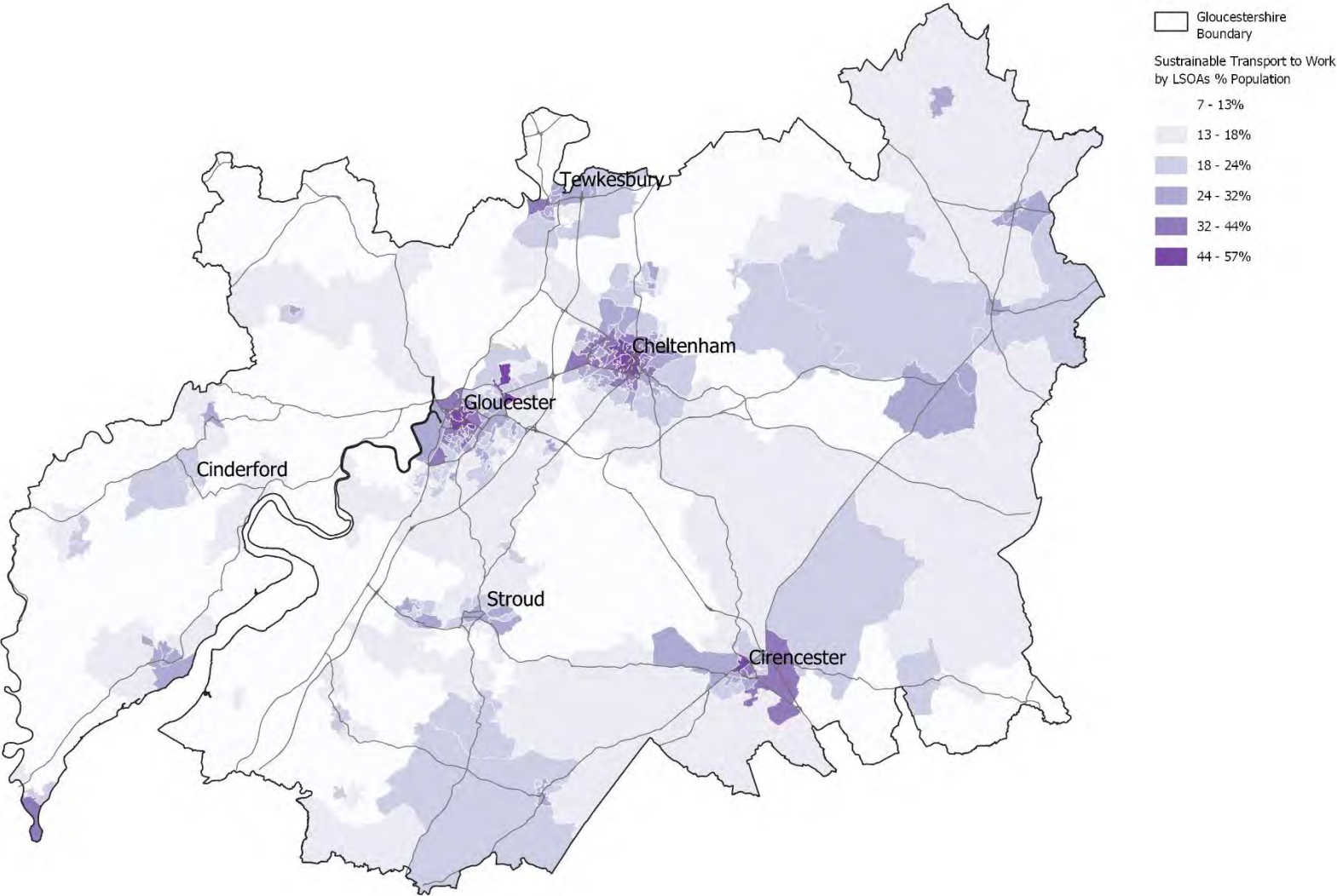


Figure 2.9: Sustainable Transport to Work by LSOAs: Cheltenham Borough and Gloucester City

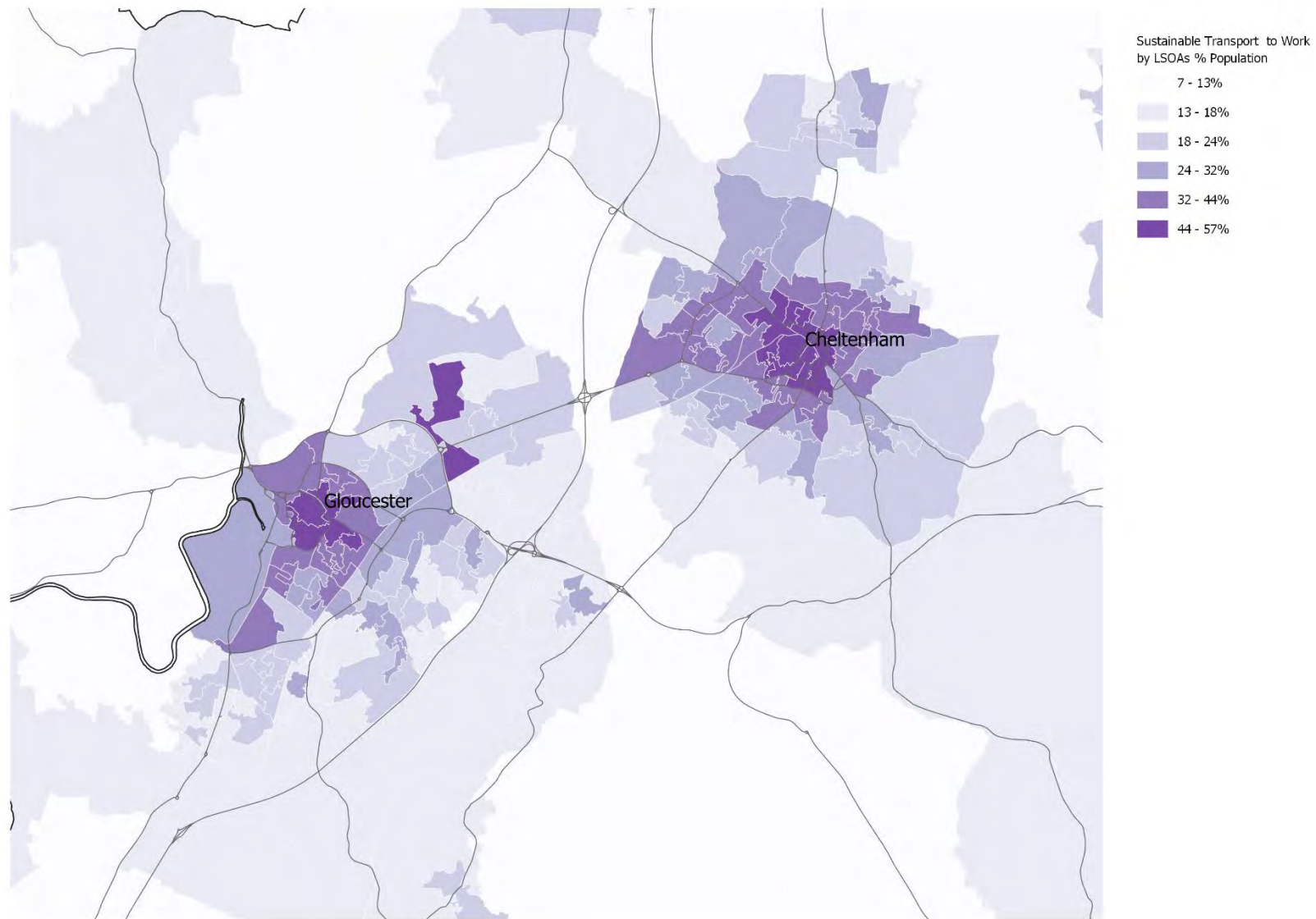


Figure 2.10: Sustainable Transport to Work by LSOAs: Stroud District

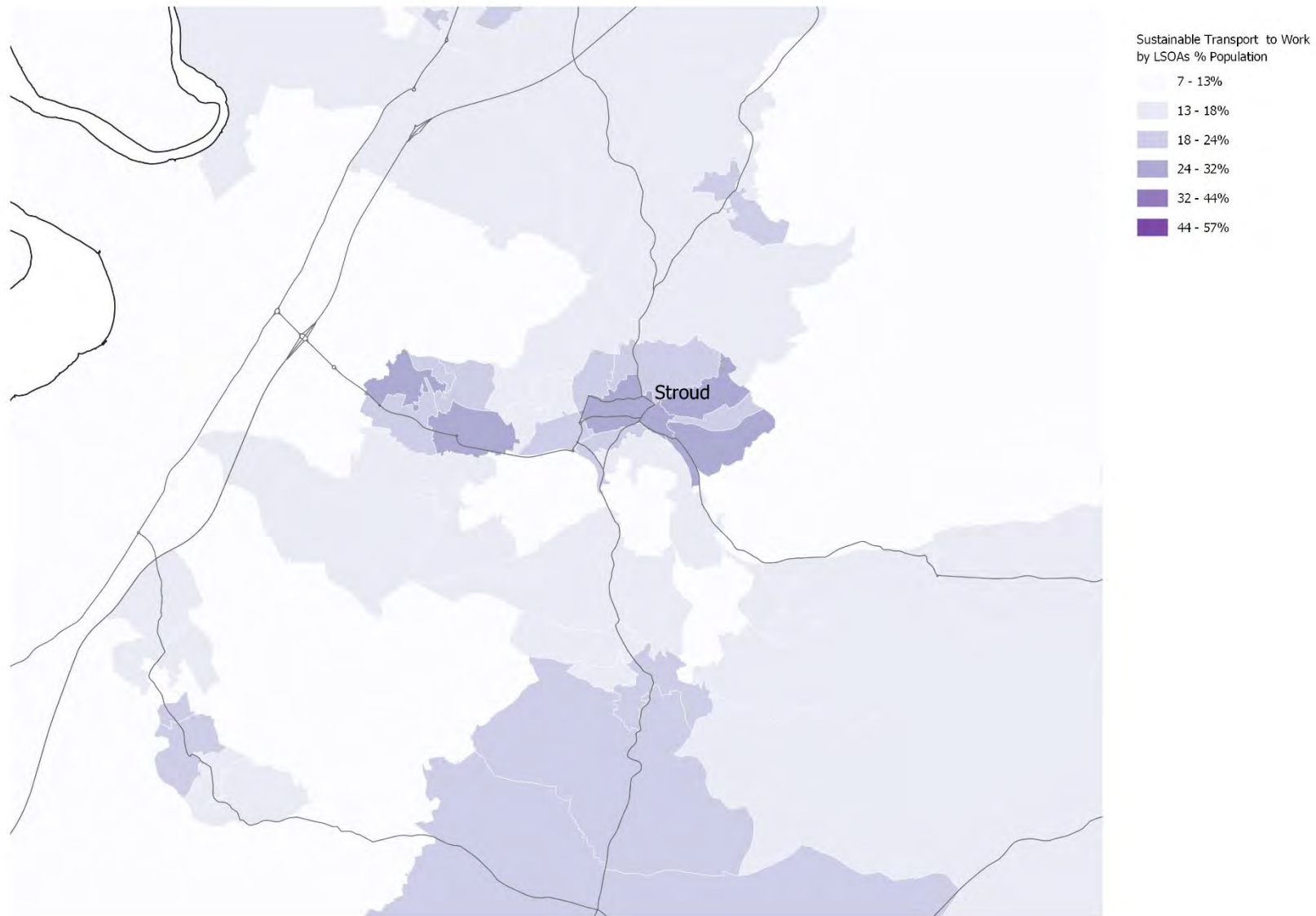
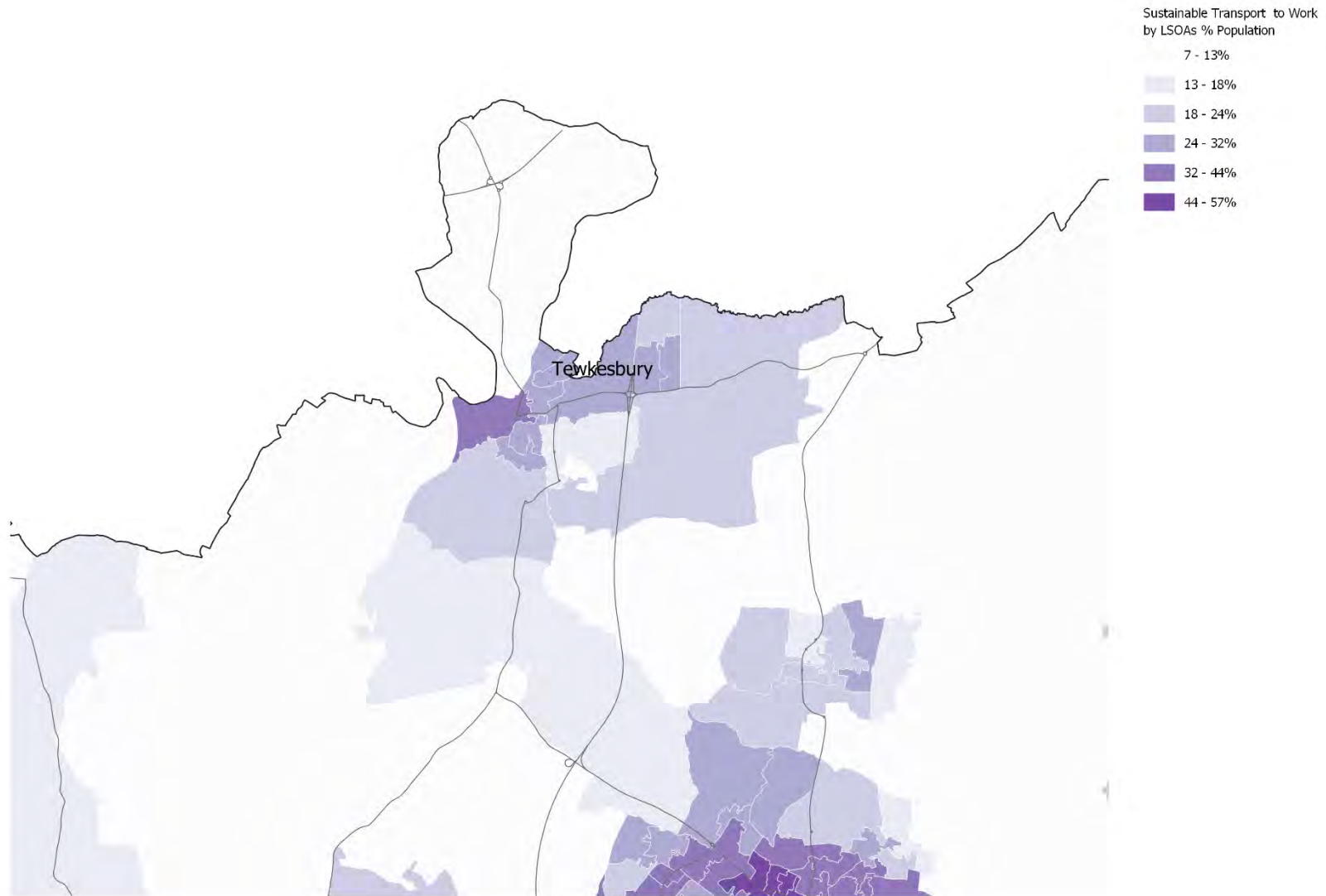


Figure 2.11: Sustainable Transport to Work by LSOAs: Tewkesbury Borough



- 2.18 The assessment reviewed the following infrastructure types:
- Utilities – gas, electricity, water, waste water.
 - Road transport.
 - Rail transport.
- 2.19 Discussions with the Steering Group and Gloucestershire County Council indicated that the chief potential infrastructure constraints within the study area relates to the strategic road network, and particularly the present and future capacity of a number of M5 junctions. These matters were given close consideration in the following steps of the study. However, it was agreed with the Steering Group that no areas should be excluded from further assessment based on infrastructure constraints.

e) High-level Appraisal of Viability

- 2.20 HDH Planning undertook a preliminary appraisal of development viability across the study area, **using a methodology that follows the 'Harman Guidance' and is consistent with the requirements** of the 2019 Planning Practice Guidance (PPG). It used the **'Existing Use Value Plus' (EUUV+)** approach to viability appraisal. This involved evaluating the existing use value of a site, and then adding to this a **'reasonable premium' on the basis of which the landowner could be expected to sell it**. This was then compared to the Residual Land Value, i.e. the maximum amount a developer can offer for a site if a reasonable return is to be achieved.
- 2.21 The initial appraisal provided a preliminary indication of varying affordability across the study area. However, the initial assessment was unable to identify specific parts of the study area that could reasonably be excluded on viability grounds from further consideration of strategic development potential. This was partly due to the fact that only generalised infrastructure requirement assumptions could be used, whereas in practice these requirements will vary in a way that could critically influence viability.

Step 3: Identification of 'Potentially Developable Land'

- 2.22 Step 3 involved the use of a Geographical Information Systems (GIS) tool to identify land that was to be considered 'potentially developable' for the purposes of further assessment. The land search initially included the whole of the JCS areas (Gloucester City, Cheltenham Borough and Tewkesbury Borough) plus Stroud District and part of the Forest of Dean District. The following section summarises the process that was used to identify the 'potentially developable land' and explains how decisions were made regarding which parts of the Forest of Dean District were included in the study area.

Identification of 'Potentially Developable Land'

- 2.23 The GIS tool excluded the land within the study area defined via the criteria established in Step 2 Table 2.1 above, and applied further size and proximity-based criteria to identify a subset of the remaining land. The further criteria applied were as follows:
- All land areas less than 5 hectares (ha) were discarded.
 - All remaining areas within 100m of each other were merged.
- 2.24 An area of approximately 20.5 ha was used as a basic land take assumption for 500 houses (the minimum size of a **'strategic development' defined in the study**). Consequently, all land parcels under 20.5 ha in size were then identified and excluded from consideration in the study. Land parcels not in close proximity to the urban edges of the study area's main settlements (see paragraph 2.32 below) were not considered suitable for consideration as urban extensions and

were therefore only considered as potential new settlement locations. A minimum size threshold of 1,500 dwellings was used to assess the potential for new settlements. Consequently, isolated land parcels under 61.5 ha were also identified and excluded from consideration. Table 2.2 below explains the full range for development typologies considered in the study.

- 2.25 This land search process produced a very large overall quantum of potentially developable land across the five districts, made up in many cases of more or less continuous swathes or belts rather than discrete candidate development sites, as is shown in Figure 2.12. It was also clear that it would not be possible to apportion this land into a comprehensive set of potential development sites with defined boundaries for the purposes of further assessment.

Sub-Division of Developable Land

- 2.26 It was agreed with the Steering Group that the potentially developable land would be divided into defined units for assessment purposes, although it was clear that these subdivisions could not take the form of discrete development sites. Automated, GIS-based approaches to subdivision were initially explored, but the land groupings they produced were in many respects counterintuitive and it was concluded that a more qualitative approach was required.
- 2.27 It was concluded that the subdivisions of the potentially developable land area should be based on professional judgement using boundaries following (for example) existing geographical features (such as roads), constraints (such as Flood Zone 3) or Landscape Character Areas depending upon what was most appropriate in each case.
- 2.28 The land identified as potentially developable via the GIS search was initially divided into 24 **'Broad Areas' following these principles** (See Figure 2.13). The boundaries of a number of these Broad Areas followed existing Landscape Character Area (LCA) boundaries, and they were considered to provide suitable units for the landscape sensitivity assessment. However, they were found to have the potential for too many different development options (both in terms of size and location) to be appropriate units for assessment in other respects. The Broad Areas were **therefore further subdivided in to a total of 55 'Assessment Areas', which became the primary** units for the assessment of development options (see Figure 2.14).
- 2.29 The Assessment Areas were broadly categorised as areas with the potential for either urban extensions or new settlements. In practice, many of them might, in principle, support development that could reasonably be defined as being of either of these types. However, a decision was taken to avoid defining assessment areas with overlapping boundaries, as it was judged that overlapping boundaries would unduly complicate the assessment work, as well as being a confusing basis for consultation. The assessment of development options has therefore been presented in this final report in a manner that allows the findings to be extrapolated across Assessment Area boundaries.
- 2.30 The seven largest settlements within the study area were agreed with the Steering Group to be appropriate for the consideration of urban extensions:
- Gloucester
 - Cheltenham
 - Tewkesbury
 - Stroud
 - Stonehouse
 - Cam/Dursley
 - Bishops Cleeve

- 2.31 Assessment Areas adjacent to these were categorised as having the potential for urban extensions; other Assessment areas were categorised as having the potential for new settlements, including new settlements adjacent to (or even subsuming) existing smaller settlements.
- 2.32 In the earlier stages of the study, it was proposed that the Assessment Areas for new settlements would be identified by defining a location boundary > 1.0 km from the edge of an existing settlement. A 1km settlement buffer was found, however, to define awkward and counterintuitive **boundaries for 'new settlement' Assessment Areas, and a more flexible approach was adopted** allowing the new settlement Assessment Areas to follow boundaries defined by constraints, or other geographical features as described above. The new settlement Assessment Areas are in fact generally greater than 1km from the urban edge of the higher tier settlements to avoid overlap **with the 'urban extension' search areas (as urban extensions can extend well beyond 1km from the urban edge, and already have done so within the study area).**
- 2.33 It was also initially proposed to limit consideration of urban extensions to land parcels areas within 100m of the existing urban edge (at the nearest point). It was also considered appropriate **to relax this criterion following the division of Assessment into the two broad 'types' and the decision to avoid use of overlapping Assessment Area boundaries.**






Selection of parts of Forest of Dean District included in the Study

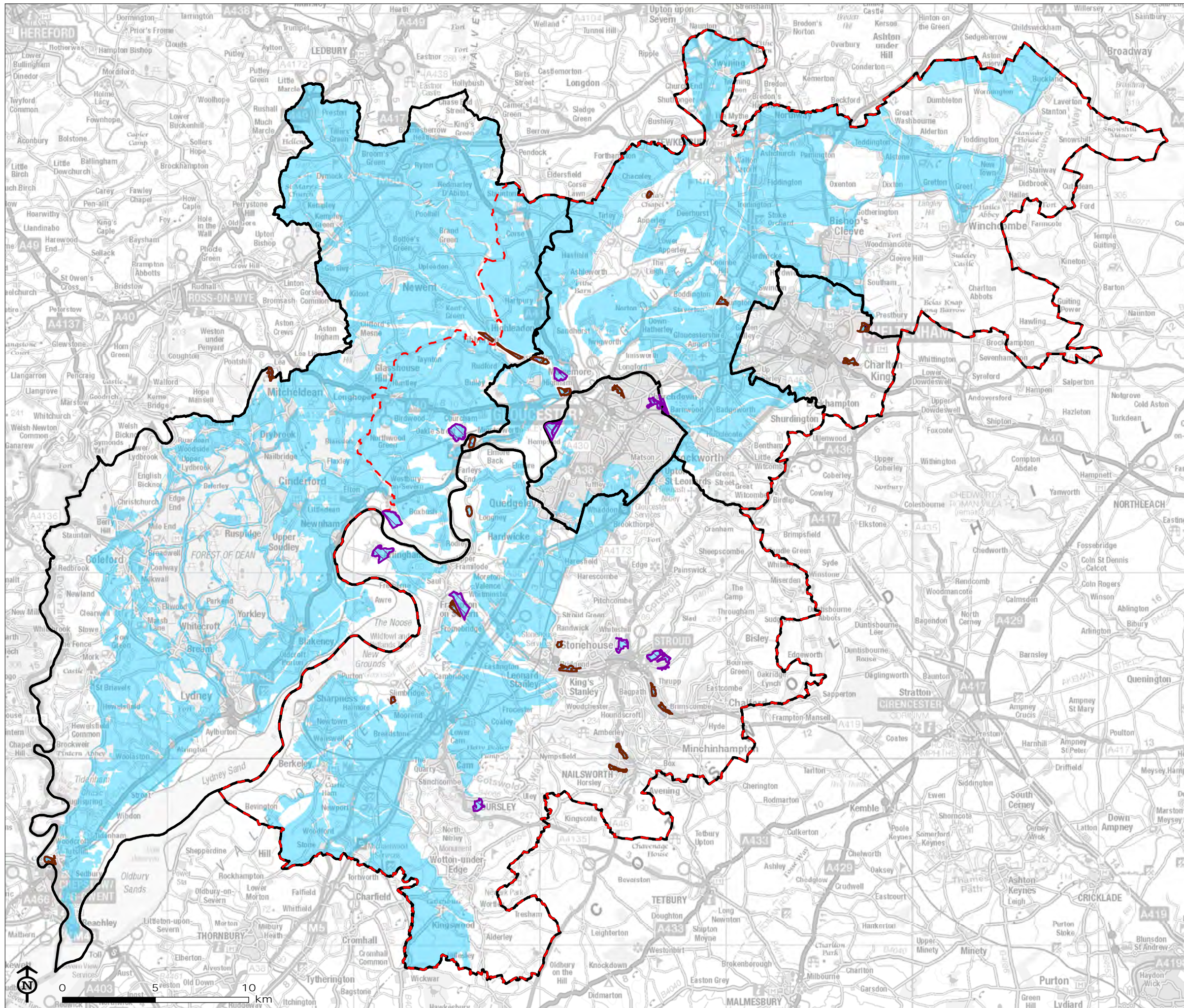
- 2.34 The study area was initially restricted to the JCS authorities plus Stroud District. However, it was subsequently agreed by the Steering Group that an important function of the study would be to support the **Gloucestershire authorities'** in fulfilling their duty to cooperate in meeting the **County's** housing needs, in particular in those parts of the Forest of Dean District with a functional relationship to Gloucester, which might provide opportunities for meeting housing needs originating in Gloucester City. The Forest of Dean District was therefore incorporated into the Steering Group and an evaluation was undertaken of the appropriate portion of 'potential developable land' in the Forest of Dean District to include within the study.
- 2.35 There is no absolute definition in law, guidance or best practice of the geographical range within which housing needs originating in a particular location may acceptably be met. Clearly, however, providing housing at more distant locations from the origin of housing need is likely in general both to be less sustainable in its encouragement of additional travel, and to have detrimental impacts with respect to familial, social and even possibly economic networks. It was agreed with the Steering Group that the study area within the Forest of Dean District would include the area that is functionally related to Gloucester, as identified by being **within 30 minutes' travel time by public transport from Gloucester City Centre.**⁵ The results of this analysis are shown in Figure 2.7.
- 2.36 **Spatial assessment units ('Assessment Areas')** were subsequently defined using professional judgement in relation to this 30 minute catchment and used as a basis for selection of the parts of the Forest of Dean District to be included within the study.

⁵ The 30 minutes' travel time range was used for consistency with the transport assessment work undertaken by ITP.

Gloucestershire: Assessment of Strategic Development Opportunities

Figure 2.12: Potentially Developable Land

-  District Boundary
-  Study Area
-  Parcels Under 20.5ha
-  Parcels Under 61.5ha
-  Broad Area of Search - All over 5ha

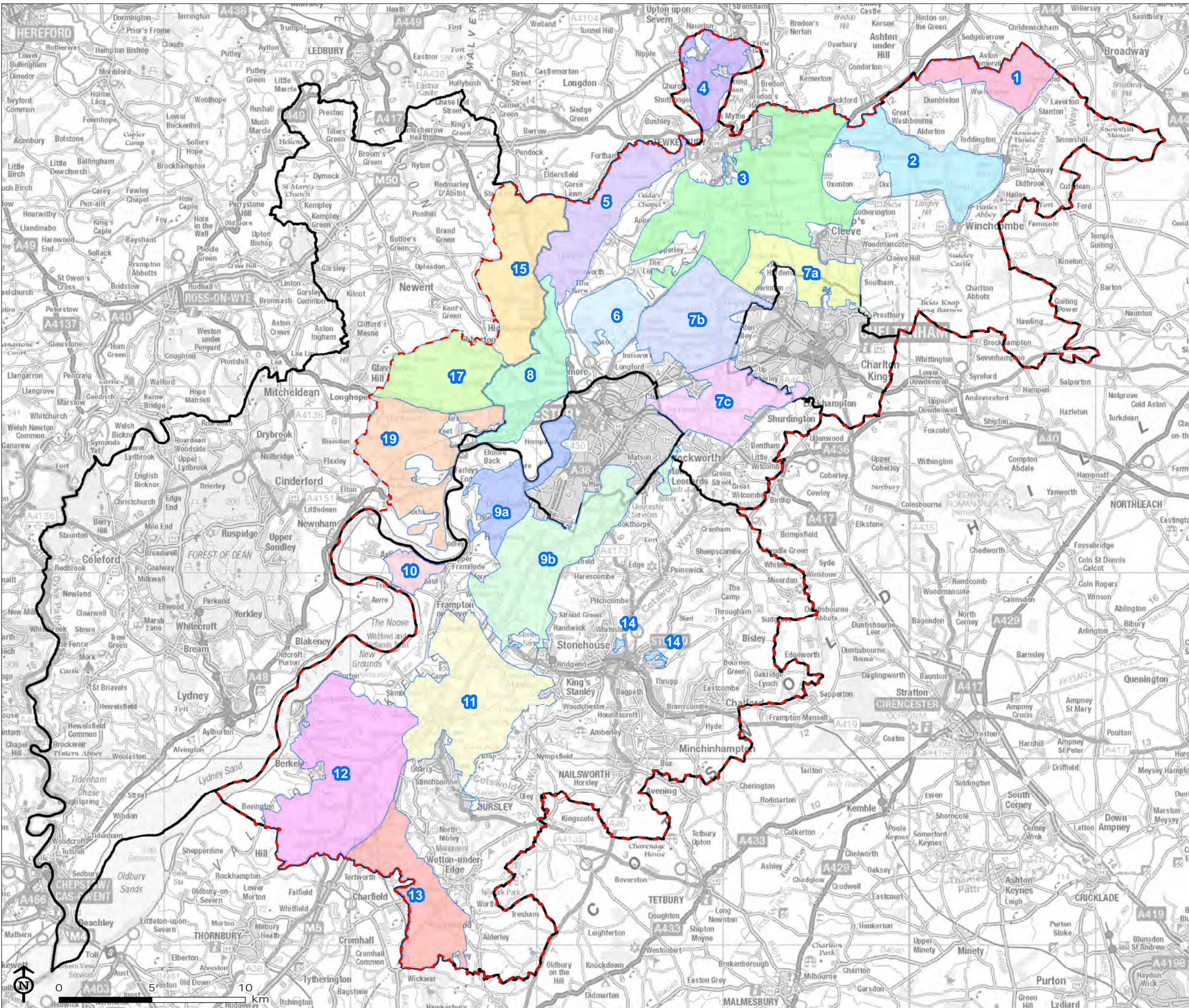


Map Scale @A3: 1:200,000



Gloucestershire: Assessment of Strategic Development Opportunities

Figure 2.13: Broad Areas



- District Boundary
- Study Area
- Broad Areas

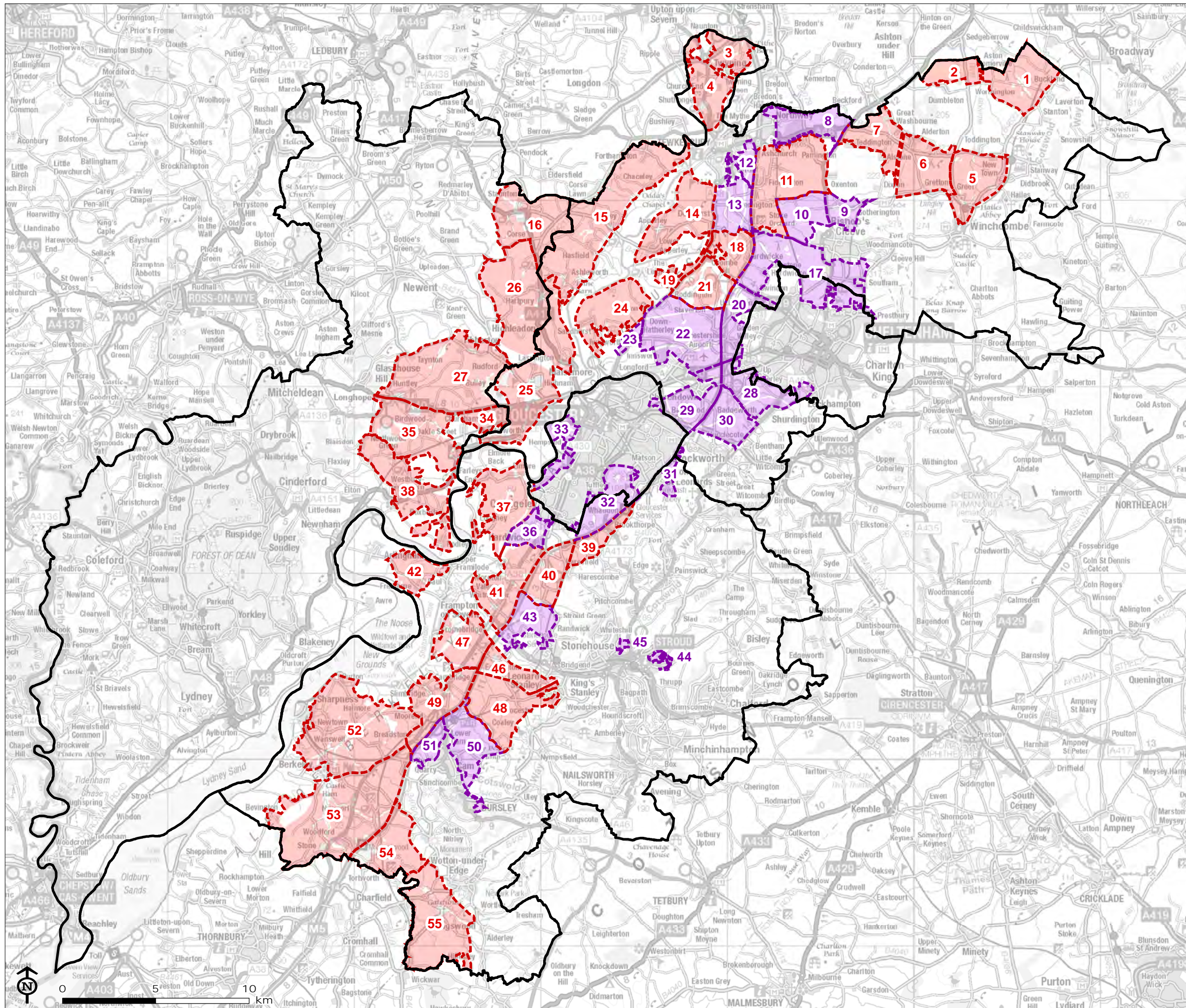
Map Scale @A3: 1:200,000



Gloucestershire: Assessment of Strategic Development Opportunities

Figure 2.14: Assessment Areas

-  District Boundary
-  New Settlement
-  Urban Extension
-  Potentially Developable Land



Map Scale @A3: 1:200,000



Step 4: Assessment of Development Options

Defining Development Options: The Development Typology

- 2.37 Development options within each Assessment Area were defined in relation to a consistent **'development typology'** detailed in Table 2.2 below. The Steering Group agreed that land requirements should be estimated based on a density (in all cases) of 35 dwellings per hectare and a gross/net development ratio of 70%. For the purposes of the map-based assessment of development options, it was concluded that it would be appropriate to apply a simplified criterion based on these principles whereby every 500 dwellings would require 20.5 hectares (ha) of land. A 20.5 ha grid overall was included in the study's mapping system to allow visual estimation of potentially developable land areas during the subsequent assessment.

Table 2.2: Development Typology

Spatial option	Criteria: location considered for inclusion if...
<p>New settlements</p> <p>Criteria were based on achieving clear separation from the study area's largest existing settlements and on achieving a sufficient size to support provision of a broad range of services and facilities.</p>	<p>Location has capacity for > 1,500 dwellings.</p> <p>Development Scales⁶:</p> <p>Small village: 1,500-5,000 dwellings</p> <p>Large village: 5,000-10,000 dwellings</p> <p>Town/city: 10,000+ dwellings</p>
<p>Urban extensions</p> <p>Criteria were based on identifying locations that are adjacent the edge of the study area's larger settlements. This type did not include extension to lower tier settlements eg villages.</p>	<p>Development Scales:</p> <p>Small urban extension: 500-1,500 dwellings</p> <p>Medium urban extension: 1,500-3,500 dwellings</p> <p>Large urban extensions: 3,500+ dwellings</p>

- 2.38 Development options within the assessment areas were assessed in more detail with respect to:
- Selected secondary environmental constraints.
 - Landscape Sensitivity.
 - Accessibility.
 - Infrastructure.
 - Viability.

Review of Secondary Environmental Constraints

- 2.39 The environmental constraints assessment initially involved identifying a range of spatially defined constraints **and sensitivities additional to the 'primary constraints' and exclusions** outlined in Table 2.1 above. **These were defined as 'secondary' constraints: features that might be affected** to a lesser or greater degree by strategic development, dependent upon its scale and siting. However, it was considered that they did not justify the exclusion of land **from the 'potentially**

⁶ Development size categories have been determined with reference in particular to the Department for Communities and Local Government's (2016) *Locally-Led Garden Villages, Towns and Cities*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/733047/Locally-led_garden_villages_towns_and_cities_archived.pdf

developable' area. The secondary constraints considered were categorised under the following topics:

- Historic environment
- Ecological and geological environment
- Soil Quality
- Water Quality
- Flood risk
- Mineral resources
- Noise
- Odour
- Open Space, Sport and Recreation

2.40 The secondary environmental constraints are shown in Table 2.3 below. Air quality was considered as a potential additional constraint, but due to the lack of consistent available data it was not possible to include this topic within the study scope.

Table 2.3: Secondary Environmental Constraints

Theme	Constraints	Comments/Justification	Data used for the assessment	Data gaps and limitations
Historic environment	<p>Gloucestershire Historic Environment Record (HER) data</p> <p>Safeguarded corridor for restoration of the Gloucestershire and Herefordshire Canal</p>	<p>Paragraph 194 of in Chapter 16 of the NPPF protects non-designated historic assets.</p> <p>It was requested by the Steering Group that the safeguarded corridor was taken into account in the assessment of development options.</p>	<ul style="list-style-type: none"> Data for the Gloucestershire and Herefordshire Canal corridor was received from Forest of Dean District and Tewkesbury Borough. Data included the canal and its diversion from the Forest of Dean and the canal route from Tewkesbury Borough Council as defined in their old Local Plan. All received data was included in the assessment. HER Data was obtained from Gloucestershire County Council. 	<p>Due to its nature and complexity, HER data was not included as a secondary constraint in the 'assessment area' proforma figures (as set out in Appendix 2)</p>
Ecological and Geological Environment	<p>Priority Habitat Inventory (PHI)</p> <p>Locally designated wildlife or geological sites, Local Nature Reserves.</p> <p>Sites of Special Scientific Interest (SSSI) Impact Risk Zones (IRZ)</p> <p>RSPB reserves</p>	<p>Priority Habitats are recognised as being of 'principal importance' for the conservation of biological diversity in England under section 41 of the Natural Environment and Rural Communities Act 2006.</p> <p>Local Wildlife Sites are established as areas of 'substantive nature conservation value', based on important, distinctive and threatened habitats and species.</p> <p>Local Nature Reserves (LNRs) are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949.</p> <p>SSSI IRZs are defined by Natural England to define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.</p>	<ul style="list-style-type: none"> PHI, SSSI IRZ and Local Nature Reserve (LNR) data were obtained from Natural England Locally designated site data was obtained from District Councils (including Key Wildlife Sites, Cheltenham Borough Nature Reserves, UK Register of Important Geological Sites, Gloucestershire Wildlife Trust Reserves) RSPB reserves were downloaded from RSPB website 	<p>The Key Wildlife Sites dataset for Forest of Dean District included a range of designations, but data within this set that did not have 'Key Wildlife Site' in their status were disregarded (e.g. the dataset included areas indicated as Regionally Important Geological Sites (RIGS), but UKRIGS data was used to define these for the purposes of the study).</p>

Theme	Constraints	Comments/Justification	Data used for the assessment	Data gaps and limitations
Soil quality	Grade 1 (excellent quality) Grade 2 (very good) and Grade 3 (good) agricultural land	Paragraph 170 of Chapter 15 of the NPPF recognises the benefits of the county's best and most versatile agricultural land.	<ul style="list-style-type: none"> Agricultural Land Classification data was obtained from Natural England 	It is not possible to distinguish Grades 3a and 3b soils from available data, although this distinction is important in policy terms as 'Best and Most Versatile Land' includes Grades 1, 2 and 3a. This will result in a degree of uncertainty in the results which has been made clear in the assessment proforma.
Water Quality	Drinking Water Quality Safeguarding Zones and Source Protection Zones (SPZ)	<p>Drinking water safeguard zones are designated areas in which the use of certain substances must be carefully managed to prevent the pollution of raw water sources that are used to provide drinking water. Their definition is required under the EU Water Framework Directive.</p> <p>SPZs are designated by the Environment Agency to protect groundwater supply sources. All SPZ categories were included (1, 1c, 2, 2c, 3).</p>	<ul style="list-style-type: none"> Safeguarding and Protection Zones data was obtained from the Environment Agency (EA) 	Drinking Water Safeguarding Zones (Surface Water) data was from 2016 since the EA data download link was not functional
Flood risk	Flood Zone 2 Flood Storage Areas	<p>Paragraph 155 of Chapter 14 of the NPPF states: 'Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future).'</p> <p>Strategic development in Flood Zone 2 may or may not be appropriate in Flood Zone 2 subject to the necessary 'Exceptions Test'.</p>	<ul style="list-style-type: none"> All data was obtained from the Environment Agency 	
Mineral resources	Minerals Safeguarding Areas	Paragraph 206 of Chapter 17 of the NPPF states: 'Local planning authorities should not normally permit other development proposals in Mineral Safeguarding Areas if it might constrain potential future use for mineral working.' requires the definition of Mineral Safeguarding Areas for the protection of mineral resources.	<ul style="list-style-type: none"> All data from the draft Minerals Local Plan was obtained from the County Council via the District Councils 	

Theme	Constraints	Comments/Justification	Data used for the assessment	Data gaps and limitations
		The County Council provided data for the draft 2018 Minerals Local Plan due to its advanced stage of preparation and the age of the adopted MLP.		
Noise	Strategic Noise Maps: L _{night} >=55.0 dB, or L _{aeq,16} >= 60.0 dB	<p>The World Health Organisation's Night Noise Guidelines for Europe (2009) set guideline values for health protection in terms of the metric set L_{night}, outside which is the average annual noise level in the 8-hour period 2300-0700. The guidelines take account of the fact that the noise levels are measured outdoors but that the receptor (sleeping person) is indoors and that most people prefer to sleep with the window partly open. Adverse health effects begin to be observed when L_{night}, outside is in the range 40-55 dB and when L_{night}, outside is 55 dB or higher, adverse health effects occur frequently and there is a risk of cardiovascular disease.</p> <p>The DEFRA strategic noise maps illustrate the noise generated by key road and rail routes based on World Health Organisation guidelines for noise exposure. This is considered to only be a secondary constraint in acknowledgement that adverse effects associated with noise can potentially be mitigated.</p>	<ul style="list-style-type: none"> Strategic noise mapping data (from major roads and railways) was obtained from DEFRA 	
Odour	<p>Netheridge Sewage Treatment Works – Cordon Sanitaire</p> <p>Hayden Odour Monitoring Zone</p> <p>Tewkesbury Borough cordon sanitaire zone EVT8</p>	Although cordon sanitaires and similar odour-related zones can potentially present an absolute constraint to development in some circumstances, this is not always the case and for the present study it was agreed to treat all such zones equally as secondary constraints.	<ul style="list-style-type: none"> Data obtained from District Councils 	GIS data were not available for Stroud District, but the Council confirmed that there was no relevant constraints of this kind within the Council area.
Open space, sport and recreation	<p>Public Rights of Way</p> <p>National Trails</p>	Although these are important features, direct impacts upon them by development can generally be readily mitigated by	<ul style="list-style-type: none"> Public Rights of Way data was obtained from the District Councils 	A 2.5m buffer was applied to cycle routes and Public Rights of Way

Theme	Constraints	Comments/Justification	Data used for the assessment	Data gaps and limitations
	Sustrans national cycle routes	design. They were therefore mapped as secondary constraints and shown as such within figures, but were not included within the scope of the assessment of development options.	<ul style="list-style-type: none"> National Trail data was obtained from Natural England National Cycle Network data was obtained from Sustrans	linear features to approximate a footprint. Data on local cycle routes were not available for all the JCS area and therefore were not included in mapping.

Rating System for Assessment

2.41 The rating of potential environmental effects associated with the development options was undertaken using the following colour coded rating system:

Table 2.4: Environmental Constraints; ratings for scale of potential effects

Development may have significant positive effects
Development may have minor positive effects
Development may have negligible or no effects
Development may have minor adverse effects
Development may have significant adverse effects

2.42 Due to the strategic scale of assessments, there was a degree of uncertainty in relation to some ratings. However, when uncertainty is high it is indicated by '?. Where there is a clear prospect of effects being mitigated, this is indicated by '*'.

Criteria for Assessment

2.43 The impacts of development options with respect to environmental constraints was considered through application of a set of criteria allowing a consistent assessment that was at the same time proportionate to the study scale and purpose. The criteria were specific to each topic and were refined through the assessment process itself, including through consideration of comments from relevant stakeholders. It is important to note that the assessment considered effects in relation to both the secondary constraints detailed in Table 2.3 *and the 'primary' constraints detailed in Table 2.1*. This is because, although areas subject to primary constraints did not fall within the '**potentially developable land**', **they could still be subject to effects from development** (for example, effects on the settings of heritage assets). The detailed assessment criteria for each topic are set out in Table 2.5 below:

Table 2.5: Assessment Criteria, Selected Environmental Constraints

Topic	Assessment Criteria
Historic Environment	<p>A high-level review of potential physical and setting effects to heritage assets was undertaken in accordance with the relevant policy and guidance (see Appendix 3 for further details). As required, by policy and guidance, this assessment has been informed by the following data:</p> <ul style="list-style-type: none"> • Historic England (HE) designated asset datasets: <ul style="list-style-type: none"> - Listed Buildings; - Scheduled Monuments; - Registered Parks and Gardens; and - Registered Battlefields; • Gloucestershire Historic Environment Record (HER) data; • Gloucestershire Historic Landscape Characterisation (HLC) data (in draft);

Topic	Assessment Criteria
	<ul style="list-style-type: none"> • Gloucester City Council, Cheltenham Borough Council, Tewkesbury Borough Council and Stroud District Council Conservation Areas, and Cheltenham Borough Council local list^[1]; and • Digital historical mapping (although a systematic review to identify further heritage assets was not undertaken due to this study's high level nature). <p>The following principles were be applied in the judgement of effect levels:</p> <ul style="list-style-type: none"> • Heritage asset is of high or medium significance and the magnitude of effect is likely to harm its significance: possible significant adverse effect. • Asset is of low significance and the magnitude of effect is likely to harm its significance: possible minor adverse effect. • Asset is of high, medium or low significance and the magnitude of effect is unlikely to harm the significance of the asset: possible negligible effect.
Ecological and Geological Environment	<p>Ratings were based on proximity to a defined range of assets. Assessment on this basis was reviewed by specialists within LUC's ecology team, and supplemented by qualitative consideration of Impact Risk Zones (IRZs) for designations and Priority Habitats. Proximity-based criteria were based on whether development options:</p> <ul style="list-style-type: none"> • Intersect or fall within 250m of locally designated sites. • Intersect, fall within 250m, or fall within 2km of national/internationally designated sites. <p>The criteria applied were as follows:</p> <ul style="list-style-type: none"> • The scale of development cannot be accommodated without falling within 250m of one or more internationally or nationally designated biodiversity and geodiversity sites, and/or intersecting with a locally designated site: possible significant adverse effect. • The scale of development cannot be accommodated without falling within 250m-2km from one or more internationally or nationally designated biodiversity or geodiversity sites, and/or within 250m of a locally designated site: possible minor adverse effect. • The scale of development can be accommodated over 2km from any internationally or nationally designated biodiversity or geodiversity sites and over 250m from any locally designated sites: possible negligible effect. <p>Ancient Woodland was subject to assessment on the same basis as 'local designations', as a special case. Although not a designation as such, the value of Ancient Woodland (as referenced for example in the NPPF) was considered too important for it to be omitted from assessment as an explicit consideration</p>

[1] Cheltenham Borough Council is the only authority to have a local list covering the whole region; there is no accompanying information on the buildings so understanding their setting sensitivity is not possible and – for the purposes of this assessment – it has simply been assumed that they may be susceptible to meaningful change. Stroud District has a local list for the town centre only, which is not an area of search. Gloucestershire City Council has a local list in preparation.

Topic	Assessment Criteria
	<p>(notwithstanding the fact that it had been included as a primary constraint within the land search).</p> <p>However, due to the likelihood of material impacts on Ancient Woodland only occurring at relatively close proximities, it was not considered necessary to treat it in the same manner as national and local designations, where impacts were considered up to around 2km.</p> <p>Priority Habitats were noted as additional indicators of ecological sensitivity within the assessment areas. It was considered appropriate to provide additional information on these within assessments, as in a number of cases they were identified as important considerations for future development, in a number of respects:</p> <ul style="list-style-type: none"> • as indicators of varying ecological sensitivity across the assessment areas; • as potential pathways for wider development impact (positive or negative); • and as important potentially important focuses for development mitigation and enhancement measures. <p>A discussion of Priority Habitats and Impact Risk Zones was provided for additional information only and did not inform the ratings.</p>
Soil Quality	<ul style="list-style-type: none"> • The scale of development can be accommodated without intersecting with grades 1-3 agricultural land: negligible effect. • The scale of development cannot be accommodated without intersecting grades 1-3 agricultural land: significant adverse effect. <p>Uncertainty is present concerning grade 3 agricultural land as there is no data available distinguishing whether it is grade 3a or the lower quality grade 3b.</p>
Water Quality	<ul style="list-style-type: none"> • The scale of development can be accommodated without intersecting Drinking Water Safeguarding Zone and Source Protection Zones: negligible effect. • The scale of development cannot be accommodated without intersecting with Drinking Water Safeguarding Zones and Source Protection Zones: significant adverse effect.
Flood Risk	<ul style="list-style-type: none"> • The scale of development can be accommodated without intersecting with flood zone 2: negligible effect. • The scale of development cannot be accommodated without intersecting with flood zone 2: significant adverse effect.
Mineral Resources	<ul style="list-style-type: none"> • The scale of development can be accommodated without intersecting with a Mineral Safeguarding Area: negligible effect. • The scale of development cannot be accommodated without intersecting with a Mineral Safeguarding Area: significant adverse effect.
Noise	<ul style="list-style-type: none"> • The scale of development can be accommodated without intersecting with an area recognised as having noise levels in exceedance of 55dB at night or 60dB on average during the period 07:00-23:00 hours: negligible effect.

Topic	Assessment Criteria
	<ul style="list-style-type: none"> The scale of development cannot be accommodated without intersecting with a Strategic Noise Buffer: significant adverse effect.
Odour	<ul style="list-style-type: none"> The scale of development can be accommodated without intersecting with an odour related buffering zones: negligible effect. The scale of development cannot be accommodated without intersecting with odour related buffering zones: significant adverse effect.

- 2.44 The assessments with respect to the historic environment and ecology were necessarily more complex than with respect to the other topics/themes. Further detailed information on the assessment method in relation to the historic environment is provided in Appendix 3.
- 2.45 With respect to ecology, an approach to the rating of effects was initially considered whereby a **'first stage' rating would be** determined based on proximity criteria, but then potentially modified via the application of specialist professional judgement. It was concluded, however, that specialist ecological input to the assessment should include additional analysis and discussion, but not affect proximity-based impact ratings. This was for two key reasons:
- Much of the assessed land fell within at least one and often multiple Impact Risk Zones (IRZs) for National/International designations where potential risk had been identified for the scale of development being considered. In these cases, the presence of the IRZ is a trigger for consultation with Natural England on potential development effects. Procedurally, it was therefore considered advisable not to pre-empt the outcome of this kind of consultation process.
 - Residential developments of the scale under consideration for the present study can have impacts on designated areas via recreational activity. These impacts can take place at relatively large distances from the development in question, and to predict them with high confidence generally requires detailed analysis beyond that which can appropriately be undertaken for a high-level study of this nature.
- 2.46 It was not feasible, or indeed appropriate, to attempt to map and assess all potential spatial permutations of development options within the Assessment Areas: the number of separate assessments required would have been huge, disproportionate to the requirements of the study, **and would have compromised the study's practical usefulness. A pragmatic approach was** therefore taken whereby:
- Consideration of the potential impact/sensitivity of development options at various scales was based on the potential for developments at these **scales to be sited 'optimally' within the** Assessment Area e.g. avoiding (where possible) constraints that affected part of the Assessment Area only.
 - Where it would not be possible for developments of particular scales to be sited optimally with respect to all constraints/sensitivities (e.g. where avoiding one constraint would involve encroaching on another) this was indicated both through the provision of constraints maps and **by summary text, from which the potential 'balancing' of multiple constraints** and the implications of this balancing for optimal development siting might be extrapolated.

Landscape Sensitivity Assessment

- 2.47 The landscape sensitivity assessment method has been developed in accordance with the Natural England guidance⁷ **published in June 2019, as well as building upon LUC's considerable experience** from previous and ongoing studies of a similar nature. The guidance includes the following definition:

"Landscape sensitivity may be regarded as a measure of the resilience, or robustness, of a landscape to withstand specified change arising from development types or land management practices, without undue negative effects on the landscape and visual baseline and their value."

The Landscape Character Assessment Guidance for England and Scotland Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity (Scottish Natural Heritage and the former Countryside Agency, 2004) is a discussion paper on landscape sensitivity and capacity which has also informed the approach.

- 2.48 Paragraph 4.2 of Topic Paper 6 states that:

'Judging landscape character sensitivity requires professional judgement about the degree to which the landscape in question is robust, in that it is able to accommodate change without adverse impacts on character. This involves making decisions about whether or not significant characteristic elements of the landscape will be liable to loss... and whether important aesthetic aspects of character will be liable to change'.

Spatial framework

- 2.49 A landscape sensitivity assessment was completed for each of the Broad Areas (see paragraph 2.29). **Following the assessment, each of the 55 'Assessment Areas' within the Broad Areas was assigned a landscape sensitivity score based on the development scenarios considered as part of this assessment.**

Scales of development considered

- 2.50 **The landscape sensitivity assessment was focused on the 'principle' of residential development,** without knowing the specific configuration or exact location (as this would be detailed at the planning application level).
- 2.51 The scales of development as set out in the development typologies Table 2.2 were assessed.

A criteria-based assessment

- 2.52 In line with good practice landscape and visual sensitivity has been assessed for each Broad Area with reference to defined criteria, which are set out in Appendix 4 of this document, along with examples to illustrate the different levels of sensitivity so that judgements can be clearly traced back to the underlying landscape baseline.
- 2.53 The judgement on the overall landscape sensitivity of the character area to different forms of development is based on consideration of the range of sensitivities identified and the weight attached to any particular criteria in the area in question. The landscape sensitivity of each Broad Area was defined on a five-point scale. Guideline definitions of sensitivity levels are given in Table 2.7:

⁷ An approach to landscape sensitivity assessment – to inform spatial planning and land management. Natural England. June 2019.

Table 2.7: Sensitivity ratings to Housing Development

Sensitivity Level	Definition
High (H)	The key characteristics and qualities of the landscape are highly sensitive to change from residential development.
Moderate-High (M-H)	The key characteristics and qualities of the landscape are sensitive to change from residential development.
Moderate (M)	Some of the key characteristics and qualities of the landscape are sensitive to change from residential development.
Low-Moderate (L-M)	Few of the key characteristics and qualities of the landscape are sensitive to change from residential development.
Low (L)	Key characteristics and qualities of the landscape are robust and are less likely to be adversely affected by residential development.

- 2.54 This assessment was based on a combination of desktop study and field survey. The desk-based exercise was informed by existing literature on landscape (including the Gloucestershire Landscape Character Assessment 2006) and spatial GIS data.
- 2.55 This was followed up with field work (undertaken in August and September 2019) to view each Broad Area in the field and make any additional observations. Field work was particularly **important for criteria such as 'Views and visual character including skylines', which may not be** consistently described in the available documentation, and also assists with verification of desk-based material.
- 2.56 As with all assessments based upon data and information which is to a greater or lesser extent subjective, some caution is required in its interpretation. This is particularly to avoid the suggestion that certain landscape features or qualities can automatically be associated with certain sensitivities – the reality is that an assessment of landscape sensitivity is the result of a **complex interplay of often unequally weighted variables (i.e. 'criteria')**. An area rated as having high sensitivity may do so because it has a relatively high sensitivity to a number of different criteria but it may also do so because of a particularly high sensitivity to just one criterion. Intermediate sensitivity levels, such as moderate-high and low-moderate, have been used where appropriate.
- 2.57 Each Broad Area was assessed against each criterion in turn, with explanatory text indicating specific locations, features or attributes of lower or higher sensitivity. This culminates in an overall landscape sensitivity judgement (using the five-point scale above) for each of the Assessment Areas within a given Broad Area, taking account of the inter-relationships between the different criteria and the specific characteristics of the landscape being assessed. Key sensitive landscape features were also identified for each Broad Area.
- 2.58 Landscape sensitivity often varies within LCAs, with areas exhibiting of higher and lower sensitivity. It is therefore very important to take note of the explanatory text supporting the assessments in each Broad Area Landscape Sensitivity Assessment profile. Whilst the Landscape Sensitivity Assessment results provide an initial indication of landscape sensitivity, they should not be interpreted as definitive statements on the suitability of individual sites for a particular development. All proposals will need to be assessed on their own merits through the planning process, including – where required – through proposal-specific Landscape and Visual Impact Assessments (LVIAs).

Transport Accessibility Assessment

- 2.59 ITP undertook a transport accessibility assessment. The Assessment Areas were each assessed with respect to their accessibility. The assessment was based on the principle that, whilst transport accessibility can often be influenced through improvements to public transport routes and services, and highway networks, certain locations are more advantageous than others in terms of their scope for people to complete everyday journeys by sustainable transport options (walking, cycling, public transport) if they were developed for housing or employment purposes; and that this is typically due to the presence of existing routes and services, and/or the proximity of locations to existing important destinations such as workplaces, urban centres, schools, and healthcare facilities. The assessment was therefore based upon the *existing* accessibility of the Assessment Areas. The potential of the Assessment to support investment infrastructure supportive of modal shift to more sustainable transport options than the private car was **considered separately (see 'Deliverability/ Infrastructure' below).**
- 2.60 Accessibility of the Assessment Areas was appraised using five separate measures. The criteria applied in relation to each of these measures is set out in Table 2.7 below. For this element of the assessment, a Red/Amber/Green (RAG) colour coding was used for the purposes of rating. Further details of the methodology used to undertake the Transport Accessibility Assessment is provided in Appendix 5.

Table 2.7: Transport Accessibility Assessment Criteria and Rating

Criteria	Red / Amber / Green rating
Capacity of the road network	Qualitative geospatial comparison of each assessment area in relation to current and forecast (to 2031, no improvement) road network capacity during the AM peak:
	Green = spare capacity on major roads in vicinity of area.
	Amber = some congestion on major roads in vicinity of area.
	Red = significant congestion and lack of capacity on major roads in vicinity of area, meaning additional car-based trips are likely to worsen existing delays.
Access to employment	Public transport:
	Number of workplaces (a proxy for filled employment positions, or 'jobs' derived from Census, 2011) accessible in the Gloucestershire / Urban Areas within 45mins travel time by walking and public transport from a single point (either the geo-spatial centroid, or a chosen point close to the existing public transport network if in a large assessment area) within each assessment area:
	Green = More than 50,000 workplaces (jobs).
	Amber = 25,000 – 50,000 workplaces (jobs).
	Red = Less than 25,000 workplaces (jobs).
Road:	
Number of workplaces (a proxy for filled employment positions, or 'jobs' derived from Census, 2011) accessible in	

Criteria	Red / Amber / Green rating
	<p>the Gloucestershire / Urban Areas within 30mins travel time by <i>road / private car</i> (using TrafficMaster average road speed data from the AM peak) from a single point (centroid or chosen point close to existing highway network if in a large assessment area) of each assessment area:</p> <p>Green = More than 275,000 workplaces (jobs).</p> <p>Amber = 250,000 – 275,000 workplaces (jobs).</p> <p>Red = Less than 250,000 workplaces (jobs).</p>
Access to other key services and facilities by public transport	<p>Ability to access urban centres, healthcare and education facilities from a single point (centroid or chosen point close to existing network if in a large assessment area) within each assessment area:</p> <p>Green = Accessible to services within 20 mins.</p> <p>Amber = Accessible to services between 20 and 40 mins.</p> <p>Red = Accessible to services over 40 mins.</p>
Private car use by commuters	<p>Car mode split, derived from Method of Travel to Work question in the Census, 2011. Thresholds (based on identifiable gaps between groupings of areas) defined as:</p> <p>Green = Less than or equal to 69% by car.</p> <p>Amber = 70% to 72% by car.</p> <p>Red = 73% or more.</p>
Proximity to sustainable transport networks	<p>Green = Located along existing strategic walk / cycle routes, area centroid within 2.5km of a rail station and/or outline area within 500m of high frequency bus routes to Town / City centres / employment areas.</p> <p>Amber = development option within 500m of a low freq. bus route, or an interchange away from higher freq. services to town / city / employment areas, and / or area centroid 5km from rail station serving Gloucestershire. Not directly on, but linked to strategic walk / cycle routes.</p> <p>Red = divorced from existing strategic walk / cycle routes, rail, or frequent bus corridors.</p>

2.61 As the assessment of accessibility did not incorporate any assumptions regarding alteration of accessibility through investment to support, or mitigate the impact, of new development, ratings did not vary by development scale.

Deliverability/Infrastructure Assessment

2.62 Navigus Planning led an assessment of potential infrastructure requirements and constraints for the relevant development options within each Assessment Area. Assessments were undertaken for utilities (waste water, drinking water, electricity, gas) and transport (rail, road including bus, bicycle).

2.63 This element of the study sought to establish:

- the nature of any major infrastructure provision requirements and costs that would be likely to arise where these would require investment from sources other than developer contributions, e.g. central government;
- the nature and approximate cost of significant infrastructure requirements which would be expected to be funded via developer contributions; and
- the presence of **any key infrastructure 'showstoppers' that might stop development** being deliverable.

Utilities

2.64 For utilities, each of the respective providers informed the assessment by completing a matrix⁸ based on the following criteria:

Table 2.8: Utility Infrastructure Assessment Criteria and Ratings

Rating	Rating Criteria
Red	The infrastructure required to support growth is likely to represent a fundamental constraint to growth, either because of the technical difficulties of provision (engineering, geology, etc) and/or because of the cost.
Amber	The infrastructure required to support growth is capable of being provided but may incur a high cost that could require external (non-developer contribution) funding, e.g. from Central Government.
Green	The infrastructure required to support growth can be provided and would reasonably be expected to be funded by the developer without risking the viability of the development.

2.65 The relevant utilities providers are as follows:

- Waste water:
 - Entire study area excluding Sharpness: Severn Trent
 - Sharpness area (Assessment Areas 52-55): Wessex Water
- Drinking water:
 - Entire study area: Severn Trent
- Electricity:
 - Entire study area: Western Power
- Gas:

⁸ Western Power did not undertake the assessment themselves. Rather they provided online mapping for the consultant team to undertake the assessment.

- o Entire study area: Wales and West Utilities
- 2.66 For transport, a different approach was required. Following initial engagement with rail (Network Rail), road (Highways England and Gloucestershire County Council) and bus (Stagecoach) providers, it became apparent that there were fundamental and pervasive capacity constraints on the existing transport network – specifically the strategic road network, where many constraints have no identified solution that could reasonably be envisaged as being implemented within the relevant plan periods. .
- 2.67 The study team therefore proposed that assessment of development options with respect to transport infrastructure should be based on the fundamental principle that development will need to support travel predominantly by transport modes other than the private car for the majority of trips. This would involve increasing capacity on the rail and bus network and expanding cycling networks. Any additional pressure on junctions on the strategic road network was considered unsustainable in principle.
- 2.68 A note setting out a proposed approach to assessing transport infrastructure requirements and deliverability, following these principles, was sent to all the stakeholder organisations involved in transport planning as well as the client group and discussed at a teleconference on 3rd October 2019. Following the discussion and subsequent feedback from all those on the teleconference, the approach was revised and used to undertake the assessment. The assessment focused on whether development options within each of the Assessment Areas, by virtue of location and potential scale of housing/employment land delivery, have the potential to:
- secure opportunities from existing and proposed transport infrastructure;
 - maximise opportunities to promote walking, cycling and public transport use;
 - limit the need to travel and offer a genuine choice of transport modes.
- 2.69 Red/Amber/Green (RAG) ratings were provided within the assessment based on the criteria set out in Table 2.9. A key principle for the assessment, which emerged from liaison with the key stakeholders, was that investment opportunities will generally be the highest where they involve strengthening or expansion of the current infrastructure network, rather than creation of new infrastructure remote from this network.

Table 2.9: Transport Accessibility Assessment Criteria and Rating

Criteria	Rating criteria (AA = Assessment Area)		
RAIL INFRASTRUCTURE: Potential to support/fund/ deliver new rail stations and services and/or significant rail station and service improvements that are intrinsically linked to housing and/or employment growth in the assessment area	AA not proximate to existing rail stations or lines and/or development not likely to be at a scale that either supports investment in existing rail stations/ services or delivers strategically significant new stations on the rail network.	AA is proximate to existing rail lines/stations and could potentially support investment in existing rail stations/services and/or deliver strategically significant new stations, subject to the scale of development achieved.	AA is adjacent to existing rail lines/stations and likely to support significant investment in existing rail services and/or deliver strategically significant new stations (particularly at larger scales of development).

Criteria	Rating criteria (AA = Assessment Area)		
<p>BUS INFRASTRUCTURE: Potential to support/fund/ deliver new bus services and/or significantly improve the journey times and journey time reliability and service frequency/capacity</p>	<p>AA not proximate to existing bus routes and not likely to be at a scale that either increases the use of existing services, warrants their diversion to meet future travel demand, or brings forward significant bus priority infrastructure that limits increases in journey times to offset service diversions.</p>	<p>AA is proximate to existing bus routes and could potentially increase their patronage, warrant their diversion to meet future travel demand, and/or bring forward significant bus priority infrastructure that reduces journey times and service reliability, subject to the scale of development achieved.</p>	<p>AA is adjacent to existing bus routes and likely to increase their patronage, with minimal diversion to meet future travel demand. Where necessary, also delivers significant bus priority infrastructure that reduces journey times and service reliability for both new and existing service users.</p>
<p>CYCLE INFRASTRUCTURE: Potential to support/fund/ deliver identified priority cycle network improvements and/or deliver new dedicated cycle connections to existing jobs and services within reasonable distances.</p>	<p>AA not proximate to existing/proposed strategic cycle infrastructure and offers limited opportunity to improve or extend dedicated cycle networks to key destinations within a reasonable cycling distance (5km/20 mins).</p>	<p>AA is proximate to existing cycle networks or offers a reasonable prospect of delivering dedicated high-quality cycle infrastructure that would connect it to key destinations that are within a reasonable cycling distance (5km/20 mins).</p>	<p>AA is adjacent to/served by existing cycle networks and is likely to deliver significant improvement to the extent and quality of cycle routes serving key destinations within a reasonable cycling distance (5km/20 mins).</p>

Viability Assessment

- 2.70 HDH Planning & Development undertook a development viability analysis for the study area to support consideration of the relative viability of development options within the Assessment Areas. Rather than attempting to follow a **particular developer's business model**, HDH's method delivered a strategic assessment of viability appropriate to support plan making and reflective of the provisions of the 2019 NPPF, Planning Practice Guidance, Harman Guidance and Community Infrastructure Levy (CIL) Regulations. It applied the approach of calculating Residual Land Value: a development land value, arrived at by deducting development cost (including reasonable developer profit) from gross development value. The analysis was undertaken in two different ways. In one, Residual Land Value was presented as the analysis outcome. In the other, a land value was assumed in order to allow calculation of the **'headroom' available** from development to fund affordable housing and infrastructure. With respect to infrastructure costs, s.106 and CIL were not differentiated, due to the stage in plan preparation at which the assessment was undertaken.

- 2.71 The calculations employed a range of assumptions, including assumptions relating to the various components of development cost. All assumptions and their rationales are set out in the accompanying viability report provided in Appendix 6.
- 2.72 A key element of the **HDH's** assessment was the **identification of a number of discrete 'price areas'** within the study area. HDH also tested a range of development sizes. The density assumptions referenced above (35 dwellings/ha at 70% net/gross ratio) were applied to all development sizes except the largest (10,000 units), which was also tested at a lower gross-net ratio of 60%.
- 2.73 For the purposes of reporting, LUC cross-referenced the various outputs of **HDH's analysis** to the study Assessment Areas and the relevant development options within each of these.
- 2.74 The approach taken in **HDH's** assessment was to test various scenarios: for example, **infrastructure 'headroom' was calculated for a range of affordable housing provision** levels. HDH's assessment also used defined thresholds, both in relation to Residual Value and infrastructure/affordable housing headroom, in order to provide viability RAG ratings. However, it was agreed with the study Steering Group not to present RAG ratings in relation to the Assessment Areas for the purposes of final reporting by LUC. This was because infrastructure costs associated with specific development options within the Assessment Areas are not currently known. Navigus and LUC explored the possibility of arriving at estimates of such costs in the earlier stages of the study, but it became clear (for example through consultation with infrastructure providers) that the study scale and range of development options were too great to allow such estimates. For individual Assessment Areas, therefore an overall **'combined headroom'** figure for affordable housing and infrastructure has been presented for each relevant development type without rating.

Step 5: Reporting

- 2.75 Interim study outputs were published in September-October 2019 for selected Assessment Areas. Production of these interim outputs was driven by the programme for publication of the draft Stroud Local Plan. A key issue for Stroud District with respect to its Local Plan draft was the relative merits of meeting a proportion of housing needs originating in Gloucester City, but that could not be accommodated within Gloucester City, within Stroud District as against other districts within the study area. Interim outputs therefore focused on Assessment Areas within Stroud District and other districts falling within the 30m travel time to Gloucester that has been referenced above. The interim outputs report also did not include deliverability/infrastructure and viability assessments as these were not complete at that stage.
- 2.76 The present report contains the draft final study outputs, incorporating various further methodological refinements agreed with the Steering Group and full assessments across all topics for all Assessment Areas. Assessment outputs for each Assessment Area have been compiled **within individual 'proformas' following a standard format**. All of these proformas are presented in full in Appendix 2.

3 Assessment Findings

- 3.1 The following chapter provides a summary of how the detailed assessment outputs are presented and a broad overview of the study findings. The study does not however draw conclusions regarding which assessment areas are most suitable overall for development as that requires consideration of how the various parameters that have been considered in the study should be weighted. This will be a matter for further consideration in the preparation of the Local Plans and JCS.

Overview of Outputs

- 3.2 The assessment proformas setting out the detailed interim findings for both urban extensions and new settlements are provided in Appendix 2. Each proforma sets out the following information⁹:

Summary of Assessment Outputs (as set out in Appendix 2)
Assessment Area Name.
Assessment Area Reference Number.
Development Typology (i.e. new settlement or urban extension).
Area (ha of assessment area).
Map of Assessment Area.
Map showing Primary Environmental Constraints.
Map showing Secondary Environmental Constraints.
Summary of Environmental Constraints Assessment Findings:
<ul style="list-style-type: none">• Historic Environment.• Ecological and Geological Environment.• Soil Quality.• Water Resources.• Flood Risk.• Mineral Resources.• Noise.• Odour.• Landscape Sensitivity Assessment Findings (the landscape sensitivity assessments for each broad area and assessment area are provided in Appendix 4)• Summary of Environmental Constraints and Landscape Sensitivity
Summary of Transport Accessibility Findings

⁹ Where no information or rating is applicable to a particular development scenario or criterion, the symbol 'N/A' meaning 'not applicable' is used in the proforma.

- Capacity of the Transport Network.
- Access to Employment.
- By Public Transport (within 45 mins)
- By Private Car (within 30 mins)
- Access to other Key Services and Facilities.
- Private Car Use by Commuters
- Proximity to Sustainable Transport Networks

Summary of Deliverability/Infrastructure Findings

- Wastewater
- Drinking Water
- Electricity
- Gas
- Rail Transport
- Bus Transport
- Cycle Transport

Summary of Viability Findings

- Indicative developer contributions and affordable housing pool/ per unit (£)
- Viability rating (High, Medium or Low)

An accompanying Excel spreadsheet summarises the assessment findings – i.e. the ratings for each assessment area. However, it is important that the detailed justification for each rating as set out in Appendix 2 is read in conjunction with this spreadsheet as the commentary provides more information on the potential spatial variations and potential for mitigation.

A key consideration in this regard is that ratings with respect to environmental constraints reflect the ability of development options to avoid constraints considered on a topic by topic basis (i.e. each topic is considered separately). The summary section on environmental constraints within the proformas, and the constraints map inserts, allow further consideration of the ability of development options to avoid constraints collectively. An overall rating for environmental constraints is not however provided, as in many cases this would involve a balancing of potential impacts that is beyond the scope of the present study.

The assessment has assumed a 'policy off' approach with regards to the consideration of impacts on the Green Belt. The excel spreadsheet does however indicate which assessment areas lie within the Green Belt. This is provided for information purposes only.

General Findings

Environmental Constraints

- 3.3 The 55 assessment areas are subject to a range of environmental constraints¹⁰. Constraints relating to the presence of historic assets, ecological assets, high landscape sensitivity and some

¹⁰ None of the assessment areas include primary constraints as part of their developable land, as outlined in the methodology chapter. However, in some cases primary constraints (e.g. SSSIs and flood zone 3) do fall within assessment area boundaries and act as a potential limitation to larger scales of residential development.

of the country's best and most versatile agricultural land were present in the majority of assessment areas.

- 3.4 There is little spatial variation in identified potential effects on soil quality due to a prevalence of grade 3 agricultural land throughout the study area. The even distribution of historic assets (listed buildings, scheduled monuments, conservation areas and registered parks and gardens) and ecological assets (**Upper Severn Estuary SPA/SAC/Ramsar, SSSI's, Ancient Woodland, Local Wildlife Sites and RIGS**) throughout the study area mean that development within almost all assessment areas has the potential to adversely affect the historic environment and protected and/or sensitive species and habitats.
- 3.5 The main source for variation can be found in the opportunities for smaller development typologies (e.g. small villages and urban extensions) to have reduced impacts compared to larger new settlements (>5,000 dwellings). This is generally due to the relative size resulting in greater opportunity without, for example, affecting the integrity of ecological assets. This is most notable in the effects of the urban extension assessment areas in relation to ecology, where a number of them (8, 9, 10, 13, 17, 20, 22, 30, 33, 34 and 43) have the potential to accommodate development at all potential scales (500-3500+ dwellings) whilst resulting in negligible impacts on ecological assets.
- 3.6 Mineral Safeguarding Areas (MSAs) were also present in the majority of assessment areas and contributed to negative ratings in over half of them. However, MSAs were not always identified to be as significant a potential constraint to development as ecological designations and heritage assets, due to their patchy distribution that would allow a variety of development options to avoid them. In addition, it has been noted in the assessment that effects upon the mineral resource within MSAs can generally be mitigated by extraction of minerals prior to development taking place. Similarly, a number of assessment areas received negative ratings in relation to noise pollution, most of these being proximate to the M5 corridor. Again, noise attenuation mitigation may be possible to overcome this constraint. Constraints relating to flood zones and water quality were less common, with potential impacts on water quality largely restricted to assessment areas in the Stroud District. This is due to the prevalence of drinking water safeguarding zones in the District. Although strategic scale development would be best avoided in these locations, some strategic development may be possible where it can be established that the construction and operation of such development could be accommodated without the pollution of raw water sources that are used to provide drinking water. An adverse scoping odour related constraint was only present in one assessment area (33) associated with the Sewage Treatment Works Cordon Sanitaire in Gloucester City/ Tewkesbury Borough.

Landscape Sensitivity

- 3.7 The majority of the assessment areas are identified as having moderate-high or high landscape **sensitivity to strategic scale residential development. Frequently, this is a result of the landscape's** traditional, undeveloped agricultural character, sparse settlement, frequent woodland and semi-natural habitats and high levels of tranquillity experienced away from existing settlements and major roads. Many areas are also overlooked from the nearby Cotswolds AONB and some represent a continuation of character from the nationally designated landscape. All the assessment areas tested for their potential to accommodate new settlements concluded the potential for high landscape sensitivity for large villages and town/city scale development. However, assessment areas 37, 47, 49, 52 and 53 have the potential to accommodate small villages (1,500-5,000 dwellings) without more than moderately adverse effects on landscape. Similarly, several assessment areas note moderate to moderate-low landscape sensitivity for small and/or medium urban extension options where there is potential for infill development without significant impacts on landscape. Notable locations include the urban fringes of Tewkesbury (assessment area 8) and Woodmancote (assessment area 10), Cheltenham (assessment areas 20 and 28), Gloucester (assessment areas 30, 31, 32, 33 and 36) and Stonehouse (assessment area 43).

Transport Accessibility

- 3.8 In the majority of the assessment area locations, the capacity of the road network has been assessed as being either amber (some congestion) or red (significant congestion and lack of capacity). Greater capacity in the transport network has been identified in more rural parts of the study area to the north-east of Bishop's Cleeve (assessment areas 1, 2, 5, 6 and 7) and in the south in the vicinity of Cam and Berkeley (assessment areas 51 and 52). Despite the potential for development at these locations to be supported by sufficient road capacity, unsurprisingly the accessibility results in relation to employment opportunities indicate that these locations have poor access to places of work by public transport (within 45 minutes) and by road (within 30 minutes) and therefore residential development here may contribute to unsustainable travel patterns. There is only one assessment area (32) adjacent to Gloucester that has been identified as having spare capacity in the road network.
- 3.9 Assessment areas with the highest accessibility levels, in terms of employment and other key services and facilities, are located between Cheltenham and Gloucester (assessment areas 20, 22, 23 and 28). However, poor capacity of the transport network in these locations suggests that if development were to come forwards, it will be essential that this is accompanied by upgrades to sustainable transport links to alleviate congestion on key routes. This is reflected in the accessibility results for the assessment of proximity of assessment areas to sustainable transport networks, where the majority of assessment areas are over 2.5km from railway stations and not in close proximity to any existing strategic walking and cycling routes.

Accessibility, Functional Relationships to Key Settlements, and the Relationship of Housing Delivery to the Origin of Housing Need

- 3.10 As has been noted in Chapter 1, it is accepted that Gloucester City and Cheltenham Borough will not be able to meet all of their future development requirements within their respective districts. The adopted Joint **Core Strategy (2017) follows the principle of 'identifying and allocating Strategic Allocations closest to where the development need is generated'** (Paragraph 2.34). This principle is noted in particular as the 'guiding principle' of Policy SP2 concerning the spatial distribution of new development (Paragraph 3.2.5). This matter was discussed in detail at the Examination for the adopted JCS where the Inspector dismissed the original apportionment of housing numbers between the various councils, as it would not fulfil the aims of meeting Gloucester City's and Cheltenham Borough's unmet needs, where the need arises¹¹.
- 3.11 The appraisal process and ratings with respect to accessibility are not based on accessibility to all potential destinations. Providing relative accessibility scoring for all different destinations would be too onerous for a strategic study of this nature. However, a number of preliminary observations can be made from the accessibility analyses that have been conducted to date:
- Based on shortest current journey times by public transport to work, within Stroud District, assessment areas 31, 32, 36 (the majority of these areas) and 37 (high majority of this area) currently have a primary relationship with Gloucester. Areas with good access to a station in the south (for example in the vicinity of Cam station) also have functional relationships with more distant settlements such as Gloucester. But generally speaking, beyond the assessment areas above, the primary relationship is to Stroud rather than Gloucester. Area 39 has a more mixed functional relationship.
 - Within the Forest of Dean District, almost all primary relationships are with Gloucester.
 - Within the Joint Core Strategy area, assessment areas 15 (southern half), 19, 23, 25 and 29 (majority) have a primary relationship to Gloucester. Areas 21, 22 and 30 have a mixed relationship (Gloucester/Cheltenham), 17, 20, 28 and 30 have a primary relationship with

¹¹ See para 36

<https://www.google.com/search?q=gloucestershire+joint+core+strategy+inspectors+report&sourceid=ie7&rls=com.microsoft:en-GB:IE-Address&ie=&oe=#spf=1569591855472>

Cheltenham and 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15 (northern half) and 18 have a primary relationship with Tewkesbury.

- 3.12 These general observations are reflected in Figure 3.1 which sets out the shortest travel time catchment by public transport to employment centres during the week.07:00-09:00. Assuming that the observed relationships will continue following future development, they provide an indication of the key functional relationships that may apply to new developments within the various assessment areas.
- 3.13 These observations indicate, on the basis of currently available information, that:
- The assessment areas within Stroud District and Tewkesbury Borough vary in their primary settlement relationships. Whilst these relationships might be modified by development, the general expectation would be for development to strengthen relationships with the settlements to which they are closest.
 - The assessment areas vary in their relative accessibility to Gloucester and Cheltenham. Whilst investment via development may modify these variations to some extent, again the general expectation would be for development to strengthen relationships with the closest settlements. Therefore, development in different assessment areas is likely to differ with respect to compliance with the JCS principle of meeting need proximate to origin; and these differences may be expected broadly to reflect the relationships described above. This is a matter that can be given further consideration within subsequent studies once the new JCS principles and priorities have been defined.

Deliverability/Infrastructure

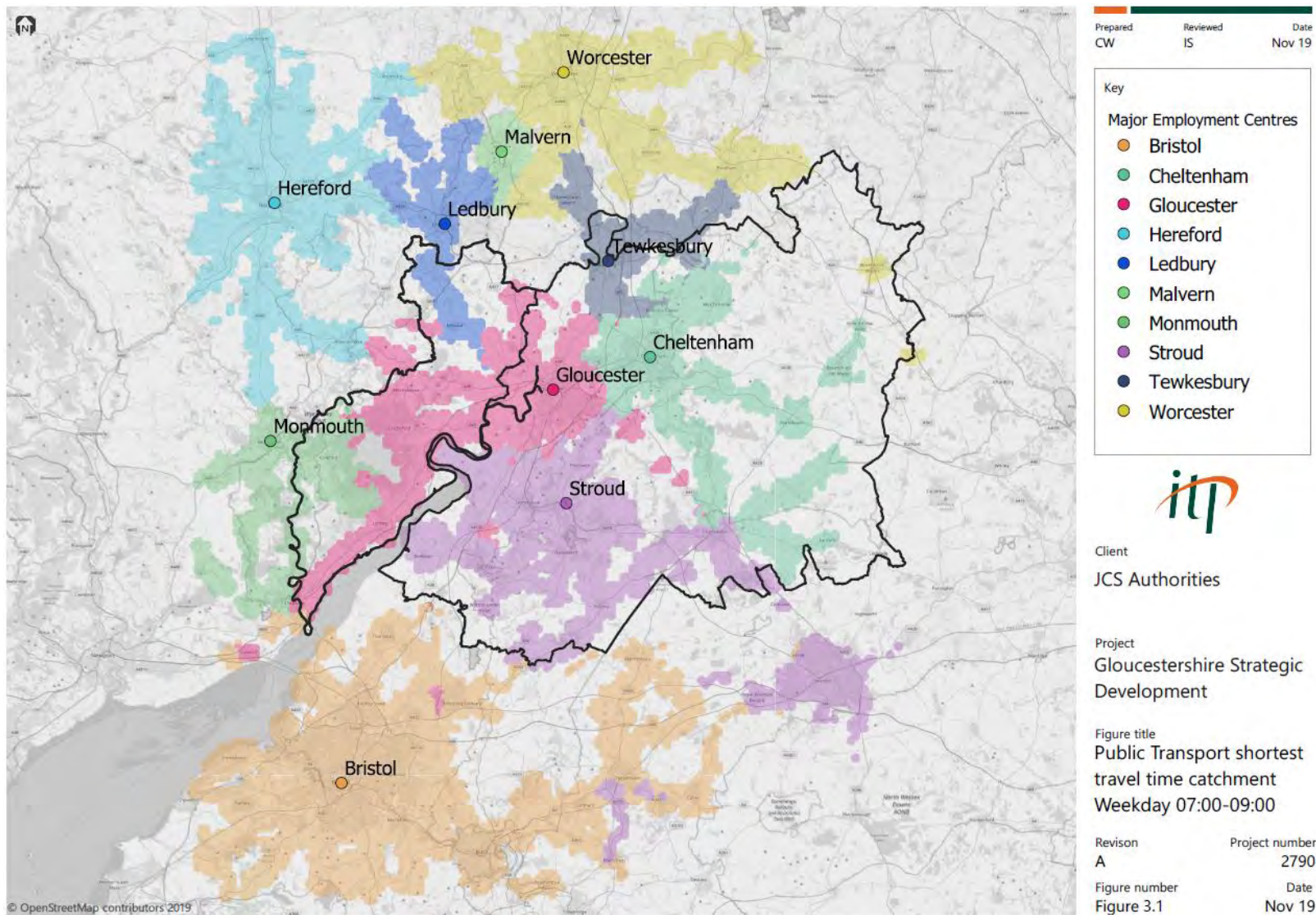
- 3.14 Overall, the results indicate that urban extensions are likely to be more deliverable than new settlements. For example, whilst the vast majority of 'urban extension' **assessment areas** have been found to have high indicative deliverability in relation to waste water infrastructure, over half of the 'new settlement' **assessment areas development** could incur a high cost and may require external funding to support growth. In the north-east of the study area (assessment areas 1,2, 5, 6 and 7), the delivery of wastewater infrastructure may represent a fundamental constraint to growth. There are no assessment areas where it is considered that drinking water infrastructure can be delivered without incurring a high cost that will require external funding. However, in the case of new settlements, there are a number of locations where it may represent a fundamental constraint at all potential development scales (assessment areas 15, 16, 25, 26, 27, 34 and 35). There are only two instances (assessment areas 39 and 49) at the largest scale of development (>10,000 dwellings) where the delivery of drinking water infrastructure is not considered a fundamental constraint to growth.
- 3.15 In terms of supporting sustainable transport infrastructure and mode choice, there is a similar contrast between urban extensions and new settlements. The new settlements tend to perform particularly poorly in relation to rail and cycle infrastructure, with the majority not proximate to existing railway stations or cycle routes, suggesting new connections, services and facilities would be required with associated potential deliverability challenges. Combining the accessibility and deliverability assessments therefore highlights that new settlements would in general need to contain significant employment and service provision in order to reduce the generation of unsustainable travel patterns.
- 3.16 With respect to deliverability/infrastructure, assessment area 33 (west of Gloucester) performs the best overall, with high deliverability potential for all supporting transport infrastructure and a requirement for external funding only identified in relation to drinking water and electricity. Additionally, urban extensions adjacent to Tewkesbury, Gloucester and Cheltenham perform better overall than those in the south of the study area in the vicinity of Stroud, Cam and Dursley due the northern half of the study area generally enjoying better rail, bus and cycle connectivity.

Viability

- 3.17 Broadly speaking, for both the urban extensions and new settlements, viability is higher around the key settlements of Tewkesbury, Cheltenham and Stroud in the study area and lower around

Gloucester, to the north of the A40 and within the Forest of Dean District. Viability is increased to medium for all town/city scenarios in the Forest of Dean District (and in fact all districts) due to the potential for a new settlement of this scale to create its own sense of place. The highest levels of viability (>£25,000 indicative developer contributions and affordable housing pool per unit) are present in the assessment areas in Stroud District, Tewkesbury Borough and Cheltenham Borough.

Figure 3.1: Public Transport Shortest Travel Time Catchment



Study Limitations

- 3.18 Bearing in mind the large extent of the study area, the study cannot be entirely exhaustive either in the scope of the development options that have been considered, or in the detail in which these options have been assessed. Instead, it has applied appropriate general principles and methods in **order to identify a reasonable 'long list' of broadly defined development options from which** particular options may be selected for further consideration and appraisal within the plan making process (ie those in line with the Plans vision and objectives). The study has undertaken a sufficient level of assessment of the potential options to allow this selection process to be undertaken reasonably on the basis of appropriate and proportional evidence.
- 3.19 A particular characteristic of the study that it is important to emphasise is that it does not define **and evaluate specific development sites. The key spatial units it uses, its 'Assessment Areas', are** instead broad locations within which various different development options (with respect both to scale and location) could generally be realised in principle. As the study does not define particular development sites, it also does not undertake assessment of site-specific considerations such as development access options, nor does it draw on studies or evidence prepared by the general public or developers in relation to specific sites. Although such studies may include evidence which is more up-to-date than the information used in this study, they do not contain comprehensive, consistent and verified judgements suitable for use across the whole study area.
- 3.20 As outlined previously, the study provides an indication of the potential planning merits of development options with respect to each defined criteria, but it does not provide an evaluation of the relative merits of development options overall i.e. it does not provide an overall ranking of options, or advise on any particular selection of options that should be taken forward for further consideration within the plan making process. This is particularly due to the fact that assessment outcomes for development options frequently differ across topics/criteria: for example, a development option may offer strong opportunities with respect to sustainable access but also may lead to a high impact on cultural heritage assets. The preferred balance to be struck in relation to different topics is a matter to be assessed in relation to the defined policy priorities of the **County's Local Plans and the JCS**.
- 3.21 The study assesses all development options individually, rather than considering multiple developments in combination within particular defined spatial development scenarios. Consideration of any cumulative impacts will need to be taken once the potential development options have been further refined.
- 3.22 The study, in accordance with its brief, only considers strategic housing development. It is acknowledged therefore that certain of its findings (for example relating to access to employment) could be affected by proposals for other forms of development within the study area (for example, strategic employment sites).

4 Next Steps

Defining the Vision and Plan Objectives

- 4.1 This study forms an important piece of evidence for the review of the Gloucester City, Cheltenham Borough and Tewkesbury Borough JCS and other Local Plans, including those produced by Stroud District and the Forest of Dean District. Commissioned jointly, the information set out in the Study will assist in the identification of the most suitable locations for future strategic housing growth within the area up until 2040. The work undertaken has been tested and shaped through ongoing liaison with the Partner Authorities and consultees. The next steps in the identification of specific areas of potential for development will be informed by a) the size of the objectively assessed need for housing and employment provision within the JCS and neighboring authorities and b) the vision and objectives of the forthcoming JCS and other Local Plans. The strategic vision and objectives will govern the thinking around growth within the study area to 2040.
- 4.2 The adopted JCS, adopted Forest of Dean Core Strategy and the Stroud Draft Local Plan Review all share common aspirations in their visions and objectives. They all aim to:
- Deliver the housing and employment needs of their growing populations.
 - Meet the challenges of climate change through carbon reduction and adaptation measures.
 - Maintain the vibrancy and diversity of their local communities and economies.
 - Support their networks of market towns and villages by improving connectivity and protecting their distinctive character.
 - Conserve and enhance the character of their natural and historic assets.
- 4.3 Moving forward, it is anticipated that many of these objectives will remain similar or unchanged from the existing JCS and Local Plans, however the weight afforded to some may change. With Gloucestershire having declared a climate change emergency, the County Council has committed to deliver a carbon neutral county by 2050 and to work with partners to identify what measures would be needed to deliver a stepped target of 80% carbon reduction by 2030. All the individual authorities (Cheltenham Borough, Gloucester City, Tewkesbury Borough, Stroud District and the Forest of Dean District) have also declared their own climate change emergencies and pledged to become carbon neutral by 2030 or 2050. These pledges should fundamentally change the way that Councils prioritise their strategic objectives, with Climate Change now becoming a central driver **when considering the definition of 'sustainable'** growth within the area.
- 4.4 The new JCS and Local Plans will influence the scale and pattern of development over coming decades, defining development options which could include a focus in the existing urban area, expansion onto peripheral greenfield sites, the growth of new free-standing settlements or a focus on public transport corridors. Crucially, each is likely to result in different travel patterns – including mode and trip length - influencing carbon emissions. The need to support a move to **more sustainable and active travel (either 'less' or 'better', travel, and preferably both) is** therefore likely to become a central requirement of the new JCS and Local Plans.
- 4.5 Although this study provides initial evidence in this regard, further work will be required to analyse the possible carbon impacts from more tightly defined growth allocations in the Assessment Areas. This work will need to reflect assumptions about average trip lengths for off-site journeys, the mode split achieved for these journeys, per-km emissions by travel mode, and the extent that different scales of growth might influence the scope for a larger number of trips to be internalised within new growth locations (e.g. based on co-delivery of key services and community facilities).

- 4.6 Further detailed engagement will also be required with Gloucestershire County Council and the transport providers collectively to identify the potential to invest in rail, bus and bicycle infrastructure. It will be important to understand the potential for significant public investment in these respective networks and, if this is to be provided, then the criteria for securing such public investment so that the development options most likely to secure this investment can be identified.
- 4.7 Other key considerations in the selection of the most appropriate locations for growth will include:
- conserving and enhancing the natural, built and historic environment etc.
 - meeting local housing and job requirements including improving affordability.
 - supporting a sustained and resilient economy.
 - enabling good design bringing benefits for existing and new communities.

Green Belt

- 4.8 For the purpose of this study, Green Belt has not been treated as a constraint to development. If as part of the identification of development options, consideration is given to the potential release of Green Belt land, the JCS and Local Plans will need to consider **the 'exceptional circumstances'** for release of Green Belt land. Paragraphs 136 and 137 of the NPPF (2019) state that:

"Once established, Green Belt boundaries should only be altered where exceptional circumstances are fully evidenced and justified, through the preparation or updating of plans. Strategic policies should establish the need for any changes to Green Belt boundaries, having regard to their intended permanence in the long term, so they can endure beyond the plan period. Where a need for changes to Green Belt boundaries has been established through strategic policies, detailed amendments to those boundaries may be made through non-strategic policies, including neighbourhood plans."

- 4.9 Before concluding that exceptional circumstances exist to justify changes to Green Belt boundaries, the JCS authorities, Stroud District and Forest of Dean District must be able to demonstrate that it has examined fully all other reasonable options for meeting its identified need for development. This will be assessed through the examination of its strategic policies, which will take into account the preceding paragraph, and whether the strategy:
- a) makes as much use as possible of suitable brownfield sites and underutilised land;
 - b) optimises the density of development in line with the policies in chapter 11 of this Framework, including whether policies promote a significant uplift in minimum density standards in town and city centres and other locations well served by public transport; and
 - c) has been informed by discussions with neighbouring authorities about whether they could accommodate some of the identified need for development, as demonstrated through the statement of common ground.
- 4.10 Case law, also indicates, as established in **Calverton Parish Council v Greater Nottingham Councils & others (2015)**, that **planning judgments setting out the 'exceptional circumstances' for the amendment of Green Belt boundaries require consideration of the 'nature and extent of harm' to the Green Belt and 'the extent to which the consequent impacts on the purposes of the Green Belt may be ameliorated or reduced to the lowest reasonably practicable extent'**. An extract from the Inspectors judgement is set out below:

"the planning judgments involved in the ascertainment of exceptional circumstances in the context of both national policy and the positive obligation located in section 39(2) should, at least ideally, identify and then grapple with the following matters: (i) the acuteness/intensity of the objectively assessed need (matters of degree may be important); (ii) the inherent constraints on supply/availability of land prima facie suitable

for sustainable development; (iii) (on the facts of this case) the consequent difficulties in achieving sustainable development without impinging on the Green Belt; (iv) the nature and extent of the harm to this Green Belt (or those parts of it which would be lost if the boundaries were reviewed); and (v) the extent to which the consequent impacts on the purposes of the Green Belt may be ameliorated or reduced to the lowest reasonably practicable extent.”

- 4.11 If the decision is taken to progress with sites within the Green Belt, further work will be required to:
- demonstrate that there exceptional circumstances for development within the Green Belt;
 - ensure that all other reasonable options for meeting its identified need for development have been considered; and
 - assess the harm to the Green Belt and ensure it has been reduced to its lowest practicable extent.
- 4.12 In light of the recent updates to the NPPF, and NPPG, if land is released from the Green Belt, the Plan will also need to identify measures to enhance the remaining Green Belt (ie for landscape biodiversity, access and recreation).

Sustainability Appraisal

- 4.13 In identifying and assessing the potential strategic opportunities for growth, this piece of evidence covers many of the same issues as Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) required for all Local Plans (environmental constraints, accessibility, deliverability, viability, etc.). It is important that the Local Plan making process embeds SA into its formulation. In particular, it should appropriately consider reasonable alternatives in selecting and refining options for inclusion in a Local Plan. This includes strategic options such as the quantum of growth to be planned for and the spatial strategy for accommodating growth, as well as detailed issues such as the specific sites to be allocated for development. All options must be sufficiently distinct and detailed so that they can be appraised to the same level of detail and a meaningful comparison of their effects can be made.
- 4.14 Once reasonable options have been identified they will need to be subjected to SA so that their likely effects can be compared and used to inform the selection of preferred options. As part of this process the SA will make recommendations as to how policy options might minimise significant adverse effects and maximise significant positive effects. Once the SA of options has been carried out and preferred policy options have been selected, the SA must record the **plan-makers’ reasons why the rejected options were not taken forward** and the reasons for selecting the preferred approach in light of the alternatives.
- 4.15 The SA findings are not the only factors considered when a) rejecting options and b) determining a preferred option to take forward in a Local Plan. In fact, sometimes, the SA may find that alternative options perform relatively similarly in sustainability terms (albeit for different reasons). Factors such as public opinion, deliverability, conformity with national policy and other evidence like this study can and should also be taken into account by plan-makers when selecting preferred options for a Local Plan. Again, it will be important the SA takes account of the Climate Change Agenda in the SA framework in the form of a headline climate change SA objective.
- 4.16 This study can be used as the foundation of the SA process, firstly by helping to identify the potential reasonable alternatives to be considered by the Plan but also the key parameters which will be used to assess the options for long term growth within the Plan area and beyond.

APPENDIX 1: Consultation Responses to Method Statement

APPENDIX 2: Assessment Area Proformas

APPENDIX 3: Methodology for Historic Environment Assessment

APPENDIX 4: Landscape Assessment Criteria and Broad Area Proformas

APPENDIX 5: Methodology for Transport Accessibility Assessment

APPENDIX 6: Viability Assessment Report