

# **Daventry Infrastructure Studies**

## Main Report

January 2009



**WNDC**  
[www.wndc.org.uk](http://www.wndc.org.uk)



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# Summary of recommendations

## Context and brief

URS has been appointed by the West Northamptonshire Development Corporation (WNDC) to assist in the preparation of the Daventry Infrastructure Studies (DIS).

This report constitutes the Main Report of the DIS and is an overview of the output of the work undertaken. It is accompanied by five Technical Reports, which relate to the different investigated infrastructure elements, namely Transport, Green Infrastructure, Sewage and Water, Utilities and Social Infrastructure.

The DIS will form part of WNDC's evidence base and will be a material consideration that will help to inform decisions about the future enlargement of the town and the infrastructure required to support that growth. It should also be of assistance to Daventry District Council in considering planning applications that fall outside of the WNDC Urban Development Area (UDA) or below the threshold for WNDC planning decisions within it. The DIS will also be used in the development of WNDC's infrastructure delivery programme (IDP) for West Northamptonshire, which sits within WNDC's emerging Regeneration Framework.

Based on the growth articulated in the RSS for the town of Daventry itself (to grow towards a population of 40,000<sup>1</sup> by 2021 and potentially up to around 45,000 by 2026), and potential increases up to the original objectives for the DIS have been progressively refined through engagement with key stakeholders. The objectives are:

- To identify the likely infrastructure investment priorities for Daventry required to deliver long term sustainable growth as set out in the Regional Spatial Strategy, how and when they could be delivered
- To evaluate the current infrastructure constraints and opportunities for development in the medium to longer term (i.e. to 2021) and having regard to development up to 2026 and beyond
- To consider infrastructure investment scenarios (but not to allocate land for development or predetermine planning decisions)
- To consider how infrastructure could be phased alongside growth
- To allow consideration of the relationship between infrastructure investment and growth proposals for the town to assist in making planning decisions in the short to medium term
- To provide an evidence base which may be used by other local planning authorities to support the plan making process for Daventry town as a whole

The preparation of the DIS entailed:

- A review of the relevant policy context to assist the identification of the critical principles for the provision of infrastructure
- An assessment of the existing extent of infrastructure provision and capacity to identify any constraints or opportunity for future growth
- An assessment to determine the infrastructure requirements of the town's growth
- The identification of infrastructure scenarios and consideration of the consequences for potential development
- The completion of a SEA/SA to inform the development of the DIS
- The identification of an Infrastructure Investment Programme
- An iterative review of the process undertaken following preliminary conclusions
- Consideration of specific infrastructure aspirations by DDC

<sup>1</sup> Please note that this figure refers to the town of Daventry and not the District of Daventry. This report chiefly concerns the town of Daventry, as defined by the contiguous urban area and limits of the existing town and any future urban extensions.

## Principal conclusions

The conclusions below are summarised from Section 5 of this report and comprise the principal conclusions drawn from the studies in respect of the infrastructure requirements necessary for Daventry's sustainable growth.

### Transport

- Transport impact and demand for associated infrastructure is highly dependant on the locational interrelationship between existing and proposed facilities and ultimately the development land-use mix of a specific site and overall cumulative impact
- Subject to careful assignment of growth, Daventry's internal road infrastructure could accommodate the forecast growth without significant modification, provided adequate sustainable transport alternatives and demand management measures are in place to reduce journeys by private motor vehicles;
- Specific details for the town can only be finalised once preferred development options are confirmed and tested, however the need for local junction improvements on main corridors is evident amid limited road widening and link improvements, primarily to improve public transport reliability
- The strategic trunk road network is not sensitive to development locations, although proposed growth will impact on specific junctions to include A5 junctions with the A45, A428, Norton Road, B4036 Long Buckby Road and the junction with Daventry Road/ B5385 north east of Welton;
- The A5/ A45 junction at Weedon is the most contentious as it is already at capacity and faces severe congestion in the face of the predicted expansion of Daventry town. The level of improvement required is significant and may not be appropriate for central Weedon, though the potential for the Flore-Weedon bypass may negate the need to improve this junction;
- Resolution of the Flore-Weedon bypass issue and identification of specific improvements required for the A45 between Daventry and Weedon are subject to further investigations. In spite of this it is likely that both will be required before 2021 to accommodate growth
- Outside the main urban area local roads' infrastructure improvements are required for:
  - A45 bypass of Weedon and Flore;
  - A45 between Daventry and Weedon;
  - A361 Daventry to M40 to discourage through traffic and limit impact on villages of Byfield, Chipping Warden and Wardington;
  - Daventry to A5 and onwards to Long Buckby to cater for growth and improve access to the rail network, especially for sustainable travel modes;
- Depending on further modelling work there is also likely to be the need for route improvements for:
  - A45 South and South East of Daventry
  - A361 north of Daventry to Kilsby;
- The A45 corridor east of Daventry is particularly sensitive to change and would require significant investment in highway capacity to support growth alongside it (e.g. dualling) supplemented by suitable measures to ensure sustainable linkages with the existing town. Any development south of the A45 will require suitable sustainable linkages across it to include at-grade crossings for pedestrians and cyclists with effective arrangements for the movement of buses
- Overall sustainable travel behaviour needs be encouraged and maintained and it is essential to provide highly convenient access to services and facilities that cater for non-car modes, with networks provided that are fully accessible, effective and thoroughly integrated with the existing fabric of the town to satisfy local travel demands;
- Use of the private car should be seen as the least convenient/ least desirable mode, especially for local journeys;
- Cross-town integration of direct public transport services will be essential, with high quality and frequent services sustaining development;
- The current level of public transport services is insufficient to support the target mode share for sustainable modes in some corridors and enhancement will be required to support development and achieve target modal share in the form of enhanced frequencies and services, new vehicles, bus priority measures and enhanced bus stop infrastructure and marketing;
- Improved interurban bus transport to link the town with neighbouring centres is essential, especially for journeys involving Northampton and possibly Coventry, Solihull and Birmingham, Leamington Spa and Warwick, Towcester and Milton Keynes;
- Daventry's public transport bus interchange needs improved capacity to accommodate the proposed volumes of bus passengers by 2021;
- Strong emphasis should be placed on demand management measures and smarter choices, including travel planning
- Sustainable transport infrastructure and initiatives should be phased to coincide with those of development to ensure the required measures are in place before developments (residential or otherwise) become inhabited

### Green infrastructure and landscape

- a) The levels of growth through urban extensions provide opportunities to expand and enhance the green infrastructure network in the town within the proposed growth locations
- b) The growth proposals encompass potentially sensitive areas for green infrastructure and any development must incorporate appropriate mitigation to minimise adverse impact
- c) Identified Strategic GI networks should be recognised in the master planning and site design of new developments in order to contribute to the delivery of multifunctional green space and structural landscape
- d) The outcomes of the PPG17 study currently underway should be incorporated into the proposals for growth and proportionate contributions to the establishment of appropriate green infrastructure should be sought from new development
- e) The provision of appropriate green infrastructure should be encouraged through an integrated approach and, where appropriate, in conjunction with any plans held by the responsible authority
- f) Further investigation should be undertaken of the potential LNRs identified and in conjunction with the PPG17 assessment consideration given to whether areas appropriate for LNRs (local nature reserve) should be sought in addition to the existing LNR at Daventry Country Park
- g) Continued engagement with The Northamptonshire Wildlife Trust and Natural England is required in the process of identifying and agreeing to proposals for any LNRs, additional to the existing LNR at Daventry Country Park, to ensure that they fully meet strategic National and Local BAP targets and opportunities
- h) Seek opportunities, including through contributions from new development, to achieve the aspiration to extend the Daventry Country Park to the north of the Daventry Reservoir extending to the Grand Union Canal
- i) Seek opportunities, including through contributions from new development to achieve the aspiration to enhance the existing Borough Hill Country Park as a town wide facility
- j) In the event of development occurring in the North West quadrant, secure contributions from new development to achieve an extension to the existing linear Northern Valley Park around the northern perimeter and eastern fringes of an expanded town
- k) Seek opportunities for the parks to provide pedestrian connections and biodiversity habitat links around the eastern and northern perimeter of the town
- l) Seek the incorporation of Open Space and GI projects in the emerging LDF
- m) That proposed developments incorporate opportunities for the delivery of biodiversity habitat links and enhancement, and the expansion of existing habitat reservoirs, and woodland priority zones
- n) Seek the delivery of a town wide Sustainable Movement Network that will include provision for sustainable patterns for walking, cycling, and where appropriate, horse riding, though integration with the town wide transport plan
- o) Seek provision of / or contribution to the establishment / completion of the following routes, which can be considered as the key elements of a Sustainable Movement Network for the town
  - I. Daventry to Braunston Link, utilising the disused railway line;
  - II. Town circular route commencing at John of Gaunt's Castle / Burnt Walls and proceeding across Borough Hill to the Grand Union Canal then south westwards to Kentle Wood
- p) Ensure the provision of structural landscape areas from developers as a requirement of growth

### Water and Sewage

#### Water

- a) Availability of water does not appear to be a constraint to growth in Daventry at the present time
- b) Recent expansion of Wing Water Treatment Works (WTW) is key to meeting the growth in Daventry, as well as serving Peterborough, Corby, Kettering, Wellingborough and Milton Keynes
- c) Reinforcement of the strategic network upstream of Daventry will be required irrespective where growth occurs in and around Daventry
- d) AWS believe a reasonable estimate for utilising the full capacity at Wing is approximately mid 2020's
- e) Beyond the mid 2020's, there are a number of schemes proposed in the AWS draft Water Resource Management Plan to resolve any deficit in the Ruthamford Water Resource Zone. These include extension of Clapham WTW, recommissioning of Foxcote and/or Pulloxhill and re-use of Flag Fen

#### Sewage

- a) Sewage treatment for Daventry is provided by the Whilton Sewage Treatment Works (STW)
- b) Whilton STW is currently at capacity and cannot facilitate further growth in its existing condition
- c) AWS have stated they are currently evaluating sewage treatment alternatives for accommodating additional growth and these will need to be resolved for new homes to be constructed
- d) The capacity of the sewer collection network will be evaluated in March 2009 through limited flow surveys of the trunk sewer
- e) Developments proposing to use alternative sewage treatment infrastructure are only acceptable in exceptional circumstances with the approval of the Environment Agency

### Utilities

- a) Consideration should be given to focusing development in the east of Daventry in order to both avoid an early day requirement for a new primary substation and limit the consumption of natural resources, given that the new development zone may potentially be served by a single new installation only
- b) At least one new primary substation (33kV/11kV transformation point) will be required within sufficient proximity of the load centre (i.e. the new development area)
- c) The need for a new primary substation can be deferred until 2000 homes have been built from a baseline year of 2007 by favouring development in locations that can be served by the Daventry BSP Primary substation located in the vicinity of Norton Road, which has further capacity for circa 2,000
- d) Development anywhere other than the east side of the town could trigger a requirement for not only an additional primary substation, but also one much sooner, as Braunston primary substation is at capacity
- e) Options for securing sufficient capacity in the network to cope with the surpassing of the 100MVA trigger point should be developed soon in order to ensure sufficient time is allowed for design, planning, and approval of the required infrastructure works
- f) Involve Central Networks when updating the development plan and ensure that they are continually updating their planning process
- g) Proposals for Urban extensions should give consideration to ongoing technologies in line with the Daventry District Council review into CHP so that benefits can be secured which may offer appropriate low carbon emission benefits and offset the need or extend the timing of required new infrastructure
- h) Development in the east of Daventry would take advantage of the incoming connection point to the northeast of Daventry
- i) Engage with BT and other telecommunication providers to ensure effective planning for telecommunications in the town and growth locations

### Social Infrastructure

- a) Early phases of development should make use of the existing spare capacity (particular opportunities exist in the southern tip of the north east sector going (towards the B4036 corridor) and within the south west sector)
- b) A new secondary school will be required to be provided and phased to meet the needs of new urban extensions
- c) At least 3-4 new primary schools will be required to accommodate the levels of growth provided for within the town
- d) Based upon NHS optimums, a total of 11.76 new GP's and related surgery space will be required to service the growth of the town by approximately a further 20,000 people.

# 1 Introduction

## 1.1. Background

- 1.1.1. URS has been appointed by the West Northamptonshire Development Corporation (WNDC) to assist in the preparation of the Daventry Infrastructure Studies (DIS).
- 1.1.2. The DIS examines the infrastructure requirements for growth, and the implications of that growth in the context of a series of infrastructure-determined development scenarios. The DIS makes use of the growth target articulated in the RSS for the town to grow towards a population of 40,000<sup>2</sup> by 2021. Further, the proposed modifications to the RSS published by the Secretary of State in 2008 indicate continued growth in the district to 2026. The DIS therefore examines infrastructure likely to be required beyond 2021 in order to arrive at a set of conclusions on the infrastructure requirements of growth, set against a growing population of more than 40,000.
- 1.1.3. The DIS will form part of WNDC's evidence base and will be a material consideration that will help to inform decisions about the future expansion of the town and the infrastructure required to support that growth. The DIS will also be used in the development of WNDC's infrastructure delivery programme for West Northamptonshire, within the WNDC Regeneration Framework.
- 1.1.4. This is a wide-ranging multi-disciplinary task with five infrastructure elements under investigation. These are:

### Transport

- Encompassing infrastructure catering for all modes of transport including walking, cycling, public transport, private motor vehicles and freight

### Green Infrastructure

- Encompassing all of the environmental resource at the strategic scale comprising landscape character and visual amenity, biodiversity and cultural heritage, and
- the wider networks and interrelationships of strategic green space, biodiversity and sustainable movement

### Sewage and Water

- Encompassing infrastructure required for the provision of potable water and wastewater disposal services

### Utilities

- Encompassing infrastructure related to the provision of electricity, gas and telecommunications

### Social Infrastructure

- Encompassing (for the purposes of the DIS) social infrastructure related to the provision of education and health services

- 1.1.5. This report has been chiefly prepared by URS Corporation Ltd, in conjunction with Integrated Services and Utilities Ltd, LDA Design and REDscape Architecture & Urbanism. Daventry District Council (DDC), Northamptonshire County Council (NCC), the River Nene Regional Park Community Interest Company (RNRP), the Highways Agency and various statutory and non-statutory service providers have also assisted in the development of the DIS.

## 1.2. Scope

- 1.2.1. This report constitutes the **Main Report** of the DIS and is an overview of the output of the work undertaken in pursuit of the DIS. It is supported by five **Technical Reports** that provide the detailed assessment and conclusions on the infrastructure elements noted above.
- 1.2.2. The DIS is the product of various investigations including literature and policy reviews, desktop reviews of information compiled by other agencies that focus on the provision of the elements of infrastructure under consideration and input from the various government authorities, community interest companies and statutory and non-statutory service providers. A further critical input to the DIS has come from information about potential development sites taken from numerous sources including previously completed studies, existing planning applications and information provided by WNDC and the Local Authorities officers.
- 1.2.3. The overall purpose of the DIS is to assist WNDC in making growth decisions by improving its understanding of the issues affecting growth for the areas surrounding the town of Daventry.
- 1.2.4. Accordingly the overall scope of this report is:
- To provide an explanation of the methodology followed in the production of the DIS
  - To provide an overview of the policy context relating to infrastructure provision for the types of infrastructure being considered for the purposes of the DIS
  - To outline the key considerations to be taken into account in relation to infrastructure provision with respect to each element of infrastructure
  - To summarise the key findings of the baseline infrastructure assessment
  - To summarise the findings of the infrastructure requirements assessment
  - To identify where appropriate a potential infrastructure delivery scenario based upon the investigations
  - To headline the opportunities and constraints affecting the provision of infrastructure for Daventry's growth and the subsequent implications and suggestions for the development of infrastructure-based development scenarios where these can be defined
  - To identify, where possible, a schedule for proposed infrastructure investment associated with growth proposals for the town and to provide an associated set of recommendations

<sup>2</sup> Please note that this figure refers to the town of Daventry, and not the District of Daventry for which housing targets are set out in MKSM Northamptonshire SRS Policy 1: The Spatial Framework. (See Appendix A, para. A.30) This report chiefly concerns the town of Daventry, as defined by the contiguous urban area and limits of the existing town and any future urban extensions

## 1.3 Report Framework

1.3.1. This **DIS Main Report** is presented in the following format:

- Chapter Two provides an overview of the methodology followed during the preparation of the DIS including the key principles underpinning the consideration of future infrastructure
- Chapter Three summarises the baseline infrastructure findings for each of the broad infrastructure types under investigation
- Chapter Four outlines the findings of the Infrastructure Requirements Assessment for each of the types of infrastructure
- Chapter Five summarises the key conclusions, implications for phasing and critical recommendations for the provision of infrastructure and interpretation of the results of the DIS
- Chapter Six concludes the document by setting out a proposed Infrastructure Investment Schedule to deliver sustainable growth for Daventry

1.3.2. For convenience, supporting policies, data and relevant information referenced in the report are presented as **Appendices**, including:

- Appendix A contains an overview of the relevant policy context
- Appendix B contains a more detailed review of planning policy and other strategy documents with specific reference to each of the infrastructure elements
- Appendix C contains the Dwelling and Population Model, including the land use budget used consider Daventry's expansion over time to 2026
- Appendix D contains the figures and Plans indicating the pattern of sustainable infrastructure provision based upon the policy objectives and technical studies

## 2 Methodology

### 2.1. Introduction

- 2.1.1. The DIS has been produced in accordance with an initial brief received from WNDC. This brief in turn had been developed and consulted upon in mid-2007 by WNDC and has been developed further as the course of the project progressed following consultation and engagement with partners. The views of several major applicants, who were in discussion with WNDC regarding existing or potential planning applications for development in and around Daventry, were also canvassed when the work was commissioned.
- 2.1.2. The objectives of the DIS, have been refined and are:
- 1 To identify the likely infrastructure investment priorities for Daventry required to deliver long term sustainable growth as set out in the regional spatial strategy, how and when they could be delivered
  - 2 To evaluate the current infrastructure constraints and opportunities for development in the medium to longer term (i.e. to 2021) and having regard to development up to 2026 and beyond
  - 3 To consider infrastructure development scenarios (but not to allocate land for development or predetermine planning decisions)
  - 4 To consider how infrastructure could be phased alongside growth
  - 5 To allow consideration of the relationship between infrastructure investment and growth proposals for the town to assist in making planning decisions in the short to medium term
  - 6 To provide an evidence base which may be used by other local planning authorities to support the plan making process for Daventry town as a whole

### 2.2. Background and Status of the DIS

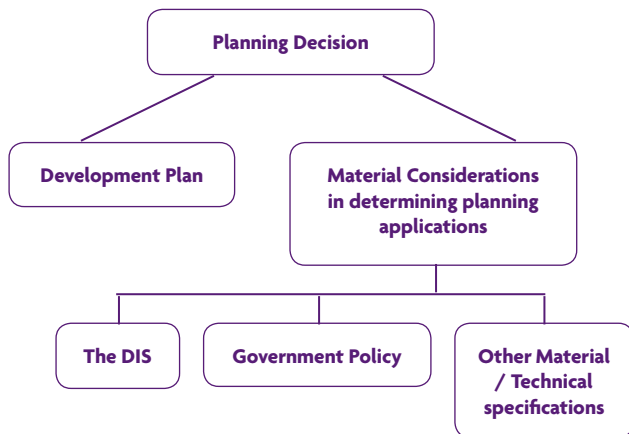
- 2.2.1. As an Urban Development Corporation, WNDC's statutory purpose is defined under S136 (1) of the Local Government Planning and Land Act 1980 to secure the regeneration of its area. Pursuant to this purpose S136 (2) provides the means by which it may achieve this object. This includes, bringing land and buildings into effective use, encouraging the development of existing and new industry and commerce, creating an attractive environment and ensuring that housing and social facilities are available to encourage people to live and work in the area. Further, the Secretary of State has determined that WNDC should be a "Local Planning Authority" for certain planning decisions under Part III of the Town and Country Planning Act 1990 (SI 2006/616).
- 2.2.2. As the development control authority for strategic applications in the Daventry Urban Development Area (UDA), WNDC is required to make planning decisions in accordance with the development plan unless material considerations indicate otherwise<sup>3</sup>. The development plan currently consists of the Regional Spatial Strategy (RSS8) together with the "saved" policies of the Daventry Local Plan and Northamptonshire County Structure Plan. In time, the Local Plan will be superseded by the West Northamptonshire Joint Core Strategy (the Joint Core Strategy) and the related LDDs and SPDs.
- 2.2.3. Given its statutory purpose, in the absence of an up to date local development documents, WNDC has therefore commissioned a series of infrastructure studies to assist in understanding the infrastructure implications of the growth ahead of making planning decisions. The DIS is one part of WNDC's emerging Regeneration Framework<sup>4</sup>. It will not be part of the development plan and will not allocate land for development. Its purpose is to identify infrastructure constraints and opportunities leading to a fuller understanding of the likely infrastructure investment priorities for Daventry. In turn this will enable a better understanding of the consequences of infrastructure in the context of planning applications for the enlargement of the town. The information within the DIS is therefore be capable of being given weight as a material consideration by WNDC and other authorities in making planning decisions.
- 2.2.4. Delivering sustainable regeneration and growth of Daventry requires consideration of the most sustainable pattern of future development. The pattern of development will be shaped by physical considerations regarding character, design, layout etc and by the requirements for investment including transport, social infrastructure, green infrastructure, water/sewerage infrastructure and telecommunications. In the absence of an up-to-date local development plan, the DIS will help WNDC and other decision makers to understand the necessary infrastructure priorities and these implications for development decisions both individually and cumulatively. This understanding can also be used to help inform planning conditions and the requirements for infrastructure that need to be provided for through S106 planning obligations associated with new development.

<sup>3</sup> Section 38(6) Planning and Compulsory Purchase Act 2004

<sup>4</sup> A Decision Document on the scope of Development Control Powers to be conferred on the West Northamptonshire Development Corporation - ODPM (March 2006).

- 2.2.5. Planning decisions are to be made in accordance with the development plan policy unless material considerations indicate otherwise. The findings within the DIS and other non development plan policies can be material considerations that may be given weight as there are no up to date site specific development plan for the area. Figure 2-1 illustrates the relationship between the Development Plan, non-development plan planning policy, material considerations, the DIS and arriving at material considerations relevant in the determination of a planning application. -instate]
- 2.2.6. The DIS does not, and is not intended to cover all issues that a planning authority needs to consider in determining a planning application. It is not a development plan or a programme for development. Whilst therefore it has been considered against the criteria for sustainability appraisal and WNDC has consulted on such criteria. A formal SA/SEA is not required.

Figure 2-1 The relationship between the DIS and planning policy in arriving at the material considerations relevant to a planning decision (to be made by WNDC)



### 2.3. Stages of Work

#### Policy and Context Review

2.3.1. The first stage of work involved a detailed review of the policy context, relating to sustainable development and also to infrastructure defined as transportation, green infrastructure and landscape, sewage and water, utilities, and social infrastructure. The key output of this was to assist in the identification of the key principles underpinning infrastructure provision and growth.

#### Baseline Infrastructure Assessment

2.3.2. The second stage of work concentrated on establishing an understanding of the existing extent of infrastructure provision (i.e. the extent and capacity of the transport network, green infrastructure assets, utilities networks, etc) and also on the demand for such transportation, water and sewage, etc.

2.3.3. The baseline stage of work included:

- Examining the existing conditions and capacity within each of the respective infrastructure networks, and
- reviewing any potentially forthcoming infrastructure projects / initiatives
- Summarising any constraints and opportunities coming out of the baseline review

#### Infrastructure Requirements Assessment

2.3.4. This stage involved identifying the infrastructure requirements associated with the RSS (MKSM SRS) proposals for Daventry to grow towards a population of 40,000 and beyond. It was undertaken through consultation with the relevant service providers and statutory authorities including Daventry District Council, Northamptonshire County Council, the Highways Agency, River Nene Regional Park Community Investment Company, The Wildlife Trust, Anglian Water Services, Central Networks, National Grid, British Telecom, and the Northamptonshire Primary Care Trust.

2.3.5. In part, the Infrastructure Requirements Assessment was carried out on a sector-by-sector basis. This involved dividing the town into four quadrants, plus an additional sector for the town centre and analysing the sectors in turn in order to understand if there were any opportunities or limits to the expansion of infrastructure in any particular sector. This stage of work also involved traffic modelling to identify the implications of growth for the local and trunk road network.

#### Identification of sustainable Infrastructure Strategies and the implications for town expansion for each element of Infrastructure

2.3.6. The identification of the infrastructure requirements, together with the infrastructure provision principles, set the scene for the identification of sustainable patterns for infrastructure provision for each element of infrastructure. In turn, this allowed for a review of development scenarios to be derived based solely upon infrastructure.

#### Undertaking SEA / SA

2.3.7. 2.3.7 A further stage of work was the undertaking of a non statutory SEA / SA as an overview to the conclusions of the DIS. For consistency with other similar types of process, this has been conducted in accordance with the provisions outlined in European Directive 2001/42/EC transposed by the Environmental Assessment of Plans and Programmes Regulations 2004 (the 'SEA Regulations').<sup>5</sup>

2.3.8. Whilst the DIS is not considered to be subject to the Directive requirement for SEA, it was decided that it would be helpful to carry out the process as a means of validating the findings from the respective studies and ensuring that environmental, social and economic considerations could be considered during the preparation, and future use, of the DIS.

<sup>5</sup> Office of the Deputy Prime Minister, 2005. Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents.

### Identification of an Infrastructure Investment Timetable

- 2.3.9. A final stage of work has been the preparation of a preliminary list of infrastructure investment priorities related to key pieces of infrastructure required for growth. The list of priorities sets out the trigger points for essential infrastructure investment both in terms of a population and dwelling figures, and also an indicative date based upon RSS housing trajectory. Accordingly, if growth proceeds at a quicker, or slower, pace than forecast in the RSS, this will impact upon the timing of infrastructure in the schedule.

### Consultation on the DIS

- 2.3.10. A formal consultation on the DIS including the technical studies and SEA was undertaken to ensure that the findings of the studies were understood and that key parties associated with delivery of the infrastructure were able to provide input and comment on the preliminary conclusions.
- 2.3.11. The approach to consultation has nevertheless evolved during the study. As a result, engagement during the baseline, infrastructure assessment and optimal development scenario identification stages of work has been driven by a more targeted approach. The following sections outline the key elements of consultation and engagement that have been undertaken.

### Consultation with Key Stakeholders

- 2.3.12. Early meetings were held with each of the major planning applicants. Similarly, the consultant team presented to the Daventry Partnership Board (comprising representatives of the WNDC, DDC and NCC) on the overall approach and timetable for the DIS.
- 2.3.13. This was followed by the distribution of a document summarising the method and approach towards the identification of an Optimal Infrastructure Scenario for Growth; in addition to an Optimal Infrastructure Growth Criteria Schedule.

### Direct Liaison and Communication

- 2.3.14. A further round of engagement has taken place in order to inform and facilitate the completion of the baseline and infrastructure requirements assessments.
- 2.3.15. This has included a series of one-on-one meetings between members of the consultant team and other organisations associated with the delivery of infrastructure, in addition to further liaison and written communication. The results of the engagement with the various authorities are reflected in the respective Technical Reports that accompany the DIS.

### SEA / SA Consultation

- 2.3.16. Consultation was undertaken in November 2007 on the Scoping Report for the non statutory SEA / SA. The document was prepared to outline the scope of the SEA / SA for the DIS and was issued to the three nominated statutory consultees<sup>6</sup> (the Environment Agency, Natural England and English Heritage), as well as DDC and NCC. The Scoping Report was also issued to nine local parish councils.
- 2.3.17. Consultees were given five weeks to respond from the issue of the Scoping Report and responses were received from the Environment Agency, Natural England, English Heritage, Daventry District Council and three parish councils; Weedon Bec, Norton and Long Buckby.

### Consultation during preparation of draft Technical Reports and DIS Main Report

- 2.3.18. Consultation on the draft versions of this Report, and the draft Technical Reports, has been conducted with the main objective being to check the accuracy of the information presented in the DIS.
- 2.3.19. The draft Technical Reports were issued to DDC and NCC in January 2008 and a meeting with officers of the two respective organisations was held immediately following. Comments from the Councils were received and, where warranted, appropriate amendments were made.
- 2.3.20. Consultation on the draft DIS Main Report with DDC and NCC was undertaken in March / April 2008. The document was distributed to DDC, NCC for review and comment. As with the Technical Report, comments were received from the Councils and, where warranted, appropriate amendments have been made.
- 2.3.21. The draft Technical Reports (with the exception of the Transport Technical Report) and the draft DIS Main Report were also distributed to the major planning applicants in March / April for their review and comment. Written comment was received from three of the applicants. These comments have been reviewed and, where warranted, changes have been made to both this Main Report and the Technical Reports.

<sup>6</sup> As normally referred to for the purposes of SEA / SA.

### Public Consultation - DIS Main Report and accompanying Technical Reports

- 2.3.22. Following receipt of feedback from DDC, NCC and incorporation of comments, final draft versions of the DIS Main Report and accompanying five Technical Reports were prepared for consultation covering a six-week period. During this time, the documents were provided to the DDC, NCC, relevant statutory and non-statutory service and infrastructure providers, relevant major planning applicants, and local parish councils via the WNDC web site. The documents were also made available to the general public for their comment and review, again via the WNDC web site.
- 2.3.23. At the same time, the non-statutory SEA / SA Final Report was made available alongside the above mentioned documents for consultation to the general public, as well as to the statutory consultees, DDC and NCC.

### Review of process for DIS

- 2.3.24. Following the formal and informal consultation processes and advice, throughout the DIS programme the project team has reviewed the scope and format of the DIS. This has led to some adjustments to the scope of the project and the presentation of reports, particularly in an attempt to clarify the role and status of the studies and to assist decision makers in identifying the weight that should be given to respective conclusions.
- 2.3.25. Of note, this final report on the DIS does not now seek to identify an “optimal” infrastructure strategy for the growth of Daventry, recognising the primary role of the planning process in determining such locations and the wide range of variables and site specific considerations that would apply to arrive at a definitive and robust conclusion. Moreover, the report does not seek to apply any “weight” to the conclusions in the studies around various forms of infrastructure, representations have identified this absence of weighting as a deficiency in the conclusions. This decision is deliberate. To assign weight would require WNDC to act as a policy maker and would require much more detailed study based upon site specific circumstances. In the absence of definitive site specific studies and any statutory role for WNDC in the development plan process, it was therefore considered that the weighting assigned to each conclusion would be a matter of balance that should be performed by the relevant statutory authority responsible for planning decisions at the time of that decision, having regard to all material planning considerations.

### Testing the respective planning applications for strategic fit against the sustainable Infrastructure Scenarios

- 2.3.26. Early in the development of the DIS an exercise was conducted to compare the initial conclusions around infrastructure with four strategic planning applications before WNDC for determination.
- 2.3.27. The advantage of this was twofold: first it allowed the WNDC to provide the applicants with a preliminary indication of the implications of the DIS to the planning applications; and second it provided an opportunity to consider the utility of the sustainable infrastructure development scenarios in light of the planning applications. The findings of these preliminary tests were shared with the developers ahead of the conclusion of the technical assessments.

## 2.4. Specific Infrastructure Initiatives

### Introduction

- 2.4.1. In accordance with the overall purpose and objectives of the DIS, the focus of the investigations into the infrastructure requirements has been on understanding what the necessary, or essential, infrastructure requirements are for the town's growth towards a population of 40,000 in 2021 and beyond. However URS and WNDC are aware of particular infrastructure proposals that are being pursued or reviewed by Daventry District Council<sup>7</sup>. These include:
- A town-wide Personal Rapid Transit (PRT) System
  - The Canal Arm Extension
  - Exploration of Combined Heat and Power (CHP) system(s)
- 2.4.2. The above proposals, if they were determined to be viable and cost effective might have implications for the infrastructure assessments made within the DIS. A PRT system may change the requirements for certain transport infrastructure and public transport services enhancements, while a CHP system may potentially have implications for the way in which utilities infrastructure, specifically for the supply of gas and electricity, is provided to meet the requirements of growth. In respect of the canal arm, the implications for GI are less certain although some adjustment of the GI local network and local requirements associated with mitigation/access may be required.
- 2.4.3. Where the infrastructure strategy has highlighted established alternatives, these are assumed to be the most appropriate means of addressing the infrastructure needs, based upon known costs and lower risks. The role of CHP or PRT in providing an alternative means of infrastructure delivery is outside the scope of the studies and would require further examination in the future to establish whether the technologies are better able to meet the identified infrastructure policy objectives, or costs or risks are demonstrated to be lower than the established technologies and systems.
- 2.4.4. Given that the DIS is to be used as a tool to both inform the determination of planning applications and to outline an infrastructure timetable it is incumbent upon WNDC to ensure that the infrastructure requirements identified are deliverable and that the risks, as well as the potential they offer to provide a solution to an infrastructure need, are fully known and understood. In this context, it is considered unreasonable, and unnecessary, for the DIS to make recommendations on items of infrastructure where the risks and costs are not yet fully known. More detailed comments on these three initiatives are to be found within the technical reports.

## 2.5. Conclusion

- 2.5.1. This chapter has sought to provide an outline of the rationale for the DIS and the methodology employed to undertake it. In doing so, the chapter has outlined the key features of the engagement processes that were followed and has also detailed the specific methodological issues and caveats encountered in respect of green infrastructure and landscape, utilities and social infrastructure during the preparation of the DIS.

<sup>7</sup> The items in question are all proposed within the Interim Daventry Masterplan produced by Daventry District Council and consulted upon in late 2007.

## 3 Sustainable infrastructure – key principles

### 3.1. Introduction

- 3.1.1. In order to establish a basis for the identification of the potential sustainable infrastructure strategies for Daventry the project team sought to identify a set of core principles with which infrastructure should be provided.
- 3.1.2. The principles below were identified following a review of the relevant general guidance and planning policies at the national, regional and local levels (see **Appendix A**) and also of policies that are specific to the elements of infrastructure under consideration (see **Appendix B**). They have also, particularly in the case of sewage and water and utilities, been developed on the basis of any relevant technical considerations<sup>8</sup>.
- 3.1.3. The result is a set of principles that set the scene for, and assist in the identification of, a sustainable infrastructure scenario in respect of the five types of infrastructure being examined by the Daventry Infrastructure Studies.

### 3.2. Policy Overview

- 3.2.1. The most suitable policy framework to apply to the DIS is considered to be that applying to planning matters in the UK, given the close relationship between infrastructure and development. Accordingly, it is useful to review briefly the overall context set by national and regional planning policy guidance. The key documents are examined in more detail in **Appendix A**, but two key documents provide an important overview that can be presented here in the body of this report.
- 3.2.2. PPS1 contains the Government's guidance setting out that sustainable development is to be the core principle underpinning planning. Accordingly, it is the context of this document, and the principles outlined within it, that the other national planning policy statements and guidance, regional planning policy and local development frameworks are prepared and adopted. Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1 is also of importance, not least because it states (second opening paragraph) that in case of differences from other PPSs it takes precedence, and (in paragraph 39) implies that planning applications not adhering to its principles should be refused.
- 3.2.3. The Milton Keynes and South Midlands Sub-Regional Strategy (MKSM SRS), sitting as part of the Development Plan for Daventry as part of the Regional Spatial Strategy, is one such document that must accord with PPS1 and the other national planning policy statement and guidance notes.

- 3.2.4. The MKSM SRS usefully distils the key elements of sustainable development. The principles in Strategic Policy 3 include:

- Designing attractive cities, towns and public places
- Promoting the highest standards of environmental performance, including all aspects of water resource management
- Ensuring good accessibility and providing better public transport
- Facilitating safe and convenient movement on foot and by cycle
- Reducing reliance on car based transport
- Maximising the opportunities afforded by growth to facilitate the regeneration of deprived communities
- Protecting, enhancing and increasing the Sub-Regions stock of strategic and environment assets
- Providing green infrastructure for existing and expanding communities, including access to green space that promotes healthy lifestyles and can be used for formal and informal recreation and educational purposes
- Ensuring that the countryside in and around towns is sensitively designed to assimilate urban extensions into the landscape and accommodate links to and from the wider countryside
- Providing the environmental (e.g. water supply and treatment) infrastructure in accordance with current deficits and additional demands
- Managing and reducing demand where appropriate (e.g. demand for water)
- Taking advantage of development opportunities for different scales or renewable energy in the Sub-Region
- Maximising the contribution of previously developed land to the Sub- Region's growth
- Ensuring improved community safety

- 3.2.5. It is these principles, overlain with the new priority given to tackling climate change in the Supplement to PPS1, together with a detailed examination of the technical issues related to transport, green infrastructure, water and sewage, utilities, and social infrastructure that provide the basis for the development of a sustainable infrastructure scenarios in respect of each type of infrastructure.

- 3.2.6. The following sections set out the principles for the provision of infrastructure that are relevant to each of the infrastructure subject areas.

<sup>8</sup> Initially the principles listed below were developed in the context of an Optimal Infrastructure Growth Criteria Schedule (OIGCS). The principles as they are presented below provides a simplified account of the principles underlying the OIGCS.

### 3.3. Transport

3.3.1. The following principles for transport infrastructure provision in Table 3-1 have been identified through the review of relevant planning policy.

Table 3-1: Transport	Policy Source
<p><b>Sustainable Travel:</b></p> <ul style="list-style-type: none"> <li>• More sustainable travel choices for people and freight</li> <li>• Improved accessibility by public transport, walking and cycling</li> <li>• A reduction in the need to travel, especially by car</li> </ul>	Supplement to PPS1; PPG 13
<p><b>Reduce the need to, and distances travelled by private car by:</b></p> <ul style="list-style-type: none"> <li>• Sequential development location selection, prioritising development sites in relation to existing services and facilities and sustainable travel opportunities</li> <li>• Provision of key services and facilities within or close to site</li> <li>• Providing layout and design that facilitates convenient walking, cycling and public transport accessibility</li> </ul>	PPG13; RSS; LTP; Joint LDF
<p><b>Mode shift (including freight transfer) through:</b></p> <ul style="list-style-type: none"> <li>• Provision of high quality alternative travel opportunities from development outset, which are viable in the longer term</li> <li>• Better integration with other modes</li> <li>• Pre-planned and deliverable infrastructure</li> </ul>	PPG13; 2004 White Paper; RSS8; RTS; TSFG Vision
<p><b>Well Connected:</b></p> <ul style="list-style-type: none"> <li>• Provides linkages by all modes and accessible for all</li> <li>• Internal to the development</li> <li>• Internal – external local</li> <li>• Internal – external sub-region and beyond</li> </ul>	RSS; LTP
<p><b>Improves and has regard to Road Safety:</b></p> <ul style="list-style-type: none"> <li>• Through design and layout</li> </ul>	RTS; LTP
<p><b>Better Transport Management:</b></p> <ul style="list-style-type: none"> <li>• Traffic – to improve flow, air quality, reduce accidents, congestion and delays</li> <li>• Asset – network and fleet maintenance to improve performance</li> <li>• Demand – to encourage mode shift and appropriate trip routing</li> </ul>	LTP; SP
<p><b>Integrated with other policy area aims and objectives,:</b></p> <ul style="list-style-type: none"> <li>• Regional economic, social and environmental strategies</li> <li>• Local Action Plans, Development Documents and strategies</li> </ul>	IRS; RSS8; RTS; LTP
<p><b>Protects and enhances Quality of Life/environment through:</b></p> <ul style="list-style-type: none"> <li>• Design - Layout and quality</li> <li>• Physical impact on air quality, noise and landscape</li> </ul>	2004 White Paper; TSFG; Supplement to PPS1

### 3.4 Green Infrastructure – Principles for Infrastructure Provision

- 3.4.1. The principles outlined in **Table 3-2** for green infrastructure have been divided into two categories.
- 3.4.2. The first category presents the principles that set out how green infrastructure in the landscape should develop in relation to the potential impacts of development.

- 3.4.3. The second category presents the principles that set out how a green infrastructure and landscape strategy should develop in relation to providing the green infrastructure requirements that arise as a function of the demand created by growth and development.

Table 3-2: Green Infrastructure and Landscape	Policy Source
<b>Principles relating to the potential impacts of development and environmental change:</b>	
<p><b>To protect and enhance the natural and historic environment:</b></p> <p>This principle promotes:</p> <ul style="list-style-type: none"> <li>• The maintenance and improvement of the local environment, and helping to mitigate the effects of declining environmental quality through positive policies on issues such as design, conservation and the provision of public space</li> <li>• The improvement of the built and natural environment in and around urban areas and rural settlements</li> <li>• The conservation and enhancement of wildlife species and habitats and the promotion of biodiversity</li> <li>• The preservation and enhancement of built and cultural heritage</li> </ul>	PPS1; PPS7; PPG15; RSS8; MKSM SRS
<p><b>To protect and conserve the character and quality of the countryside, open spaces and urban areas:</b></p> <p>This principle promotes:</p> <ul style="list-style-type: none"> <li>• The protection of the countryside for the sake of its intrinsic character and beauty, the diversity of its landscapes, heritage and wildlife, and the wealth of its natural resources so that it may be enjoyed by all</li> <li>• Development that is well designed, is in keeping and scale with its location, and is sensitive to the character and local distinctiveness of the countryside, open spaces and urban areas</li> </ul>	PPS1; PPS7; PPG15; RSS 8; MKSM SRS
<p><b>To realise opportunities for enhancing green infrastructure alongside growth:</b></p> <p>This principle can be achieved through:</p> <ul style="list-style-type: none"> <li>• Meeting locally derived standards for the provision of open space, sport and recreational infrastructure and facilities through the adoption and delivery of the findings of the Open Space / PPG17 Audit and Strategy</li> </ul>	PPS1; PPG17; RSS8; MKSM SRS; DDC Saved Local Plan Policies and emerging LDF;
<p><b>To deliver a co-ordinated network of environmental (green) infrastructure:</b></p> <p>This principle can be promoted through:</p> <ul style="list-style-type: none"> <li>• Linkage into a Biodiversity Network (See Appendix D, Figure 19) identified through the Northamptonshire Green Infrastructure Strategy and applied at a settlement level to Daventry, with the protection and enhancement of habitat reservoirs and the linkage of these reservoirs through the strengthening and creation of habitat networks</li> <li>• Establishment of an integrated sustainable movement network through the consolidation and further development of a network of green routes within, surrounding and linking out from the town into the wider countryside with a hierarchy of interconnected routes</li> <li>• Establishment of an enhanced town and peri-urban strategic landscape infrastructure including the conservation, enhancement and extension of natural green spaces, including woodland areas</li> </ul>	PPS1; PPS7; PPS9; PPG17; RSS8; MKSM SRS; MKSM Green Infrastructure Guide

### 3.5 Sewage and Water – principles for infrastructure provision

3.5.1. The following principles have been identified for the provision of water and sewage infrastructure:

Table 3-3: Sewage and Water	Policy Source
<p><b>Take account of future growth:</b> This principle relates to system design in regard to:</p> <ul style="list-style-type: none"> <li>• Pipe sizing</li> <li>• Routing</li> <li>• Pump station scalability</li> <li>• Environment capacity</li> </ul>	(Key Technical Consideration)
<p><b>To ensure effective protection of the environment:</b> This principle is to be achieved by:</p> <ul style="list-style-type: none"> <li>• Foul sewer and storm sewer design in accordance with provisions set by local utility provider</li> <li>• Avoiding any adverse impacts on sensitive environments from water and sewer infrastructure, by for instance, laying infrastructure along existing roadway easements</li> </ul>	PPSI; Supplement to PPS1; PPS23; RSS8; MKSM; SRS; DDC LDF (inc. emerging DPDs)
<p><b>To ensure the prudent use of natural resources:</b> This principle is to be achieved by:</p> <ul style="list-style-type: none"> <li>• Minimizing the need to provide pumping</li> </ul>	PPSI; Supplement to PPS1;
<p><b>Manage and reduce water demand where appropriate:</b> This principle is achieved by:</p> <ul style="list-style-type: none"> <li>• Managing and reducing / or minimising water demand where appropriate, so as to contribute to a target saving of 25% on water consumption for new housing per property set out in the MKSM SRS</li> </ul>	RSS8; MKSM; SRS
<p><b>Meet the guidelines set out in PPS25:</b></p> <ul style="list-style-type: none"> <li>• Stormwater management must meet the guidelines set in PPS25</li> </ul>	PPS25
<p><b>Minimising excessive costs and any undue stakeholder disturbance</b></p> <ul style="list-style-type: none"> <li>• These twin principles seek to avoid unnecessary costs, disturbance of stakeholders in order to help ensure the efficient (cost and time-wise) provision of infrastructure</li> </ul>	

### 3.6 Utilities (Electricity, Gas and Telecommunications) – Principles for infrastructure provision

3.6.1. The core principles that have been identified for the provision of utility infrastructure are:

Table 3-4: Utilities	Policy Source
<p><b>Take account of potential future growth:</b> The most significant principle for the provision of utilities infrastructure is to ensure that the design takes into account potential and reasonable future growth; including:</p> <ul style="list-style-type: none"> <li>• The sizing of strategic and local mains</li> <li>• Routing</li> <li>• In considering timeframes – particularly to reduce or avoid the need to replicate previous works</li> </ul>	Technical Considerations
<p><b>To ensure effective protection of the environment:</b> This principle can be achieved by:</p> <ul style="list-style-type: none"> <li>• Avoiding any adverse impact upon sensitive environments or landscapes, by for instance, laying infrastructure along existing highway or other infrastructure corridors</li> <li>• In providing for the homes, jobs, services and infrastructure needed by communities, and shaping the places where they live and work, securing the highest viable resource use and energy efficiency and reduction in (greenhouse gas) emissions</li> </ul>	PPSI; Supplement to PPS1; PPS22; RSS8; MKSM SRS; DDC LDF (including emerging DPDs)
<p><b>To ensure the prudent use of natural resources:</b> This principle can be achieved by:</p> <ul style="list-style-type: none"> <li>• Minimising excavation lengths or the crossing of associated strategic infrastructure, such as motorways and waterways, is a prudent use of natural resources</li> <li>• Promoting and encouraging renewable and low carbon energy generation</li> <li>• Promoting ongoing use of alternative fuel sources (ground source heat pumps, solar, wind for example) that reduce demand on non-renewable natural resources</li> <li>• Ongoing assessment of new technologies to challenge convention (independent renewable energy provision that is either integrated or standalone)</li> </ul>	PPSI, Supplement to PPS1; PPS22; RSS8; MKSM SRS; DDC LDF
<p><b>Manage and reduce energy demand where appropriate:</b> This can be achieved through:</p> <ul style="list-style-type: none"> <li>• Application of improved building codes</li> <li>• Education measures to achieve savings per property, with a target of code 6 (Code for Sustainable Homes)</li> </ul>	Technical Considerations
<p><b>Minimising excessive costs and any undue stakeholder disturbance:</b></p> <ul style="list-style-type: none"> <li>• These twin principles seek to avoid unnecessary costs, disturbance of stakeholders in order to help ensure the efficient (cost and time-wise) provision of infrastructure</li> </ul>	

## 4 Baseline assessment summary

### 4.1. Introduction

- 4.1.1. This section summarises the results of the investigations conducted into the baseline infrastructure position that are reported in more detail in the technical reports.<sup>9</sup>
- 4.1.2. It is important to have a clear understanding of the level of infrastructure position at the current time, so as to be able to make an informed judgement on the infrastructure requirements for the forthcoming growth of the town.

### 4.2. Transport

- 4.2.1. The baseline transportation assessment needed to examine three particular issues:
- The existing transport infrastructure
  - The existing patterns of movement by the resident and non-resident populations (e.g. employees and other visitors to the town), and subsequent levels of demand
  - The transportation infrastructure proposals and potential initiatives anticipated for the town that would add to the transportation infrastructure presently in place
- 4.2.2. The key findings are summarised below:

#### The existing transport infrastructure

- 4.2.3. Daventry is a relatively compact town (approximately 4km from north to south). The existing transport infrastructure includes a good quality and relatively high capacity road network that makes travelling by car the most convenient mode of travel for most trips. The town centre is located at the heart of the urban area and forms the hub of a strong radial road network (see Appendix D, Figure T1), supplemented by a ring road. A reasonably comprehensive footway and cycle network throughout the existing urban area supports this.
- 4.2.4. Although served by a radial bus network centred on the town centre, buses operate almost entirely only within the hours of the working day with only one to two buses per hour in most cases. Daventry also lacks a railway connection; the nearest railway station is located in Long Buckby, approximately 7 kilometres to the north west of the town.

#### Existing Travel Patterns and Transport Infrastructure Usage

- 4.2.5. Public transport usage within Daventry is currently very low. For most internal trips walking or cycling should be attractive as the existing walking and cycling network is generally considered to be good, although 2001 census data indicates that the actual usage by people living within the town for their journey to work is some 23% on foot and only 4% by cycle.
- 4.2.6. Although rail is available at neighbouring Long Buckby the service is not attractive due to the relative isolation of the station, low service frequencies and poor public transport integration.

4.2.7. Car parking availability in the town centre and the fact that it is free further encourage car use.

4.2.8. The road network as a whole has recently been assessed by consulting engineers Arup with the conclusion that with some relatively minor modifications, the local road system will meet the needs of the target population of some 40,000 people in 2021. Journey to work data from the 2001 census indicates broad movement patterns that focus on Northampton, South Northamptonshire and Rugby. The data reveals that around 59% of residents living within Daventry Town also remain there for work purposes.

4.2.9. Daventry has evolved with a significant car culture with some 60% of internal trips made by car, despite such short distances being travelled. Some three-quarters of employees working in Daventry also live there and over 50% of people travel under 5km to work. A further 15% travel from Rugby and Northampton. Both of these towns have transport interchanges combining bus and rail to some degree however the exchange between these modes is not particularly attractive and does little to erode the fact that over 90% of these work journeys are by car, with most transporting only the driver.

#### Proposed Transport Infrastructure and Initiatives

- 4.2.10. The technical study also reviewed the range of proposed transport infrastructure improvements and initiatives. The purpose of this was to ensure that the identification of the transport infrastructure requirements for growth would be able to account for the infrastructure improvements for Daventry that are already committed to and will be built within the period under review by this study.
- 4.2.11. The main infrastructure proposals which are committed to and have been assumed to be proceeding, for the purposes of making the infrastructure requirements assessment, are:
- Infrastructure schemes mentioned in the Regional Transport Study including:
    - E-W movement public transport in the A14 corridor including Junction M1/ M6
    - The A45
    - The A428 east-west route
    - Modernisation of the West Coast Main Line (culminating with revised and improved timetabling anticipated to be resolved during 2008)
  - Traffic management and bus-related infrastructure improvements in the town centre
  - New walking and cycling facilities in the town or within developments (this comprises a package of improvements that will be implemented in step with development)
  - Improved rail services from Long Buckby Station
  - (Most likely) improvements to the existing bus services – particularly between Daventry and Long Buckby Station
  - A45 (Flore-Weedon bypass)
  - B4036 (Long Buckby Station – A5)

<sup>9</sup> The results summarised here are detailed more fully within each of the respective infrastructure element specific Technical Reports that accompany the DIS.

4.2.12. The NCC Strategy for Growth has also been taken into consideration and reflected upon in the transport Technical Report

### 4.3. Green Infrastructure and Landscape

4.3.1. The baseline green infrastructure assessment has been limited by the lack of available, up to date information on the provision of open space, sports facilities and other infrastructure items in Daventry. A PPG17 Open Space Audit is in preparation at the current time and it is expected that the completion of this study will confirm the open space baseline for Daventry. It will also present valuable information that will help refine the location of green infrastructure networks in due course.

4.3.2. The baseline assessment comprised a desktop assessment of the green infrastructure and landscape assets of Daventry and the surrounding hinterland under a series of topics:

#### Natural Systems

- Topography and Geology
- Minerals
- Hydrology
- Nature Conservation and Biodiversity, and Geological Sites

#### Land Use and Human Systems

- Cultural Heritage
- Strategic and Local Green Space
- Leisure, Recreation and Tourism
- Access and Movement
- Transport Infrastructure
- Strategic Agricultural Land Classification

#### Environmental and Visual Character

- Townscape Character
- Visual Baseline Analysis
- Northamptonshire Environmental Character Assessment Suite

#### Green Infrastructure

- Strategic Green Infrastructure (Proposed)

### Baseline Green Infrastructure and Landscape Asset Review

4.3.3. The principal findings of the baseline report are:

#### Natural Systems

4.3.4. Topographically, the town is generally contained within a natural bowl with a crescent of hills rising up on to the southeast, south, west and north of the town.

4.3.5. There are no SSSIs or National Nature Reserves within the Core Study Area.

4.3.6. A single Regionally Important Geological / Geomorphological Site (RIGGS) is located in the Core Study Area. The site comprises the Staverton Golf Club Quarry and is noted for the exposure of the Lias Group Marlstone Rock Formation.

#### Land Use and Human Systems

4.3.7. Daventry sits within a landscape that can be described as semi-rural in nature.

4.3.8. There are two scheduled ancient monuments, comprising: namely Borough Hill – a Bronze Age hill fort; and Burnt Walls – a possible prehistoric defensive earthwork enclosure. The main strategic green spaces within the area are the Daventry Country Park surrounding the Daventry Reservoir and the Northern Valley Park.

4.3.9. Borough Hill, with 54ha of land on and around the hill owned and managed by the Council, forms an additional area of accessible greenspace that is open to the public as a place for quiet countryside recreation and enjoyment of views across the countryside. It is also classified as a Country Park, although the level of use is much less than at Daventry Country Park.

4.3.10. The main sports grounds are situated at the Daventry Sports Park located off Browns Road and facilities on Western Avenue, and at several school sites throughout the town.

4.3.11. The Grand Union Canal skirts the northern boundary of the town. To the north of Drayton Reservoir, adjacent to the Middlemore housing development and the Northern Valley Park it is a less visible feature in the local landscape as it passes beneath a localised area of rising landform in the Braunston Tunnel.

4.3.12. A Sustrans Regional Cycle Route runs from north to south through the town connecting the villages of Welton and Newham, and beyond.

4.3.13. The land surrounding the town is predominantly Grade 3 according to Strategic Agricultural Land Classification mapping, although there is some exception to this with land at Monksmoor Farm, on either side of the B4036 and extending around the north west of Borough Hill achieving Grade 2 classification.

### Environmental and Visual Character

- 4.3.14. The hills surrounding the town form a major visual feature in the landscape. Visitors to the town along most of the major road corridors entering the settlement do not see the town until they have effectively entered it such is the nature of the landform and natural gateways and crests surrounding the town.
- 4.3.15. Expansive views over the town to the west and over the countryside to the east are gained from the summit area of Borough Hill. There are also several prominent ridgelines visible in the landscape from various points.
- 4.3.16. Several Ironstone villages surround the town at a distance of between 1 and 2 kilometres from the town's existing urban settlement boundaries. The surrounding landform and landscape features determine the extent of the rural setting of these villages.

### The Environmental Character Suite

- 4.3.17. The sub-regional Environmental Character Assessment (ECA) places Daventry within the West Northamptonshire Uplands Environmental Character Area. This is an expansive and elevated landscape of hills and valleys with localised variations in character depending on several influencing factors. The low-lying riverine landscapes of the Leam valley are identified as a distinct area of contrasting character to the west of the town.
- 4.3.18. The Current Landscape Character Assessment (CLCA) identifies Daventry as being located at the junction of three landscape character types. Broad swathes of the Undulating Hills and Valleys landscape character type extend to the north of the town. These contrast to the Ironstone Hills to the south of the town and around the source of the Nene. Reflecting the broad variation in character identified by the ECS, the valley of the Leam is identified as forming part of a broad belt of Rolling Agricultural Lowlands extending to the west of the town.
- 4.3.19. The Biodiversity Character Assessment (BCA) places Daventry within a complex pattern of biodiversity character types. Most notable are the areas of slightly acidic soils on the Liassic Slopes and Cropped Claylands to the north west of the town which both display a low retention of semi natural habitats. To the south and south east of the town, Acid Sands on elevated land influence the nature of land cover and land use. There are also areas of open water and wetland habitat associated with Daventry reservoir and several watercourses.
- 4.3.20. The Historic Landscape Character Assessment (HLCA) places Daventry at the junction of two distinct historic landscape character types, both of which display fragmentation resulting from several factors including hedgerow removal. To the east of the town, the landscape is characterised by Fragmented Modern Fields. To the south and west of the town, the landscape is characterised by Fragmented Parliamentary Enclosures.

### Green Infrastructure Networks

- 4.3.21. The Strategic Green infrastructure Network for Northamptonshire identifies broad landscape zones within which Green Infrastructure related proposals and priorities for action and delivery of GI should be focused. It should be regarded as a conceptual framework to aid the decision making process with regards to GI delivery on the ground. Daventry is located between the Oxford Canal / Cherwell Valley and The Nene Sub-Regional GI corridors, with the Daventry Spur running between the two along the eastern fringes of the town.
- 4.3.22. The Strategic Biodiversity Network seeks to connect fragmented habitats displayed across much of the county in order to assist species persistence and habitat function. The network presented in the Northamptonshire Green Infrastructure Strategy identifies a range of habitat reservoirs and habitat links around and within Daventry that build on the distribution of extant habitat in order to achieve a spatial map that can help target habitat protection and enhancement. This strategic plan has been reviewed and refined in consultation with The Wildlife Trust and utilising a recent review of Potential Wildlife Sites (PWSs) within the area of search.
- 4.3.23. The Sustainable Movement Network identifies the principal networks and opportunities for sustainable people movement from centres of settlement to the countryside. By building upon the network of existing rights of way, it seeks to link assets and destinations to villages and towns with a hierarchy of routes that, where possible, takes advantage of areas of green space. The network is described as operating from doorstep to countryside, within a structured hierarchy, with each level performing a separate function. Several tiers of the hierarchy are presented for the town in the countywide GI Strategy. These have been refined for Daventry to take account of a finer resolution of asset and opportunity mapping.
- 4.3.24. A sensitivity analysis was conducted that aimed to identify the sensitivity of areas to change. The approach to the analysis is discussed below in Section 6.5.

## 4.4. Sewage and Water

4.4.1. The baseline assessment of sewage and water was carried out in the context of the following themes:

- The existing level of infrastructure provision and its capacity to accommodate future growth
- Currently proposed sewage and water initiatives
- Considerations relating to sustainability
- The key issues with extending supply to cater for a growing population and workforce

### Existing Infrastructure Position

4.4.2. The main findings of the review of the current state of the infrastructure provision found that:

### Water Supply

- 4.4.3. Potable water for the town is supplied to the town from both the Pitsford Water and Wing Water Treatment Works through a series of pipes connecting to reservoirs at Weedon and Borough Hill.
- 4.4.4. Water then is distributed to residents and businesses in the town from the Borough Hill Reservoir.
- 4.4.5. The AWS have confirmed that the supply of water is adequate to accommodate the current planned growth in Daventry. In part this is due to the expansion of Wing WTW which was intended to ensure adequate capacity was in place through to 2020. More recent population projections however have placed this in doubt and it is currently supposed that the increase in capacity may only be sufficient to guarantee supply through to 2020.

### Sewer

- 4.4.6. Foul sewage collected from the town is transmitted to the Whilton Sewage Treatment Works for treatment before being discharged into the brook that feeds the River Nene and also into the canal during summer.
- 4.4.7. AWS have advised that the existing sewage collection, treatment and disposal facilities at Whilton are at capacity and in their current condition cannot accommodate the long term growth projections for Daventry.
- 4.4.8. AWS have also indicated that by changes to the operating procedures and by working with the Environment Agency, (EA) the Whilton STW may be able to accommodate some undefined level of growth.
- 4.4.9. The capacity of the existing system to accommodate growth is however currently limited.

### Water Supply Infrastructure Proposals

- 4.4.10. In respect of the proposed initiatives to upgrade and expand sewage and water infrastructure the technical report revealed that there are proposals either in place or under development to increase both the water supply and sewage handling capacity serving the town.
- 4.4.11. In respect of water infrastructure, works to increase the capacity of Wing WTW are scheduled for completion by 2010, which is intended to secure adequate supplies for West Northamptonshire, including Daventry through to the mid 2020's.
- 4.4.12. The longer term solution to water supply beyond the increase in capacity secured by the Wing WTW upgrade is the Trent Transfer project, which AWS are currently looking to determine capacity and design requirements. This project is anticipated for design in 2015 – 2017 with construction anticipated for 2020 – 2023.

### Sewage Infrastructure Proposals

- 4.4.13. In regard to infrastructure proposals to increase sewage capacity, AWS have advised that they are currently in negotiation with the EA in relation to Whilton. The funding to upgrade the Whilton STW is awaiting approval from the regulator (which is expected in Autumn 2009) as part of the AMP5 funding. In the event that the funding is approved design work will begin in 2009.

### Sustainability Considerations

- 4.4.14. The main observation in regard to sustainability was the target identified in the MKSM SRS to achieve a saving of 25% on water consumption for new housing.
- 4.4.15. While the 25% water consumption 'goals' are considered laudable, they have not been included in flow projections. This is because, at present, these are not an enforceable goal and therefore the utility provider cannot be assured everyone will reduce consumption. As such, it is considered that while noted, the goal should not be assumed as guaranteed, in case it should fail to be achieved and result in the potential undersizing of treatment facilities.

## 4.5. Utilities

4.5.1. The baseline assessment of electricity, gas and telecommunications was carried out in the context of the following themes:

- The existing level of infrastructure provision and its capacity to accommodate future growth
- Considerations relating to sustainability

### Existing Infrastructure Position

4.5.2. The main findings of the review of the existing level of utilities infrastructure provision produced the following findings:

### Electricity

4.5.3. Daventry is served via a single bulk supply point (BSP) located in the vicinity of Norton Road to the east of the town centre, with main double circuit overhead tower feeds originating from Coventry entering the town from the north east. In terms of the wider grid, the town stands independent from other development future development zones in Northampton and Towcester. However interconnection to these other systems is a potential consideration when considering strategic reinforcement options.

4.5.4. Current peak loadings within the Daventry area are 79.4MVA, although only 33.4MVA is attributable to the town supplies (i.e. only approximately 41% of the current peak loading occurs as a result of demand from within the town of Daventry itself). Of this, 22MVA is located to the west of the town at Braunston Road Primary substation, with the remaining 11.4MVA being placed at Daventry BSP.

4.5.5. Central Networks have recently concluded the upgrading of Daventry BSP via the installation of 90MVA transformers<sup>10</sup>, realising a firm capacity<sup>11</sup> within the group of 117MVA. However, it is worthy of note that whilst the circuits maintain this load position, the security of supply requirements do not. This is not an unusual position given that regulatory obligations, at certain trigger points, activate to safeguard supplies.

4.5.6. In this case, the next significant trigger point is 100MVA and there is an inherent obligation upon Central Networks to instigate investment to ensure that the restoration of supplies meets with approved criteria. There is no plan currently for this given that there presently is a 25% contingency and this falls well within the previously identified organic / local development framework expectations<sup>12</sup>.

<sup>10</sup> This information was obtained during discussions with Central Networks and forms part of revised information that is not yet shown in published strategy documentation (by Central Networks).

<sup>11</sup> The term 'firm capacity' refers to the capacity that can be maintained in the event of failure of the normal operational condition.

<sup>12</sup> This information derived during discussions with Central Networks.

### Gas

4.5.7. Daventry is currently supplied from a strategic high pressure station located at Long Buckby, some 8km to the north east of the town. At this juncture, pressure is reduced, via a regulator or Pressure Reducing Station (PRS), to IP (intermediate pressure) and the gas is transported to Daventry via a system of underground mains.

4.5.8. The present supply strategy for Daventry is based upon the main feed from Long Buckby, with a smaller, and lower pressure, alternative afforded from the A45 at Harpole (a village located between Northampton and Daventry).

4.5.9. The Daventry main intake, located on the Welton Road adjacent to the Grand Union Canal, reduces the incoming intermediate pressure to medium pressure (MP). It is this MP main that subsequently affords a ring main to the town and the element of security of supply. Secondary pressure reducing stations are located around the town, which lower the pressure further before it is supplied to individual premises.

4.5.10. Presently, the available capacity on the network equates to circa 500no. residential units, or circa one year's development, assuming that no organic growth, developments already coming on line and / or business requirements limit this. Beyond this value, significant implications occur to resolve gas supplies.

### Telecommunications

4.5.11. The BT network for Daventry is served along the A45 trunk road corridor as this was the main historical link that ran from Northampton to Coventry, and onto Birmingham.

4.5.12. Broadly, the BT network is fed via a central exchange located within the town and this, given that technological advances are generally reducing spatial requirements, will be able to readily support the new requirements.

4.5.13. The existing system utilises a mixture of fibre optic facilities, as well as local non fibre cable networks. BT, particularly in urban areas such as Daventry, has an integrated duct system that houses the cabling. The advantage of this is that as technology changes, cables can be replaced without necessarily requiring highways to be affected by the excavation of new trenches.

### Sustainability Considerations

4.5.14. During the baseline infrastructure assessment consideration was given to the potential role of combined heat and power plant to provide the town with electricity and heating; the latter of which could potentially replace, or reduce, the demand for gas within Daventry to provide heating and hot water via a 'district heating scheme' or similar.

4.5.15. This has not however affected the conclusions on demand because when considering proposals for CHP, or similar low carbon technologies, the design of the network would still need to ensure a security of supply, regardless of the means through which electricity and heating / hot water were provided. The studies therefore assumed that the electricity network will be designed to provide a supply in the event that any CHP plant was, unable to operate continuously.

## 4.6. Social Infrastructure

- 4.6.1. The social infrastructure investigations were primarily concerned with understanding whether the existing education and health facilities provided any opportunities due to existing or projected spare capacity that could advantageously utilised to serve new development.
- 4.6.2. The baseline social infrastructure assessment therefore concentrated on identifying the existing provision of pre-school, primary and secondary school facilities, general practitioners and hospitals. A further element of the assessment looked at the existing and projected levels of capacity within these facilities, with the objective of identifying spare capacity that could potentially be taken advantage of to serve new development.
- 4.6.3. The overall findings were that:

### Education Facilities

- 4.6.4. Daventry is served by a total of 13 pre-school and primary schools.
- 4.6.5. There is currently a surplus of some 430 primary school spaces and that this level of space capacity will be sustained with approximately 440 surplus spaces in 2012.
- 4.6.6. The majority of the surplus will be located within just three schools: Grange Primary (210 places available); Falconers Hill Junior (116 places); and Southbrook Junior (64).
- 4.6.7. The town is served by two secondary schools, with a total projected surplus of places over enrolment of 281 in 2012.

### Primary Health Care Facilities

- 4.6.8. The picture on the existing level of primary health care provision, as measured in terms of the ratio of GPs to patients was difficult to confirm because of the ambiguity over the limits to the geographical coverage of the surgeries in question. It is assumed however that the catchments for the surgeries overlap. The standard for GP provision set by the Daventry and South Northamptonshire PCT, before it merged to form the larger Northamptonshire PCT, was 1,800 patients per GP. Existing provision indicates that there are 1,913 patients per GP in the town of Daventry, suggesting that there is limited capacity for future growth to be accommodated by the existing resource.
- 4.6.9. The town is served by three GP surgeries, two of which share GPs between them. In total the three surgeries have a total of 16 GPs (Whole Time Equivalent or WTE) between them.

## 5 Infrastructure Requirements

### 5.1. Introduction

- 5.1.1. An infrastructure requirements assessment has been conducted in order to ascertain the requirements for infrastructure provision in the light of the population targets and growth proposals contained in the Regional Spatial Strategy (RSS).
- 5.1.2. The infrastructure requirement assessment was based on an assessment of the town divided up into sectors / quadrants. The infrastructure requirements were then looked at both globally and in respect of the respective quadrants as a way of considering the implications of potential development proposals. It also served to help identify critical capacity issues and opportunities and constraints for the provision of infrastructure. The approach is outlined in full in the associated Technical Reports.
- 5.1.3. This chapter concentrates on the key assumptions made in undertaking the assessment, including the translation of population forecasts into a figure for new dwelling units that will be required for Daventry to achieve the RSS growth target. The assumptions are clearly stated in order that the conclusions arrived at can be reviewed over time, as growth in the town takes place.
- 5.1.4. A number of representations have been made in respect of the forecasts of population and the assumed levels of dwelling growth within the DIS. The projected population growth of Daventry is a matter for the planning process, not the studies within the DIS. Population projection is based upon the adopted and emerging RSS.
- 5.1.5. Although population growth may depart from the targets identified within the RSS, it nevertheless has a role to play in identifying infrastructure needs given the relationship between dwelling numbers and infrastructure demand in some of the areas examined. In the current uncertain market, assumptions within development plan policy (and the consequent annual housing trajectory) are unlikely to be realised. The final population of the town in 2021 (and indeed 2026) is therefore difficult to predict. We have assumed increases in the town's population of approximately 15,000 and 20,000 from an estimated baseline population of 25,379 in 2007 until 2021 and 2026 respectively. This has implications for the indicative timescales for infrastructure delivery (which for consistency are based upon the RSS target rates) but should not have significant implications for the schedule of infrastructure identified. The assumptions used to underpin the forecast dwelling numbers and impacts should however be kept under review in the event that historical patterns of household formation are not reflected in future.

### 5.2. Population Forecast and Dwelling yield

- 5.2.1. The assumed population of around 40,000 people for the town of Daventry by 2021 is contained in paragraph 124 of the Milton Keynes and South Midlands Sub-Regional Strategy (MKSM SRS), which constitutes part of the RSS. The population of Daventry in 2007 has been estimated at 25,379<sup>13</sup>. Taking this figure, it was estimated that there are approximately 10,192 dwellings in Daventry<sup>14</sup>. If all of this growth were to be accommodated within or immediately adjacent to Daventry's urban settlement area, then the town could be expected to grow by another 6,337 dwellings and (assuming an average household size of 2.42 persons<sup>15</sup>) 14,622 people. Table 5-1 provides a summary of these assumptions.
- 5.2.2. At the present time, the draft RSS introduces an extension of the planning period to 2026 during which time it is identified that Daventry District local authority area would be required to make continuing provision for housing growth at the same annual average rate of 540 dwellings per annum over the plan period<sup>16</sup>. Assuming that the town continues to absorb the same proportion of development (within the District) after 2021, as it does before – it could be expected to grow by a further 5,222 people and 2,265 dwellings in the ensuing five year period.

Table 5-1 Population and Dwelling Increase Assumptions, 2007 – 2021

Relevance / Status:	Population (Actual or Expected)	Dwellings (Actual or Expected)	Likely Year / Time Period	Daventry AHS (NCC Projection)
Census Record:	21,774	8,837	2001	2.46
Estimated Baseline:	25,379	10,192	2007	2.49
MKSM Target:	40,000	16,529	2021	2.42
2026 with continued constant growth:	45,222	18,792	2026	2.41
<b>Simplified Increase:</b>	<b>+ 15,000</b>	<b>+6,500</b>	<b>2007 - 2021</b>	<b>NA</b>
<b>Simplified Increase:</b>	<b>+ 20,000</b>	<b>+ 8,640</b>	<b>2007 - 2026</b>	<b>NA</b>

Source: URS calculations derived from various information sources including ONS Census Data and Mid-Year Population Estimates, DDC Dwelling Completion estimates, NCC estimation of existing and projected average household size in Daventry. The simplified figures are very close to the actual likely increases, but have been rounded off slightly (in both cases slightly upwards) to simplify and make more readily appreciable the quantum of change being examined.

<sup>13</sup> This figure was estimated using ONS mid year population projections for 2001 to 2005 and extrapolating forward to 2007. The methodology used was confirmed as the best available by K. Palmer, Senior Research and Information Officer, Planning and Growth Department, Northampton County Council and also agreed with DDC.

<sup>14</sup> This is based on an average household size of 2.49. Figure supplied by K. Palmer, NCC, 14/02/08.

<sup>15</sup> Average household size figures obtained from K. Palmer, NCC, 14/02/08.

<sup>16</sup> This number is specific to the whole local authority area rather than for the town of Daventry in isolation.

- 5.2.3. The RSS is currently in draft form and therefore these numbers are not yet formally adopted as part of the development plan for Daventry. The studies are nevertheless mindful of the likelihood for continued growth beyond 2021 and the consequent implications for infrastructure provision have been examined beyond the current plan period. In order to ensure that the conclusions of the DIS are robust, and to be in accordance with adopted policy, the DIS did make use of the 40,000 people figure as a fix for the purposes of undertaking an assessment of infrastructure requirements in Daventry but also consider growth beyond this figure based on assuming a continuing and constant rate of growth beyond 2021 (i.e. annual population increase of 1,044 and annual increase in dwelling numbers of 453.)
- 5.2.4. In respect of employment uses, there is an absence of guidance from either the RSS or emerging LDF on the precise amount of employment development that will accompany the growth in population. For this reason, in respect of the infrastructure types being considered, and particularly in the case of utilities, a pro-rata demand was assumed. For the sake of simplicity, this assumed that the employment characteristics of the District area would remain broadly as they are now (i.e. that the mix of employment types). Hence, it was assumed that, for example, the demand for electricity and gas would grow from current levels proportionate to the increase in population to provide a reasonable starting position<sup>17</sup>.
- 5.2.5. In terms of water and sewage, given the absence of guidance referred to above, we have taken account of a likely amount of commercial, retail and light industrial uses in formulating an estimate of demand for water supply and sewage. We have not assumed any heavy industrial employment space that might make use of large volumes of water within an industrial / manufacturing process.

### 5.3. Transport

- 5.3.1. It is not possible to identify the exact nature and detail of the local transport infrastructure requirements until the specific land uses and final locations of these uses are determined and subjected to more detailed transport assessment and scrutiny. This must take place through site specific transport Assessments (TA) prepared to accompany master plans and the Environmental Assessments that underpin major strategic planning applications. For the purposes of the DIS however, and on the basis of infrastructure principles grounded in promoting sustainable transport modes, the most likely infrastructure requirements arising from the expansion of Daventry's population to 40,000 in 2021 are:

#### Walking and Cycling

- Improvement to encourage further use of existing urban networks and provision of suitable extensions to serve and integrate with new development areas

#### Urban Public Transport Network

- Provision of a high quality Urban Bus Network<sup>18</sup> – Improvements to bus network and provision of high-quality services to integrate communities within future urban extensions with the existing community and services / facilities. Measures to include enhanced frequencies and services, improved marketing and information, new vehicles, bus priority measures and enhanced bus stop infrastructure
- A quality Inter-Urban Bus Network - Improvements to the bus network linking Daventry with other main towns to include direct links to Long Buckby railway station
- Further improvements to the town centre bus station (public transport interchange) and town wide infrastructure to accommodate the aforementioned increase in public transport services

#### Inter-Urban Public Transport Network

- Transformed quality inter-urban bus service to Northampton
- Provision of an (at least) hourly through train throughout the day between Long Buckby and London
- Improvements to interchange and car parking facilities at Long Buckby rail station to improve access to the national rail network, and by interchange to international rail and air services
- Provision of high quality public transport links between Long Buckby station and Daventry

#### Transport Demand Management

At journey origins and destinations – new housing developments, employment, retail and leisure locations should provide:

- Marketing, information, smartcards, travel plans (potentially to include Personalised Travel Planning), incentives and a range of measures (in accordance with NCCs Guidance on Creating Lasting Modal Shift) that will lead to a reduction in the proportion of trips made by the private car

#### Local Road Improvements

Specific details of the Daventry town transportation infrastructure can only be finalised once preferred development options are confirmed and modelled. It is however likely that there will be a requirement for local junction improvements on main corridors, limited road widening and some new road construction. Outside the main urban area improvement is required for:

- A45 Weedon, Flore and Upper Heyford Bypass with dualling of A45 through to Daventry
- A361 Daventry to M40 traffic management scheme to involve downgrading of the A361 to a 'B' road together with traffic calming/ management measures to discourage use by through traffic and limit impact on villages of Byfield, Chipping Warden and Wardington
- Daventry to A5 and onwards to Long Buckby to improve access from Daventry to the rail network, especially for public transport connections

<sup>17</sup> It is acknowledged that the mix of industry and employments uses, and hence demand for infrastructure services, may depart substantially from the mix that currently prevails. However, it was not within the scope of the DIS to examine likely future employment trends and mix. Therefore, the approach that has been taken is considered the best available.

<sup>18</sup> Transport Strategy for Growth. Northamptonshire County Council. Draft for Cabinet 10 September 2007.

### Trunk Road Improvements

From analysis carried out by Fabers on behalf of the Highways Agency it has been determined that five trunk road junctions will require mitigation works to accommodate the growth in traffic as a result of the growth of Daventry.

The A5/A45 junction at Weedon is the most contentious of these junctions. The junction is at capacity at the moment and becomes a point of severe congestion with the addition of traffic generated by the predicted expansion of the town, with trips to and from Northampton increasing significantly. The level of improvement required to accommodate the traffic generated in this case is significant. It is anticipated that the level of improvement may not be appropriate within the centre of this relatively small village due to the severance it may cause. The HA appreciate that the potential proposals for the Flore-Weedon bypass may negate the need to improve this junction. Overall the assessment has demonstrated that the Strategic Road Network (SRN) is relatively insensitive to the location of growth in Daventry. It has shown that, for either options tested, the following junctions will require mitigation to accommodate the proposed growth:

- A5/A45 Junction
- A5/Norton Road
- A5/B4036
- A5/B5385
- A5/A428

Potential mitigation measures have been assessed, to identify any potential problems with delivering the improvements. Of these, the most challenging is the A5/ A45 junction as significant land take will be required. While the Flore-Weedon bypass would negate the need to improve this junction uncertainties remain about the future and timing of the scheme. Therefore it is suggested that a review of all potential options to address the junction are carried out.

The implications of this study will need to be fully addressed in the Transport Assessments of the developments proposed in Daventry.

### New Development

Developments should conform with the same principles of sustainable transport provision that apply to the larger towns, although these may be tailored to reflect the circumstances of a smaller town and should therefore apply the principles of non-car oriented land use planning. In terms of infrastructure new developments should:

- Provide high quality frequent bus services to serve the development
- Ensure a design to ensure that all properties are within walking distance of a bus stop as outlined in good practice
- Manage parking supply to promote sustainable travel alternatives
- Deliver good pedestrian and cycle linkages both within the development and connecting with the existing surrounding area including key trip attractors
- Offer robust travel plans that are monitored and include penalties for poor performance
- Provide a conveniently located travel choices centre that offers advice on and access to alternatives to the car

## 5.4. Green Infrastructure and Landscape

### Introduction

- 5.4.1. The infrastructure assessments are based on those figures set out within the **Section 9** of the Green Infrastructure and Landscape Technical Report. These describe a series of interlinked GI assets and outline opportunities associate with a connected network of GI relating to existing environmental, social assets. The precise phasing of these infrastructure components will be dependent upon phases of development, rather than absolute measures of population and should be incorporated where appropriate within new development phasing master plans.
- 5.4.2. In the absence of a completed PPG17 audit, the assessment of the infrastructure requirements for GI&L, particularly those relating to the amount of open space required, are based on the saved policies from the Daventry Local Plan. These standards may however change in response to future guidance and recommendations that inform the emerging LDF..
- 5.4.3. While amenity space and the hierarchy of play areas will always form an integral part of the development areas, in some circumstances it may be appropriate for some elements of the open space categories comprising playing fields, and 'other areas of open space', including allotment areas, to be located within the structural landscape areas thus contributing to the multi-functional goals inherent in green infrastructure planning, design and delivery.
- 5.4.4. For the purposes of the assessments below, population levels of approximately 40,000 and at least 45,000 has been assumed. In the event that the town continues to grow beyond that figure, the respective standards (and areas for space within development will rise accordingly). Moreover, some areas of strategic green infrastructure, such as the town's parks, may require additional investment to address the greater pressures on their usage.

### Open Space Provision assumed for population of approximately 40,000 and 45,000.

- 5.4.5. Requirement:
- For 15,000 extra people: a further 26 ha of amenity play space
  - For 20,000 extra people: a further 34 ha of amenity play space
  - Based on the standard set out in DDC's Saved Policy RC1 of 0.2 ha / 50 dwellings

### Playing Fields

- 5.4.6. Requirement:
- For 15,000 extra people: a further 24 ha of amenity play space
  - For 20,000 extra people: a further 32 ha of amenity play space
  - Based on the standard set out in DDC's Saved Policy RC 12 of 1.6 ha / 1000 people

### Other Open Space and Allotments

- 5.4.7. Requirement: based on the NPFA suggested provision of 0.4ha / 1000 people
- For 15,000 extra people: a further 6 ha of other open space/ allotments
  - For 20,000 extra people: a further 8 ha of other open space/ allotments
  - to include provision for allotments, woodlands and nature conservation areas
  - one other possible element of provision that should be considered is an enhanced town park

### Accessible Natural Green Space Standards (ANGSt)

- 5.4.8. The Accessible Natural Green Space Standards (ANGSt) sets out the requirement of a statutory Local Nature Reserve at a minimum level of 1 hectare per 1000 people.
- 5.4.9. The requirement for LNR space is presented in respect of both the expected increase in population and for the entire town population in 2021:
- 14.6 ha LNR (for the increased population of 14,622 people) or
  - 40 ha site or a combination of smaller sites equating to the same area (for 40,000 people)

### Open Space Projects and Green Infrastructure

- 5.4.10. The following specified infrastructure requirements are not directed by specific requirements. But their provision should be made as part of the open space and LNR requirements identified above. Furthermore, by virtue of the evidence identified in the GI&L Technical Report, they would warrant provision in order to respond to the increases in population and also the impacts of growth and development.

### Daventry Country Park Extension

- 5.4.11. Extension of the Daventry Country Park
- To deliver and supplement key areas of Accessible Natural Green Space and informal recreational areas for residents of the town

### Borough Hill Country Park

- 5.4.12. Enhancement of the Borough Hill Country Park
- To enhance the quality of the accessible natural green space and include the incorporation of Burnt Walls & John of Gaunt's Castle and green links between these areas
  - Enhanced facilities could comprise an improved car park; shelter / information area; footpath and bridleway network; heritage trail and improved interpretation of archaeological features; biodiversity enhancement including the management of species rich grassland
  - The park would continue to make a significant contribution to meeting ANGSt requirements and deliver components of the Green Infrastructure Sustainable Movement and Biodiversity Networks

### Potential extension to Northern Valley Park

- 5.4.13. A potential extension of the existing Northern Valley Park east of Welton Lane along the southern side of the canal, incorporating a range of uses including pedestrian connections, biodiversity habitat links, and potentially dam-burst / flood overspill areas.
- The requirement for this is subject to development occurring to the east at the proposed Monksmoor and Churchfields sites

### Green Infrastructure Networks Introduction

- 5.4.14. The provision of a comprehensive network of green infrastructure with multi-functional benefits is a policy requirement within the draft RSS and also incorporated in the MKSM SRS. The inclusion of GI networks should form an integral part of the town infrastructure requirements for growth.

### Biodiversity Network and Enhancement

- 5.4.15. A network of biodiversity habitat links and enhancement measures, including the expansion of existing habitat reservoirs, and woodland priority zones.
- This will include the establishment of mixed habitats appropriate to the area including species rich grassland, native woodland and wetland

## Structural Landscape Areas

5.4.16. Strategic scale structural landscape will be required as part of all major new developments to mitigate adverse visual impact, strengthen local character and identity, and integrate new development into its wider landscape setting. A coordinated approach to the planning and design of such structural landscape will contribute to local delivery of Green Infrastructure by the incorporation of habitat links and enhancement and new sustainable movement routes. It will also offer the potential for the accommodation of open space requirements within a multifunctional landscape structure.

## Sustainable Movement Network

5.4.17. The provision of a sustainable movement network that includes provision for sustainable patterns for walking, cycling, and where appropriate, horse riding.

## 5.5. Sewage and Water

5.5.1. The additional population will lead to an increase in demand for portable water and sewage treatment. Given this level of increased demand, and the wider context of growth in neighbouring towns and regions, additional sewage and water infrastructure will be required to serve Daventry's growth. Principal amongst the investment required are:

- Upgrading of the Wing Water Treatment Works (WTW) to accommodate the proposed population increase
- Additional sewage treatment capacity is required
- Expand water delivery network to areas of new development, reinforce existing infrastructure if required
- Expand the sewer collection network to areas of new development, reinforce existing infrastructure if required
- Provide storm water management to areas of new development in accordance with Planning Policy Statement 25 (PPS 25) and Building Regulations 2000 Approved Document H.

5.5.2. Infrastructure requirements for water and sewage generally show that the provision for sewage treatment is more critical than the provision of water service with an increase in population because water supply infrastructure for short and long-term are currently in place, while mid-to-long term sewage treatment has yet to be designed or built.

## 5.6. Utilities

5.6.1. In respect of demand for electricity, the technical review concluded that the increased population and the associated increase in dwellings, workplaces, and other facilities will result in a likely increase of load equivalent to circa 20-25MVA.

5.6.2. In respect of gas, the technical review concluded that the growth of the town by approximately 14,600 people and 6,337 dwellings, and associated workplaces, shops and education facilities, etc, will be likely to result in additional energy consumption of approximately 8,500m<sup>3</sup> of gas.

5.6.3. Given this level of demand, the required 'headline' major pieces of infrastructure identified in the Utilities Infrastructure Technical Report are:

- Strategic Electricity (capacity issues): 33kV and / or 132kV circuits to afford full capacity at Daventry bulk supply point (BSP) via the application of new cables or overhead lines from either Rugby or Bugbrooke;
- Strategic Electricity (connection options): the extension of the 33kV and 11kV electricity network to the development zones and to include a new 33kV / 11kV Primary substation and / or reinforcement of existing infrastructure;
- Local Electricity (connections): in conjunction with the strategic elements, the 11kV network will be extended through out the site to afford connectivity via the installation of secondary substations;
- Strategic Gas (capacity issues): the upgrading of the incoming intermediate pressure gas main that lies between Long Buckby and Daventry, plus potential works at the main Long Buckby pressure reducing station, if required, and;
- Local Gas (connections): in conjunction with the strategic network, extend the medium pressure mains to site to afford connectivity

5.6.4. Infrastructure requirements for the gas and electricity networks generally show that the provision for future growth is mixed, and that significant works are likely to be required. Timing wise, this may take some time to deliver given that in some instances, no further works are currently projected. One important example is that Central Networks, operators of the electricity system, have recently concluded works to the main incoming station at Daventry but it is predicted that the projected loads from this forecast growth in the future will exceed that currently available.

19 This observation is subject to the proximity of new development to schools with existing spare capacity and the ability of that development to make use of the existing spare capacity.

20 NB. Daventry's secondary schools currently serve children from areas beyond the town's boundaries. It is likely that the requirement for a new secondary school will be further bolstered by demand from any new development in the surrounding district. However, this study – being focused on the requirements of the town's growth specifically, has not been able to quantify the exact scale of this demand.

21 The mapping exercises that were used are best referred to as 'sieve mapping' exercises. This means a process of consecutively overlaying various maps to find a set of feasible areas that satisfy a given set of criteria.

22 This table relates to development sites beyond the existing boundaries of Daventry only. The requirement for 5,250 houses assumes that approximately 1,250 dwellings (out of a total of 6,500-odd additional new dwellings required to enable the population to 40,000) can be accommodated inside the existing town boundaries. The urban extension areas would thus house approximately 12,500 people). If less housing is accommodated within the existing town boundaries, then the land budget for Daventry's growth would increase accordingly.

## 5.7. Social Infrastructure

- 5.7.1. The technical review found, using pupil yield ratios obtained from the local education authority, that the 6,337 new dwellings would result in demand for between approximately 1330 and 1774 primary students; and between approximately 760 and 1014 secondary students (ages 11 –15) in Daventry. An even rate of development over the period to 2021 would see demand for primary school places of between 95 and 126 students per year. For secondary demand would be between 54 and 72 places per annum.
- 5.7.2. Given this level of demand, the social infrastructure requirements identified for the growth of the town between now and 2021 are:
- Three to four (3 – 4) two form entry primary schools<sup>19</sup>
  - At least one (1) secondary school<sup>20</sup>
  - An additional eight (8.6) GPs (whom could be variously accommodated in either one, two, or even three primary health care centres, depending on the provision model desired and the dispersal of future growth)

## 5.8. Developing sustainable infrastructure

- 5.8.1. The rate of population growth in Daventry in the future is a matter of some conjecture, given current market conditions and the approach to the calculation of future dwelling numbers associated with the levels of growth established for the town in the adopted and emerging development plans. Nevertheless, the assumptions underpinning the forecast dwelling numbers, and the implications for infrastructure associated with the additional dwellings can be used to determine some early indications of the consequences for infrastructure provision across the town in the future. Using these headline forecasts, it is possible to draw some early conclusions around the spatial implications for future infrastructure, to assist in understanding the relationship between infrastructure needs and the relationship with potential growth locations.
- 5.8.2. This work is underpinned by the consideration of the results of the assessment and mapping exercises<sup>21</sup> that have been undertaken for each of the infrastructure topic areas listed above. These mapping exercises have allowed a structured examination of the opportunities and constraints that affect the provision of the various types of infrastructure.
- 5.8.3. The analysis of infrastructure issues in this way allows for the identification of infrastructure development scenarios that reflect the policy aspirations set out earlier. Recognising that the determination of sustainable infrastructure solutions is dependent upon a wide range of site specific variables, beyond those established by policy alone the studies do not seek to identify a definitive infrastructure scenario.

Accordingly, the relationship between the infrastructure scenarios and new development will need to be subject to careful consideration, based upon site specific circumstances and the type and phasing of development proposed. Nevertheless, the preliminary conclusions assist in understanding broad spatial consequences for infrastructure and serve to provide some evidence to assist decision makers determining the suitability of proposed developments that serve to deliver growth, ahead of adopted local development documents.

## 5.9. Land Use Budget

- 5.9.1. Prior to considering the infrastructure scenarios it has proved helpful to identify an indicative land use budget associated with forecast growth levels. The purpose of this exercise was to provide an indication of the physical extent (in terms of hectares of land) of expansion consistent with Daventry's future growth. **Appendix C** summarises the method used to determine the land use budget. This produced the tables shown below on the following pages;

Table 5-2 Urban Extension(s) Land Use Budget, Daventry increase in population approximately 15,000 to 40,000-plus<sup>22\*\*</sup>

Land Use	Requirement	Area Required (ha)
Residential	5,250 dwellings at 50 dw / ha	105
	5, 250 dwellings at 40 dw / ha	131
	5,250 dwellings at 35 dw / ha	150
Education	5 Primary Schools	7.7
	1 Secondary School	7.5
Employment <sup>23</sup>	B1	13.0
	B2	4.4
	B8	6.0
	Reserve	15
Local Centres (with Retail, Community and Health facilities) <sup>24</sup>	2 local centres	2
Open Space <sup>25</sup>	Amenity and Play Space	26
	Active – Playing Fields	24
	Other Open Space	6
<b>Total Growth:</b>	assuming residential at 50 dw / ha	217
	assuming residential at 40 dw / ha	243
	assuming residential at 35 dw / ha	243

\*\* Source: URS Calculations from the Dwelling and Population Model developed with data input from RSS8, ONS Census Data and NCC Average Household Size and Population Estimates.

<sup>23</sup> The employment land requirement is based on work undertaken by Ancer Spa on behalf of DDC. It is used here as an indicative figure only for the purposes of understanding the potential physical extent of development. It should be clear that in no way does the inclusion of these figures in this report constitute a recommendation by URS or its sub consultants on the level of provision that should be made for employment.

<sup>24</sup> This land use requirement for local centres assumes 1 ha required per centre. This figure is indicative figure only and the actual requirement could vary. The use of this figure is considered sufficient for the purposes of the DIS; as even a large variation in this figure would have only small impact on the overall land use requirement.

<sup>25</sup> The open space requirements are based on an overall growth in population of 15,000 odd people. The land use budget assumes that even though some of this population increase can be accommodated within the town's existing urban limits, these people will still demand additional open space.

Table 5-3 Urban Extension(s) Land Use Budget, Daventry increase in population by approximately 20,000 to 45,000-plus<sup>26 \*\*</sup>

Land Use	Requirement	Area Required (ha)
Residential	7,390 dwellings at 50 dw / ha	148
	7,390 dwellings at 40 dw / ha	185
	7,390 dwellings at 35 dw / ha	211
Education	6 Primary Schools	9.3
	1 Secondary School	7.5
Employment <sup>27</sup>	B1	13.0 +
	B2	4.4 +
	B8	6.0 +
	Reserve	15
Local Centres (with Retail, Community and Health facilities) <sup>28</sup>	2 local centres	3
Open Space <sup>29</sup>	Amenity and Play Space	34
	Active – Playing Fields	32
	Other Open Space	8
<b>Total Growth:</b>	assuming residential at 50 dw / ha	280
	assuming residential at 40 dw / ha	317
	assuming residential at 35 dw / ha	343

\*\* Source: URS Calculations from the Dwelling and Population Model developed with data input from RSS8, ONS Census Data and NCC Average Household Size and Population Estimates.

5.9.2. It is important to note that the land use budget is only indicative; and is based on a number of assumptions relating to employment, education facility, open space and green infrastructure requirements which mean that the figures given in Table 6-1 should only be considered as notional working assumptions.

## 5.10. Transport

### Sustainable transport infrastructure.

5.10.1. The identification of a sustainable transport infrastructure strategy has been predicated primarily on the principles outlined in Table 3-1. This table draws strongly from PPG13. The critical principles set out in PPG13 are: promoting sustainable transport choices; promoting accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and reducing the need to travel especially by car.

26 This table relates to development sites beyond the existing boundaries of Daventry only. The requirement for 7,390 houses assumes that approximately 1,250 dwellings (out of a total of approximately 8,640 additional new dwellings required to enable the population to increase by 20,000) can be accommodated inside the existing town boundaries. The urban extension areas would thus house approximately 17,810 people).

27 As per previous table. Additional land would be likely to be required for employment uses for growth beyond 2021, but this table does not attempt to calculate a specific figure. As a rough guide, it might be possible to assume an extra increase of one-third, which would be proportionate to the additional population increase expected between 2021 and 2026, in comparison with the period of 2007 to 2021.

28 As per previous table.

29 The open space requirements are based on an overall growth in population of 20,000 odd people. The land use budget assumes that even though some of this population increase can be accommodated within the town's existing urban limits, these people will still demand additional open space.

5.10.2. To examine these matters, the consultancy team undertook accessibility mapping exercises, modelling work using the Arup model held by NCC and a capacity assessment of the strategic trunk road by Faber Maunsell. Further details are provided in the technical report. Three studies however led to a broad set of conclusions which when aligned to the land budget calculated above, serve to suggest an assignment of growth that appears on drawing [insert drawing no]. Further, a schedule of infrastructure requirements for the town can be identified based upon the baseline assessment and the identification of need referred to above.

5.10.3. It is recognised that the pattern of growth outlined as a consequence of this study does not reflect current proposals for growth of Daventry detailed in current planning applications. The conclusions of the strategic level transport studies do not mean that those planning applications are unacceptable on transport grounds. Rather, the conclusions are intended to assist the decision maker with the consideration of transport matters within the context of growth of the town as a whole alongside all other material planning considerations, including other conclusions in the DIS. The weight to be given to the sustainable transport scenario outlined in this report is therefore a matter of the planning process, rather than for this report.

5.10.4. The infrastructure scenario (see **Figure T2, Appendix D**) combines the conclusions and recommendations of the DSDS and HA assessment with the accessibility analysis of URS. The Transport Strategy and sustainable Transport Criteria developed by URS as part of the DIS were also considered. The conclusions of this exercise are described below.

- Promote development in the first instance within the existing built up area of Daventry where accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling is greatest
- Promote development thereafter within three areas:
  - Between Welton Lane and the B4036
  - South of the A45 around the corridors of the A361 and A425, and
  - North of Daventry near the A361, principally north of the existing Middlemore development

- A decreasing level of accessibility to services and facilities is registered the further the distance from central Daventry. This implies a limit to the outward expansion of these urban extension corridors and therefore a presumption against linear development. The extent of this limit depends on the location of each site; with urban extensions beside the A45 and B4036 having the potential to benefit from their position along routes to public transport routes to Northampton and Long Buckby respectively.
  - Between Welton Lane and the B4036 a corridor should be provided by sustainable transport link between the two areas running to the north of Daventry Reservoir; specifically including a public transport service and a positive environment for walking and cycling but with no route provided for private motor vehicles. Without this link, it is considered that development would be failing to accomplish the objectives in support of promoting sustainable transport modes and choices. A similar principle should be adopted between development located around the A361 and A425 south of the A45
- 5.10.5. The form and mix of development is also an important consideration. Development should be designed with maximum permeability for sustainable modes in mind but without promoting the easy use of private motor vehicle, particularly for short trips. The mix of different and appropriate land use types within a development can support the use of sustainable modes, reducing reliance on and the presumption to use cars.
- Promote development thereafter within four areas beside the A45 (to the south east north and south of London Road), along the B4036 (north-east beside Long Buckby Road), and along the east side of Welton Lane north of Daventry Reservoir up as far as the Grand Canal on the Monksmoor Farm site. In each case, a decreasing level of accessibility to a wide, and comprehensive, range of services and facilities that are concentrated in and around Daventry's town centre, is registered the further the distance from central Daventry. This implies a limit to the outward expansion of these urban extension corridors. The extent of this limit depends on the location of each scenario; with urban extensions beside the A45 and B4036 having the potential to benefit from their position along routes to public transport routes to Northampton and Long Buckby respectively.
  - In relation to the Monksmoor Farm site; a further caveat is that the identification of the Monksmoor Farm site is dependent on an assumption that access to a local centre in the B4036 corridor would be provided by sustainable transport link between the two areas running to the north of Daventry Reservoir; specifically including a public transport service along a route closed to private vehicle traffic. Without this link, it is considered that development would be failing to accomplish the objectives in support of promoting sustainable transport modes and choices.

## 5.11. Green Infrastructure and Landscape

### Sustainable Green Infrastructure

- 5.11.1. A sustainable Green Infrastructure and Landscape Scenario (GI&LS) has been determined through analysis of the various landscape elements and features, and consideration of their inherent sensitivity, and the opportunities that they present for future connection and enhancement. **Figure GI&L1** (see **Appendix D**)<sup>30</sup> illustrates the GI&LS as a Green Infrastructure Network although it does not identify the location or extent of open/green spaces and sports pitches required as part of new development. The location of these would follow as part of master plan proposals for new development subject to discussion with the LPA and linked to the findings and adopted standards of the PPG17 Open Space Audit and Strategy.
- 5.11.2. A comprehensive review of open space requirements and green infrastructure network is set out in the supporting GI&L Technical Report. The key requirements that would feature as part of an optimal infrastructure strategy are summarised below:

### Open Space Requirements

- Quantifiable requirements for optimal infrastructure provision are derived from DDC's Saved Policies, emerging standards from the PPG17 Audit and other nationally acknowledged guidelines, notably ANGSt and NPFA

### Green Infrastructure Networks

- The provision of a coordinated network of green infrastructure is consistent with policy set out in the RSS and MKSRS. The connected network of GI set out in the maps technical report serves to create with appropriate linkages providing varying levels of access to walkers, horse riders and cyclists. These should form an integral part of the town infrastructure requirements for growth that provide for the protection and enhancement of biodiversity; a sustainable movement network; and the provision of structural landscape areas that incorporate a full range of open space, biodiversity and movement functions

### Sensitivity Analysis

- 5.11.3. Sensitivity analysis was conducted to identify areas and features in which particular consideration should be given to the protection of key assets. It was undertaken in respect of four broad themes, namely:
- Biodiversity
  - Cultural heritage
  - Landscape and visual
  - Flood zone and mineral sensitivity
- 5.11.4. Having regard to each of these four themes in turn; a sensitivity and development potential assessment was made of the area surrounding Daventry up to a distance of roughly two kilometres from the existing urban extent of Daventry.

30 This figure also appears as Figure 28 in the GI&L Report.

Full details of the approach and findings of the sensitivity analysis are set out in the supporting GI&L Technical Report. In that report, a definition of sensitivity was taken from Landscape Character Assessment Topic Paper 6, published jointly by the Countryside Agency and Scottish Natural Heritage.<sup>31</sup>

5.11.5. Whilst sensitivity analysis across the four main themes identifies areas that may be regarded as being of high, medium and low sensitivity to new development, it does not necessarily preclude development, which may, through appropriate design and planning, be able to offer greater certainty in the long term protection and potential enhancement of features, or indeed make a positive contribution to the town and its visual setting.

### Green Infrastructure (GI&L) and Sensitivity Analysis

5.11.6. In contrast to other topics addressed in this review, it was not considered appropriate to identify development scenarios through analysis and interpretation of unweighted landscape, visual, heritage and biodiversity assets, and the sensitivity assessment. This is because of the interrelationships between these matters and the need for weighting and consideration of mitigation at a level of detail that was not encompassed by the respective studies. Notwithstanding this the exercise did identify areas that would potentially be more or less tolerant of growth and where opportunities for enhanced GI networks coincided with new development. *i.*

5.11.7. A series of plans have been prepared that illustrate where sensitivity analysis has identified areas where there are significant constraints to existing resources and also where GI provision would be most beneficial and provide opportunities for positive responses and enhancement of the resource (see GI&L Technical Report and Figures GI&L 2-5<sup>32</sup>, Appendix D of this report).

5.11.8. Figures GI&L 2-5 (see Appendix D) illustrate the GI&L Green Infrastructure Network overlaid with the four sensitivity plans to illustrate how development should respond positively to both the opportunities and constraints identified.

## 5.12. Sewage and Water

### Sewage and Water Infrastructure Scenario

5.12.1. The identification of a sustainable sewage and water infrastructure strategy has been predicated on principles related to sustainability, cost effectiveness and reducing the environmental and stakeholder impact of infrastructure development to the extent that it is appropriate to do so.

5.12.2. The outcome of sewage and water technical review is to recommend an infrastructure scenario that relies upon:

- Upgrading the Whilton STW to meet the sewage requirements of the town
- The continued use of the reservoir atop Borough Hill for the distribution of water, and the upgraded Wing WTW. Water supply beyond mid 2020 will be addressed through the Trent Transfer project

5.12.3. It is considered that these solutions best accord with principles set out for the sustainable provision of water and sewage by being cost effective; utilising the fewest resources; and effecting the lowest possible environmental and stakeholder impact.

### Sewage and Water - Development implications

Given the reliance on existing infrastructure to support growth, the most sustainable development locations would minimise the distance of new developments from key elements of the existing sewage and water networks.

### Sewage

5.12.4. A sustainable sewage-infrastructure scenario favours growth to the east of Daventry, between the Grand Union Canal in the north and the A45 in the south, but as close as possible to the existing urban area (see **Figure S&W 1, Appendix D**).

5.12.5. The reasons for this conclusion were two fold. First, development to the east of Daventry is relatively close to the sewage treatment works at Whilton and Long Buckby. First, development to the east of Daventry is relatively close to the sewage treatment works at Whilton.

5.12.6. Secondly; there are significant advantages in being located closer to the existing urban area, even though the sewage treatment work at Whilton is several kilometres east of the town.

5.12.7. The primary reason for this is technical; as there is a benefit to be reached, in terms of achieving a prudent use of natural resources, if a way can be found to limit the amount of pumping required to move sewage and install pipes large enough to accommodate future growth.

<sup>31</sup> Countryside Agency and Scottish Natural Heritage, Landscape Character Assessment Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity

<sup>32</sup> Those figures also appear as Figures 28A-28D in the GI&L Technical Report.

5.12.8. Additionally, by setting the demand and sewage network away from the plant and moving inward, any additional developments that fill the space between will have the advantage of an existing pipeline to tie into, which would be engineered and designed to handle future development.

### Water Supply

5.12.9. Water supply infrastructure-led sustainable development scenarios support future growth being located:

- First, within the existing urban area of Daventry, and then
- Secondly, close to Borough Hill Reservoir and generally to the east of Daventry (see **Figure S&W 2, Appendix D**)

5.12.10. In respect of the area within Daventry's existing urban limits – development within the town's limits would be able to rely upon the existing water distribution network, with minimal investment required to establish new connections to dwellings or businesses. Additionally, it would also be likely to entail (for the purposes of providing new water infrastructure at least) a minimal impact on other stakeholders, including landowners by reducing the need to lay extensive new pipe networks.

5.12.11. However, in this case the primary determinant is proximity to the water supply reservoir situated atop of Borough Hill, and to a lesser extent – if it could be deemed relevant to the expansion of Daventry – the water supply reservoir situated in Weedon. The supply side has an overlapping relationship with sewage treatment.

## 5.13. Utilities Infrastructure

### Sustainable utilities Infrastructure

5.13.1. Similar to sewage and water, the identification of an utilities infrastructure strategy was based on a set of principles related to sustainability, cost effectiveness and reducing the impact of infrastructure development to the extent that it is appropriate to do so.

5.13.2. As per the Technical Report into utilities infrastructure a sustainable utilities infrastructure scenario would involve:

- the provision of a single additional (best case scenario) primary substation by concentrating development in one area and so mitigating the likelihood of two;
- providing additional or enhanced interconnection to maintain security of supply for the town as it grows;
- the phased upgrading of the gas main connecting Long Buckby to Daventry to allow for an increased volume of supply to Daventry

### Utilities infrastructure - Development implications

5.13.3. On the basis of sustainable infrastructure provision the amount of infrastructure investment required to upgrade the existing network and connect new development with the electrical, gas and telecommunications networks should be minimised. At the same time, consideration should also be given to the impact on existing infrastructure. This includes, for instance, existing 132 kV and 33kV power lines and the oil pipeline running through the Daventry region connecting the Buncefield Oil Depot in Hemel Hempstead to Kingsbury in Tamworth. As a consequence, both the north east and south east sectors are considered to be suitable for development in line with the principles outlined in Chapter 3. (see **Figure U1<sup>33</sup>, Appendix D**).

5.13.4. Development in the north east quadrant would be ideally suited to minimising the infrastructure investments required to upgrade and expand the existing utilities infrastructure networks, given the area's proximity to the infrastructure gas main feeding Daventry from Long Buckby and the electrical bulk supply point bringing in electricity from Coventry. However electrical infrastructure (the 132kV and 33kV power lines) would most likely require relocating (or undergrounding) in order to render the sites within the quadrant appropriate for development. .

5.13.5. By contrast, the south east quadrant was not constrained and provided some benefits, yet its position was relatively inefficient as the quadrant's distance from the incoming sources of supply would mean that there would be an impact on the environment to a greater degree in terms of the extra resources and disruption required to extend the infrastructure to this sector in comparison with the north eastern sector.

## 5.14. Social Infrastructure

### Education and Healthcare - Sustainable Infrastructure

5.14.1. Providing a sufficient supply of available places, and ensuring that they are easily accessible, are the key drivers for social infrastructure provision. Alongside transport and access, the provision of appropriate infrastructure is highly dependent upon designs around future growth. Accordingly, whilst early growth might serve to realise existing capacity in the town within primary schools, the degree to which existing capacity should influence development locations encompassing significant new facilities for education is limited. Equally, the relationship with healthcare provided through existing health surgeries, as opposed to new facilities within the local and district centres proposed within urban extensions is a matter of detailed planning for the education authority and primary care trust.

5.14.2. The studies do highlight a need for new healthcare and education facilities, within urban extensions. The impact of these new facilities on existing buildings will be a matter for the respective authorities as part of their long term strategy. The studies have however indicated some existing educational capacity and insofar as is sustainable, future growth located within the locality of such spare capacity would be "sustainable" in the short term.

33 This figure also appears as Figure U7 in the Utilities Infrastructure Technical Report.

## 6 Infrastructure: Conclusions and Recommendations

### 6.1. Introduction

6.1.1. This chapter draws key conclusions and makes a series of recommendations on the sustainable infrastructure strategies and implications for development. Included are recommendations concerning phasing where the technical reviews have concluded particular timing issues related to the provision of infrastructure.

### 6.2. Phasing Considerations and the Assumed Rate of Development

6.2.1. A critical output of the DIS is the estimation of the key trigger points for new infrastructure. Most trigger points will be judged in terms of the increase in population and / or the increase in dwelling numbers. In order to identify the increase in population and set this against an approximate date (in this case a year) the DIS uses the MKSM SRS expected population level of 40,000 for the year 2021 applying. An even rate of population increase over that period was assumed.

6.2.2. These average growth figures are then used to determine potential trigger points associated with the need for new infrastructure. In the event that these assumptions are not realised within future development, the timetable within the respective studies and the conclusions summarised below will need to be reviewed.

### 6.3. Transport

6.3.1. The transport study has examined requirements attached with growth in terms of sustainable development principles. This has shown that by optimising opportunities for integration with the existing fabric of the town underpinned by supporting sustainable transportation infrastructure it is practicable to minimise the impact of extensive road building within the town, while accommodating population growth to some 40,000 people.

6.3.2. Because infrastructure is dependent on the pattern of development trigger points cannot be defined for much of the transport infrastructure.

6.3.3. The transportation impact and demand for associated infrastructure is highly dependent on the locational interrelationship between existing and proposed facilities and ultimately the development land-use mix of a specific site.

### Transport Conclusions

6.3.4. Notwithstanding the specific influence of location on transportation, the key conclusions and broad phasing issues identified in the study are:

6.3.4.1. Transport impact and demand for associated infrastructure is highly dependant on the locational interrelationship between existing and proposed facilities and ultimately the development land-use mix of a specific site and overall cumulative impact.

6.3.4.2. Subject to careful assignment of growth, Daventry's internal road infrastructure could accommodate the forecast growth without significant modification, provided adequate sustainable transport alternatives and demand management measures are in place to reduce journeys by private motor vehicles;

6.3.4.3. Specific details for the town can only be finalised once preferred development options are confirmed and tested, however the need for local junction improvements on main corridors is evident amid limited road widening and link improvements, primarily to improve public transport reliability.

6.3.4.4. The strategic trunk road network is not sensitive to development locations, although proposed growth will impact on specific junctions to include a5 junctions with the a45, A428, Norton road, B4036 Long Buckby Road and the junction with Daventry Road/ B5385 North East of Welton;

6.3.4.5. The A5/ A45 junction at Weedon is the most contentious as it is already at capacity and faces severe congestion in the face of the predicted expansion of Daventry town. the level of improvement required is significant and may not be appropriate for central Weedon, though the potential for the Flore-Weedon bypass may negate the need to improve this junction;

6.3.4.6. Resolution of the Flore-Weedon bypass issue and identification of specific improvements required for the A45 between Daventry and Weedon are subject to further investigations. in spite of this it is likely that both will be required before 2021 to accommodate growth.

6.3.4.7. Outside the main urban area local roads' infrastructure improvements are required for:

- A45 bypass of Weedon and Flore;
- A45 between Daventry and Weedon;
- A361 Daventry to M40 to discourage through traffic and limit impact on villages of Byfield, Chipping Warden and Wardington;
- Daventry to A5 and onwards to Long Buckby to cater for growth and improve access to the rail network, especially for sustainable travel modes;

- 6.3.4.8. Depending on further modelling work there is also likely to be the need for route improvements for:
- A45 South and South East of Daventry
  - A361 north of Daventry to Kilsby;
- 6.3.4.9. The A45 corridor east of Daventry is particularly sensitive to change and would require significant investment in highway capacity to support growth alongside it (e.g. dualling) supplemented by suitable measures to ensure sustainable linkages with the existing town. Any development south of the A45 will require suitable sustainable linkages across it to include at-grade crossings for pedestrians and cyclists with effective arrangements for the movement of buses.
- 6.3.4.10. Overall sustainable travel behaviour needs to be encouraged and maintained and it is essential to provide highly convenient access to services and facilities that cater for non-car modes, with networks provided that are fully accessible, effective and thoroughly integrated with the existing fabric of the town to satisfy local travel demands;
- 6.3.4.11. Use of the private car should be seen as the least convenient/ least desirable mode, especially for local journeys;
- 6.3.4.12. Cross-town integration of direct public transport services will be essential, with high quality and frequent services sustaining development;
- 6.3.4.13. The current level of public transport services is insufficient to support the target mode share for sustainable modes in some corridors and enhancement will be required to support development and achieve target modal share in the form of enhanced frequencies and services, new vehicles, bus priority measures and enhanced bus stop infrastructure and marketing;
- 6.3.4.14. Improved interurban bus transport to link the town with neighbouring centres is essential, especially for journeys involving Northampton and possibly Coventry, Solihull and Birmingham, Leamington Spa and Warwick, Towcester and Milton Keynes;
- 6.3.4.15. Daventry's public transport bus interchange needs improved capacity to accommodate the proposed volumes of bus passengers by 2021;
- 6.3.4.16. Strong emphasis should be placed on demand management measures and smarter choices, including travel planning.
- 6.3.4.17. Sustainable transport infrastructure and initiatives should be phased to coincide with those of development to ensure the required measures are in place before developments (residential or otherwise) become inhabited.
- 6.3.5. Sites that provide the greatest opportunity to achieve the core transport principles would be:
- Within the existing boundaries of the town's built-up area;
  - Northeast of Daventry along the B4036/Welton Road, but ensuring that development from Welton Road and the B4036 does not coalesce and provide through routes for private vehicles;
  - South of the town around the A361;
  - Southwest of Daventry around the A425, with care taken not to provide through routes for private motor vehicles between the A425 and the A361 (except on the existing A45); and
  - North of the Middlemore Farm development
- 6.3.6. Locating development in these areas would allow opportunities to fully integrate development with Daventry in the most sustainable way. The assessment indicates that:
- The current local highway network is capable of supporting the scale of development anticipated to 2021 in terms of peak trips for journeys to work estimated by the analysis, although only on the basis of careful distribution of development to a number of corridors;
  - The current level of public transport services is insufficient to support the target mode share for sustainable modes in some corridors and enhancement would be required;
  - Following the presumption against additional highway capacity unless necessary to meet growth it is not recommended that residential development takes place in the A45(SE) corridor unless the decision is taken to support significant investment in highway capacity (i.e. dualling the A45);
  - If supported by a major investment in highway capacity (for example dualling the A45 to the south and south east of Daventry) further development in this corridor could take place but significant efforts would be required to support sustainable modes and to encourage work trips to remain in Daventry; and
- 6.3.7. With the proposed growth distribution there is no specific requirement attached to strategic highway improvements, including the Flore-Weedon Bypass that can be evidenced by this analysis to support development distributed around Daventry. However, further study of the impacts of other developments on traffic feeding onto the A45 is required.
- 6.3.8. The assessment of the Strategic Road Network on behalf of the Highways Agency has indicated the need for improvements at five Trunk road location involving A5 Trunk road junctions with the A45, Norton Road, B4036, B5385 and A428. Of these the A5/ A45 junction at Weedon is particularly challenging, as the anticipated scale of improvement is sensitive to the outcome of deliberations on the Flore-Weedon bypass.

- 6.3.9. Demand management and travel planning are as important as hard infrastructure if truly sustainable development is to be achieved. Measures should include information points, traditional and (potentially) personalised travel planning, incentives, integrated ticketing, and facilities that support sustainable modes such as high quality cycle parking and changing facilities.
- 6.3.10. The improvements to the transport network included in the Infrastructure Requirements Schedule below do not deliver the mode shift required to meet NCC targets. Developers will be required to demonstrate that particular developments can deliver these targets. This will require robust monitoring.

**6.4. Green Infrastructure and Landscape**

- 6.4.1. The key conclusion around GI&L relate to the need to provide adequate open space to provide for the recreational needs of new development, as well as open spaces and strategic items of a wider green infrastructure network that can enhance the landscape and assist in mitigating the impact of development.
- 6.4.2. The assessment identifies areas of sensitivity that present particular challenges, and potentially, restrictions on the type of development that would be appropriate. It also identifies broad guidance on the range of positive opportunities that exist for providing new habitat reservoirs and links, and sustainable movement corridors which together should form a core component of any new development.
- 6.4.3. Creative responses to the findings of this assessment will ensure that new development is better able to be appropriate to place, takes account of inherent sensitivities and is also capable of making best use of the opportunities available. In this respect the assessment promotes positive and creative responses to the limitations imposed by the natural geography of the town and the tools to ensure new development has a reduced adverse impact on the landscape, and also contributes to the protection and enhancement of its most important assets.

**Open Space Provision Conclusions**

- 6.4.4. The key conclusions and critical phasing issues are:
  - New development within the town centre and existing urban area may (subject to the results of the emerging PPG17 Audit) trigger a need for additional open space, including amenity and play space, playing fields and other open space but may struggle to provide their open space obligations on site. Thus provision will need to be made for the delivery of open space at the wider level to ensure open space requirements are achieved

- New development beyond the town's existing boundaries will require additional open space which will need to be provided as part of their developments, and in concert with elements of strategic green infrastructure, including enhancement and mitigation works. Further planning for the provision of scheme-specific open space should take place during the masterplanning stage
- New development, particularly beyond the town's existing boundaries, should take account of the sensitivity analysis presented in the GI&L Technical Report
  - a) The implementation of the Strategic GI networks identified should be addressed at the masterplanning and site design of new developments
  - b) Developers should coordinate the provision of appropriate green infrastructure through an integrated approach and, where appropriate, in conjunction with any plans held by the responsible authority

**Local Nature Reserves Conclusions**

- 6.4.5. The key conclusions are:
  - The establishment of Local Nature Reserves (LNRs), as a town wide facility is an integral requirement commensurate with the needs of Daventry's growing population
  - The designation of Daventry Country Park as a LNR (64.6 ha) fulfils current and projected ANGSt requirements in respect of LNR provision. Notwithstanding the existing level of LNR provision, however, there may be opportunities to establish a further site (or sites) that are accessible to the town to supplement the level of provision and form an integral part of green infrastructure
  - The review of opportunities has suggested that there is an opportunity for provision of a further LNR Adjacent to Borough Hill as part of proposed enhancement work to the area linked to the existing informal Country Park. The area already supports notable areas of species rich grassland and could include part of the habitat rich area at Burnt Walls <sup>34</sup>
  - The Northamptonshire Wildlife Trust and Natural England must be fully engaged in the process of identifying and agreeing to proposals for any LNRs, additional to the existing LNR at Daventry Country Park, to ensure that they fully meet strategic National and Local BAP targets and opportunities

34 As concluded by the consultant team, with input from The Wildlife Trust.

### Specific Open Space Projects and Green Infrastructure

6.4.6. A number of Open Space and GI projects have been identified. Although these are aspirational and do not derive from specific requirements supported by policy or adopted standards, their identification is based on a comprehensive review of the existing landscape and green infrastructure resource. Their inclusion within the emerging LDF, and delivery through and in association with new development, will make a valuable contribution to a town wide GI and open space network commensurate with the growing population. The delivery of these projects is therefore considered to be highly desirable.

### Daventry Country Park Extension

6.4.7. Extension of the Daventry Country Park would be a means of supplementing the existing LNR, as well as more informal recreational areas for residents of the town. Appropriate management will meet ANGSt targets and also form a key element in the Strategic Green Infrastructure network through the provision of enhanced habitat links between the reservoir and canal.

### Borough Hill Country Park

6.4.8. The existing Borough Hill Country Park is a 'town wide' facility focused on an area that is particularly appropriate for informal recreational development. The land is owned by DDC, has a network of existing permissive paths, and offers biodiversity, cultural heritage and landscape/visual interests. Its enhancement could form an integral requirement commensurate with the anticipated recreational needs of Daventry's growing population, and also contribute to the provision of additional LNR area.

### Potential extension to Northern Valley Park

6.4.9. The infrastructure requirements assessment noted that there is potential for expansion of the existing Northern Valley Park along the southern side of the canal and around the northern and eastern fringes of development if development occurs to the Monksmoor and Churchfields sites.

6.4.10. An extension of the Northern Valley Park would buffer new development and act as a transitional zone between town and countryside. It could also function as flood overspill area for Drayton and Daventry reservoirs and accommodate sustainable movement linkages and biodiversity corridors.

### Green Infrastructure Networks

6.4.11. The principles and process underlying the Northamptonshire Green Infrastructure Strategy have supported the identification of a Green Infrastructure Network including Biodiversity reservoirs and links (Figure 28, GI&L Technical Report) for Daventry building on the identified biodiversity resource<sup>35</sup>. The GI Network takes forward strategic biodiversity networks identified at the county scale in the GI Framework for Northamptonshire and seeks to be more responsive to known assets and opportunities.

6.4.12. The provision of a Sustainable Movement Network focuses on the need to link doorstep to countryside by establishing a network of safe green routes that link with the pattern of open space, parks and natural green space.

6.4.13. The principles and process underlying the Northamptonshire Green Infrastructure Strategy have supported the development of a Green Infrastructure Network including Sustainable Movement Network for Daventry (See Figure 28, GI&L Technical Report). The network takes forward strategic movement networks identified at the county scale in the GI Framework for Northamptonshire and seeks to be more responsive to known assets and opportunities.

6.4.14. Potential town wide routes, that form part of the wider resource for the town commensurate with the needs of Daventry's growing population, have been identified meeting the needs of strategic sustainable movement network.

6.4.15. Meanwhile, the provision of structural landscape areas incorporating an enhanced landscape infrastructure is regarded as essential for new areas of development.. In addition, and falling out from the detailed assessment of development proposals in approved locations there may be a justified requirement for further off-site planting within the wider landscape beyond the notional 2km zone included within this study.

## 6.5. Sewage and Water Infrastructure

### Sewage Infrastructure

- Making use of Whilton STW, is considered to be least costly (both financially and environmentally) and most efficient means for providing the additional sewage infrastructure and treatment capacity that will be required
- Although the Water Industry Act will not allow AWS to constrain development, there is no treatment capacity at Whilton STW. The upgrade of Whilton STW is currently being investigated. It will be important that all parties work closely together in terms of timing
- Storm sewer systems built in accordance with "Sewers for adoption", 6th Edition, will be adopted and maintained by AWS in accordance with national water and environmental policy, but currently sustainable urban drainage systems (SuDS) will not be adopted
- Developers, local and regional planners must work closely with AWS during their AMP development in order to align future projections and strategic plans. Failing to identify a significant water or sewer requirement for a new development within the AMP funding cycle can cause delays of 5-years or more and result in the inefficient use of resources. In particular, it is recommended to follow the progress of the Trent Transfer project

<sup>35</sup> Developed during the preparation of the GI&L Technical Report through collaboration between the consultant team (including RNRP CIC) and the Wildlife Trust.

## Water

- 6.5.1. The key conclusions and critical phasing issues are:
- Locating development as per the water-infrastructure led development scenario is considered to be least costly (both financially and environmentally) and most efficient means for providing the additional water supply and infrastructure and treatment capacity that will be required
  - The technical review has established that the already scheduled completion of the Wing WTW upgrade will ensure adequate provision until the mid 2020's
  - The progress of the Trent Transfer project should be tracked in order to determine the effect the regional growth will have on water supply after the new Wing WTW has reached capacity
  - Development locations should take into account proximity to the Borough Hill Reservoir and the water supply infrastructure-led optimal development scenario
  - New development should promote water efficiency measures in both existing and new properties, thus minimising the need for new infrastructure

## 6.6. Utilities Infrastructure

### Electricity

- 6.6.1. At a local level, the Technical Review identified that there is currently an ability to continue to add load to the Daventry BSP Primary substation equivalent to around 2,000 dwellings, setting up a requirement to deliver a new primary substation around 2011 / 2012 assuming a constant rate of development over the remainder of the plan period to 2021. However, this is only relevant if development occurs to the east Daventry in locations that can be served from the location of the Daventry BSP and subject to formal review by Central Networks.
- 6.6.2. Development to the west of the town would not be ideal if the load was substantial enough to require a new primary substation; however, options do exist whereby load currently served via Braunston Road Primary substation could potentially be transferred without the need to excavate onto the existing Daventry BSP Primary on Norton Road (this is achieved via a transfer on the interconnected 11kV system).
- 6.6.3. At a strategic level, the breaching of the next significant trigger point (i.e. 100MVA) will require the distribution network to be enhanced and this, in turn, involves capital outlay and timeframes that are both likely to be substantial. Options that are available currently consider the ability to maintain ongoing security to the wider system and meet the obligations required by the Regulator. Typically, this could include diverting demand to a neighbouring grid system or upgrading existing infrastructure. The review will include both that of the 33kV system, as well as the 132kV network.
- 6.6.4. It is expected that the 100MVA trigger point will be reached with the completion of around 4,500 to 5,000 dwellings. Given a constant development rate of 450 dwellings per annum, this number of dwellings would be constructed in Daventry by 2017 – 2018.
- 6.6.5. There are three options currently identified for dealing with the passing of this trigger point but these are subject to an assessment by Central Networks:
- (i) Switch the Daventry International Rail Freight Terminal (DIRFT) Primary substation in order to transfer load to Rugby – hence releasing spare capacity for the growth of Daventry<sup>36</sup>
  - (ii) Constructing a connection between Bugbrooke and Weedon to transfer load from Daventry to Northampton
  - (iii) The construction of a new 132kV feed from Coventry
- 6.6.6. The lead in time for constructing any of these options could be as much as five to ten years, depending upon the complexities involved in the design, planning and approval of the preferred option.
- 6.6.7. Consideration should therefore be given to focusing development in the east of Daventry in order to both avoid an early day requirement for a new primary substation and limit the consumption of natural resources, given that the new development zone may potentially be served by a single new installation only.
- 6.6.8. There should be made for at least one new primary substation (33kV/11kV transformation point) within sufficient proximity of the load centre (i.e. the new development area).
- 6.6.9. The need for a new primary substation could be delayed until 2011 by favouring development in locations that can be served by the Daventry BSP Primary substation located in the vicinity of Norton Road, which has further capacity for circa 2,000. (Development anywhere other than the east side of the town could trigger a requirement for not only an additional primary substation, but also one much sooner, as Branston primary substation is at capacity.)
- 6.6.10. Central Networks will need to examine further options for the west of the town if development is to proceed in that location.
- 6.6.11. Assessment of the options for securing sufficient capacity in the network to cope with the surpassing of the 100MVA trigger point in order will need to commence to ensure sufficient time is allowed for design, planning, and approval of the required infrastructure works.
- 6.6.12. Proposals for Urban extensions should give consideration to ongoing technologies in line with the Daventry District Council review into CHP so that benefits can be secured which may offer appropriate low carbon emission benefits and offset the need or extend the timing of required new infrastructure.

<sup>36</sup> NB. The above DIRFT substation is already experiencing further upgrades and therefore network configurations will already have been reviewed for that element

## Gas Infrastructure

6.6.13. There currently exists the equivalent of only approximately 500 residential units available capacity for gas and it is expected that this will be exhausted in 2008/09. Given the overall growth that is expected, the technical review identified three trigger points:

6.6.14. Trigger Point 1 – 500 additional dwellings (2008/09):

- Installation of circa 3.2km of 180mm HDPE (high density polyethylene) main to afford an increase in general capacity of circa 3,500m<sup>3</sup>, sufficient to guarantee gas supply to new development for approximately a further 5-6 years assuming current rates of demand hold
- This will be subject to the ongoing system management process by National Grid whom will consider this proposed growth agenda with that of surrounding areas and the incumbent influences
- The process to design and negotiate access with affected landowners can typically take 18 months; the process should be commenced as promptly as possible

6.6.15. Trigger Point 2 – 3,500 dwellings total increase on 2007 (2014):

- Install circa 3.6km of 315mm HDPE between Long Buckby and Daventry (partial route)
- Upgrading of works likely to be required at the main station in Long Buckby
- Again, this is subject to review and technical computations that need to be carried out by National Grid. The purpose of both upgrades will be to replace sections of existing main that currently are likely to be undersized

6.6.16. Trigger Point 3 – 8,000 dwellings total increase on 2007(likely date – 2025):

- Likely requirement to construct a complete overlay of the network between Long Buckby and Daventry, together with a complete rebuild of the regulator at Long Buckby main PRS. This is currently determined at a trigger point of 20,000m<sup>3</sup>

6.6.17. Accordingly it is recommended that:

- a) Ensure National Grid commence planning for the Phase 1 works to ensure delays are minimised
- b) Consideration should be given to focusing development in the east of Daventry in order to take advantage of the incoming connection point to the northeast of Daventry
- c) Consideration should be given to the outcome of the DDC investigation into CHP and the opportunity to present district heating / hot water schemes. This may subsequently delay or indeed avoid the triggering of the requirements noted above
- d) Ensure National Grid is engaged in reviewing development potential of Daventry and adequately plans for expected development

## Telecommunications

6.6.18. The current available strategic capacity on the BT network is not considered to be an issue. It is anticipated that BT will extend their network via an underground-ducted system, to the boundary of any site, whereby the developer will then extend into their site to afford ongoing connections to residences and businesses.

6.6.19. This means that, consistent with the position taken above, there are no critical recommendations for telecommunications infrastructure other than to ensure that BT are adequately informed, and adequately plan for, the extension of telecommunications infrastructure to new development.

## Utilities Overall

### Conclusion

6.6.20. The lead-in process for the development of utilities infrastructure can be substantial, especially when considering the requirement for careful planning, consultation, impact identification and obtaining the necessary funding and approvals. It is therefore important to Ensure developers, local and regional planners work closely with National Grid, Central Networks and BT during the strategic development process in order to align future projections and plans to avoid the likelihood of significant delays.

## 6.7. Social Infrastructure

### Pre-School and Primary Schools

6.7.1. The current surplus of pre-school and primary school places equates to approximately 430. This means that, assuming a development rate of approximately 453 dwellings per annum and an annual increase in demand for between 122 and 162 places, the early years and primary sector could accommodate some 2½ to 3½ years of demand, or equivalent to between approximately 1,132 and 1,585 dwellings.

6.7.2. By implication, it would suggest that new development is best located and phased to take advantage of the existing spare capacity first before being built in areas further away that will require the construction of new schools.

6.7.3. However the location of the schools means that the surplus is most of use to new developments within the town centre, on the former college site in the south west of Daventry's existing urban area, and around Southbrook.

## Secondary Schools

- 6.7.4. The current surplus of secondary school places equates to approximately 286. This means that, assuming a development rate of approximately 453 dwellings per annum, and a consequent annual increase in demand for between 54 and 72 places for both secondary and post-16 places, the secondary sector could accommodate some 4 to 5 years of demand generated by new development, or equivalent to between approximately 650 and 900 dwellings. If demand for post-16 education is included, then the ability of existing capacity to accommodate this need until new capacity / facilities are required reduces to between 3 and 4 years.
- 6.7.5. As such, the secondary schools only have a limited capacity to provide for the growth of the town and it appears likely that additional secondary school capacity will be required within a short to medium term timeframe.
- 6.7.6. The location of the existing secondary schools, and their wider catchment areas, means that any they could serve demand from new development in much of the existing area of the town, in addition to development in the B4036 corridor.
- 6.7.7. Any new secondary school provided as part of new urban extensions in an area should be accessible by sustainable modes to most, if not all, the new development.

## Primary Health Care (GP Surgeries)

- 6.7.8. The review of GP numbers was relatively inconclusive in comparison with education, but in summary it appears that the town has a relatively low GP to patient list ratio. This suggests that new primary health care facilities will be required relatively quickly / in the short term, matching the rate of development.
- 6.7.9. Assuming an increase in population of 1,044 per annum (on average) and a target of one GP per 1,700 patients, a new GP will be required every 1.6 years. Alternatively, a local surgery of three GPs could be required close to every five years or so<sup>37</sup>.
- 6.7.10. Even if the GP surgeries do have spare capacity, then their location means that they are probably best placed to serve new development within the town centre and existing urban area of Daventry only rather than in any of the potential greenfield urban extension sites.

<sup>37</sup> There are a variety of models for delivering primary health care services that can be considered, and providing surgeries with 3 GPs is just one example. One alternative is to provide centralised larger clinics that can provide a broader range of services in the one location, to the benefit of patient care.

# 7 Daventry Infrastructure Requirements Schedule

## 7.1. Introduction

7.1.1. A critical objective for the DIS is to arrive at a series of infrastructure recommendations, including the provision of a timetable for infrastructure investment priorities. This chapter thus sets out a timetable for infrastructure provision.

## 7.2. Infrastructure Requirements Schedule

7.2.1. The following timetable (Table 7.1) sets out the infrastructure requirements in respect of transport, sewage and water, utilities and social infrastructure.

7.2.2. The trigger points are expressed in terms of population and the number of dwellings. It is important that these figures, and not the years quoted, are recognised as being of prime importance. Nevertheless, the schedule does make use of a population of 40,000 in 2021 in order to count back from this date and suggest a potential date for when the respective infrastructure triggers will be reached. It should be noted that a range of factors, including the availability and delivery of serviced land availability, the prevailing economic conditions, and social trends, including the rate and size of household formation, could either slow or hasten the overall speed of increase in both population and dwelling numbers.

7.2.3. With regards to transport, the work by Arup has suggested an optimal spread of development based on a corridor approach. This has established a framework for transport infrastructure delivery that should minimise infrastructure spend and wider areas of stress on the network. The work on behalf of the Highways Agency has indicated the need for some improvements on the trunk road network, although in all cases the likely programme to determine actual trigger points will be subject to further study and testing.

7.2.4. A critical element involves the outcome of the timing of the Flore-Weedon bypass, which is necessary to inform decisions on the form of improvement required to accommodate the anticipated capacity issues highlighted at the A5/ A45 junction and also the potential interface with the possible need for improvements to cater for traffic impact on the A45 between Daventry and Weedon. Both the resolution of the bypass issue and the identification of specific improvements required for this section of the A45 are subject to further investigation and assessment at this time, however it is likely that both will be required before 2021 to accommodate growth in this area.

7.2.5. On this basis a substantial number of schemes have been identified that are required to accommodate growth around Daventry in a sustainable way (Table 8-1) by 2021. At the local level these are largely to improve the efficiency of the local transport network, while at the more strategic level these aim to mitigate impact within a threshold that is acceptable to the Highways Agency. As identified in Section 9 the measures generated from the DSDS do not seek to achieve the mode shift required of new development and so do not represent the full extent of required infrastructure and demand management/ smarter choices. As a consequence the promotion of a demand management strategy and travel planning will be essential to minimise trips and maximise local network capabilities.

7.2.6. Green Infrastructure items are not listed within the table. There is no absolute trigger point for these resources; but provision should be made in line with development to ensure there is no short fall in the availability of open space resources and other elements of green infrastructure and landscape enhancement.

7.2.7. For the purposes of setting out a social infrastructure requirement of health facilities in Table 8-1, it has been presumed that GP services will be provided within a surgery accommodating 3 GPs. The table therefore lists three trigger points for GP surgery provision in order to house the total requirement for 8.6 GPs over the period until a population of 40,000 is reached. Given that there is no existing spare capacity at present, we identify provision for such a facility immediately. Following this, every additional 5,100 people will trigger the requirement for further GP surgery facilities, and we have therefore used this as the basis for measuring further trigger points. However, given that there will not be a full requirement for 3 GPs on day one, it may be that existing facilities, subject to physical space requirements, could be used for a period until a new surgery is provided.

Table 7-1 Daventry Infrastructure Requirements Timetable to 2021

Population	Dwellings (no. #)	Trigger Point and Infrastructure Item Requirement	Estimated Year	Estimated Cost (£M) <sup>38</sup>
25,379	10,233	<b>[Base population point]</b>	2007	
<b>Transport:</b> Please see para 6.3.2 regarding phasing and trigger points for transport infrastructure.		Smarter choices and revenue based enhancements to, for example, public transport frequencies. Does not include developer costs of on site cycle facilities and travel planning.		£27.8m
		Bus Priority on Ashby Road / Henmans Road (1.1km)		£0.7m – £1.2m
		Bus priority on Drayton Way / Braunston Road (2.5km)		£1.5m – £2.2m
		Bus Priority along Leamington Way (1.2km)		£0.8m – £1.2m
		Improvement at Henmans Road/ Eastern Way/ Braunston Road junction		£0.5m – £0.8m
		Improvement At Eastern Way junctions		£0.8m – £1.2m
		Improvement at Stefen Way/ Leamington Way junction		£0.5m – £0.8m
		Enhanced crossing facilities of Stefen Way		£0.2m – £0.8m
		Enhanced footpath and segregated cycle facilities alongside the B4036		£0.2m – £0.5m
		Walking & Cycling Networks		£8.0m
		Upgrade of Long Buckby Rail Station		£1.0m
		Downgrade B361 to 'B' road		£1.0m
		Enhanced in town bus infrastructure including Daventry bus station		£5.0m
		Infrastructure to support enhanced interurban bus services		£5.0m
		Enhancements of bus Infrastructure for route to Long Buckby Station		£2.0m
		A5/A45 Junction – Potential increase in junction size to accommodate capacity improvements with more effective traffic signal control; subject to outcome of Flore-Weedon bypass		tbc
		A5/Norton Road – potential roundabout		tbc
		A5/ B4036 – potential roundabout		tbc
A5/ B5385 – potential roundabout		tbc		
A5/ A428 – Potential Removal of existing roundabout and replacement with traffic signals		tbc		
Beyond 25,380	Beyond 10,234	Health: No known spare capacity in primary health care system; additional GP surgery able to host 3 GPs required.	(now) 2008	£0.8M <sup>39</sup>
26,423	10,673	Gas: Phase 1 works to secure gas supply beyond 500 additional dwellings.	2008	£3M+
		Sewage: Capacity of Whilton STW reached.		TBC
27,467	11,113	Primary Education: Existing spare capacity in primary school system likely to be taken up; additional primary provision required (420 places).	2009 2009	£4.5M <sup>40</sup>
		Secondary Education: Existing spare capacity in secondary school system likely to be taken up; additional 11 to 18 years old secondary provision required (950 places).		£12M <sup>41</sup>
28,512	11,553	No requirement triggered.	2010	
29,556	11,993	Electricity: New primary substation (Bulk Supply Point)	2011	£2M

Population	Dwellings (no. #)	Trigger Point and Infrastructure Item Requirement	Estimated Year	Estimated Cost (£M) <sup>38</sup>
30,600	12,433	<b>Health:</b> Existing spare capacity in primary health care system forecast to be taken up; additional GP surgery able to host 3 GPs required	2012	£0.8M
31,645	12,873	<b>Education:</b> Existing spare capacity in primary school system likely to be taken up; additional primary provision required (420 place).		£4.5M <sup>42</sup>
32,689	13,313	No requirement triggered.	2014	
33,734	13,753	No requirement triggered.	2015	
34,778	14,193	No requirement triggered.	2016	
35,822	14,633	<b>Electricity:</b> Strategic Trigger Point (100MVA) expected to be reached with ca. 4,500 – 5,000 new homes. Options: (i) Transfer DIRFT Primary substation load to Rugby (ii) Bugbrooke to Weedon connection (iii) New 132kV feed from Coventry	2017	Cost per option (i) 1M (ii) 3M (iii) £10M+
		<b>Education:</b> Existing spare capacity in primary school system likely to be taken up; additional primary provision required (420 place).		£4.5M
		<b>Health:</b> Existing spare capacity in primary health care system forecast to be taken up; additional GP surgery able to host 3 GPs required		£0.8M
36,867	15,073	No requirement triggered.	2018	
37,911	15,513	No requirement triggered.	2019	
38,956	15,953	<b>Water Supply:</b> Potential requirement for Trent Transfer project as early as 2020 to ensure adequate water supply available. Requirement will depend on regional growth rates.	2020	tbc
40,000	16,393	<b>Education:</b> Existing spare capacity in primary school system likely to be taken up; additional primary provision required (420 place).	2021	£4.5M
40,000 +/-	16,393 +/-	<b>Transport:</b> With 40,000 population A45 forecast to be at 99% capacity between Daventry and A5. Suitable enhancement required, potentially linked with timing of Flore-Weedon bypass (which may come earlier).	tbc	tbc

Source: URS, ISU Ltd, LDA Design, NCC and HA.

38 Costs are supplied where known, but all costs provided are estimates only. In many cases estimates are for a bespoke infrastructure requirement and are subject to further costing, dependent on the specific design specifications and engineering requirements. Costs should therefore be seen as approximations only.

39 Capital cost for building only, not including land, presuming a building cost of £1,800 / sq metre.

40 Capital cost for construction of 420 place primary school, not including land, presuming a approximate building cost of £1,400 / square metre subject to the DfCSF location discount factor of 0.97 for Northamptonshire. Source for calculating capital cost: Briefing Framework for Primary School Projects, Department for Education and Skills.

41 Capital cost for construction of 950 place secondary school, not including land, presuming a approximate building cost of £1,400 / square metre subject to the DfCSF location discount factor of 0.97 for Northamptonshire. 950 is likely to be the minimum number of additional students arising with the estimated population growth, as shown in the Social Infrastructure Technical Report. Source for calculating capital cost: Briefing Framework for Secondary School Projects, Department for Education and Skills.

42 The cost is based on 2006 prices and includes land and buildings; comprising a 2,140 sq m gross building area and approximately 1.5 ha site. This total cost will vary depending on the land cost.

### 7.3. Growth Beyond 2021

7.3.1. For growth beyond approximately 16,400 dwellings (assumed to be from 2021 onwards) the following schedule (Table 7 2) sets out the infrastructure requirements in respect of transport, green infrastructure, sewage and water, and utilities infrastructure. It should be noted that the timeframes involved mean that the accuracy of the estimates, particularly with regard to the date by which infrastructure may be required, is reduced in comparison with the results in Table 7-1.

7.3.2. In addition to the above table it should be noted that the Whilton STW forecast for completion in 2012-2013 should be designed based on a 30-year population projection. If this is the case then no requirements for upgrades should be due until after 2040; however changes in population growth over that period could alter this scenario.

Table 7-2 Daventry Infrastructure Requirement  
Timetable 2021 - 2026

Population Trigger Level	Dwelling Number Trigger Level	Trigger Point and Infrastructure Item Requirement	Period	Estimated Cost (£m)
40,680	16,700	<b>Health:</b> Existing spare capacity in primary health care system forecast to be taken up; additional GP surgery able to host 3 GPs required	2022-2026	ca. £0.8M
43,132	17,752	<b>Electricity:</b> Strategic transformer capacity at Daventry BSP likely to be exceeded. The options would be to install upgrade the transformers and the circuits, install a complete new BSP (significant) or secure the ability to transfer load to another BSP		NA
44,176	18,205	<b>Gas:</b> Phase 3 works to secure gas supply beyond 8,000 additional dwellings		NA
		<b>Water Supply:</b> (See year 2020) Potential requirement for Trent Transfer project as late as 2025. Dependent on regional growth rates.	NA	
		<b>Education:</b> Additional primary school provision likely to be required.	£4.5M	
45,222 -50,440	18,792 -20,923	<b>Education:</b> Additional primary school provision likely to be required during this time.	2026 - 2031	

Source: URS, ISU Ltd, LDA Design, NCC and HA.

### 7.4. Conclusion

7.4.1. A critical objective for the DIS is to arrive at a series of infrastructure recommendations, including provision of a timetable for infrastructure investment priorities. This chapter has thus set out a timetable for infrastructure provision.

# Appendix A Planning Policy and Strategy Review

## A. The Policy and Strategy Context

### Introduction

- A.1. This chapter reviews the overall general planning policy context and other policies and strategies that are relevant to the objectives of the DIS. Accordingly, it includes a review of the Regional Spatial Strategy (RSS) encompassing Daventry, including the Milton Keynes & South Midlands Sub-Regional Strategy (MKSM SRS), which set the strategic land use planning context for the area which includes Daventry and which also set specific growth targets for the town.
- A.2. The following chapter reviews, in the following order, national planning policy and the development plan for Daventry as it currently exists at the regional and local level. It also includes a review of the strategies and plans put in place by Daventry District Council.

### Sustainable Communities Plan

- A.3. The Sustainable Communities Plan set out the Government's growth agenda for housing. The objectives of the Sustainable Communities Plan that are of particular relevance to the DIS are to increase the supply of housing in order to provide for increasing demand arising from a growing population (particularly in the south east of England and certain adjacent areas including Northamptonshire as part of the MKSM sub-region) and to tackle the transport and other infrastructure issues which are essential to the delivery of truly sustainable places in which people will live and work.
- A.4. The Plan identifies the key requirements of 'sustainable communities' including the following elements that are of relevance to the DIS: 'a flourishing local economy to provide jobs and wealth; a safe and healthy local environment with well designed public and green space; development of a sufficient size, scale, density and layout to support basic amenities in the neighbourhood and minimise use of resources (including land); good public transport and other transport infrastructure; and good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure'.

### National Planning Policy Guidance and Statements

- A.5. National Planning Policy is set out in a series of Planning Policy Guidance notes (PPGs) and Planning Policy Statements (PPSs) that outline the Government's policies on the many different aspects of planning. These policy statements / guidance notes provide a comprehensive framework for the development of regional and local planning policy. They also form a material consideration, together with any other material considerations, to be taken into account during the determination of planning applications or appeals. They are of particular relevance to the preparation of the DIS, as they provide useful guidance for the identification of optimal infrastructure strategies, particularly in the absence of crucial development plan documents that constitute part of the statutory Development Plan.
- A.6. URS has identified a number of national PPGs and PPSs that are of particular relevance to Daventry's future expansion. These include:
- PPS1 – Delivering Sustainable Development
  - (Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1)
  - PPS3 – Housing
  - (PPS6 – Planning for Town Centres)
  - PPS7 – Sustainable Development in Rural Areas
  - PPG8 – Telecommunications
  - PPS9 – Biodiversity and Geological Conservation
  - PPG13 – Transport
  - PPG14 – Development on unstable land
  - PPG15 – Planning and the historic environment
  - PPG16 – Archaeology and planning
  - PPG17 – Planning for Open Space, Sport and Recreation
  - PPS22 – Renewable energy (includes a companion guide)
  - PPS25 – Development and Flood Risk
- A.7. Many of these planning policies deal specifically with issues associated with the five types of infrastructure that are under examination within the DIS. There are however several policy statements which are broadly relevant to the expansion of Daventry as a whole and as such, these policies are reviewed below.

## PPS1 – Delivering Sustainable Development

- A.8. Planning Policy Statement 1 'Delivering Sustainable Development' (PPS1) sets out the Government's overarching policies on the delivery of sustainable development through the planning system and reaffirms the Government's commitment to sustainable development and the creation of sustainable communities
- A.9. PPS1 states that sustainable development is to be the core principle underpinning planning and identifies the Government's four key aims for sustainable development as:
- Social progress which recognised the needs of everyone
  - Effective protection of the environment
  - The prudent use of natural resources
  - The maintenance of high and stable levels of economic growth and employment
- A.10. PPS1 further states that these aims should be pursued in an integrated way through a sustainable, innovative and productive economy that delivers high levels of employment, and a just society that promotes social inclusion, sustainable communities and personal well being, in ways that protect and enhance the physical environment and optimise resource and energy use.
- A.11. Paragraph 5 of PPS1 further elaborates by stating that planning should facilitate and promote sustainable and inclusive patterns of urban rural development by:
- Making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;
  - Contributing to sustainable economic development;
  - Protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities
  - Ensuring high quality development through good and inclusive design, and the efficient use of resources; and,
  - ensuring that development supports existing communities and contributes to the creation of safe, sustainable, liveable and mixed communities with good access to jobs and key services for all members of the community
- A.12. PPS1 also advises Local Planning Authorities to have regard to promoting development that creates socially inclusive communities, including suitable mixes of housing as they plan for sustainable development.
- A.13. The remainder of PPS1 emphasises a number of further points that are relevant to Daventry's continued growth and development. The most relevant issues to which regard should be had in planning for sustainable development are summarised below under the headings provided for within PPS1:

## Social Cohesion and Inclusion

- Addressing accessibility (both in terms of location and physical) for all members of the community to job, health, housing, education, shops, leisure, and communicate facilities
- Delivering safe, healthy and attractive places to live
- Supporting the promotion of health and well being by making provision for physical activity

## Protection and Enhancement of the Environment

- Protecting and enhancing the quality, character and amenity value of the countryside and urban areas as whole
- Seeking to maintain and improve the local environment and helping to mitigate the effects of declining environmental quality through positive policies on issues such as design, conservation and the provision of public space
- Various other issues including: enhancing the environment as part of development proposals and take account of environmental issues including climate change; the protection of the wider countryside and rural landscape character; flooding and flood risk; and the management of waste

## Prudent use of Natural Resources

- Encouraging the wise and efficient use of resources, in a way that respect the needs of future generations
- Enabling more sustainable consumption and production and using non-renewable resources in ways that do not endanger the resource or cause serious damage or pollution
- Minimising the need to consume new resources over the lifetime of the development by making more efficient use or reuse of existing resources, rather than making new demands on the environment; and should seek to promote and encourage, rather than restrict, the use of renewable resources (for example, by the development of renewable energy)
- Promoting resource and energy efficient buildings; community heating schemes, the use of combined heat and power, small scale renewable and low carbon energy schemes in developments; the sustainable use of water resources; and the use of sustainable drainage systems in the management of run-off

## Sustainable Economic Development

- Ensuring the provision of sufficient, good quality, new homes (including an appropriate mix of housing and adequate levels of affordable housing) in suitable locations, whether through new development or the conversion of existing buildings. The aim should be to ensure that everyone has the opportunity of a decent home, in locations that reduce the need to travel;
- Ensuring that infrastructure and services are provided to support new and existing economic development and housing;
- Identifying opportunities for future investment to deliver economic objectives

### Planning Policy Statement: Planning and Climate Change – Supplement to PPS1

- A.14. This supplement to PPS1 sets out how planning should contribute to reducing emissions and stabilising climate change. It also sets out how planning should take measures to minimise vulnerability, and provide resilience, to climate change.
- A.15. One of the most critical objectives set out in the document for planning authorities in preparing, and managing the delivery of, spatial strategies is 'in providing for the homes, jobs, services and infrastructure needed by communities and in renewing and shaping the places where they live and work, (to) secure the highest viable resources and energy efficiency and reduction in emissions'.
- A.16. In stating this objective, the Supplement to PPS1 is particularly relevant to guiding the identification of optimal infrastructure strategies for Daventry.

### PPS3 - Housing

- A.17. PPS3 sets out the national planning policy framework for delivering the Government's housing objectives (issued in November 2006). PPS3 affirms the Government's key housing goal as being to ensure that everyone has the opportunity of living in a decent home, which they can afford, in a community where they want to live (paragraph 9). Amongst the mechanisms highlighted, an increase in the supply of housing is being sought to improve affordability across the housing market. The creation of sustainable, inclusive, mixed communities is also to be sought in all areas.
- A.18. In order to achieve these outcomes, it sets out a number of principles (paragraph 11). Key is the principle of sustainable development, and that housing policies should help to develop sustainable development objectives, in particular seeking to minimise environmental impact, taking account of climate change and flood risk.
- A.19. Good design is regarded as fundamental to the development of high quality new housing. Design must be appropriate to its context. Paragraph 16 sets out a list of design matters should be considered for proposed developments. These include access to public transport and community facilities, access to open space and the need to consider biodiversity within the residential space. Achieving a variety and mix of housing is also held to be important, including affordable housing.
- A.20. With regard to identifying suitable locations for housing development, paragraph 36 indicates that in support of its objective of creating mixed and sustainable communities, the Government's policy is to ensure that housing is developed in sustainable locations which offer a range of community facilities and with good access to jobs, key services and infrastructure. Priority should be given to the development of previously developed land, although all suitable locations should make effective use of land, existing infrastructure and available public and private investment.

- A.21. Paragraph 37 sets out the Regional Spatial Strategy (RSS) policy requirements to identify broad strategic locations for new housing developments, including: focusing development in locations with good public transport accessibility so as to cut carbon emissions, and where energy supply can reliably be drawn from decentralised energy supply systems. The availability, capacity, and accessibility to major infrastructure and the feasibility of delivering the required level of new infrastructure to support the proposed distribution of development are other considerations to take into account. It is also noted that where need and demand are high, a variety of options should be considered including major urban extensions and where necessary to review any policy constraints.
- A.22. In deciding planning applications, LPAs should also have regard to achieving high quality housing, ensuring a good mix of housing, the suitability of the site for housing, including its environmental sustainability and using land efficiently and effectively, and reflects the need for housing and the spatial vision for the area and does not undermine wider policy objectives.
- A.23. Paragraph 71 states that, amongst other things, where LDDs have not been reviewed to take into account policies in this PPS, or where there is less than 5 years supply of deliverable sites, LPAs should consider favourably planning applications for housing. It further states that LPAs should not refuse applications solely on the grounds of prematurity (paragraph 72).

### PPS7 – Sustainable Development in Rural Areas

- A.24. PPS7 identifies the Government objectives for rural areas and accordingly sets out planning policy in relation to such areas, including country towns and villages and the wider, largely undeveloped countryside up to the fringes of larger urban areas. In doing so, the Statement emphasises and reiterates the key principles for sustainable development as they are set out in PPS1.
- A.25. The focus of these principles, as they are relevant to the objectives to the DIS, can be summarised as being:
- The promotion of good quality, carefully sited, accessible development within existing towns and villages;
  - To ensure accessibility is a key consideration in all development decisions;
  - To control development so as to protecting the countryside for the sake of its intrinsic character and beauty, the diversity of its landscape, heritage and wildlife and the wealth of its natural resources and so it may be enjoyed by all; and
  - to give priority to the reuse of previously developed ('brownfield') sites in preference to the development of greenfield sites where possible
  - To raise the quality of life and the environment in rural areas through the promotion of good quality, sustainable development and the continued protection of the open countryside

## Regional Policy

### Regional Spatial Strategy

- A.26. Daventry, and indeed all of Northamptonshire, fall within the area covered by the Regional Spatial Strategy for the East Midlands or RSS8. RSS8 was published in March 2005 and all statutory planning documents for the area are required to be in general conformity with the Strategy. RSS8 currently provides a broad development strategy for the East Midlands up to 2021. At present, a major review of the RSS is being undertaken which will roll forward the RSS to 2026.
- A.27. The RSS provides the framework for meeting the region's development needs through a more sustainable pattern of development. Furthermore, it contains a number of policies that are in accordance with policy guidance provided at the national level, including policies relating to transport, the protection and enhancement of the environment and the provision of infrastructure to meet the needs of both existing and future development.

### Milton Keynes and South Midlands Sub-Regional Strategy

- A.28. The Milton Keynes South Midlands (MKSM) Sub-Regional Strategy covers parts of three regions including the whole of Northamptonshire in the East Midlands and was prepared by the Government Offices of the South East (GOSE), East Midlands (GOEM) and East England (GOEE). The wider context for the Sub-Regional Strategy is set by the Government's Sustainable Communities Plan (February 2003). This Sub-Regional Strategy sets out detailed policies for the MKSM growth areas and will be incorporated in the Regional Spatial Strategies for the three regions for the period to 2021.
- A.29. The MKSM SRS establishes that whilst the major areas of new development will be concentrated elsewhere in the sub-region, smaller amounts of development will be located at places such as Daventry.
- A.30. MKSM Northamptonshire SRS Policy 1: The Spatial Framework sets a housing provision target for the District of Daventry of 540 dwellings per annum. The policy states that 'development should be focused at the Sub-Regional Centre of Daventry', and that 'in the remainder of the county (of Northamptonshire), the rural hinterlands, development should be limited with the emphasis being on meeting local needs and the retention of basic services and facilities'. However, specific to Daventry, Part B, paragraph 124 of the MKSM SRS establishes that 'Daventry will grow towards a population of about 40,000 by 2021, seeking to consolidate and extend its role by revitalising and extending the role of the town centre as a Sub-Regional Centre' with the intention that 'Sustainable growth will take place both by means of intensification within the present built-up area and expanding onto greenfield sites through one or more sustainable urban extensions'.

- A.31. It is then further stated within paragraph 124 that the exact scale, nature and location of that growth will be determined through the preparation of appropriate LDDs prepared by the District Council in consultation with relevant partners.
- A.32. Draft amendments consulted on during 2007 roll forward the housing provision targets for Northamptonshire up till 2026. In the case of the Daventry District local authority area, the draft replacement policy stipulates that the housing completion rate of 540 dwellings per annum achieved over the period from 2001 to 2021 should continue onwards to 2026. It does not however provide specific guidance on the exact proportion or number of dwellings that should be accommodated within the town of Daventry (and adjacent urban extensions). This makes it difficult to quantify the growth of the town beyond 2021, as there is no further specific guidance within the revised policy on the degree to which development should be focused at Daventry and limited in other areas.

### Northamptonshire County Structure Plan

- A.33. The Northamptonshire County Structure Plan 1996-2016 was published in March 2001, but recently expired on 28 September 2007 with the exception that eight policies have been saved. Even before this expiry, the publication of the Sustainable Communities Plan and subsequent Regional Plan and SRS for the area meant that the Structure Plan had effectively been superseded. As such, the RSS for the East Midlands and the MKSM SRS now provide the strategic land use planning context for Northamptonshire, including Daventry.

## Local Policy

### Introduction

- A.34. In accordance with the revisions under the Planning and Compulsory Purchase Act 2004, Daventry District Council is currently undertaking the preparation of a Local Development Framework to replace its Local Plan, which expired on the 22 September 2007 except for certain policies that have been 'saved'.
- A.35. The Local Development Framework will take the form of a suite of Local Development Documents that set out the policy framework for the area and how it is going to be delivered. In Daventry no Development Plan Documents have been adopted as yet, although the Council has started work on preparing them.
- A.36. Several documents are proposed as Development Plan Documents over the next three years. These include:
- Joint Core Strategy for Northampton Implementation Area (see below);
  - Daventry Central Area Action Plan (building on the 2004 Vision);
  - Site Specific Allocations and Policies;
  - Development Control Policies;

A.37. Both the Daventry Local Plan and the forthcoming LDF are discussed below.

### Daventry Local Plan

A.38. The local plan was adopted in June 1997 and expired on 27th September 2007, with the exception of a number of policies that were saved. Given that the plan has expired, and that the DIS is concerned primarily with the identification of optimal infrastructure strategies and development scenarios, it has not been necessary to consider the local plan in any degree of detail. Of the policies that have been saved, those of most relevance to the DIS are those dealing with landscape and open space issues, and these policies have been reviewed in preparing the Green Infrastructure assessment.

### Local Development Framework

A.39. The Local Development Framework for Daventry is currently under preparation. In order to progress the development of a LDF, Daventry District Council has joined with Northampton Borough and South Northamptonshire Borough Council to form a Joint Planning Unit.

A.40. Together, the three Councils have however started work on a series of Development Plan Documents, including the West Northamptonshire Joint Core Strategy. These documents will eventually comprise a series of Local Development Documents that will provide for the planned growth of the West Northamptonshire area, including Daventry. Public consultation on the West Northamptonshire Joint Core Strategy Issues and Options Discussion Paper was undertaken in Autumn 2007.

A.41. In addition to the work being undertaken by the JPU, Daventry District Council has prepared a number of locally relevant supplementary planning documents. Of most relevance to the DIS are:

- Infrastructure – Interim SPD (September 30th 2004)
- Energy and Development SPD (March 2007)

A.42. These documents have been reviewed having regard to their implications for the respective infrastructure elements that they affect.

### Joint Core Strategy – Issues and Options Paper

A.43. The JCS will comprise one of the major documents in the Local Development Framework and looks to set out the spatial planning approach between the Councils of Daventry, South Northamptonshire and Northampton. Key questions in the current Issues and Options paper include how to provide 62,125 houses together with jobs, community facilities such as schools and open space, and the transport infrastructure needed over the next 20 years across West Northamptonshire.

A.44. With respect to West Northamptonshire the following issues outlined in the document are relevant to Daventry's future expansion:

- Provision of infrastructure in a timely and sustainable manner. It includes a combination of strategic and local infrastructure, strategic being the transport facilities and local referring to schools, social care and health facilities
- To improve accessibility to important services and thus reduce the need to travel therefore minimising the impact on the environment
- To improve the quality of life for everyone who lives, works in and visits West Northamptonshire's towns and villages and rural areas by building and creating sustainable communities that are clean, green and safe
- Improve effectiveness by reusing previously developed and underused land
- Ensure a locally distinct and sustainable urban design

A.45. Overall the draft vision set out for West Northamptonshire includes the revitalised town centres in Towcester, Northampton and Daventry with substantial investment into provision of shops, housing, community and cultural facilities in addition to improved transport facilities in a quality environment. The spatial objectives in the JCS also look to promote green infrastructure and maintain a stringent design and sustainability criteria.

A.46. The JCS Issues and Options Paper also sets out the following strategic objectives:

- Achieving a high quality living environment
- Reducing the need to travel
- Managing and enhancing natural and cultural resources
- Provision of employment
- Achieving the development of sustainable towns through growth
- Locating development to maximise sustainability

A.47. Part B of the consultation document relates specifically to Daventry and sets a vision for Daventry as a Sub-regional centre based on the principles set out in the MKSM sub-regional strategy to indicate a district emerging with 'a population of 95,000 based around Daventry town with a population of some 40,000 with a vibrant commercial core which meets and sustains the economic, social, environmental, health and leisure aspirations of those who live and work in the district, whilst sustaining a high quality of life for all'.

A.48. Possible options (DO1 – DO7) for Daventry as it grows are also set and are based on the underlying themes of green infrastructure, transport, economic prosperity (i.e. encouraging knowledge based training and employment) and building and integrating communities through greater co-ordination and partnership.

## DDC Strategies, Policies and the Interim Masterplan

### Introduction

A.49. There are numerous documents that, although they do not form part of the statutory development plan for Daventry, address issues in relation to the future growth of the town. These documents are described in turn below.

### Town Centre Vision

- A.50. In 2002 the District Council commissioned the Civic Trust to develop a Vision for Daventry town centre up to 2021. This was adopted as corporate policy in May 2004, although it is not a formal planning document. The Vision includes proposals to expand shopping provision in the town centre in support of future growth of the town and is part of the aim to revitalize the town centre.
- A.51. Five key sites are identified for new development in and around the town centre and urban design studies were prepared for each. An example of one of the sites is a proposal included to examine the feasibility of a new canal arm linking Daventry with the Grand Union Canal to the north of the town. It is envisaged that the provision of a canal and marina could act as a catalyst to broaden the appeal of the town centre and help deliver the Vision.
- A.52. A provisional feasibility report commissioned by the district in 2005 has indicated that such a proposal could be feasible although there are major engineering and promotional issues to be overcome given the significant difference in levels between the canal and site for the marina. Two potential options for the route of the canal have been identified; one to the east and one to the west of Daventry Country Park. Further work is being undertaken to assess how the construction and maintenance costs of the canal might be met.
- A.53. Overall, the Vision includes proposals for increasing the variety of shops, improving pedestrian circulation, presenting the town's heritage assets, improving the green and open spaces and town centre management.

### Daventry Masterplan (Interim Draft)

- A.54. The Daventry Master Plan Interim Draft has been adopted by Daventry District Council as an interim statement of the Councils' desirable development of the town. Following consultation, while the Masterplan is proposed to be adopted as corporate policy it has not been prepared in accordance with guidance set out in Planning Policy Statement 12 and has not been subject to sustainability appraisal. It cannot therefore be given significant weight as a material consideration when making planning decisions.
- A.55. The MKSM Sub-Regional Strategy and the designation of Daventry as a sub-regional centre with allocated growth prompted its preparation. The Masterplan aims to bring together a body of land use and planning research into one more comprehensive document which is useful, however the Masterplan is short on considering other options for development and is not (at present) able to be regarded as PPS12 compliant.

- A.56. The Masterplan takes account of the Town Centre Vision and objectives of NCC, DDC, and WNDC coupled with existing transport and Development options studies. It makes various comments on transport and infrastructure to support its proposals. Under the heading of Sustainable Development the Masterplan suggests that it is looking to promote both improved bus services and a new PRT system to reduce energy use and pollution. Further to this, the Masterplan looks to the provision for a biomass fuelled heat and power (CHP) system in an effort to reduce net CO2 emissions and sustain the local rural economy
- A.57. The Masterplan also outlines the likely areas for the growth of Daventry; putting forward areas for development within the town centre and on the former college site in Badby Road, and other sites to the south east, north east, and north west of the town.

### Strategic Development Options Study (SDOS)

- A.58. The SDOS was prepared in 2005 by Atkins for the Northamptonshire Partnership and Daventry District Council to consider the options for creating a sustainable town with a population of 40,000. It was prepared as a background document to aid the LDF. The SDOS made recommendations in 2 stages. The wide area assessment identified the broad area where development was most likely to be considered acceptable and the strategic development options (SDOs) were set out for each of the broad growth scenarios identified in the first stage. The options were assessed on their impacts against environmental, social and economic sustainability criteria.
- A.59. The SDOS identifies aspects that could constrain development. Constraints are sought for issues such as Ecology, Heritage, Landscape and Geotechnical and are marked based on the level of sensitivity of the sites.
- A.60. The SDOS additionally analyses the required land area for the proposed urban expansion, assuming 8,000 dwellings. Having taken these land requirements into account, it then uses principles of urban design and accessibility to theoretically allocate the best locations for the new development and considers three different Sustainable Development Options against a set of criteria.

### WNDC Planning Principles 2007

- A.61. A key plank of the Regeneration Framework is the Planning Principles document, a draft of which was issued for consultation by the WNDC in 2007. This document explains WNDC's approach to development control and is aimed both at developers and the wider community. It sets out how these groups, and WNDC, can each contribute to meeting sustainable growth and regeneration objectives through the development control process.
- A.62. The document was revised and simplified following consultation and is foremost to be published in early 2009. The principles outlined in the document reflect national, regional and local policy objectives which are material planning considerations.

# Appendix B Infrastructure Element-Specific Policy Review

## B. Infrastructure Element-Specific Policy Review

### Introduction

- B.1 This chapter reviews the policy and strategy that is specific to each of the infrastructure elements under consideration. Each element of infrastructure is dealt with in turn; providing detail of specific considerations that are pertinent to planning for increased infrastructure provision in association with growth.

### Transport Specific Policy

#### Introduction

- B.2 This section reviews national, regional and local planning policies that are relevant to the issue of transport infrastructure provision.
- B.3 The publication of 'A New Deal for Transport' White Paper in 1998 marked the point since which there has been much policy guidance on creating a more sustainable transport system. It outlined an approach which concentrates on better integration, more travel alternatives and less dependence on private vehicular travel. Along with National Policy Guidance, the RSS and Local Development Framework, including Local Transport Plans, sets the framework within which any planning or transport decisions should fit. The following section outlines the key documents that relate to transportation infrastructure in this context.

### National Policies

#### Planning Policy Guidance 13: Transport (March 2001)

- B.4 In respect of transport and the provision of infrastructure, the main objectives arising out of PPG13 are to:
- Promote more sustainable transport choices both for carrying people and for moving freight;
  - Promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
  - Reduce the need to travel, especially by car.
- B.5 On the basis of these three principal objectives, PPG13 sets out a number of circumstances in which the provision of transport infrastructure should be managed to achieve these aims. In particular the guidance encourages the active management of the pattern of urban growth, locating development and facilities to improve accessibility on foot and cycle and public transport, promoting urban design and infrastructure provision that can support walking, cycling and public transport, and the use of parking policies that will help to restrict the demand for car travel.

### Regional Policy

#### Regional Spatial Strategy

- B.6 Of note in transport terms is the recognition given by the RSS to the importance of the northwest of the sub-area containing Daventry as a strategic location and transport node of European, national and regional significance.

- B.7 The Regional Spatial Strategy (RSS) includes a Regional Transport Strategy (RTS). The RTS supports National Policy Guidance and contains policies and proposals to help deliver the Spatial Strategy and contribute to other RSS priorities. Policy 42 of the RTS (Core Strategy and Regional Transport Objectives) directs local authorities to have particular regard to the following objectives when drawing up their Local Transport Plans (Transport Policies and Programmes) and Local Development Documents Land Use Policies and spatial Strategies):

- Support sustainable development in the region's Principal Urban Areas and Sub-Regional Centres;
- Promote accessibility and overcome peripherality in the region's rural areas;
- Support the region's regeneration priorities;
- Promote improvements to inter-regional and international linkages that will support sustainable development within the region;
- Improve safety across the region and reduce congestion, particularly within the region's Principal Urban Areas and on major inter-urban corridors; and
- promote opportunities for modal shift away from the private car and road based freight transport across the region

- B.8 These six RTS Objectives have been refined into 25 more specific Sub-area Objectives / Sub-area Transport Investment Priorities that focus on the development of transport infrastructure, including transport infrastructure to assist in modal shift away from road based transport for both passenger and freight transport.

- B.9 The RTS contains other specific policies aimed at reducing traffic growth, encouraging behavioural change, regarding parking and road user management, public transport accessibility criteria, and regional investment priorities in heavy rail, bus and light rail, integrated transport solutions and highways. The investment priorities focus particularly on alternative travel modes to the private car centre and on travel within and between the principal urban areas, regional centres and other designated growth areas.

### The Milton Keynes South Midlands Sub-Regional Strategy

- B.10 Within the MKSM SRS it is acknowledged that the movement needs of the MKSM growth area will increase future transport demands and, also, that aspirations for growth will require significant infrastructure investment. Consistent with the priorities in the Regional Transport Strategies, the strategy for the growth area will involve encouraging a shift towards more sustainable modes of travel to be achieved through improvements to key public transport facilities, increasingly applying demand management approaches and investing in the existing highway infrastructure.
- B.11 Although Daventry is designated as a sub-regional centre and mentioned as an area for growth (i.e. reaching a population of 40,000 by 2021) is nevertheless at the lower end of priorities in both the region and the MKSM sub-regional strategy, being within the shadow of the PUA of Northampton, and other larger growth areas. There are no specific infrastructure or transportation proposals outlined for the town, although some are under consideration in the local area. Generally development should follow sustainable principles and aim to support regional core objectives. For a broader description of the MKSM SRS, see Appendix A.

### Local Policy

#### County Structure Plan

- B.12 Although five transport policies were saved beyond the expiration of the County Plan, the saved policies are not especially relevant to the consideration of essential transport infrastructure for growth, such as that which is proposed for Daventry.

#### Local Transport Plan (LTP2): 2006 - 2011

- B.13 Seven objectives guide Northamptonshire County Council's (NCC's) second Local Transport Plan:
- To maintain the county's highway assets in the most economically and environmentally sustainable long-term manner;
  - To reduce the number and severity of casualties in road accidents;
  - To reduce the congestion experienced by road users essential to the prosperity of Northamptonshire;
  - To improve access to workplaces, education, health, shopping and other facilities for all the population;
  - To provide the transport system necessary to support and manage growth in the county, ensuring it is integrated with the planning system to create a sustainable and viable future environment;
  - To minimise and wherever possible reduce the effect of traffic and transport on the built and natural environment; and
  - to encourage healthier travel choices by the people of Northamptonshire

- B.14 NCC has developed a long-term Strategy for the period up to 2021, with the aim of reducing congestion, which is a key issue of the LTP2. The strategy includes policies planned for adoption to achieve the objectives above and been informed by local knowledge, experience from LTP1, testing of options as part of the Northampton Multi-Modal Study (NMMS developed by Atkins for NCC in 2002) and the strategic modelling carried out for MKSM sub-regional strategy development, as well as consideration of realistic funding availability.
- B.15 Much of this work highlights the tensions between many different objectives and how it will be necessary to find a balance to move forward. Particular actions for Daventry of relevance to this project include measures to enhance and improve the level and quality of public transport services and certain road improvements. Section 4 of the LTP2 sets out the five-year delivery programme. (Aspects of this delivery programme, including potential timetable and anticipated mechanisms for delivery, are reviewed within the Transport Infrastructure Technical Report.)
- B.16 In summary, although congestion is a key issue for the LTP, this is particularly with regard to the Principle Urban Area of Northampton. Specific to Daventry, the town is recognised particularly for its growth demands. As such, a variety of public transport and one road scheme are identified as being supported by the County through the LTP in the 2006-2011 period.

#### Daventry Local Plan

- B.17 The key policies relating to transport in the Local Plan were based on the district's strategic location close to national road and rail links, namely the M1, A428 and the West Coast Main Line.
- B.18 Apart from the general policies other key local policies which have been saved relate to:
- Permissions depending on appropriate provision for public transport;
  - Large scale developments making provision for the retention and provision of safe and convenient cycle and pedestrian facilities; and
  - environmental Improvement / Traffic Calming schemes in Daventry town centre
- B.19 Although largely superseded, and now expired, the Local Plan remained until recently the only adopted document setting the current planning context. Its key saved policies are still relevant and not out of context with the emerging but more comprehensive documents being currently prepared and consulted on.

## Other Emerging Local Policy or Non-Statutory Policy Guidance

### Northamptonshire Council - Transport Strategy for Growth

- B.20 Following publication of the Government's Sustainable Communities Plan and the Milton Keynes and South Midlands (MKSM) Sub-Regional Strategy, the County Council has responded to develop a Transport Strategy for Growth (TSfG). This sets out the integrated transport framework to support proposed housing and the associated economic growth and regeneration targets. The transport proposals are set within existing and emerging economic, environmental and social strategic frameworks necessary to ensure a sustainable future for Northamptonshire.
- B.21 Cabinet approval for the TSfG was secured on 10 September 2007. For the purposes of management the County has been split into two areas. Daventry falls within the West Northamptonshire area, which also includes Northampton and South Northamptonshire District.
- B.22 A key proposal in the document is to address modal shift with targets of 5% in existing areas and 20% for the new. Although based on a review of best practice these targets are both challenging and uncertain. To achieve them the Strategy seeks delivery of better alternatives to the car, promoting easier ways and incentives to make sustainable alternatives more attractive and hence encourage a change in travel behaviour. The strategic links identified for priority in the Strategy are a combination of road and rail infrastructure and service improvements.
- B.23 Walking, cycling and public transport feature strongly in future plans. Daventry is mentioned in the development of inter-urban services, with aims for reduced frequencies, for those between Northampton and the town. In the rural areas feeder bus services are promoted, while in the urban areas and urban extensions, high frequency routes to main centres with bus priority, real-time information and through ticketing availability are key features. Work will continue on pursuing partnership working with operators, Quality Bus Partnerships (QBP), Quality Bus Corridors (QBCs) and Bus Rapid Transit (BRT) schemes, particularly in new areas.
- B.24 Significantly rail-based systems are not thought to be justified in the County, even with the growth forecast. Improvements to existing rail infrastructure and services include the reintroduction of all day services between Long Buckby and Euston.
- B.25 Daventry is also identified for provision of high quality interchange facilities between modes. The report recognises that a parking strategy needs to be developed, with parking located near radial routes and Park and Ride considered for the most heavily trafficked roads into Northampton first and then possibly other towns.
- B.26 The core route schemes in the Daventry area are as yet unprogrammed but still included as a commitment, namely:
- A361 (Daventry – M40) traffic management scheme and
  - B4036 (Long Buckby Station – A5).

- B.27 There is a commitment to develop a town strategy for Daventry and there is already the Town Centre Vision and Master Plan being developed by the District Council, which it says is likely to include junction improvements, limited road widening and a small amount of new road construction plus public transport, walking and cycling improvements. No other schemes other than those already mentioned are included in the prioritisation of transport schemes list included as Appendices.
- B.28 In summary, the Transport Strategy for Growth targets for traffic growth reduction and modal shift are ambitious and do not reflect those in the LTP submitted to government in July 2006. The transport approach is however largely in line with the national and regional policy context and the schemes proposed to come forward (highway infrastructure, walking cycling and public transport improvements) are similarly supportive of it and other statutory local documents (Local Plan LDF, and LTP).

## Water and Sewage Policy Context

### Introduction

#### Water Framework Directive

- B.29 The Environment Agency (EA) is the national authority on environmental impacts of water and sewer systems. The EA is charged with implementing the Water Framework Directive, which is a piece of European legislation that applies to all surface freshwater bodies, groundwaters, groundwater dependant ecosystems, estuaries and coastal waters.
- B.30 The Directive is designed to:
- Improve inland and coastal waters and protect them, especially from diffuse pollution in urban and rural areas, through better land management;
  - Drive wiser, sustainable use of water as a natural resource;
  - Create better habits for wildlife that lives in and around water;
  - Create a better quality of life for everyone
- B.31 The EA works towards these goals by:
- Influencing to make sure the regulations and policies derived from the Directive get the best results for the environment with minimal administration;
  - Implement them in a modern (risk-based, proportionate) and reasoned way (based on good data, science and local knowledge);
  - Working actively with others, including stakeholders and customers
- B.32 All development must comply with the environmental requirements of the EA, which include the need to obtain a discharge consent for any surface water discharge, including stormwater, and the need for Pollution Prevention and Control Permits where applicable.

## National Policies

### PPS23: Planning and Pollution Control

Relates to the control and safeguarding of pollution, air and water quality. Requires consideration of the potential impacts arising from development on water quality and makes clear that such impacts are a material planning consideration. Promotes close co-operation between LPA's and statutory agencies.

### PPS25: Development and Flood Risk

- B.33 Planning Policy Statement PPS25 relates to development and flood risk. The policy states that the surface water drainage arrangements for any development site should be such that the volumes and peak flow rates of surface water leaving a developed site are no greater than the rates prior to the proposed development, unless specific off-site arrangements are made and result in the same net effect.
- B.34 PPS25 also states that local authorities should follow a sequential test with regard to flood risk. First choice sites should be those where the risk of flooding is less than 0.1%, second choice sites should fall between 0.1% and 1.0% and the third choice sites should be those where the risk of flooding is higher than 1.0%. According to the EA, the flood risk maps show that the only land in the study area which may be prone to flooding is a thin strip along the line of the brook which feeds and drains the Daventry Reservoir. No development is proposed within this area.
- B.35 Flood risk and drainage control will be addressed in detail under the EA Flood Risk Assessment due for completion in 2008.

## Regional Policies

### Anglian Water Services Strategic Planning

- B.36 All water and sewerage collection, conveyance, treatment and disposal for Daventry are done through the privately owned utility provider, Anglian Water Services (AWS). AWS have regional capital improvement plans through 2030. AWS and stakeholders will need to work closely together in order to ensure a similar long-term vision for growth.

### Milton Keynes and South Midlands Sub-Regional Strategy (MKSM SRS)

- B.37 The MKSM identifies in paragraphs 53 – 55 that there will be certain steps and objectives that should be observed in respect of utilities to ensure that development is sustainable. These are stated as follows:
- B.38 The planned growth will result in increased demand for water. Demand management to achieve savings on water usage per property is an essential part of this strategy, with a target savings of 25% on water consumption for new housing. Meeting the demand for water, as part of wider regional needs is likely to entail major development outside the Sub-Region, the impacts of which will need to be carefully assessed. Utilities must work with the Environment Agency and other key stakeholders on water management issues – including supply, wastewater, drainage and river quality – to ensure that environmental standards are not compromised.

- B.39 Progress in providing strategic water infrastructure and managing water resources will need to be monitored as it may affect the rate of growth that can be realised within the Sub-Region.
- B.40 The growth areas will require a strategic approach and investment programme for waste water and surface water drainage management which takes a co-ordinated approach to land drainage, nature conservation, landscape management and open space provision, so that catchment flood risk is not increased and water quality does not deteriorate as a result of cumulative impacts of development.
- B.41 Utility providers are under an obligation to plan adequately in response to growth and strengthen infrastructure provision as required. However, other stakeholders such as the Environment Agency, industry regulators (e.g. Ofwat, OfGEM) and Local Authorities have a significant influence on utility provision. Local Delivery Vehicles should engage with relevant utility providers, and with other key stakeholders if required, as an early priority to ensure that local needs are addressed.

## Water Cycle Strategy

- B.42 Section 2 of the MKSM SRS emphasises the importance of water cycle infrastructure and the need for a strategic approach and investment programme. An integrated Water Cycle Strategy (WCS) will support the LDF by fulfilling the requirement for “demonstrable evidence” of strategic water infrastructure planning.
- B.43 A West Northamptonshire Water Cycle Strategy Scoping Study was completed in June 2007. The scoping study was commissioned by the EA in order to start the process of developing a WCS. The study provides a summary of available information and key issues and will help to determine the most suitable way forward for the West Northamptonshire WCS, which will ultimately:
- Identify the demands of the proposed level of growth on existing water services infrastructure and establish its ability to deal with it
  - Consider the key areas of flood risk management, water resources and supply, foul sewerage and wastewater treatment, and other relevant aspects such as demand management, wetlands ecology and guidance for developers
  - Identify capacity issues and potential blockers to growth
  - Take account of climate change, new legislation (Water Framework Directive) and provide details of emerging best practice with regards to sustainable development
  - Allow stakeholder to plan and implement infrastructure in time to meet the needs of new housing and industry
  - Identify immediate funding and longer-term maintenance costs

## Local Policies

### DDC Infrastructure Interim Supplementary Planning Document

- B.44 In regards to water and sewer infrastructure, this DDC Planning Document includes a policy to upgrade and increase capacity for all utilities infrastructure to cater for the expansion of the town.

### Local Development Framework

- B.45 The Local Development Framework for Daventry is in its early stages. This will be made up of a series of documents to set the planning framework for the area. The West Northamptonshire Joint Core Strategy (JCS), which is currently being produced, is one of these documents and is at the heart of the LDF. The main principles which are, or could potentially be, of relevance to water and sewage from this policy are:

- Locating development to maximize sustainability
- Managing and enhancing natural (and cultural) resources

### Summary of Key Policy Themes

- B.46 The review of water and sewage and planning policy has identified the following key themes or imperatives relating to the provision of strategic water and sewage infrastructure for new development:

- Effective protection of the environment promoting the highest standards of environmental performance, including all aspects of water resource management;
- Locating development to maximise sustainability;
- Sustainable use of water as a natural resource;
- Providing the...environmental (e.g. water supply and treatment) infrastructure in accordance with current deficits and additional demands;
- Managing and reducing demand where appropriate (e.g. demand for water), to achieve savings on water use per property, with a target saving of 25% on water consumption for new housing;
- Improve inland and coastal waters and protect them, especially from diffuse pollution in urban and rural areas, through better land management; and
- Strategic approach and investment programme for wastewater and surface water drainage management, as surface water runoff from any new development must equal the runoff associated with the site prior to development

### Utilities Specific Policy

#### National Policy

#### Planning Policy Guidance 8 – Telecommunications

- B.47 Generally, this document is targeting mobile phone communications, although cross reference is made to fixed line apparatus – given the perceived intention of the document, this has been recognised but broadly discounted as steering any particular policy relating to the infrastructure provision covered under the remit of this study.

## Planning Policy Statement 22 – Renewable Energy

- B.48 Planning Policy 22 states that:  
'Development plan policies should take account of local, regional and national requirements. Renewable energy resources can usually only be developed where they can occur, and each authority should consider the contribution their area can make to meeting need on a local, regional and national basis. This contribution should reflect the nature and extent of resources in a particular area and other relevant planning considerations. Planning authorities should also bear in mind that investment in renewable energy development can make an important contribution to the national economy, and can help to meet our international commitments on limiting greenhouse gas emissions.'
- B.49 There is an inherent obligation within PPS22 to press for a minimum of 10% renewables in the consumption of electricity, notwithstanding the wider issues that the UK, as a whole, has committed to.
- B.50 It is fair to say that the guidance afforded lends itself to establishing new technology as a way forward but this requires a step change in the way that we undertake matters.
- B.51 Every effort therefore needs to be consistent with the aspiration of PPS22 but the technology needs to be utilised in a manner that both adds real value to the overall process (otherwise it becomes a cynical public relations process) and secures political support across the spectrum.
- B.52 The PPS22 document lists many different approaches based upon the assumption that areas will differ in what they are able to offer.

## Regional Policies

### Milton Keynes and South Midlands Sub-Regional Strategy (MKSM SRS)

- B.53 Relevant to utilities infrastructure, in setting out how sustainable communities are to be achieved the MKSM SRS states in paragraph 55 that:

'Utility providers are under an obligation to plan adequately in response to growth and strengthen infrastructure provision as required. However, other stakeholders such as the Environment Agency, industry regulators (e.g. OfWAT, OfGEM, OfCOM) and Local Authorities have a significant influence on utility provision. Local Delivery Vehicles should engage with relevant utility providers, and with other key stakeholders if required, as an early priority to ensure that local needs are addressed.'

## Local Policies

### Infrastructure – Adopted Interim SPD (Sept 2004 – DDC)

- B.54 The interim SPD has been written to support the 'Sustainable Communities Plan' whereby it identifies aspirations and likely impact that development above organic growth may have, but only to highlight, in the case of utilities, that issues may be encountered.
- B.55 The document, whilst valuable for the purpose it was written, does not direct developers to achieve a significant step change. Therefore, in the view of the author, there is a risk that without modification or specific mandate, conventional approaches to utility networks will be maintained.

**Energy and Development SPD (March 2007 – DDC)**

- B.56 The above document relates to the aspirations of the Local Authority whereby it broadly explains why there needs to be a step change in the way that we approach development, as well as providing narrative as to the options currently available.
- B.57 Typical examples include the aspiration to have all new homes within the town built to a minimum of Code 3\* of the Code for Sustainable Homes (above 10no. dwellings) and a 10% inclusion of renewable energy for new build non residential sized in excess of 1000m<sup>2</sup>.
- B.58 The document, whilst valuable for the purpose it was written, does not direct or mandate developers to achieve a significant step change. Therefore, it is likely that without modification or strengthening of this document, conventional approaches to utility networks will be maintained.

**Summary – Key Principles of Planning Policy**

- B.59 The key principles of planning policy that we can take as being relevant to the provision of electricity, gas and telecommunications infrastructure and services for new development are:
- To ensure the effective protection of the environment
  - Protecting, enhancing and increasing the Sub-Regions stock of strategic and environmental assets
  - To ensure the prudent use of natural resources, managing and reducing demand for natural resources where appropriate
  - To promote the highest standards of environmental performance
  - To promote renewable energy
- B.60 These principles form a sound basis for examining the potential options for the provision of the utilities infrastructure that will be required to serve the future anticipated growth set out for Daventry in the Regional Spatial Strategy.
- B.61 It should be noted however, that there are certain operational and technical considerations that are influenced via Regulatory measures and these may restrict the degree to which the above principles will impact on the provision of utilities infrastructure. These considerations are discussed in the following Chapter.

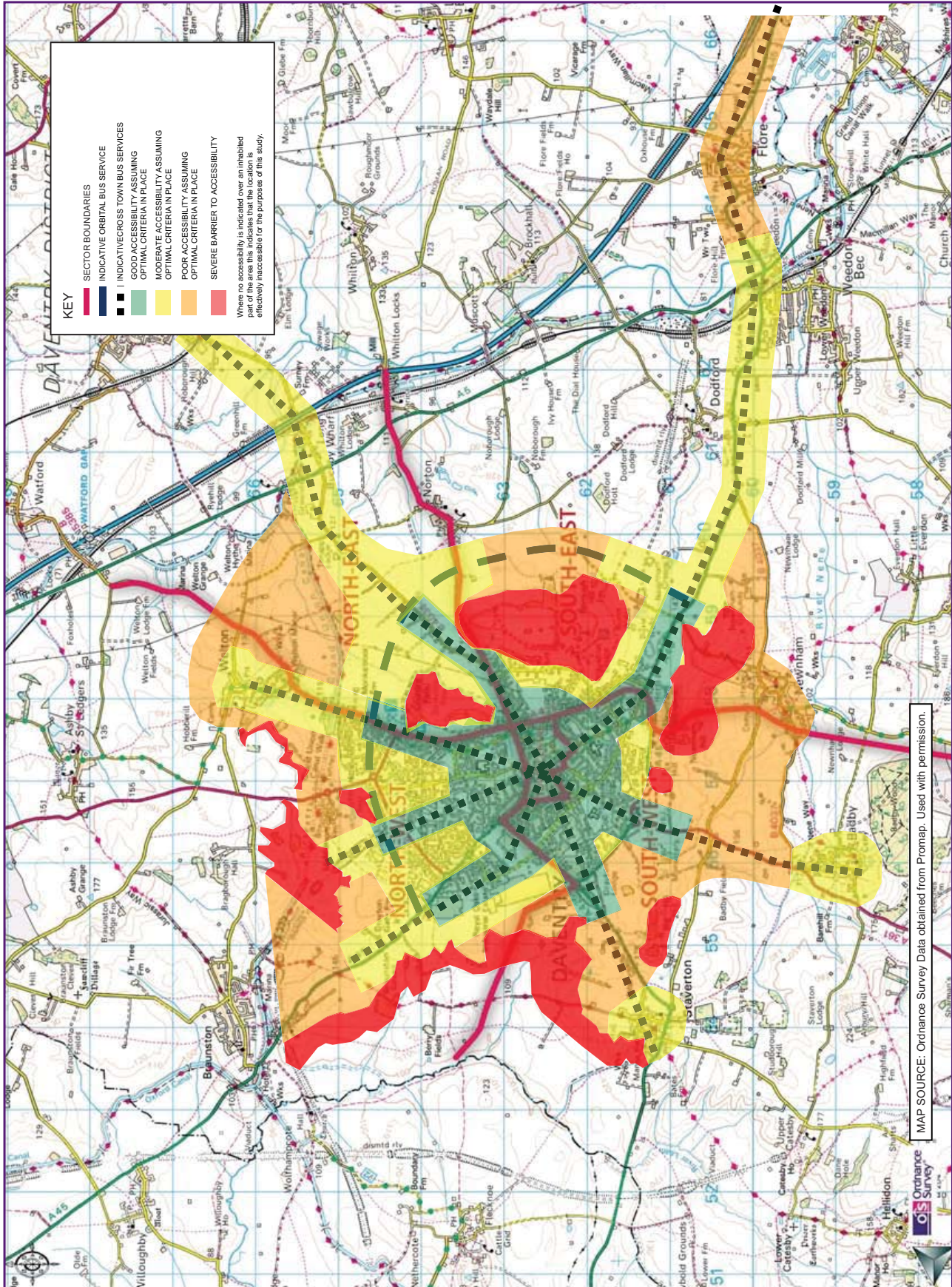
## Appendix C Identifying a Land Use Budget

### C. Identifying a Land use Budget

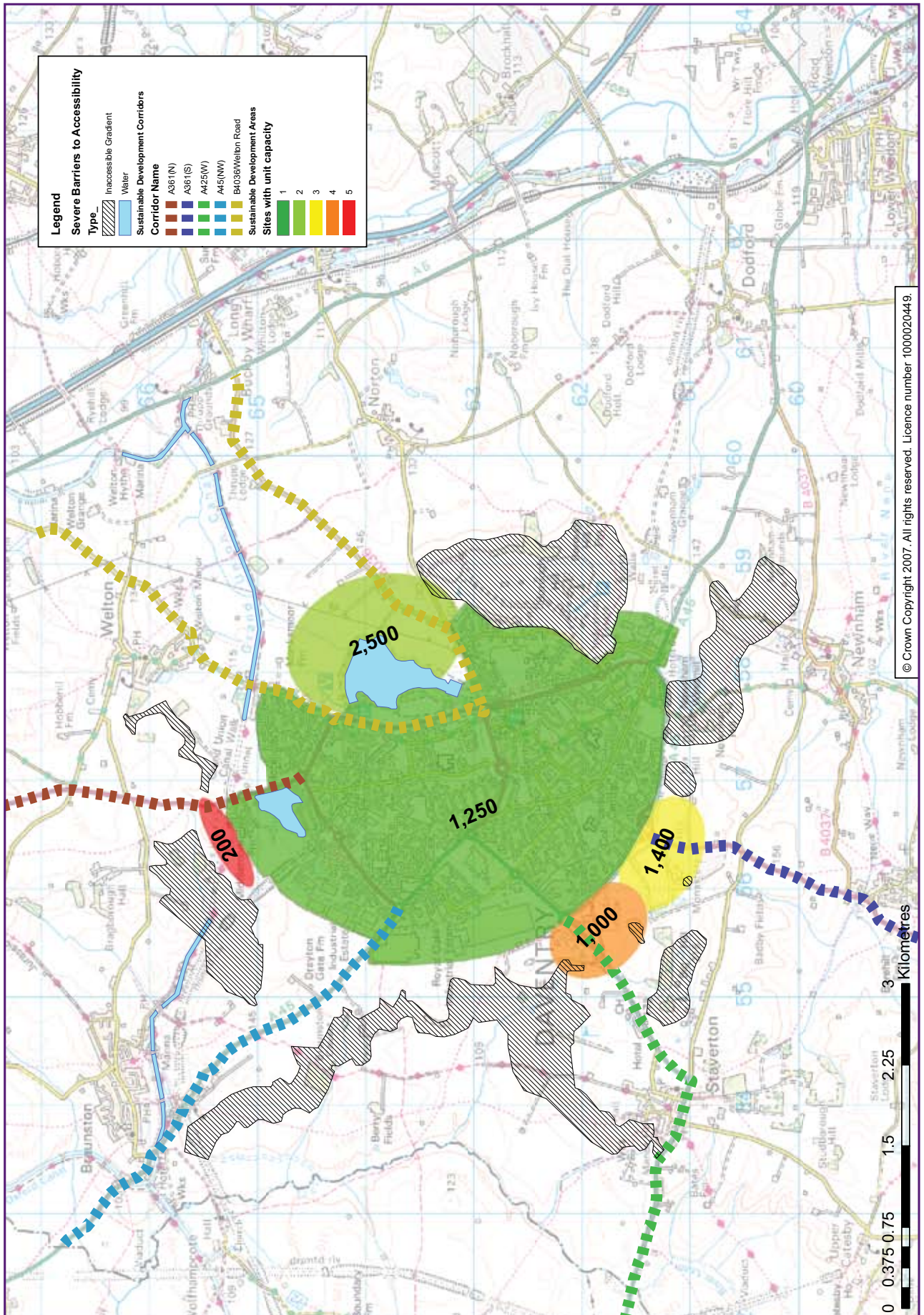
- C.1 In seeking to identify a land use budget for the urban extensions required as part of Daventry's growth to a population of 40,000 people by 2021 the following steps were taken:
- C.2 First, the population as of mid-2007 (and number of dwellings) was estimated using ONS Mid-Year population estimates from 2001 to 2005 and projecting the growth observed over that period forward for a further two years. This established that Daventry's estimated population in mid-2007 was approximately 25,379 and that the number of dwellings in the town was approximately 10,192 (assuming an average household size of 2.49).
- C.3 Secondly the increased population required for the current population to grow to at least 40,000 was determined, along with the number of additional dwellings required to house the population. This was done by using the projected average household size in 2021 to work out the expected number of dwellings in the town in 2021, and then subtracting the current population and dwelling counts from the forward projections.
- C.4 Using an assumed average household size in Daventry of 2.42 in 2021 it was determined that a population of 40,000 would entail demand for approximately 16,529 dwellings. Subtracting the current population and dwelling count from these figures gives an increase of 14,622 people and 6,337 new dwellings in order to meet the MKSM population target for the town in 2021.
- C.5 To simplify the estimate and to ensure that the land use budget did not underestimate growth potential or the amount of land required, the potential increase was rounded off to 15,000 people and the number of dwellings was rounded off to 6,500 dwellings. This was similarly done for the second land use budget table with respect to rounding off future growth to an approximately figure of 20,000 in order to estimate land use requirements through to around 2026, as prescribed by the RSS.
- C.6 The third step was to determine how much land would be required to accommodate the new growth. An important consideration at this stage was to have regard to the amount of dwelling growth that would be accommodated within the existing boundaries of the town. A desktop review of the development opportunities present within the boundaries of the existing urban area was conducted to reveal the development potential within the town. The results of this review showed that it could be reasonably expected that some 1,250 dwellings will be accommodated within the town's existing boundaries over the period to 2021.
- C.7 This means that of the 6,500 dwellings required for the population to rise to 40,000, only 5,250 dwellings would need to be built within in new urban extensions.
- C.8 A similar step was undertaken to examine the likely land budget requirements if the town grew by around 20,000 people to over 45,000. This would infer that a total of approximately 8,640 were required. But again, as 1,250 of these could be accommodated in Daventry's existing urban limits, the requirement for new homes in sustainable urban extensions would reduce to approximately 7,390.
- C.9 Once this figure was derived the final step was to use this figure to estimate the notional area of land required to accommodate the dwellings and the associated facilities and services that would be needed, including employment areas, local retail and service centres, education facilities, open space and parkland. The estimation of the area required only for housing used three different density levels to provide for a range of potential development scenarios. This included assuming density at 35, 40 and 50 dwellings to the hectare.

# Appendix D Figures and Plans

## T1 - Town Centre Indicative Accessibility Summary

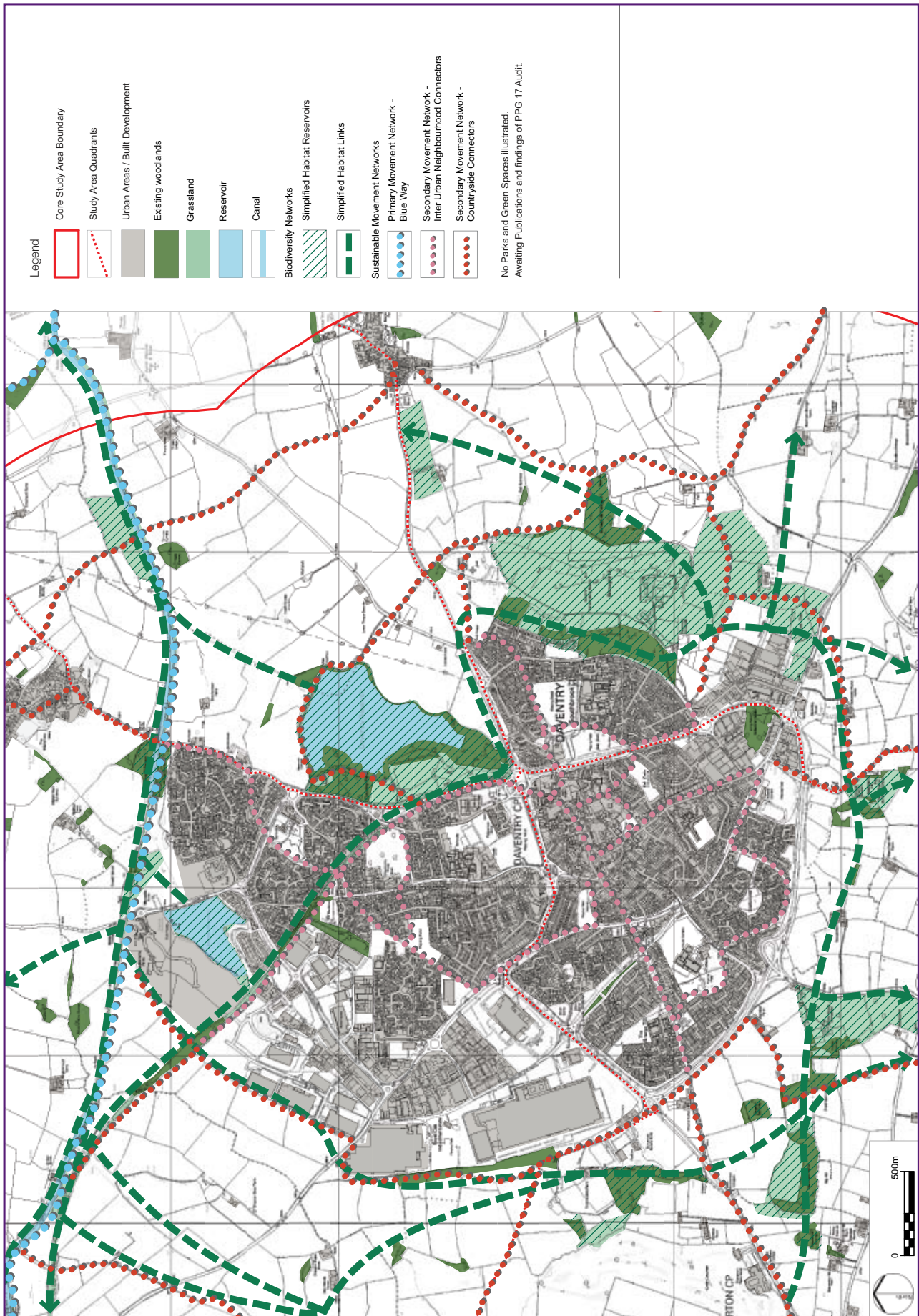


## T2 - Sustainable Development Scenario (Transport)

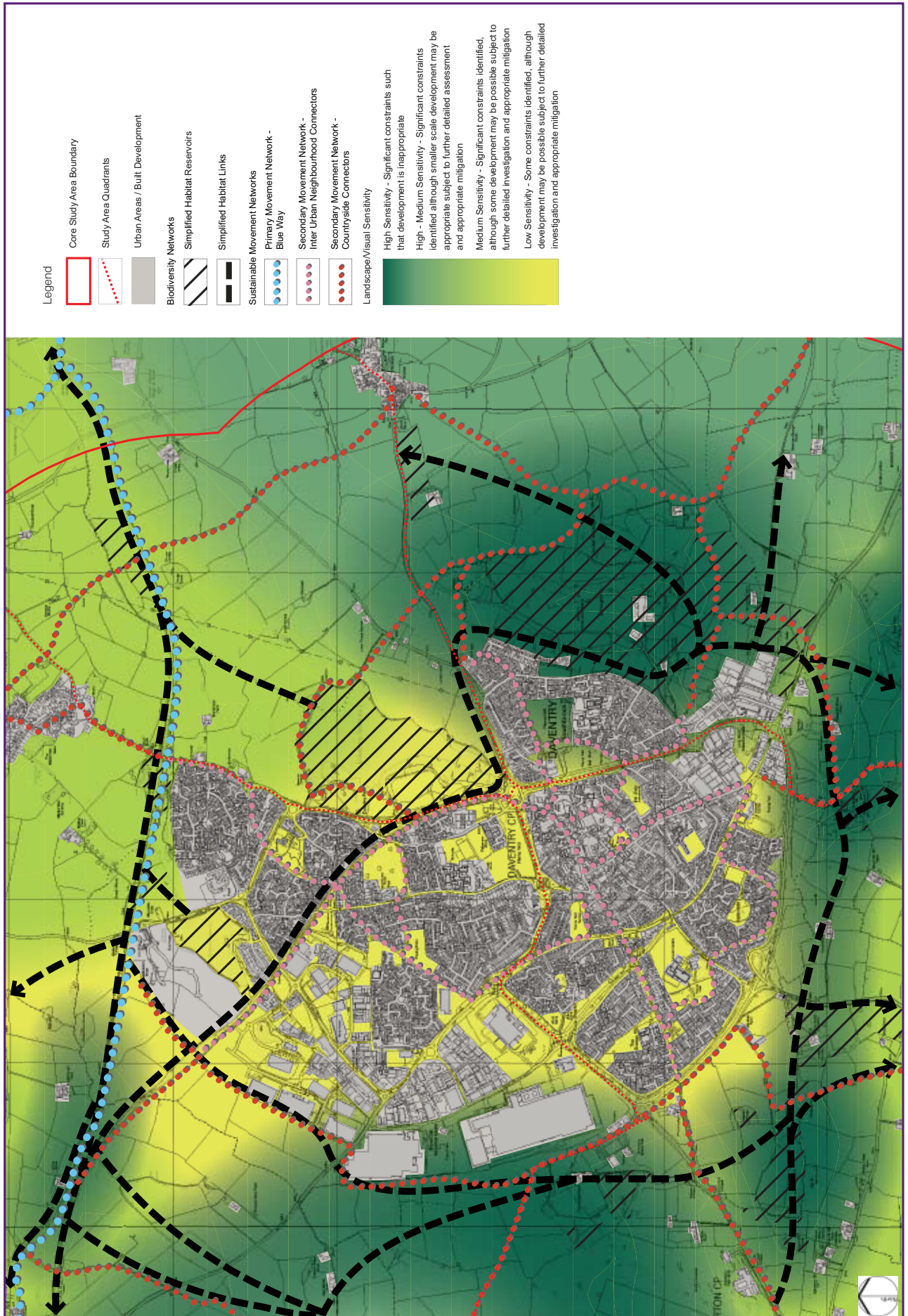


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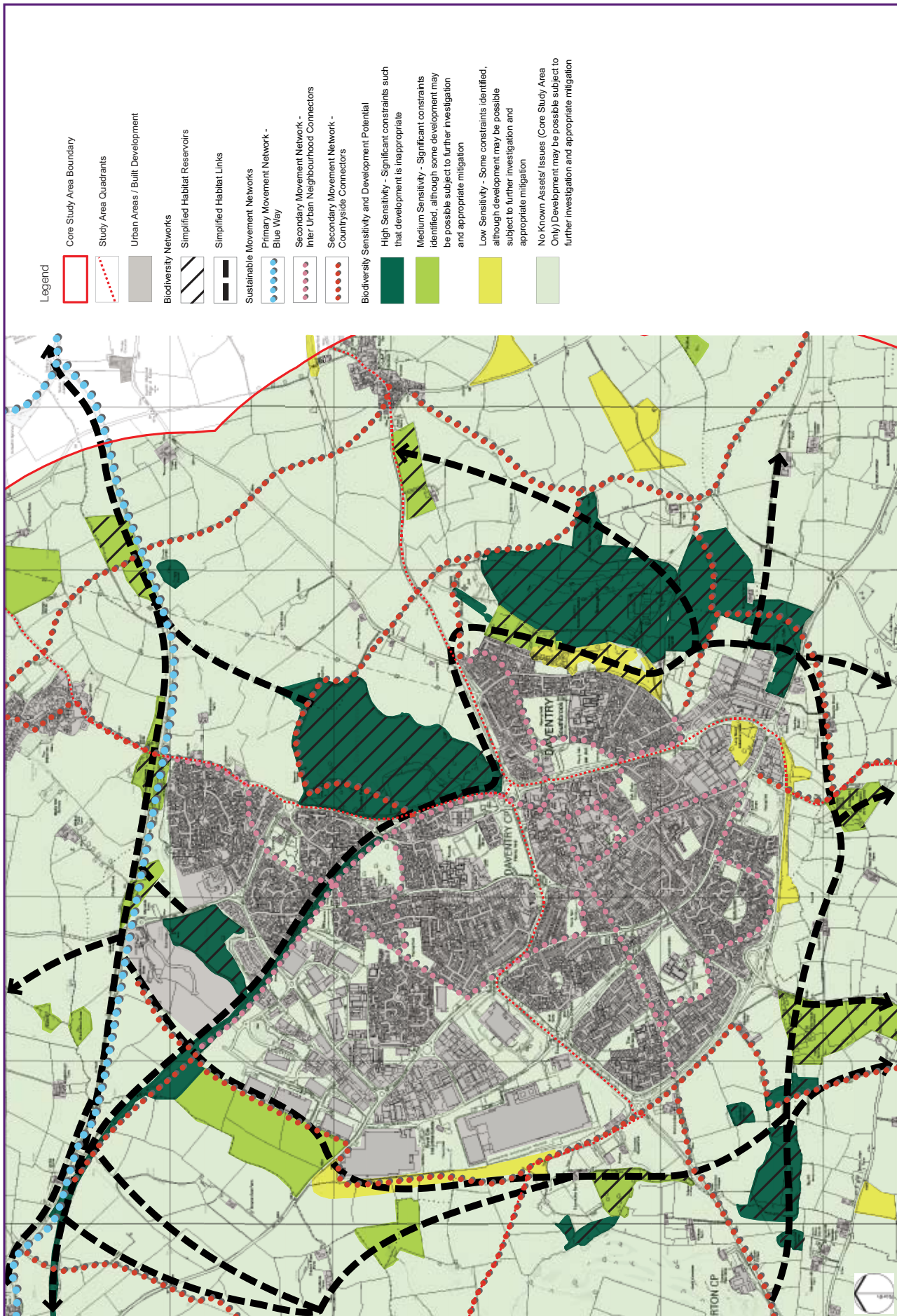
### GI & LI - Green Infrastructure Networks



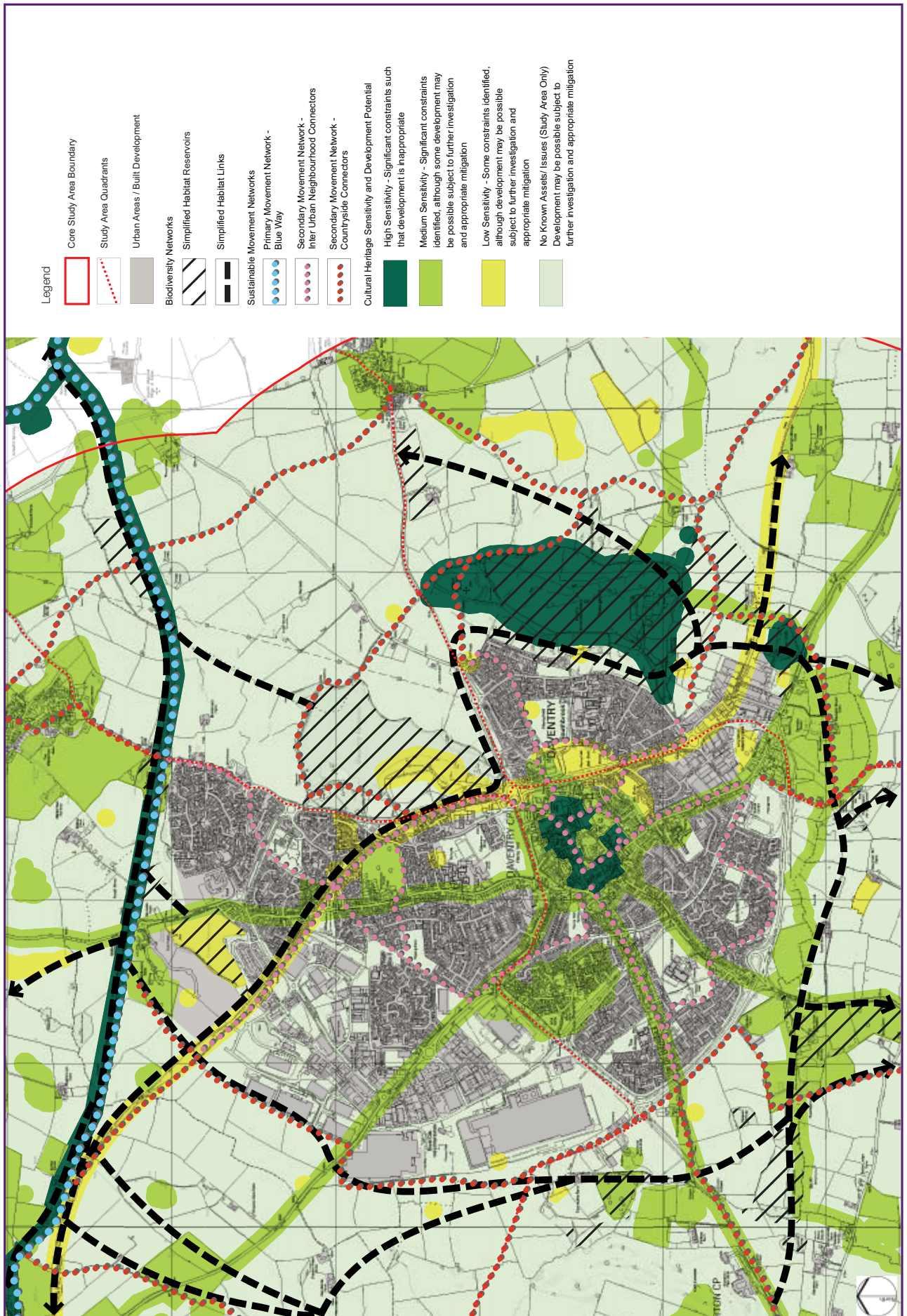
## GI & L2 - Green Infrastructure Networks with Landscape and Visual Sensitivity



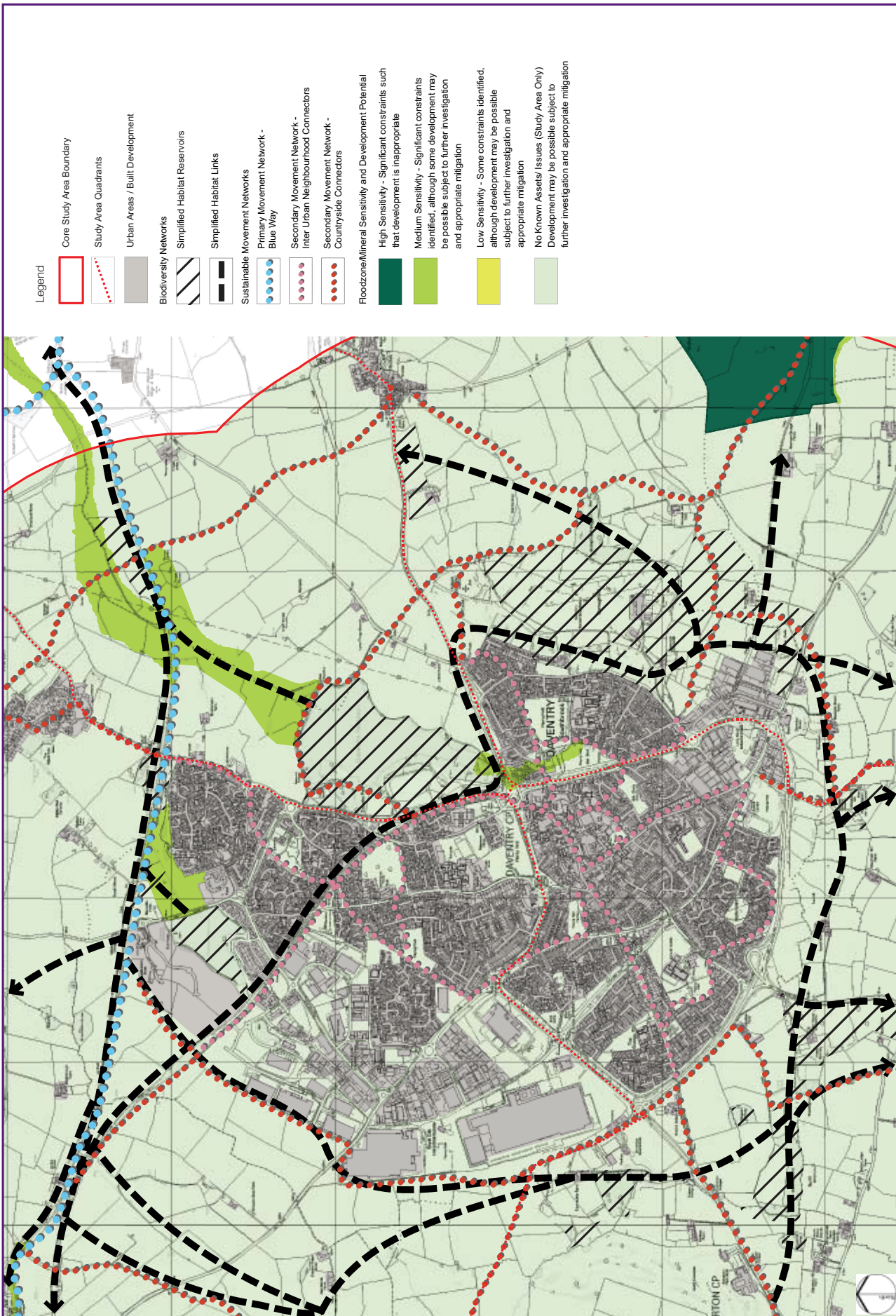
### GI & L3 - Green Infrastructure Networks with Biodiversity Sensitivity



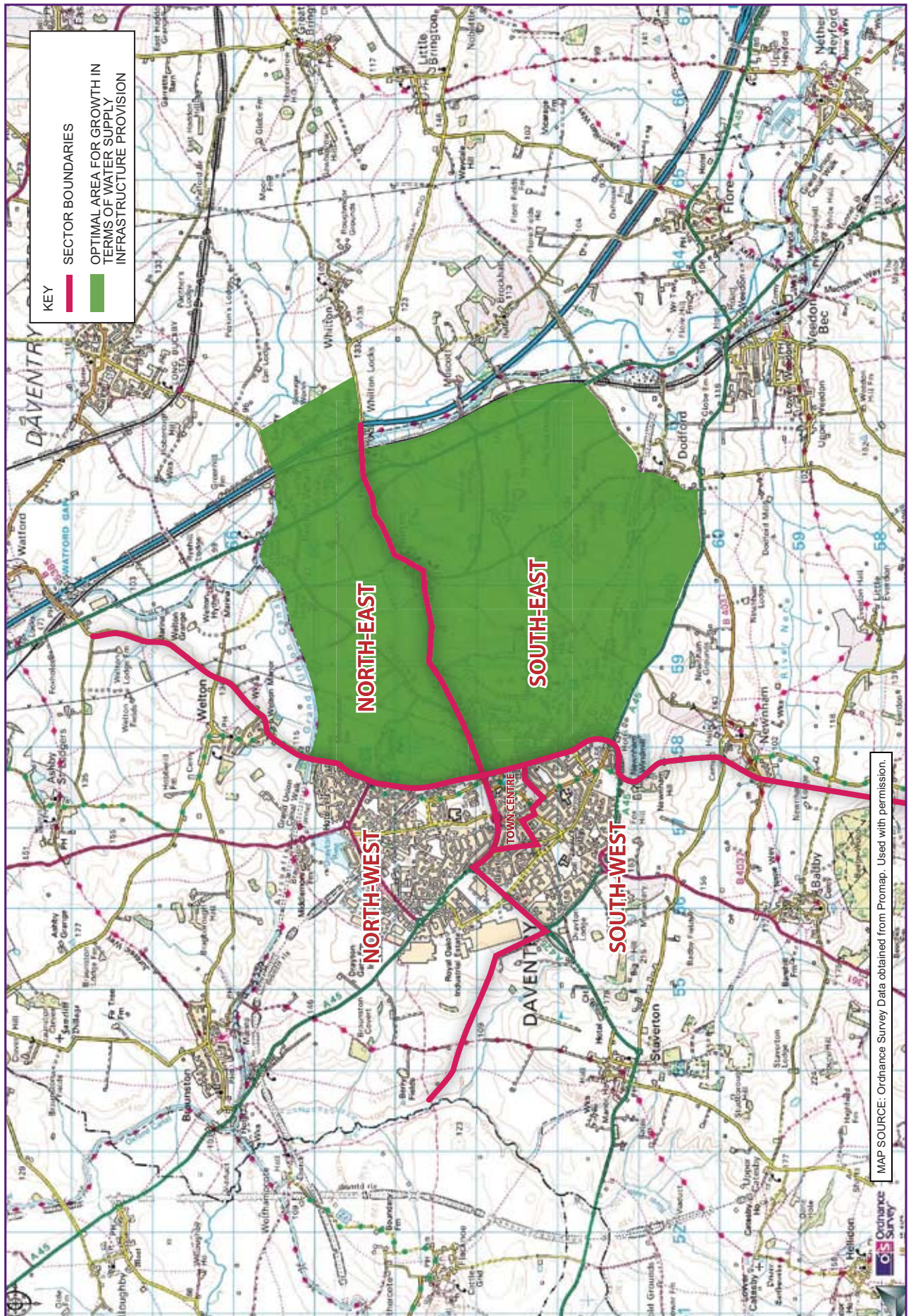
### GI & L4 - Green Infrastructure Networks with Cultural Heritage Sensitivity



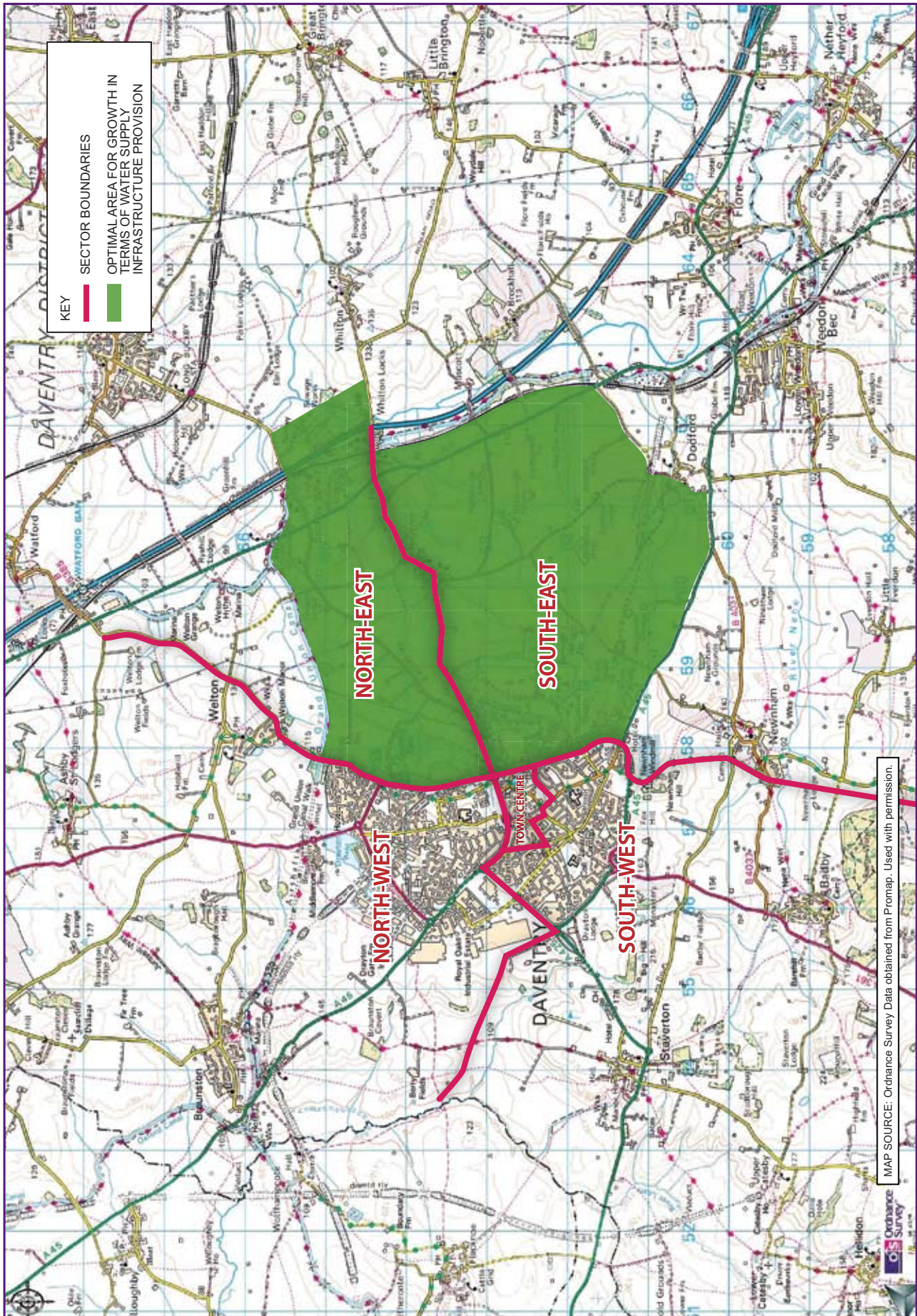
### GI & L5 - Green Infrastructure Networks with Floodzones and Minerals Sensitivity



S&W 1 - Sewage Infrastructure Opportunity Area

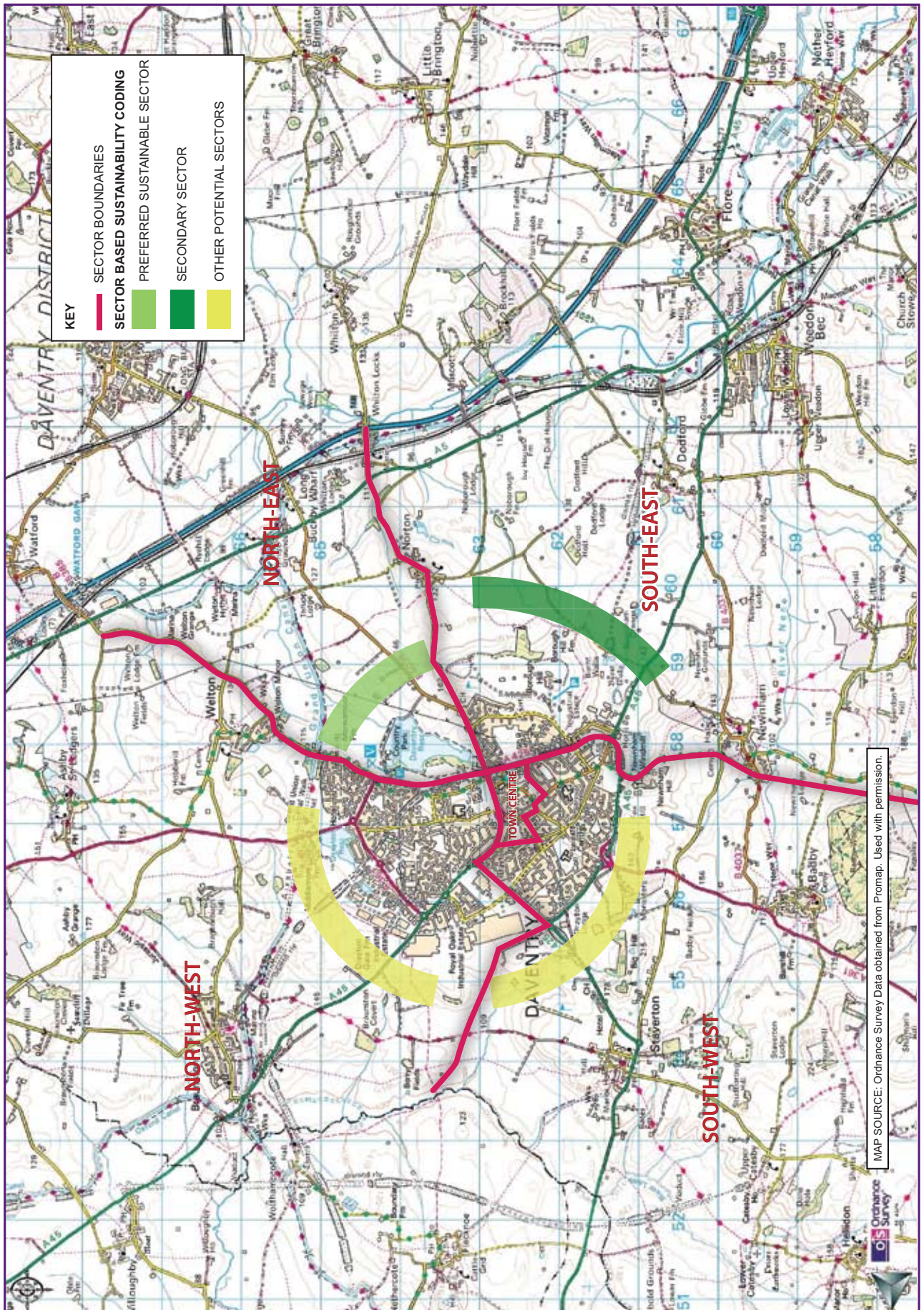


### S&W 2 - Water Supply Infrastructure Opportunity Area

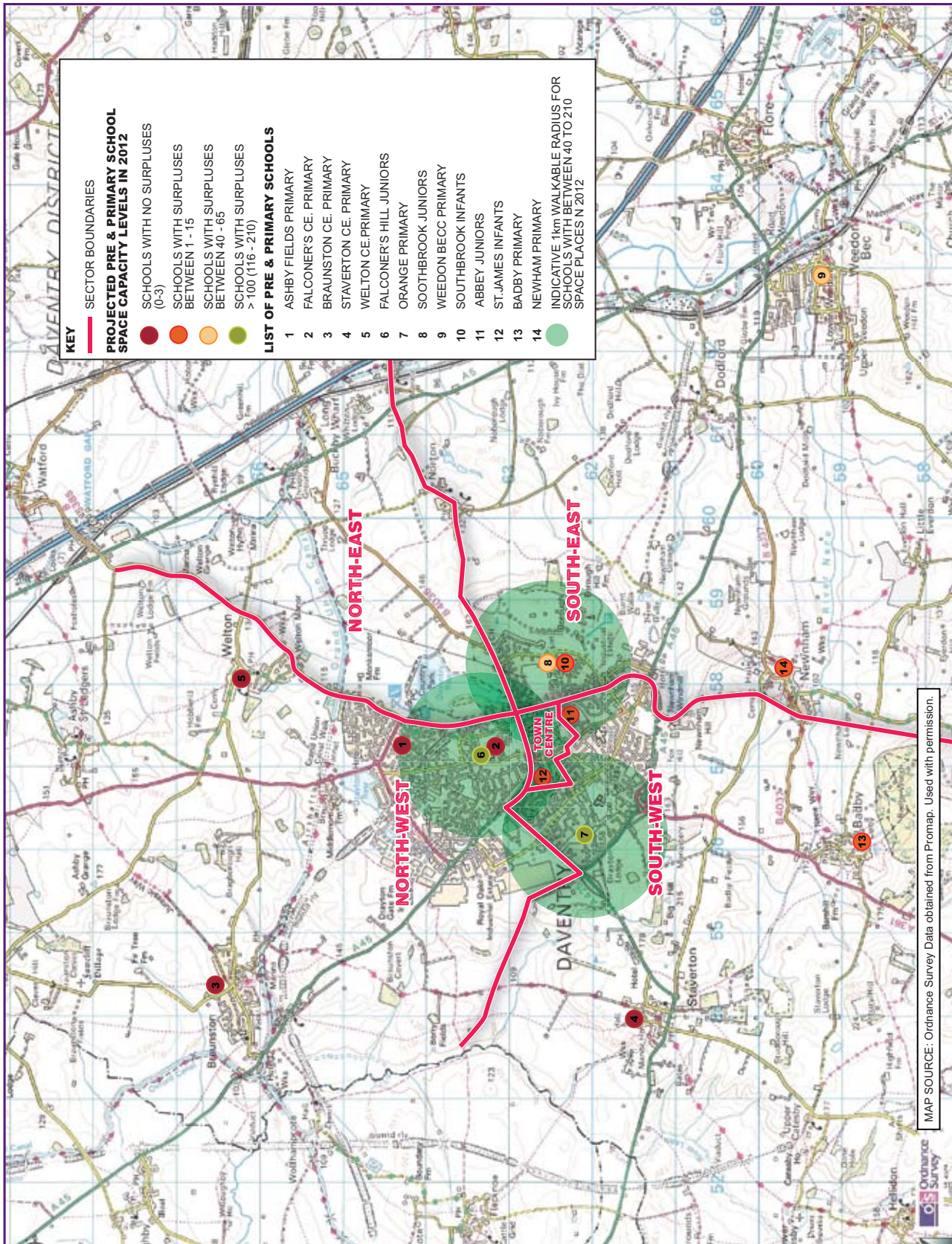


MAP SOURCE: Ordnance Survey Data obtained from Promap. Used with permission.

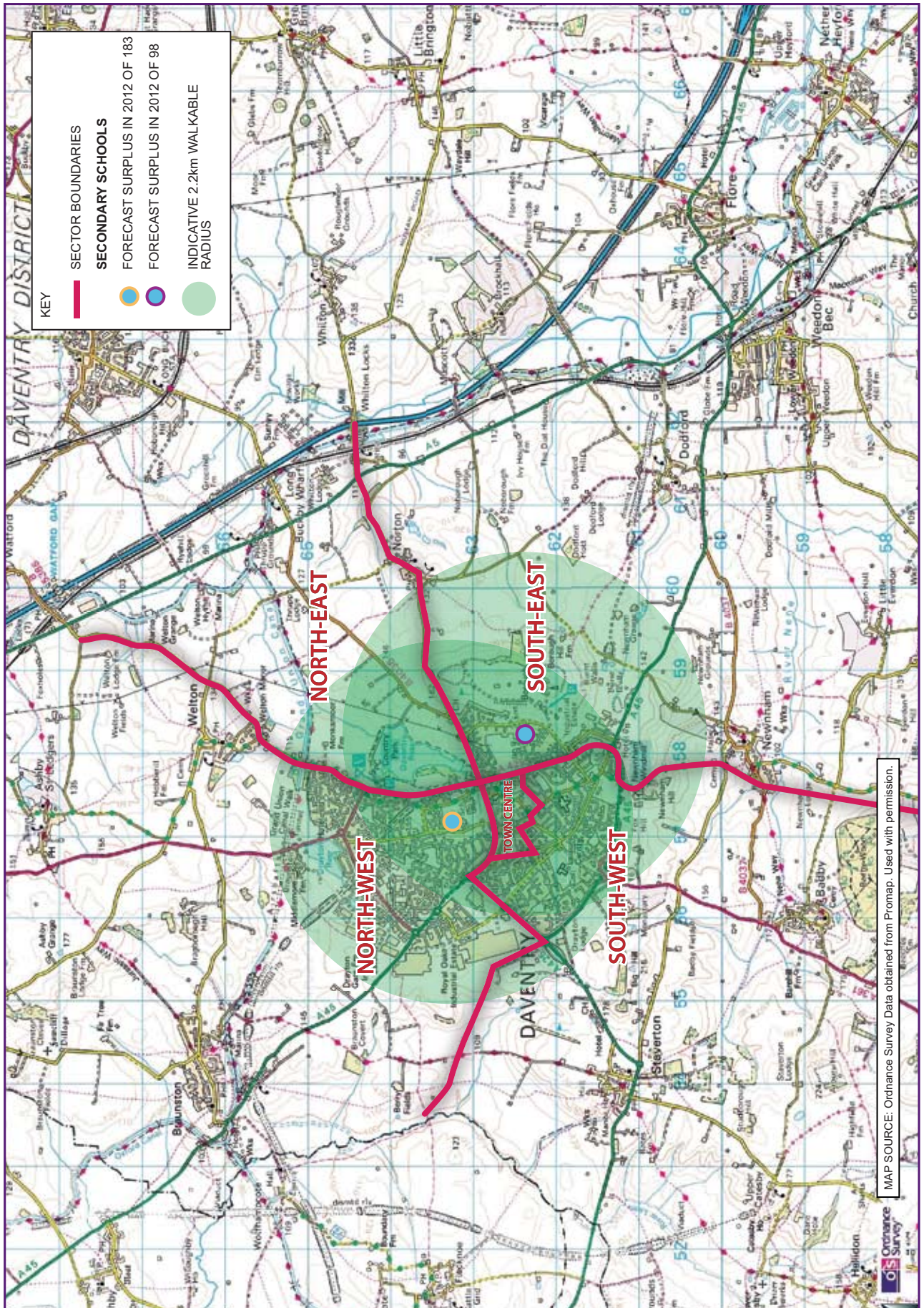
U1 - Optimal Development Sectors – Utilities Infrastructure



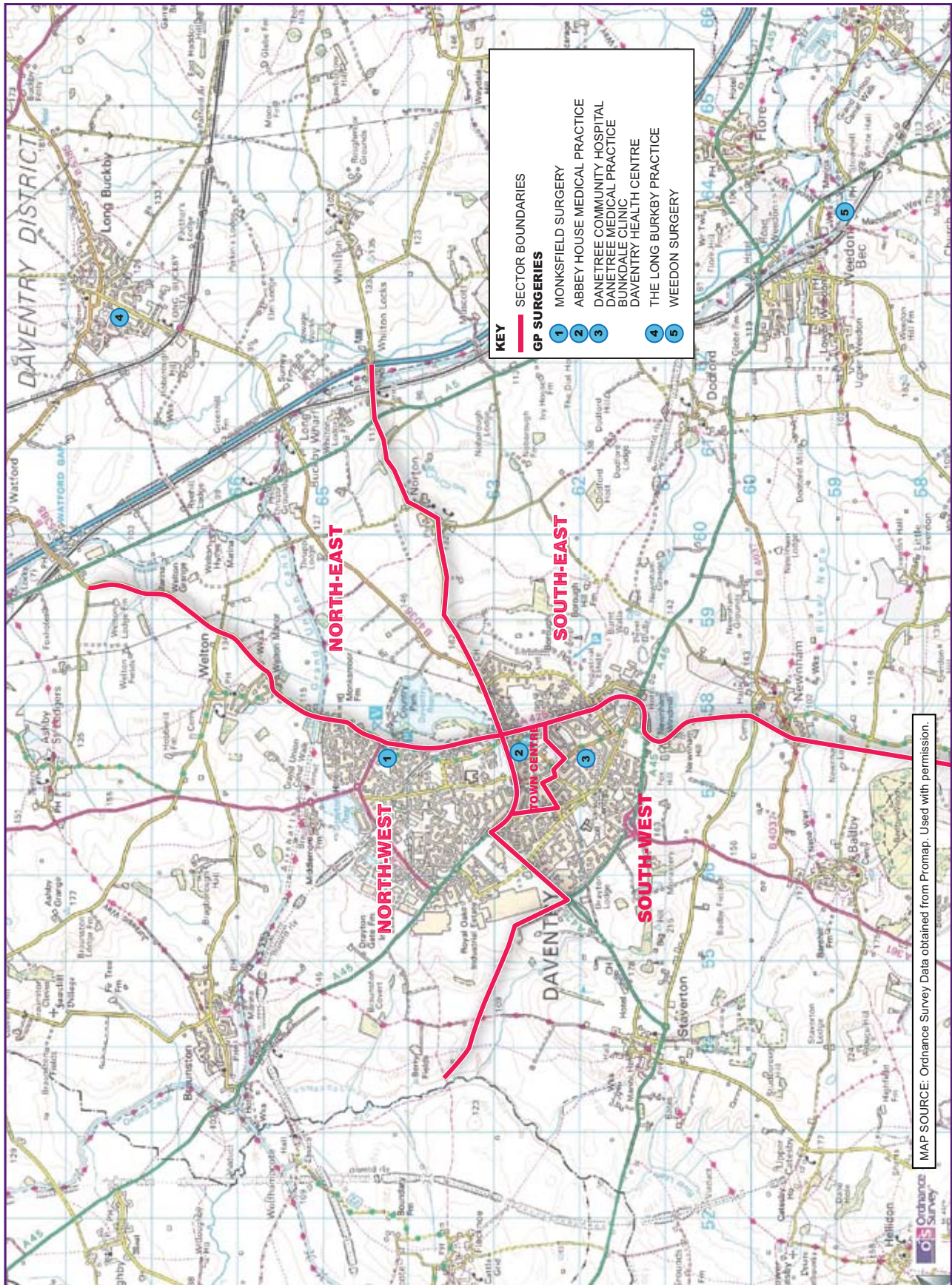
### SI 1 - Primary Schools in Daventry and Catchment Areas based on Spare Capacity



SI 2 - Secondary Schools in Daventry and Catchment Areas based on Spare Capacity



### SI 3 - GP Surgeries and Hospitals in Daventry



## Glossary and abbreviations

AAP	Area Action Plan	OFCOM	Office of Communications. Is the regulator of communications industries, including telecommunication, in the United Kingdom
AMP	Asset Management Plan	OFWAT	Office of Water Services. Regulates water and sewerage providers in England and Wales
ANGSt	Accessible Natural Green Space Standards	ONS	Office for National Statistics
AWS	Anglian Water Services	ODS	Optimal Development Scenarios
BCA	Biodiversity Character Assessment	OIS	Optimal Infrastructure Scenarios
BSP	Bulk Supply Point	PCT	Primary Care Trust
BT	British Telecom	PPG	Planning Policy Guidance
CLCA	Current Landscape Character Assessment	PPS	Planning Policy Statement
DDC	Daventry District Council	PRS	Pressure Reducing Station
DfT	Department for Transport	PRT	Personal Rapid Transport System
DIRFT	Daventry International Rail Freight Terminal	PWS	Potential Wildlife Site
DIS	Daventry Infrastructure Studies	QBC	Quality Bus Corridor
DO	Development Options	QBP	Quality Bus Partnership
DPD	Development Planning Document	Regeneration Framework for West Northamptonshire	A Decision Document on the scope of Development Control Powers to be conferred to WNDC
EA	Environmental Agency	RIGGS	Regionally Important Geological / Geomorphological Site
ECA	Environmental Character Assessment	RNRP CIC	River Nene Regional Park Community Interest Company
EIA	Environmental Impact Assessment	RSS	Regional Spatial Strategy
Firm Capacity	Refers to the capacity that can be maintained in the event of failure of the normal operational condition	RTS	Regional Transport Strategy
GI&L	Green Infrastructure and Landscape	SA	Sustainability Appraisal
GOEM	Government Office of the East Midlands	SDOS	Strategic Development Options Study
GP	General Practitioner	SEA	Strategic Environmental Assessment
HLCA	Historic Landscape Character Assessment	SIP	Spatial Investment Plan
IIS	Infrastructure Investment Strategy. Referred to as Spatial Investment Plan (SIP) in the WNDC Prospectus	SPD	Supplementary Planning Document
IP	Intermediate Pressure	SSSI	Sites of Special Scientific Interest
IRS	Infrastructure Regional Strategy	STW	Sewage Treatment Work
JCS	Joint Core Strategy (West Northamptonshire)	Sustainable Movement Network	Identifies the principal networks and opportunities for sustainable people movement from centres of settlement to the countryside
JPU	Joint Planning Unit (West Northamptonshire)	TSfG	Transport Strategy for Growth
LDD	Local Development Document	UDA	Urban Development Areas
LDF	Local Development Framework	WCS	Water Cycle Strategy
LNR	Local Nature Reserve	WNDC	West Northamptonshire Development Corporation
LPA	Local Planning Authority	WTE	Whole Time Equivalent
LTP	Local Transport Plan	WTW	Water Treatment Work
MKSM SRS	Milton Keynes and South Midlands Sub-Regional Strategy		
MP	Medium Pressure		
NCC	Northamptonshire County Council		
NHS	National Health Services		
NPFA	National Playing Fields Association		
OFGEM	Office of Gas and Electricity Markets. Is the regulator of gas and electricity markets in Great Britain		







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