

Joint Core Strategy **Pre-Submission publication**

Summary

This report seeks member approval to recommend constituent authorities to publish the Joint Core Strategy prior to submission.

Publication and submission are the last stages of document production and represent the final opportunity for the GNDP Policy Group and the District Councils to review the document before it is considered at an Examination in Public by a government Inspector.

The Joint Core Strategy must be justified and effective. This report lists the Evidence Studies that have contributed to the preparation of the Joint Core Strategy. Members must take this evidence into account when reaching a decision.

If the constituent authorities approve the Joint Core Strategy it will be published for a period of at least 6 weeks in paper and on-line to allow representations on soundness (Regulations 27 and 28). A decision on submission will follow this period.

1. Introduction

- 1.1. Attached to this report is the proposed “pre submission” version of the Joint Core Strategy (JCS) for Broadland, Norwich and South Norfolk. Evidence to be considered in reaching a decision to agree to recommend this version of the JCS to constituent authorities is attached, is available at GNDP and Council offices, or will be available at your meeting.
- 1.2. A number of relatively minor changes to the document are needed to reflect emerging evidence. A list of proposed changes will be laid on the table at the meeting.
- 1.3. The Pre-Submission version is the document that the Local Planning Authorities intend to submit for public examination in front of independent Planning Inspectors. However, before submission can take place the JCS has to be published, alongside all the supporting evidence on which it relies, for a 6 week period to allow the public and any interested bodies to make representations. These representations must challenge the “soundness” of the strategy but may not seek to modify its content unless as a consequence of claimed unsoundness. The GNDP authorities will then consider any

representations made before making the decision to submit. If material changes are required at this future stage then submission can not take place without a further round of public consultation.

2. **Background**

2.1. The Joint Core Strategy (JCS) for Broadland, Norwich and South Norfolk was the subject of an Issues and Options consultation in the winter of 2007/8. This was followed by a targeted technical consultation on draft policies commencing in August 2008 with key results and evidence considered by Members in December 2008. Following an informal review by a Planning Inspector, Members agreed on a favoured growth option to be the subject of full public consultation between March and June 2009. Due to the short timescales involved, the March 2009 public consultation reflected the favoured growth option but had not been revised in response to other issues raised during the 2008 technical consultation. Members had also agreed in December 2008 to the consideration of all consultation responses together. A summary of the consultation process is appended – Appendix 1.

2.2. The consultation stages have been documented, and members need to have regard to the outcome of consultation in reaching their conclusion on publication of the JCS. A consultation report on the Issues and Options stage has previously been reported to Members and is available on the GNDP website. The relevant documents for each of the Technical and Public stages are:

A transcript of the representations entered into the database under each question (307 pages technical, 1156 pages in nine volumes public).

The full report (722 pages technical, 1307 pages of public) of representations detailing –

- Reference number
- Representor
- Summary of representation
- For each group of representations making similar points
 - Response of officers
 - Action (recommendation for incorporation into strategy)

A summary report (105 pages technical, in preparation at time of writing public) detailing

- Reference number
- Representor
- Action
- Consequential change to the strategy

While these reports overlap, given the nature of the reports from the database, this has been found the most efficient way to enable members to see how the results of the consultation exercises have fed through to the Strategy.

In addition, a high level summary of the consultation exercises (300 pages) has been prepared, covering both stages. For each it lists

- The methodology
- The headline issues raised
- The officer responses to the headlines
- Appendices detail consultation process, events, invitees etc at each stage

Finally, for each of the local planning authorities, there is a brief statement of compliance with the respective Statement of Community Involvement.

- 2.3. The scale of the consultation undertaken and the size of the response means that the above documents are extremely lengthy and for that reason have not been appended to this report. All are available for inspection in either electronic or paper form, at the offices of the GNDP, County Council, or local planning authorities.
- 2.4. The JCS has since been revised in response to all issues raised by the technical and public consultation, GNDP Policy Group and each of the relevant Local Development Framework steering groups.
- 2.5. In addition the document has been edited to:
 - include maps and diagrams to support the text
 - take account of recent emerging evidence, in particular the Greater Norwich Infrastructure Needs and Funding Study, the Water Cycle Study 2b and the Appropriate Assessment
 - address internal comments, and comments from external advisors
 - include completed Appendices.
- 2.6. As a result of Policy Group requirements, the JCS includes a clearer scene setting Introduction, and objectives and policies have been re-ordered to place an increased emphasis on climate change, the environment, good design, energy conservation, and the protection of local distinctiveness. These policies have been significantly revised since public consultation. They are followed by further area-wide policies for housing delivery, the economy, access and transportation, culture and support for communities and enhancements to the local quality of life.
- 2.7. These generic policies are followed by the specific policies relating to places. A particular change since the public consultation version has involved the review of the settlement hierarchy. This has resulted in an increase from 28 to 58 Service Villages for small scale housing allocations and employment development, and the definition of 39 villages suitable for infill development.
- 2.8. The final policy, Policy 20 dealing with Implementation has also been revised to reflect the latest evidence and the emerging introduction of a Community Infrastructure Levy (CIL). This policy is supported by an Implementation Framework (in the JCS appendices) outlining the specific infrastructure required to facilitate the development promoted by the JCS. The Strategy is

also supported by a monitoring framework – satisfying one of the “tests of soundness”. Other appendices have also been newly produced or revised.

3. **Tests of Soundness**

3.1. Planning Policy Statement 12 ‘Local Spatial Planning’ (2008) requires three principal tests of soundness. Core Strategies must be **justified, effective and consistent with national policy**.

3.2. To be **justified** the JCS must be:

- founded on a robust and credible evidence base. This should include both evidence of participation and research/fact finding
- the most appropriate strategy when considered against the reasonable alternatives. The Sustainability Appraisal should play a key role in providing sound evidence and should provide a powerful means of proving to decision makers and the public that the plan is the most appropriate given reasonable alternatives.

3.3. Details of the evidence base, including consultation and engagement are appended to this report. The evidence is extensive and considered to be both robust and credible. Topic Papers will explain how the evidence has informed policy development.

3.4. To be **effective**, the Core Strategy must be:

- deliverable, being based on sound infrastructure delivery planning, ensuring partners are signed up and ensuring there are no environmental or other barriers
- flexible, to include contingencies to deal with changing circumstances and the need to plan over the long period (15 years or more)
- able to be monitored.

3.5. The development of the Strategy has been supported by a soundness self-assessment in accordance with guidance from the government’s Planning Advisory Service (PAS) and advice from the Planning Inspectorate (PINS). The outcome from this self-assessment is appended.

3.6. The JCS is considered to be consistent with national policy. Issues raised by the Government Office during consultation have been addressed and GO-East are represented on the GNDP Policy Group.

3.7. The Strategy must also be in general conformity with the East of England Plan. The JCS delivers all the key elements of the EEP, issues raised during consultation have been addressed, and it is expected that the JCS will be found to be “in conformity”.

4. **Recent Evidence**

4.1. A number of evidence studies have recently been completed or updated. Summaries are appended of the latest findings of the Sustainability Appraisal, Appropriate Assessment, Water Cycle Study Stage 2b, strategic traffic

modelling and the Infrastructure Need and Funding Study. List of Evidence Studies appended – Appendix 2.

- 4.2. The Sustainability Appraisal has been updated to assess the proposed JCS and has been subject to verification by consultants.
- 4.3. In addition to Sustainability Appraisal the JCS requires a Habitats Regulation Assessment (also known as Appropriate Assessment or AA). The Assessment is required to meet the obligations of Articles 6(3) and 6(4) of the European Habitats Directive in order to ascertain whether the strategy will have a significant effect on designated European sites. Sites assessed are Special Protection Areas (SPAs), Special Conservation Areas (SACs), and Ramsar sites. The Appropriate Assessment process has informed the development of the policies of the JCS.
- 4.4. The JCS area contains the Wensum and some smaller international sites and abuts or is close to extensive areas of internationally protected habitat including in the Broads, the Brecks, the North Norfolk Coast and the Suffolk Coasts and Heaths. The likely significant effects on European Habitats arising from the proposed strategy and policies arise from the direct impact of new built development such as disturbance and water resources, and indirect impacts from increased recreational/tourism pressures. The JCS has been amended to ensure that appropriate mitigation measures are incorporated throughout the document where necessary.
- 4.5. The AA has been undertaken by consultants and largely completed. However, at the time of writing, the findings have not been agreed by Natural England.
- 4.6. The Water Cycle Study stage 2b has recently been completed. The Study shows that sufficient water resources will be available to meet the proposed increase in water demand resulting from growth proposed in the JCS. Promotion of water efficiency through the JCS, increased metering and providing new strategic water resources will be required. The Study also shows that, with some upgrades, all increases in wastewater can be treated at existing works. However, based on current evidence, the study suggests the works required to protect water quality and to build new strategic sewers will require late phasing of significant elements of the development strategy. Water quality issues relate to Long Stratton, Aylsham, Acle, Loddon and Reepham and strategic sewer issues relate to Norwich, Hethersett, Cringleford, Easton and the area north-west of Norwich. The best means to overcome these constraints is being investigated with Anglian Water. Early advice suggests that it is likely to be possible to be more flexible in relation to phasing of development than currently indicated in the Study.
- 4.7. Strategic traffic modelling has been undertaken of the JCS proposals. These include the transport interventions proposed in the JCS and being developed through the Norwich Area Transportation Strategy (NATS) implementation plan, such as Bus Rapid Transit. The modelling confirms that, in overall terms, the proposals emerging in the NATS implementation plan manages the increased travel demand from the planned growth. It demonstrates that the NDR achieves its objectives and allows the other NATS interventions to be

implemented.

- 4.8. The Infrastructure Need and Funding Study (2009) identifies and costs the capital infrastructure required to support the proposed growth, advises on the role of developer contributions, and reviews potential delivery options. It identifies a potential funding gap of just over £320m which can be closed based on a best case scenario of costs and if development land costs are low (and consequently developer contributions can be high). It also advises on more formal arrangements to manage delivery and implementation.

5. **Risks**

- 5.1. There will be risks associated with any strategy and there is a balance to be struck between timely production of a plan and continuing collection and refinement of evidence including further rounds of public consultation. This Strategy has risks around the tests of soundness relating to the evidence base, the consideration of reasonable alternatives, deliverability and flexibility. The existence of a risk does not automatically imply the JCS will be found unsound. Rather it highlights issues that need to be managed. A definitive conclusion on soundness will not be reached until the Inspectors' report on the Public Examination process. Members' attention is drawn to the currently identified risks, together with an explanation of how they are being addressed.
- 5.2. A key question remains around infrastructure delivery and the efficiency of the scale and distribution of major development compared to reasonable alternatives. There are some areas where the precise pattern of future service delivery is unknown because further detailed work needs to be undertaken and the timetable for funding is not in alignment with the preparation of the JCS. The JCS does, however, provide for the introduction of a Community Infrastructure Levy and encourages innovative solutions for service provision.
- 5.3. The JCS includes limited flexibility to deal with contingencies. However it does provide some flexibility for major housing growth by expressing housing allocations as minima. Having a number of strategic growth locations around 1,000 dwellings also provides some flexibility in the timescale for their planning, design and delivery. In terms of major infrastructure projects, these are fundamental to the JCS so no alternative scenarios are proposed.
- 5.4. Delivery of the JCS is dependent on a wide range of infrastructure including some large projects such as the NDR, the Long Stratton bypass and southern bypass junction improvements. The NDR is particularly critical as the strategy for growth and transport within the JCS can not be delivered without it. A decision on programme entry is being discussed with the Department for Transport. In the absence of a positive decision on programme entry, submission of the JCS would not be advisable. The position will be considered following pre-submission consultation.
- 5.5. The Water Cycle Study 2b raises some potential concerns about the timing of delivery. This could effect both strategic development locations and smaller scale development in more rural areas, and cumulatively would undermine the ability to deliver housing trajectories. However, it is anticipated that these issues can be overcome and a mechanism put in place to bring forward the

necessary improvements to ensure no delay to housing delivery.

- 5.6. There is limited evidence to support the potential scale of development required in villages in the South Norfolk NPA to deliver the smaller sites allowance. This will have to be resolved at the site specific stage.
- 5.7. The revised settlement hierarchy has not been subject to public consultation and it.
- 5.8. A number of policies have been significantly revised or are new and have not been the subject of public consultation. These include policies on the settlement hierarchy (including several villages newly identified for housing allocations) and policies covering design, energy and water which may be challenging for development. However, these have been developed in direct response to new evidence or previous consultation.
- 5.9. At the time of writing, the Appropriate Assessment has not been agreed with Natural England. Discussions are taking place at the time of writing to resolve any outstanding concerns. It would be inadvisable to proceed to pre-submission consultation without a clear understanding of the position.
- 5.10. It is proposed to keep the risks under review and manage them by providing further explanation through a series of Topic Papers to accompany JCS publication. These will amplify the evidence and describe the local circumstances that shaped strategic choices.

6. **Next Steps**

6.1. Following the recommendation of the Policy Group:

1. the constituent authorities will need to agree the 'pre-submission' version of the JCS for publication.
2. the Joint Core Strategy, and all supporting evidence, will be published for the statutory minimum period of 6 weeks. Representations can only be made on "soundness".
3. the GNDP Policy Group will consider progress on the NDR achieving programme entry status and representations made on soundness, and agree next steps which will be:

a). on the basis that the JCS is still considered to be sound, recommend constituent authorities to submit to Secretary of State. This will enable the current timetable to be followed.

or

b. the constituent authorities accept that there is a clear possibility that the document if submitted would be found 'unsound' and revision is therefore necessary. This would delay the process by a minimum of 6 months

7. **Resource Implications**

- 7.1. **Finance** Costs of the JCS are shared by the three local planning authorities. This report has no additional direct financial implications beyond existing budgets. However, the Public Examination in summer 2010 will have costs associated with the Inspector(s) and support at the inquiry
- 7.2. **Staff** : The JCS is being developed with existing staffing resources in the four authorities and the GNDP.
- 7.3. **Property** : Some of the authorities' land holdings could be affected by the JCS but this is not a matter that should influence planning decisions.
- 7.4. **Section 40, Natural Environment & Rural Communities Act 2006:** The JCS has to deliver significant growth within an environmentally sensitive context. The implications for the local environment are addressed in the Strategy and through the evidence base including the Sustainability Appraisal and Appropriate Assessment.
- 7.5. **Legal Implications** : This report has no direct legal implications. The Regulations which accompany the preparation of a Development Plan Document are to be adhered to. Failure to consider the Regulations and proceed in accordance with them could result in either the document being found unsound or Judicial Review
- 7.6. **Human Rights** : None
- 7.7. **Equality Impact Assessment (EqIA) :**) The JCS addresses the needs of a number of vulnerable groups in the area including specifically Gypsies and Travellers, the young, the elderly and the low income / long-term unemployed. An Equalities Impact Assessment has been completed to accompany this report – Appendix 3
- 7.8. **Section 17 – Crime and Disorder Act** As a high level strategy the JCS has limited direct impact on crime and disorder. The JCS includes a number of policies that will help to address crime and disorder issues including those relating to design, community development and infrastructure. These will be expanded in subsidiary local development documents

7.9.

8. **Alternative Options**

- 8.1. Members could make significant changes to the draft JCS. Any material changes would delay the process as they would need to be subject to further assessment and, potentially, consultation.

9. **Conclusion**

- 9.1. While there are some outstanding risks, the draft JCS is considered to reflect, as far as possible, members views, consultation responses and the evidence base. The JCS is considered to be appropriate for submission, subject to

confirmation of programme entry for the NDR.

Recommendation

- (i) Having considered all the evidence, Members are asked to recommend to the constituent authorities the Joint Core Strategy for pre-submission publication.
- (ii) Seek delegated authority to the GNDP Directors, the GNDP Manager and portfolio holders to make further minor changes prior to publication to reflect emerging evidence and any necessary corrections

Officer Contact

If you have any questions about matters contained in this paper please get in touch with:

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If you need this report in large print, audio, Braille, alternative format or in a different language please contact 0344 800 8020 and ask for _____ or textphone 0344 800 8011 and we will do our best to help.

Appendix 1

Public Consultation

1. Introduction

1.1 Broadland, Norwich and South Norfolk are working with Norfolk County Council as the Greater Norwich Development Partnership (GNDP) to develop a Joint Core Strategy for housing growth and jobs in the area.

1.2 Summary of consultation:

Date	Activity	Results
Summer 2007	A series of stakeholder workshops were held that centred on a set of topic papers	Documents compiled for first round of public consultation
November 2007	The first full-scale public consultation was held on Issues and Options	The results of this consultation were published in the <i>Issues and Options: Report of Consultation 20 May 2008 – Report presented to Members 24 June 2008</i>
August 2008	A Reg 25: Technical Consultation was held with ‘specific bodies’ (statutory agencies, service providers, organisations that deliver infrastructure and other key stakeholders, including faith councils). The consultees were asked to consider three options for the distribution of major growth in and around Norwich, and draft policies covering the rest of the plan’s subject matter.	Evidence and information was presented to Councillors from the four GNDP councils, who agreed to publish a draft joint core strategy for full public consultation. The results of this consultation were published in the <i>Regulation 25 Consultation: Evidence Report-12 December 2008. Report presented to members 18 Dec 2009</i>
March 2009	A Reg 25: Public Consultation was held on a single favoured option for growth, the draft policies and the draft Sustainability Appraisal. The bodies who had engaged in the earlier technical consultation were asked to consider any changes resulting from adopting the favoured option for the Norwich Policy Area.	Following a review of the responses, the consultation period was extended to mid June. A full report on the results of the Technical and Public Consultation were published in the <i>Technical and Public Consultation Report August 2009 – Copy supplied as part of the submission papers</i>

1.3 Public consultation on “Issues and Options” took place in winter 2007/ 2008. The results of this consultation were published in the *Issues and Options: Report of Consultation 2008*. Following the public consultation and changes to planning

procedures¹, the GNDP undertook a technical consultation with “specific bodies” (statutory agencies, service providers, organisations that deliver infrastructure and other key stakeholders, including faith councils) during August / September 2008.

- 1.4 Technical consultees were asked to consider three options for the distribution of major growth in and around Norwich, and draft policies covering the rest of the plan’s subject matter. Evidence and information was presented to Councillors from the four GNDP councils, who agreed to publish a draft joint core strategy for full public consultation.
- 1.5 A single favoured option for accommodating major growth in the Norwich Policy Area was put forward by the GNDP which included large scale housing in and around Norwich and on major sites in Broadland and South Norfolk. The GNDP undertook a public consultation from 2nd March to 24 April 2009 to gauge reaction and comment to this proposed favoured option for growth, the other draft policies and the draft Sustainability Appraisal. Following a review of the response, the consultation period was extended to Friday 12 June 2009.
- 1.6 The public were encouraged to take part in the consultation via an intensive publicity campaign with adverts in the local papers, council magazines and posters in public places. 38 public exhibitions took place across the whole area and the GNDP wrote to 2000 parish councils, community organisations and local organisations. Over 7000 letters to other people who took part in previous consultations were also distributed.
- 1.7 In addition the bodies who had engaged in the earlier technical consultation were asked to consider any changes resulting from adopting the favoured option for the Norwich Policy Area. This group were only asked to respond to a subset of questions (Q10 – Q13) due to their previous involvement in the consultation process with the caveat that they could respond to the full set of questions if they wished.
- 1.8 This report details the range of methods and the results of the consultation that will inform the joint core strategy submission.

¹ Town and Country Planning (Local Development) (England) (Amendment) Regulations 2008

2.Consultation methods used

2.1 Regulation 25: Technical Consultation

In August 2008 an eight week 'technical consultation' took place. The Partnership wrote to statutory agencies, service providers, organisations that deliver infrastructure, and other key stakeholders and asked them for guidance to develop the 'content' of the strategy.

The consultees were sent the Technical Consultation: Regulation 25 document and a questions booklet. Documents were also made available on the GNDP website.

A leaflet was also sent to all householders and businesses in the three districts to update them on the joint core strategy process.

A series of dialogues had been held with developers and interested parties in the run up to the consultation, including a forum held on 4 July 2008.

2.2 Regulation 25: Public consultation

In March 2009 an eight week public consultation was launched. Towards the end of the consultation period the GNDP reviewed the number of representations received and decided to extend the consultation period to 12 June 2009 to ensure that consultees had adequate time to respond to the consultation.

A number of methods were used to advertise the consultation:

- A full page advert, detailing locations of exhibitions in the Eastern Daily Press, Great Yarmouth Mercury, Beccles and Bungay Journal, North Norfolk News, Evening News, Diss Express, Wymondham and Attleborough Mercury in week one of the consultation.
- A full page advert, detailing locations of exhibitions in the Eastern Daily Press, Evening News in week commencing 9 March and 30 March and again in the Eastern Daily Press, Great Yarmouth Mercury, Beccles and Bungay Journal, North Norfolk News, Evening News, Diss Express, Wymondham and Attleborough Mercury in week one of the consultation in week commencing 13 April 2009.
- A banner advertising the consultation on www.edp24.co.uk throughout the consultation period.
- Notices on the local authority websites and the GNDP website.
- Articles in council newsletters.
- An advert in Norwich City Council's Citizen magazine

A letter of notification of the consultation was sent to all respondents to previous consultations and those who had expressed an interest in the process

Technical consultees received a separate letter enclosing an extract of Policy 5 (the favoured option) as this was the only section to have changed since the previous consultation . A briefing session was also held for developers and other interested parties on 20 March 2009.

Parish councils received the full document and a questions booklet to enable them to respond to the consultation.

The consultation documents were made available on the GNDP website and were also made available for reading at all Council Information Centres in the GNDP area.

The report was also made available at exhibitions (see below) and was sent to anyone requesting it.

In extending the consultation the Partnership wrote to all those who had responded to, or expressed an interest in, previous consultations, the current consultations. The Partnership also advertised the extension in the Eastern Daily Press and Evening News and in the GNDP Newsletter and website.

2.3 Regulation 25: Public consultation – Exhibitions

38 public exhibitions were held between 14 March 2009 and 18 April 2009 in a number of locations in the GNDP area. These were held throughout the week and at weekends throughout the area at locations such as The Forum in central Norwich, community halls, shopping malls and market stalls. Permanent exhibitions were displayed in the district and county council offices. Officers from the GNDP authorities staffed the exhibitions and were available to help with enquiries and answering questions.

In summary a total of 1547 people were recorded as having attended exhibitions (although this probably underestimates actual attendance at busy times).

The exhibition displays were also available for viewing on the GNDP website.

2.4 Hard to reach groups

Hard to reach groups identified by the authorities were written to by the Partnership at the start of the consultation period and at three weeks before the end of the consultation period. These organisations were sent materials including a leaflet of the exhibition and a poster of exhibition dates.

Community groups and residents associations were written to asking them to raise awareness of the consultation and schools in the GNDP area were written to and offered a workshop with officers to enable young people to participate in the consultation.

2.5 Meetings held with, and presentations to, various stakeholders

A number of presentations were given to inform stakeholders about the consultation and to enable officers to answer any questions.

These included:

- Joint Local Strategic Partnerships (Broadland Community Partnership, City of Norwich Partnership, South Norfolk Alliance, County Strategic Partnership)
- GNDP Private Sector Forum
- Norwich Forum for the Construction Industry

There were also a number of meetings with stakeholders including:

- Landowners and agents representing interests in NE Norwich
- Rail providers
- Norfolk NHS

2.6 Other consultation activities

The individual authorities also carried out other activities as part of the regulation 25 consultation. Norwich City Council's Community Engagement officers were present at consultation events and asked residents a series of questions about growth in the city.

The city council also undertook a consultation with the Norwich Third Sector Forum on 9 April 2009.

Broadland District Council undertook a site-specifics consultation in conjunction with the Regulation 25 public consultation.

Appendix 2

JCS Evidence Base

The significant evidence base underpinning the LDF is outlined below:

Research and studies:

- A47 Southern Bypass Junctions Capacity Assessment Report (Mott Macdonald, 2008)
- An Economic Assessment of Greater Norwich: A companion document to the Greater Norwich Economic Strategy 2009 – 2014 (GNDP, 2009)
- Appropriate Assessment of the Joint Core Strategy for Broadland, Norwich and South Norfolk (Mott Macdonald, 2009)
- Feasibility Study for a Conference Centre and Concert Hall for the Greater Norwich Area (Tourism UK, 2008)
- Greater Norwich Development Partnership Green Infrastructure Delivery Plan (GNDP, 2009)
- Greater Norwich Development Partnership Historic Landscape and Character Assessment (Norfolk County Council, 2009)
- Greater Norwich Employment Growth and Employment Sites and Premises Study (ARUP, 2008)
- Greater Norwich Housing Market Assessment (Greater Norwich Housing Partnership, 2007)
- Greater Norwich Infrastructure Need and Funding Study (EDAW/AECOM, 2009)
- Greater Norwich Integrated Water Cycle Study – stages 1, 2a and 2b (Scott Wilson, 2009)
- Greater Norwich Joint Core Strategy Public Transport Requirements of Growth (Mott Macdonald, 2008)
- Greater Norwich Retail and Town Centres Study (GVA Grimley, 2007)
- Green Infrastructure Study (Chris Blandford Associates, 2008)
- NATS Plus Implementation Plan: Strategic Modelling of Joint Core Strategy

(Mott Macdonald, 2009)

- Norwich Growth Area Infrastructure Needs and Funding Study (EDAW, 2007)
- Pre-submission JCS Sustainability Appraisal Report (Scott Wilson, 2009)
- Strategic Flood Risk Assessment (Millard Consulting, 2007)
- Strategic Housing Land Availability Assessment (Nathaniel Lichfield & Partners, 2009)
- Sustainability Appraisal Scoping Report (Scott Wilson, 2007)
- Sustainable Energy Study for the Joint Core Strategy for Broadland, Norwich and South Norfolk (ESD, 2009)

Topic Papers

- City Centre
- Economy
- Environment
- Housing
- Implementation Governance
- Locations for Major Growth
- Settlement Hierarchy
- Transport

Stages in JCS development

- Issues and Options consultation (December 2007 – February 2008)
- Issues and Options : Report of consultation (July 2008)
- Technical Reg 25 consultation (August - September 2008)
- Technical Reg 25 : Report of consultation (Dec 2008)
- Public Reg 25 consultation (March – June 2009)
- Regulation 30 statements

Diversity Impact Assessment for the Joint Core Strategy for Broadland, Norwich and South Norfolk

Introduction

Broadland District Council, Norwich City Council and South Norfolk Council are committed to carrying out Diversity Impact Assessments as a means of integrating diversity objectives within the mainstream activities of the three Councils.

The Joint Core Strategy sets the spatial planning framework to deliver regeneration, development and growth within the three districts. It will deliver the spatial elements of the Sustainable Community Strategies for the three districts. The overarching aim of the strategy is to build sustainable communities with the key elements including:

- The opportunity to play an active part in community life and be involved in decision making
- Healthier and safer places and a high quality environment
- Access to suitable housing, jobs, facilities and services
- Opportunities for people to learn at all stages of life
- The right transport infrastructure so people can travel using varied forms of transport

An initial assessment has been carried out to identify any potential impacts that the Joint Core Strategy may have across the six strands of the diversity agenda.

Test of Relevance

The first step of the Diversity Impact Assessment is to provide an indication on whether the function has a 'high', 'medium' or 'low' impact against the diversity criteria. This is called the test of relevance. Appendix A contains the full results of the test of relevance.

In summary the findings suggest that the plan may have a medium relevance on two strands. These are race and age. With regards to race, this is due to the strategy providing for permanent and transit Gypsy and Traveller sites that will reduce the problems associated with unauthorised sites and may tackle a number of problems faced by these communities, particularly relating to low educational achievements and poor health. It will also assist community cohesion by providing properly serviced sites that will not give rise to the problems often experienced by the settled community associated with unauthorised sites. However it has been identified that community cohesion may be an issue in locations where new Gypsy and Traveller sites are proposed. Opportunities will be sought to foster trust between the settled and travelling community and reduce suspicion and people's negative perception of Gypsy and Travellers which is often a result of problems associated with unauthorised sites. The Gypsy and Travellers will also be encouraged to use mainstream education and health services which will aid integration particularly among the younger generation.

In relation to age, the strategy provides for housing of different scales across a range of settlements. The housing will be of appropriate mix of sizes, types and tenures which will be suitable for people of different ages. The affordability of housing is of concern to many young people and as such the increased provision of affordable housing will help those in housing need. Furthermore an increase in jobs (particularly higher value, knowledge

economy jobs) in the area will help retain younger people in the Norfolk area rather than them moving out to seek alternative employment.

All other strands have a low relevance. This is due to the plan being high level and not designed to contain specific detail.

Screening

A screening exercise was undertaken which used baseline data and consultation responses to identify whether different groups have different needs in relation to the strategy. This is outlined below:

Baseline data

A range of information has also been collected and analysed to provide baseline information about the area and several evidence studies have been undertaken to help identify whether different groups have different needs. The findings are summarised as followed:

- Broadland and South Norfolk are likely to experience a continue fall in the share of younger people and an increase in the population aged over 45 years old. As the population grows and ages, the need to supply facilities and services and in particular the access to them, especially in the rural area, will become increasingly pressing. An increasingly ageing population and a rising level of people with disabilities will require homes to be built to lifetime homes standards as well as the need to provide specialised accommodation where appropriate including supported housing, care facilities and retirement communities.
- The retention and attraction of young people through jobs provision and access to the housing market is a key priority. There is a need to expand all sectors of the economy and workforce but in particular to increase the proportion of higher value, knowledge economy jobs. Opportunities for innovation, skills and training need to be expanded in parallel. This would help retain younger people in the Norfolk area rather than them moving out to seek alternative employment.
- There is an identified need in the area for Gypsy and Travellers site to reduce the problems associated with unauthorised sites and to tackle a number of problems faced by these communities, particularly relating to low educational achievements and poor health. Sites should ideally be in locations which facilitate access to local services and which particularly for transit sites follow the patterns of movement of the community.
- The proportion of the population for whom English is their second language is increasing. This is likely to have implications for the future provision of services and facilities such as education and community learning.

Consultation process

Extensive consultation was carried out through the process of producing the plan with particular effort being made to ensure that the plan reflected the views of as many interest groups as possible including some traditionally 'hard to reach' groups- the elderly, children, disabled community, ethnic minority and faith groups. Issues raised by stakeholders are as follows:

- The need for a range of city centre service functions, beyond retailing was recognised, including facilities for education, training, health and young people.
- For leisure developments respondents supported a strategy that would provide a wider range of facilities for all age groups rather than just focusing primarily on young people.
- In relation to gypsies and travellers, responses showed support for transit sites close to the A11 and A47 routes through the area. Respondents also favoured (by a small margin) the provision of more smaller sites, rather than large sites for travellers, but opposed provision of sites within the growth areas.
- Ensure that there is sufficient capacity in schools.
- Health provision for the growing elderly population.
- Better graduate opportunities and more employment opportunities in service sector jobs.
- Homes should be more suitable for old people and there is a need for more family houses with gardens.
- Young people raise the issues of:
 - the need for more affordable housing
 - insufficient jobs in the area
 - cost, reliability, poor level of bus service in the area
 - the need for more varied leisure opportunities at an affordable price
 - the need for more green spaces.
- Friends, Family and Travellers raise the issues of:
 - The limit on site size is arbitrary
 - Site search for residential sites should not be contained by main routes
 - The policy makes no mention of the separate and distinct needs of New Travellers in particular

Actions

This Joint Core Strategy is the top level strategy of the Local Development Framework and is not designed to contain a precise level of detail. As such it is not possible to carry out a full impact assessment and assess the impact on all equality strands. More detailed policies and proposals will follow in Local Development Documents as part of the Local Development Framework e.g. Site Allocations, Area Action Plan and Development Management Policies. These documents will be subject to equality impact assessments but in many instances it will not be until the action stage e.g. masterplan or planning application stage that a full impact assessment will be required. This initial impact assessment will be used to inform these plans and proposals from the early stages to ensure all the above issues are taken into consideration at the appropriate stage.

Concluding remarks

The evidence does not suggest that this strategy could potentially adversely affect people due to age, disability, gender, race, religion or sexual orientation. This strategy 'sets the scene' for future policies and proposals which will all be subject to a Diversity Impact Assessment at the action stage.

Appendix A – Diversity impact assessment

Test of relevance pro forma

Name of the policy or function: Joint Core Strategy for Broadland, Norwich and South Norfolk

Date relevance test conducted: 05/08/09

Is the policy or function: New? Revised? Existing?
(please tick as appropriate)

Can the delivery of this policy or function help the council deliver the following equality duties?	Equality strands																	
	Race			Gender			Disability			Age			Sexual orientation			Religion/belief		
1. Promoting equality of opportunity	M			L			L			M			L			L		
2. Eliminating discrimination	M			L			L			L			L			L		
3. Preventing harassment	M			L			L			L			L			L		
4. Promoting good relations	M			L			L			L			L			L		
5. Encouraging participation in public life	L			L			L			L			L			L		
No. of relevant elements per strand	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
	0	4	1	0	0	5	0	0	5	0	1	4	0	0	5	0	0	5
Total:	H 0						M 5						L 25					

Priority level:

High relevance: The policy or function is relevant to **4 or 5** elements of the general equality duty.

Action required: Complete a full diversity impact assessment during **year 1**.

Medium relevance: The policy or function is relevant to **2 or 3** elements of the general equality duty.

Action required: Complete an initial screening and/or a full impact assessment by **year 2**.

Low relevance: The policy or function is relevant to **0 or 1** elements of the general equality duty.

Action required: Complete an initial screening by **year 3**.

Directorate: Regeneration and Development

Name and contact details of relevant assessor: Joy Brown (Planner)

Comments or recommendations: Undertake a Diversity Impact Assessment initial screening

Non-Technical Summary

Introduction

The Greater Norwich Joint Core Strategy (JCS) is currently being prepared by the Greater Norwich Development Partnership (GNDP) on behalf of Norwich City Council, Broadland District Council and South Norfolk District Council.¹ Scott Wilson is commissioned by the GNDP as independent consultants to undertake a Sustainability Appraisal (SA) of the JCS. The SA seeks to identify the economic, social and environmental impacts of the emerging JCS and suggest ways to avoid or minimise negative impacts and maximise positive impacts.

The JCS is now nearing completion and the point when it will be submitted to Government for approval. The latest version of the JCS is known as the pre-submission version. This SA Report sets out SA findings relating to the Pre-Submission JCS. This SA Report has been taken into account by the GNDP as they have finalised the Pre-Submission JCS. It is also aimed at a wider audience so that it can be read alongside the Pre-Submission JCS and so help consultees to make more informed responses. In these ways it can be seen that the SA seeks to ensure that the plan-making process is suitably scrutinised. Following the consultation, the GNDP will look to openly and transparently finalise the JCS taking account of consultation responses as well as the findings of the SA. It is also important to note that this is not the first stage of SA, but rather SA was also used as a tool to challenge the plan-making process at earlier stages of plan production.²

The SA has essentially involved testing the performance of the plan against a series of 21 aspirational sustainability objectives. As well as simply setting out to identify positive and negative effects with respect to individual objectives, a key aim of the SA is to highlight instances where the plan results in tensions between objectives (for example, there can often be tensions between environmental and economic objectives) and where implementation of the plan may mean that one objective must be 'traded-off' against another.

Where the SA has identified the potential for negative effects or tensions between objectives recommendations have been made that might improve sustainability performance. These recommendations are designed to 'challenge' the plan-makers and increase the transparency of the plan-making process. The Greater Norwich Development Partnership is incorporating as many of them as it can, but if a recommendation is not accepted it does not imply the JCS is "unsound" without the change. The GNDP is having to balance a range of interests, and take into account a range of evidence (of which the SA is only one element) as it determines the most appropriate approach to growth in Greater Norwich.

It is also important to note that the 21 SA objectives were developed following a consideration of local sustainability issues at the SA 'scoping stage'. A range of evidence was considered as part of the Scoping Stage, including evidence from a review of those Policies, Plans, Programmes, Strategies and Initiatives (PPPSIs), produced at all scales from the national down to the local, which set the 'sustainability context' for the JCS. The scoping stage was primarily undertaken in 2007, and resulted in the publication of a Scoping Report. However, further scoping has also been undertaken to inform this latest iteration of the SA, reflecting the fact that a range of new evidence has come to light since 2007 that changes our understanding of the sustainability context.

¹ Norwich City Council, Broadland District Council and South Norfolk District Council are each developing their own individual Local Development Framework, but have chosen to develop and adopt a *joint* Core Strategy (the JCS).

² In particular, SA findings were made available alongside the Issues and Options and Regulation 25 Consultation Versions of the JCS.

The **Table** below sets out the objectives identified for the SA of the JCS. These objectives should ensure that the assessment is focused on only those effects that are most likely to be significant. To further focus the scope of the assessment a number of additional decision-making criteria in the form of questions / prompts were also developed at the scoping stage.

SA objectives and sub-objectives

Environmental objectives:	
ENV 1 To reduce the effect of traffic on the environment.	<p>Will it reduce traffic volumes, ease the flow of traffic and reduce congestion?</p> <p>Will it increase the proportion of journeys using modes other than the car?</p> <p>Will it reduce the effect of HGV traffic on people and the environment?</p> <p>Will it encourage more benign modes of travel?</p> <p>Will new development be located such to reduce the need for people to travel?</p>
ENV 2 To improve the quality of the water environment.	<p>Will it improve the quality of the water environment (streams, rivers, lakes etc)?</p> <p>Will it help to support wetland habitats and species?</p>
ENV 3 To improve environmental amenity, including air quality.	<p>Will it improve air quality?</p> <p>Will it reduce the emission of atmospheric pollutants?</p>
ENV 4 To maintain and enhance biodiversity and geodiversity.	<p>Will it conserve / enhance natural or semi-natural habitats, and promote habitat connections?</p> <p>Is it likely to have a significant effect on sites designated for international, national or local importance?</p> <p>Will it conserve / enhance species diversity, and in particular avoid harm to protected species?</p>
ENV 5 To maintain and enhance the quality of landscapes, townscapes and the historic environment.	<p>Will it protect and enhance the quality of landscapes, townscapes and countryside character, including the character of the Broads and its setting where relevant?</p> <p>Will it maintain and enhance the distinctiveness of the landscapes/townscapes and heritage?</p> <p>Will it reduce the amount of derelict, underused land?</p> <p>Will it protect and enhance features of historical, archaeological and cultural value?</p>
ENV 6 To adapt to and mitigate against the impacts of climate change.	<p>Will it reduce emissions of greenhouse gases by reducing energy consumption?</p> <p>Will it lead to an increased proportion of energy needs being met from renewable sources?</p> <p>Will it increase the capacity of the area to withstand the effects of climate change?</p>

	Will it ensure that the risks to lives, land and property are minimised?
ENV 7 To avoid, reduce and manage flood risk.	Will it minimise the risk of flooding to people and property? Can it incorporate new designs to adapt to possible flood risk? Will it promote the use of sustainable drainage systems to reduce run off?
ENV 8 To provide for sustainable use and sources of water supply.	Will it conserve groundwater resources? Will it minimise water consumption?
ENV 9 To make the best use of resources, including land and energy and to minimise waste production.	Will it minimise consumption of materials and resources? Will it promote the use of land in sustainable locations that has been previously developed? Will it use land efficiently? Will it minimise the loss of "greenfield" land? Will it avoid the loss of good quality agricultural land and preserve soil resources? Will it minimise energy consumption and promote energy efficiency? Will it promote the use of renewable energy sources? Will it lead to less waste being produced? Will it lead to less waste being disposed, by promoting more recycling and composting? Will it increase waste recovery for other means eg. Energy generation?
Social objectives:	
SOC 1 To reduce poverty and social exclusion.	Will it reduce poverty and social exclusion in those areas most affected? Will it help to reduce deprivation levels? Will it help meet the needs of residents most effectively?
SOC 2 To maintain and improve the health of the whole population and promote healthy lifestyles.	Will it improve access to high quality health facilities? Will it encourage healthy lifestyles? Will it provide adequate health infrastructure for existing and new communities? Will the links between poorer health and deprivation be addressed? Will links to the countryside be maintained and enhanced?
SOC 3 To improve education and skills.	Will it improve qualifications and skills for both young people and amongst the workforce? Will it help to retain key workers and provide more skilled workers from school leavers? Will adequate education infrastructure be provided for existing and new

	<p>communities?</p> <p>Will it promote lifelong learning and skills training?</p> <p>Will links between lower levels of education and deprivation be addressed?</p>
SOC 4 To provide the opportunity to live in a decent, suitable and affordable home.	<p>Will it increase the range of types, sizes and affordability of housing for all social groups?</p> <p>Will it reduce the housing need and ensure that housing provision addresses the needs of all?</p> <p>Will it provide the most appropriate solutions to address the housing requirements needed for creating sustainable communities?</p> <p>Will it make best use of existing housing stock?</p>
SOC 5 To build community identity, improve social welfare, and reduce crime and anti-social activity.	<p>Will it encourage engagement in community activities?</p> <p>Will it contribute to the achievement of a mixed and balanced community?</p> <p>Will it reduce actual levels of crime?</p> <p>Will it reduce the fear of crime?</p>
SOC 6 To offer more opportunities for rewarding and satisfying employment for all.	<p>Will it reduce unemployment overall?</p> <p>Will it help to improve earnings?</p>
SOC 7 To improve the quality of where people live.	<p>Will it improve the quality of dwellings?</p> <p>Will it improve the quality of local open space?</p> <p>Will it improve the satisfaction of people with their neighbourhoods?</p>
SOC 8 To improve accessibility to essential services, facilities and jobs.	<p>Will it improve accessibility to key local services and facilities (including health, education, leisure, open space, the countryside and community facilities)?</p> <p>Will it improve accessibility for all whilst reducing dependency on the private car?</p> <p>Will it improve access to jobs and services for all?</p>
Economic objectives:	
EC 1 To encourage sustained economic growth.	<p>Will it assist in strengthening the local economy?</p> <p>Will it improve business development and enhance competitiveness?</p> <p>Will it reduce vulnerability to economic shocks?</p> <p>Will it promote growth in key sectors?</p> <p>Will it increase vitality & viability of town centres and improve economic diversity?</p>
EC 2 To encourage and accommodate both indigenous and inward investment.	<p>Will it encourage indigenous businesses?</p> <p>Will it encourage inward investment?</p>

	<p>Will it make land and property available for business?</p> <p>Will it improve economic performance across the Greater Norwich area?</p> <p>Will it support / encourage rural diversification?</p> <p>Will it support / encourage small city businesses?</p>
EC 3 To encourage efficient patterns of movement in support of economic growth.	<p>Will it improve provision of local jobs?</p> <p>Will it improve accessibility to work, particularly by public transport, walking and cycling?</p> <p>Will it reduce journey times between key employment areas and key transport interchanges?</p> <p>Will it improve efficiency and sustainability of freight distribution?</p> <p>Will it support provision of key communications infrastructure?</p>
EC 4 To improve the social and environmental performance of the economy.	<p>Will it reduce the impact on the environment from businesses?</p> <p>Will it reduce the impact on residents from businesses?</p> <p>Will it attract new investment and skilled workers to the area?</p> <p>Will it maintain existing business and employment provision?</p> <p>Will it provide employment in the best locations to serve urban and rural residents?</p>

The SA objectives have been used to appraise the sustainability of the draft policies set out the in the Pre-Submission Joint Core Strategy. The policies are listed in the table below, and described in full in the Pre-Submission JCS Document.

Full list of preferred options / draft policies from the Pre-Submission JCS

Vision and objectives
The spatial vision
Spatial planning objectives:
Area wide policies
Policy 1 - Promoting sustainability and addressing climate change
Policy 2 - Promoting good design
Policy 3 - Energy, water and ICT
Policy 4 - Culture, leisure and entertainment
Policy 5 - Supporting communities
Policy 6 - The economy
Policy 7 - Housing delivery
Policy 8 - Access and transportation

Policies for places

Policy 9 - Strategy for growth in the Norwich Policy Area (NPA)

Policy 10 - Norwich City Centre

Policy 11 - The remainder of the Norwich urban area, including the fringe parishes

Policy 12 - Locations for major new or expanded communities in the Norwich Policy Area

Policy 13 - Main Towns

Policy 14 - Key Service Centres

Policy 15 - Service Villages

Policy 16 - Other Villages

Policy 17 - Smaller rural communities and the countryside

Policy 18 - The Broads

Policy 19 - The hierarchy of centres

A brief summary of appraisal findings is set out below. The appraisal was a qualitative exercise based on the professional judgement of Scott Wilson. However, where possible, judgements were made taking into account evidence gathered at the scoping stage as well as other evidence that has come to light more recently. It was also possible to take account of comments that were made as part of the Regulation 25 Public Consultation (Spring 2009) regarding previous Sustainability Appraisal findings.

Summary of appraisal findings

The Joint Core Strategy (JCS) essentially sets out a spatial strategy and a range of thematic policies to guide how the strategy is implemented. The spatial strategy and thematic policies have been developed with the aim of achieving an aspirational vision and set of objectives. The vision and objectives were themselves developed by the GNDP specifically for the purpose of the JCS, and so have been subject to SA. The appraisal found them to be appropriate and robust, predicting that they should go some way towards ensuring that the JCS capitalises on the opportunities that present themselves in Greater Norwich.

The JCS aims to implement the housing targets for the area set by the East of England Plan and a key task is to develop a spatial strategy for distributing this development. The proposed spatial strategy has been given particular attention through the SA as a result of the potential for significant sustainability effects and the likelihood of trade-offs having to be made between sustainability objectives. The proposed housing growth strategy essentially consists of:

1. Development within the existing built-up area of Norwich;
2. A new large-scale urban extension to the North East of Norwich;
3. Major expansion of a number of existing communities in South Norfolk; and
4. Lesser expansion of other communities

The first element of the strategy involves accommodating a considerable amount of development within the existing urban area of Norwich. This has been found to have a range of sustainability benefits, including making good use of previously developed land, reducing car dependency, supporting the continued prosperity of the City Centre as a whole; and supporting the regeneration of some specific areas that have been identified as being less prosperous.

The second element of the spatial strategy involves a major urban extension to the North-East of the City, based around two or three centres either side of the proposed Northern Distributor Road (NDR). This has also been highlighted as likely to have broadly positive sustainability effects. This is particularly the case as growth here should afford plenty of opportunities for accessing Norwich and major employment locations by sustainable modes of transport. Also, the scale / concentrated nature of the growth proposed here should mean that it should be possible to achieve a high degree of self-containment (e.g. employment, services and facilities will come forward as part of the development, and thus will be accessible to residents by walking or cycling). The SA does highlight that growth in such close proximity to the NDR may encourage car-based trips, but this potential negative effect is uncertain. The SA recommends that, when considering the case for the NDR, it should be possible to assume minimal use of this road by residents of the Growth Area.

The third element of the strategy has some of the most important implications in terms of sustainability effects and trade-offs. Many of the effects relate to the fact that there is little or no potential for an urban extension to the south similar to that which is promoted to the north (because of environmental constraints, in particular the floodplain of the River Yare), and so a much more dispersed approach to growth is promoted. Dispersing growth results in a number of sustainability considerations such as the potential effects on the receiving settlements (e.g. the character, distinctiveness and quality of the local environment); and the increased difficulty of achieving a degree of self-containment and providing attractive public transport options that encourage people to use their cars less. Another issue stemming directly from the dispersed nature of the growth relates to secondary school provision. There are a range of options that might meet educational requirements, but there is no single agreed plan at present. The current proposal is that options will be kept under review as part of the implementation plan of the Joint Core Strategy.

For the majority of these major growth locations the SA has not predicted significant negative effects that cannot be adequately mitigated through careful planning. Indeed, it is the case that many of the supporting policies within the JCS (discussed further below) should go some way to avoiding or mitigating potential negative effects and capitalising on specific opportunities. For example, policies recognise that both Long Stratton and Wymondham are historic settlements that sit within a sensitive landscape setting, and set out how negative effects can be avoided and the potential positive effects of growth realised.

Some of the most significant positive effects associated with the spatial strategy promoted for South Norfolk relate to the fact that much of the growth is concentrated in areas where there is good potential for encouraging sustainable patterns of travel by public transport to Norwich City Centre and the major employment locations (although not the same potential that exists with the urban extension to the North East). In particular, the SA notes that growth is focused along the A11 corridor (Wymondham, Hethersett and Cringleford) and at Costessey/Easton to the West, both of which are areas where there should be the potential to connect to Norwich via a 'bus rapid transit' service³ (although it is difficult to be completely certain about deliverability / financial viability at this stage).

However, one of the major growth locations – Long Stratton – does stand out as being less suited to encouraging more sustainable patterns of travel. This relates to the fact that Long Stratton is geographically isolated from Norwich and major employment locations in comparison to the other major growth locations; and to the fact that there is little potential to deliver public transport improvements that will have a realistic chance of encouraging people out of their cars. This is undoubtedly a significant negative effect of the spatial strategy, and probably the key issue that has been highlighted through this SA. However, it is important to bear in mind that the scale of growth promoted at Long Stratton (1,800 homes out of 14,200 that are promoted at major growth locations outside Norwich) is not such that these

³ A bus rapid transport service is essentially one that gives a considerable degree of priority to buses, rather than to cars, leading to attractive frequencies, reliability and journey times.

negative effects place in question the overall sustainability of the JCS in terms of achieving sustainable patterns of travel (and addressing climate change mitigation).

Furthermore, it is important to point out that, although there are some negative effects associated with growth at Long Stratton, there is the potential for significant positive effects. In particular, growth at Long Stratton is (in all likelihood) the only route in the short to medium term to securing funding for a bypass of the town. A bypass is strongly desired in order to reduce through-traffic and so bring about environmental improvements. The evidence does point to existing problems of environmental quality in the centre of Long Stratton, particularly in terms of air quality, and so there is some certainty that a bypass could lead to significant benefits. However, it is more difficult to say whether the 'local level' benefits associated with growth at Long Stratton outweigh the more 'strategic' disbenefits (as the GNDP consider to be the case). Irrespective of the answer to this question, there must be focused efforts to mitigate negative effects. The plan does set out the intention of delivering new services, facilities and employment opportunities in Long Stratton, ancillary to the housing growth, but a recommendation of the SA is that there is justification for going further, perhaps developing a bespoke vision for achieving an ambitious degree of self-containment within Long Stratton.

In terms of the fourth element of the growth strategy, the SA has generally predicted positive effects. This conclusion relates to the broad implications of the settlement hierarchy that is proposed through the JCS (it has not been possible to consider each settlement individually in a similar fashion to the major growth locations). The hierarchical approach that is promoted should generally ensure that the amount of growth targeted to a settlement is directly dependent upon the size of the existing settlement, and, more specifically, the availability of local services, facilities and employment opportunities. This is a sensible approach that should help to reduce car dependency. However, it is noted that some smaller settlements (key service centres) may be required to deliver more houses than would ideally be the case taking into account access to local services, facilities and employment opportunities.

In terms of many of the other Policies that seek to guide *how* development should come forward, the SA is able to conclude that they generally represent a range of sensible proposals that will address many of the sustainability constraints and opportunities presented by the spatial strategy. These Policies have been developed taking account of a range of evidence base studies. There is a considerable emphasis on implementing the Green Infrastructure Strategy, and the findings of the Energy Study have largely fed through into Policy. The 'housing delivery' Policy is also carefully thought out, with considerable justification given regarding the approach that will be taken to delivering affordable housing. Reference to background evidence helps to increase the robustness of the policy-making process and demonstrate that Policies have been developed to address the issues that are specific to the Greater Norwich Area. Another example is the 'Economy' Area Wide Policy, which has a focus on developing the tourism, leisure, environmental and cultural industries. This is supported by a Policy that is devoted to capitalising on Norwich's regional role as a centre for 'culture, leisure and entertainment'. There is also a major focus on developing the 'knowledge economy', including through promoting a number of strategic employment locations (which are all well located, with good access to the major growth areas).

As a final point, it is important to note that, at the time of preparing this SA, the GNDP were still awaiting the publication of a study into Infrastructure Need & Funding. This will be a crucial part of the evidence base (that will be taken into account by the GNDP and can also inform SA). Another important evidence base study that was still unfinished at the time of preparing this SA was the Water Cycle Study Stage 2b.

Summary

The Joint Core Strategy

The JCS sets out the spatial vision for development in the Broadland, Norwich and South Norfolk areas. It will form the key document in the Local Development Framework (LDF) portfolio of planning documents for each local authority, which will set out the vision, objectives and spatial strategy for future development until 2026.

Broadland, Norwich and South Norfolk Council are working together under the Greater Norwich Development Partnership (GNDP) to prepare the Joint Core Strategy (JCS), a framework to plan for future development in Norwich city and the surrounding area.

Task 1 Appropriate Assessment: Likely Significant Effects

Following the detailed review of the JCS and the formulation of the Task 1 Test of Likely Significance Appropriate Assessment screening matrix, a number of policies were identified which could potentially result in likely significant effects on European and Ramsar designated sites. These were:

Direct and Indirect Impacts on Designated Sites:

- The Broads SAC: potential impacts from the implementation of Policies 4 and 5 (all habitats and the species Desmoulin's whorl snail).
- Broadland Ramsar: potential impacts from the implementation of Policies 4 and 5 (to calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*, alkaline fens, alluvial forests with *Alnus aglutinosa* and *Fraxinus excelsior* and to Desmoulin's whorl snail).

In-combination and Cumulative Impacts on Designated Sites:

- Broadland SPA: potential in-combination impacts from the implementation of Policies 4, 5 and 7.
- River Wensum SAC: potential in-combination impacts from the implementation of Policies 4, 5, 7 and 16.
- The Broads SAC: potential in-combination impacts from the implementation of Policies 4, 5, 7 & 16.
- Broadland Ramsar: potential in-combination impacts from the implementation of Policies 4, 5, 7 and 16.

Task 2 Appropriate Assessment Findings

After taking into consideration the findings from Task 1 Appropriate Assessment, the JCS policies were reviewed and revised. Subsequently, this Task 2 AA concludes that it is highly unlikely that significant direct and indirect impacts are anticipated from the implementation of the JCS alone. This is due to:

- The inclusion of two new policies (Policies 1 and 2) which offer protection to environmental assets in particular European and Ramsar designated sites, and;
- Compliance with the Water Framework Directive (WFD), which will avoid harm to water dependent habitats and species that they support. This should be achieved through: (i) enhancements to existing STW where an increase discharge is anticipated; (ii) amendment of water abstraction licences where applicable.

However, uncertainty remains regarding in-combination and cumulative impacts, for which it is deemed that there is insufficient information, at this stage to determine whether the impact would be significant or not.

Task 2 Appropriate Assessment Recommendations

Following the undertaking of the Task 2 Appropriate Assessment a series of recommendations are made for modification to the JCS policies. These modifications would strengthen the policies to ensure no significant impacts:

- Policy 3, reference to be made of the Water Framework Directive. The WFD makes it very clear that all abstraction must be in compliance and have no adverse impacts on designated sites;
- Policy 7, revise text: “All access and transport developments will be undertaken in accordance with national planning guidance and have no significant adverse impact on European & Ramsar designated sites. Where possible all new access and transportation developments will seek, through appropriate mitigations, to provide benefits to biodiversity.”
- Policy 12, revise text: “A significant area north of Rackheath will be provided as green space to ensure no significant adverse impacts on the Broads SAC. This area is to act as an ecological buffer zone between the development area and the designated site. All new developments in the area will seek to result in a beneficial impact on biodiversity”, and;
- Policy 20, a Supplementary Development Plan is introduced which specifically deals with developments within the JCS area. This will have due regard to the required considerations to ensure the conservation of European & Ramsar designated sites and European protected species.

In addition, and regarding the uncertain in-combination and cumulative impacts, it is recommend that a more detailed assessment is undertaken to ascertain the impact and to identify appropriate mitigations, if they are required. It is recommended that the outcomes (appropriate mitigations) from the uncertain in-combination and cumulative assessment then feed into the Area Action Plans (AAPs) through the formulation of a Supplementary Development Plan, which covers the need to consider European and Ramsar designated sites and European protected species in planning and development processes.

The purpose of feeding into the AAPs would be to ensure proper implementation and enforcement of any potential incombination impacts, which may result following the further assessments. Further review of the JCS policies is not deemed necessary, as the JCS alone would not have any significant impact on European and Ramsar designated sites.

Executive Summary

1.1 Introduction

- 1.1.1 Significant growth in housing and employment is proposed for the Greater Norwich development Partnership (GNDP) planning area. In order to support the Joint Core Strategy (JCS) for the partner authorities (Norwich City Council, Broadlands District Council and South Norfolk Council), a Water Cycle Study (WCS) has been undertaken to demonstrate that water supply, water quality, sewerage and flood risk management issues can be addressed in the three Local Authorities and appropriate water services infrastructure can be provided for to enable the growth planned to 2031. It is a key part of the evidence base for the Joint Core Strategy (JCS) and is required by the East of England Plan.
- 1.1.2 The Greater Norwich WCS (GNWCS) has been undertaken in several key stages to inform the different stages of the JCS and in keeping with current guidance on undertaking WCSs. This report represents the findings of Stage 2b which has assessed each of the Potential Growth Areas (PGAs) chosen as the Favoured Option, providing detail on the specific infrastructure required for to take the favoured growth options forward.
- 1.1.3 The favoured option includes for growth in all of the Norwich Policy Areas (NPAs) and Rural Policy Areas (RPAs), and with the inclusion of completed housing within the existing baseline, includes for a further 40,000 homes to be delivered over the remaining plan period. These homes, plus requirements for employment have been assessed in the Stage 2b WCS.
- 1.1.4 This Stage 2b final findings report should be read in conjunction with the Stage 1 and Stage 2a reports of the GNWCS.

1.2 Wastewater Strategy

- 1.2.1 The additional 40,000 homes and proposed jobs that still need to be delivered in the GNDP area will generate additional wastewater, which will need to be collected, transmitted to a treatment facility and treated prior to discharge to a water body.
- 1.2.2 A wastewater strategy was developed which was required to:
- minimise the requirement for new infrastructure thereby maximising opportunity for early phasing and minimising cost (in keeping with Policy WAT2 of the East of England Plan);
 - minimise distance required for transfer of wastewater flows to treatment facilities to minimise energy requirements and costs associated with operational pumping for the lifetime of development;
 - ensure that increases in treated discharges will not cause watercourses to fail water quality targets under the Water Framework Directive (WFD) and Habitats Directive (HD); and
 - determine what additional treatment and sewer infrastructure is required to deliver growth that exceeds existing capacity and meets with WFD and HD standards.
- 1.2.3 In order to do this, the Stage 2b study undertook the following assessments:
- calculated the treatment capacity at each of the Wastewater Treatment Works (WwTW);

- modelled the likely quality standards required for consenting the additional discharges in order to meet WFD and HD standards;
 - reviewed capacity in the existing sewer network in terms of receiving more wastewater discharge; and
 - determined requirements for upgrades to WwTW, and upgrades to existing sewer or provision of new strategic sewers to allow the wastewater to be transferred to the appropriate WwTW.
- 1.2.4 In undertaking the assessments, an optimal strategy was developed which utilised capacity at each WwTW local to the PGA first and then used spare capacity at Whitlingham WwTW to the east of Norwich which has a very large treatment capacity for further growth.
- 1.2.5 The wastewater strategy developed shows that, with some upgrades, all of the increases in wastewater flow generated as a result of new housing and employment can be transferred and treated at existing WwTW without the need for further treatment facilities.
- 1.2.6 A key element of the strategy is that a near circular strategic sized interceptor sewer is required around the northern and southern boundary of Norwich which intercepts flow from several of the bordering PGAs and transfers flows to Whitlingham WwTWs. This is required to prevent exacerbation of sewer flooding within Norwich and to prevent increases in discharges of polluting Combined Sewer Overflows (CSO) into the River Wensum including the Special Area of Conservation (SAC). In most cases the RPAs can make use of existing sewer network, although growth in the majority of NPAs will also need to consider a variety of sewer upgrade options in addition to the proposed interceptor sewer before they can be built and connected for wastewater treatment.
- 1.2.7 The assessment has shown that the wastewater strategy requires some significant upgrades in both process capacity and volumetric capacity to be undertaken at several of the WwTW in order to meet compliance with the WFD and HD and hence protect downstream sites of European important i.e. the Broads SAC and the Broadland Special Protection Area (SPA).
- 1.2.8 The most significant investment required is the need to install treatment processes which remove phosphorous (P) from treated discharges at WwTW that do not currently have this capability. This is required to ensure that there is no increase (and in some cases an overall decrease) in the total load of the nutrient entering the Broadland catchment and help to ensure downstream compliance with WFD and HD targets thus protecting the SAC and SPA. This investment is significant and will need to be coordinated over the next and subsequent Asset Management Periods (AMP) that Anglian Water Services (AWS) operate under; however it is considered that the removal of P required to meet HD targets can be achieved using treatment technology that is currently available and effective and within realistic costs constraints (also referred to as 'Best Available Technology Not Entailing Excessive Cost', or BATNEEC).
- 1.2.9 The assessment has shown that whilst reductions in total P loads are possible, it will not be possible in all cases to ensure that the sections of watercourse immediately downstream of most WwTWs complies with the WFD standards for P within the limits of BATNEEC. This is a common position within the East of England and the UK generally and is already occurring in several cases without further housing and employment growth included. An agreement is required at a regional and national level as to whether the WFD should be applied in this way for areas where significant growth has been put forward in the Regional Spatial Strategies.

1.3 Water Supply Strategy

- 1.3.1 AWS are yet to finalise the statutory Water Resources Management Plan (WRMP) which sets out how water demand in its operational area will be met for the next 35 year period. At the time of completing the Stage 2b WCS, the Department for the Environment, Food and Rural Affairs (Defra) have asked that AWS submit further information on its plan before it can be published.
- 1.3.2 Despite this position, the Stage 2b WCS has utilised information provided by AWS in its draft WRMP and in their Statement of Response to the consultation on the draft WRMP. The Environment Agency's response to the draft WRMP (EA, 2008) has also been considered and a proposed water supply strategy put forward which shows that sufficient water resources will be available to meet the proposed increase in water demand.
- 1.3.3 As a result of growth in housing and employment, demand for water in the GNDP over the next 35 years has been calculated by the WCS to increase over a range from 10 million litres a day (Ml/d) up to 17 Ml/d. The lowest estimate could result if all new homes were as water efficient as possible thereby meeting levels 5 or 6 in the Code for Sustainable Homes (CfSH). The highest estimate is based on water consumption remaining as it is for current average use.
- 1.3.4 AWS aims to meet this demand through a 'twin-track' approach whereby existing demand for water is reduced (e.g. by installing more water meters), combined with providing new strategic sources of raw water supply to treat for potable consumption.
- 1.3.5 The current proposed strategy for water supply is to provide 4Ml/d additional supply through capacity in existing abstraction licences for groundwater in the area. A further 4Ml/d will be provided from a new groundwater source and in excess of 12Ml/d will be provided longer term from a flow transfer scheme which will transfer treated effluent flow from Whitlingham WwTW up catchment to 'compensate' for water lost at the main Costessey abstraction point west of Norwich city Centre.
- 1.3.6 The Costessey abstraction licence is currently being considered for a reduction in permitted maximum volumes that can be abstracted as part of a review process of all abstractions licences and consents that could impact ecological sites listed under the HD (SACs, SPAs and Ramsar sites). It is considered that the Costessey abstraction is impacting on the integrity of the Wensum SAC and the level of abstraction licence reduction (called a sustainability reduction) is currently being considered to mitigate the impact. For reasons of statutory consultation, at the time of completing the Stage 2b WCS, the exact size of the sustainability reduction is not known; however, the implications of this have been assessed in the Stage 2b WCS and it is proposed that the effluent transfer scheme could be considered as a potential replacement to the potential loss of abstraction.
- 1.3.7 The East of England (with the exception of coastal districts on north Essex and South Suffolk) is classified by the Environment Agency as being under 'severe' water stress, meaning demand for water is high compared to available raw resources. Water supply is therefore reliant on strategic transfers within Anglian Water's supply region and development of strategic water resource schemes. It is therefore imperative that water efficiency is maximised in both existing and new homes and non residential building as part of the growth plan proposed to minimise future demand and minimise additional 'stress' on resources. A Water Efficiency Plan is proposed which has the potential to allow a position of 'water neutrality' to be achieved in the GNDP area as a whole. This would mean that by reducing demand in existing housing and non-residential buildings and by making all new homes as water efficient as possible, there could be no net

increase in water demand (compared to 2009) after development has been completed at the end of the plan period.

- 1.3.8 Several of the NPAs will be required to provide water quality protection to any surface water infiltrated to ground and to restrict certain types of development in order to protect the quality of groundwater abstracted for supply in the study area.
- 1.3.9 Assessment of water supply mains has concluded that in the majority of cases, each of the PGAs can be largely serviced through existing mains using Heigham Water Treatment Works (WTW) as the focal point for distributing new resources. Local connections (along with pumping stations) will be required in several PGAs depending on which sites are taken forward within each of the broad scale areas assessed.

1.4 Infrastructure Phasing and Funding

- 1.4.1 Advice has been provided on both phasing and funding of development. Significant upgrades are required to WwTW, strategic sewers and water resource development. Water Resource development will have sufficient phasing allowance to meet proposed growth; however some limitations on phasing for some PGAs will be required between 2009 2020 (end of AMP6) as funding for wastewater treatment and sewer infrastructure is sought by AWS and construction time is allowed for. This detail has been provided for each PGA in turn.
- 1.4.2 Significant infrastructure upgrades are required to deliver several of the required treatment upgrades (complete in 2017) and the proposed interceptors (2020 at the earliest).
- 1.4.3 Mechanisms for developer contributions and funding to the strategic infrastructure has been identified. Although there are limits on the provision of developer funding for wastewater treatment and water resources, mechanisms for securing funding to strategic water supply mains and sewers has been identified where it is clear that the infrastructure is required solely to service specific development.
- 1.4.4 Significant funding will be required to deliver management of surface water from the proposed developments. The cost for this will vary according to each PGA as the variability of ground conditions and abstractions means that effectiveness of preferred Sustainable drainage Systems (SuDS) which naturally infiltrate water to the ground is also variable. Advice is provided on which SuDS systems are most suitable for each PGA.

1.5 Recommendations

- 1.5.1 Several Key Water Cycle policies have been put forward to include within the JCS or for potential Area Action Plans (AAP) and Supplementary Planning Guidance (SPG) documents. These policies are proposed to both aid the delivery of water services infrastructure required, but also to help meet the key requirements of the water strategy developed in the WCS. This includes policy recommendations on water efficiency for new homes and policy on drainage management.
- 1.5.2 A developer checklist to ensure individual developments comply with the strategy has been provided.
- 1.5.3 Several key statutory water related outputs and plans were not finalised in time to fully inform this Stage 2b WCS. It is therefore recommended that the WCS remains a live document and is

revisited at key stages of release of key information. Likely dates for review are included in the appendices.

DRAFT



NATS Plus Implementation Plan

Strategic Modelling of Joint Core Strategy

September 2009

Norfolk County Council

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1. Introduction

1.1 Background

The Greater Norwich Development Partnership (GNDP) is the body through which Broadland District Council, Norwich City Council, South Norfolk Council, Norfolk County Council, and the Broads Authority are working together to manage delivery on the Government's housing and job growth targets. Together they are preparing a plan for the area which is called the Joint Core Strategy (JCS), a spatial planning strategy. The JCS forms part of the Local Development Framework which will guide how development takes place over the next 20 years.

Transport is an integrated element of the JCS and it is important that the transport infrastructure is in place to support development aspirations. To understand the impacts of the JCS on the transport network in the greater Norwich area, and determine whether the future transport network within the greater Norwich area is capable of containing the quantum and spatial location of development proposed as part of the JCS, a study is being carried out by Norfolk County Council and its strategic partner Mott MacDonald, to develop the transport strategy, the Norwich Area Transportation Strategy (NATS), into an achievable and deliverable implementation plan. In undertaking this study, an assessment has been taken of the transport infrastructure improvements currently included in the Norwich Area Transportation Strategy (NATS).

NATS was developed by Norfolk County Council, working with Norwich, Broadland and South Norfolk Councils and covers the built up area of Norwich plus the surrounding ring of villages and was adopted in October 2004. It sets out how the transport system should be developed to overcome current and future problems. The NATS Implementation Plan contains a wide range of transport interventions and measures, which are at various stages of development. A key element of this is the Northern Distributor Road (NDR).

The NATS interventions are currently being tested in the NATS strategic transport model for a 2026 scenario including all Joint Core Strategy growth areas. Specifically, all the initial proposals for the city centre, potential Bus Rapid Transit (BRT) routes, improvements to railway facilities and services and the Northern Distributor Road (NDR) have been modelled to date.

An Implementation Plan is being developed for the Norwich Area Transportation Strategy (NATS). This will include the Northern Distributor Road (NDR) and Norwich Growth Point projects that come

under the Greater Norwich Development Partnership (GNDP). Together these are known as 'NATS Plus'.

1.2 Purpose of Report

The purpose of this report is to present the findings of the initial transport modelling as part of the NATS Implementation Plan. At this stage of the plan development, the work has been focussed on addressing three main areas, namely:

- The extent to which the NATS supports and compliments the planned growth proposed in the Joint Core Strategy
- Understand the role of the NDR as part of NATS Plus.
- Understand the inter-relationships of the NDR and the other NATS Plus interventions.

It should be noted that this report contains the findings based on an initial assessment of the NATS Implementation Plan.

1.3 Structure of Report

This report provides:

- a summary of the transport modelling system used to assess the strategy
- The findings of analysis carried out to date
- Conclusions that can be drawn
- Indication of what further work needs to be done to develop the NATS implementation Plan

2. Modelling Framework and Assumptions

2.1 Overview

The assessment of transport options has been carried out using a transport modelling system set up for NATS. This consists of three main elements:

- A Demand model
- A Highway model
- A Public Transport model.

Together with procedures to determine future growth in travel demand, these models provide a picture of the performance of the highway and public transport networks in the future and how transport demand reacts to changes in land use and network performance.

2.2 Modelling Years and Time Periods

The transport modelling system represent three time periods: AM peak hour (08:00-09:00), average inter peak hour (10:00-16:00) and PM peak hour (average of 16:00-18:00). The base year for the model is 2006 and for the purposes of these initial assessments a future year of 2026 is used, a time when it has been assumed that all elements of the NATS and JCS will have been implemented.

2.3 Demand Model

Both the highway model and public transport model can reflect future changes in routing and network performance. However on their own they can not represent decisions on mode choice, i.e. whether people travel by car or public transport, and also destination choice, i.e. where people travel to in the future.

The demand model fulfils this function determining whether people will take car or public transport for a journey based on the relative “cost” of using both forms of transport. (Costs include a combination of time and monetary costs.) The demand model also takes into account the relative cost of travelling to different destinations.

2.4 Highway Model

The highway model is a computer representation of transport supply, travel demand and travel behaviour.

Transport supply is a representation of the existing highway network. This includes roads and their characteristics, e.g. length and number of lanes and characteristics that effect of the speed on the road for a given

traffic flow. Junction details are also included, e.g. type of junction and physical layout of junction, and where appropriate traffic signal timings information.

Base year highway demand, i.e. where people want to travel to and from and the number of people travelling has been developed from a series of road side interview surveys and traffic counts carried out in 2006.

Travel behaviour is the importance people put on time and distance when determining which route they use to get from one point to another on the highway.

The result of combining these elements is a model which represents base year travel demand, travel behaviour, and network performance. Outputs are a representation of network conditions in the form of traffic flows on roads, speed on roads and queues and delays at junctions. This is calibrated to represent actual conditions.

A future year version of the highway network model has been developed representing scenarios with and without the NATS transport interventions.

2.5 Public Transport Model

The public transport model has the same elements as the highway model but represents bus and rail supply, demand and behaviour.

The public transport supply model includes a representation of the highway network overlaid with bus services. Each individual bus service is represented including route, bus stops, service frequency journey time and fares. Similar information is presented for rail services.

Public transport demand has been developed from electronic ticketing information from both bus and rail operators.

Standard behavioural parameters have been used to determine which routes and services persons use to get from origin to destination. These include the relative importance of access time, waiting time, interchange, in vehicle time and fare.

Again, as well as the base model, future years networks have been developed both with and without the NATS transport interventions.

2.6 Future Year Demand and Forecasting Procedures

The forecasting of future year travel demand is a two step process. The first step is to determine the number of persons that would like to travel by each mode of transport and where they would like to travel to. The second step is to adjust this to reflect the constraints imposed by the capacity and performance of the transport networks.

Future year travel demand has been developed in line with Department for Transport (DfT) guidance which ensures a consistent approach to forecasting.

Future growth forecasts of increase in travel demand by all modes of transport and for all journey purposes are obtained from the Trip End Model Program (TEMPRO) database maintained by the DfT. These growth factors take into account future changes in population, housing composition, car ownership and car availability. TEMPRO is consistent with demographic growth included in statutory planning documents. However changes are only represented at the district level, and it does not explicitly identify specific developments or development locations.

Where specific areas of growth are known, both in size and location, as with the JCS, these individual developments have been modelled explicitly but overall growth for the area as a whole has been controlled to TEMPRO totals.

An estimation of the number of highway and public transport trips generated by new development has been calculated based on observed trip rates from existing developments contain in the Trip Rate Information Computer System (TRICS) database. The distribution of these trips is based on existing trip distribution contained in the model.

Growth in goods vehicle trips has been increased in line with the DfT's National Transport Model (NTM) forecasts.

Forecasts produced using this methodology represent a situation where network conditions in the future year will have an impact on mode choice and destination choice e.g. increased congestion on roads may result in drivers changing route, or possibly using train or BRT instead of driving. This is done by using the traffic and public transport model to determine future year costs (i.e. a supply model) and the demand model to determine how these future year costs impact on mode choice and destination choice.

3. Initial Scenarios Tested

3.1 Base

Both the base year highway and public transport models represent transport supply, demand and network conditions in the base year, which is 2006. The base year models form the starting point for all forward projections and also act as a useful comparator when analysing travel demand and network performance.

For the highway model this includes the 2006 highway network, including road layout, traffic signal timings and travel patterns and demand.

For the public transport model this includes 2006 bus and rail services, fares, rail service patterns and travel demands.

3.2 Future Year Models

For the future year both 2026 Do Minimum and 2026 Do Something scenarios have been developed.

3.2.1 Do Minimum Model

A Do Minimum scenario is required as a reference upon which to assess the effects of the NATS Plus measures.

As such it will only include schemes and measures that have been implemented between 2006 (the model base year) and 2009 and those committed post-2009 changes to the existing transport system.

WebTAG guidance Unit 2.1: "The Overall Approach - The Steps in the Process", states that these committed changes should be limited to those schemes to which a genuine commitment has been made from which it would be difficult to withdraw. Therefore, only those schemes that are definitely programmed for implementation and for which details of the scheme are available are included.

Any other scheme or measure, subject to the outcome of this work, may or may not be included in the NATS Implementation Plan so it is felt inappropriate to include them as otherwise their worth and contribution to the plan could not be evaluated.

In terms of the Do Minimum the schemes can be divided into three main areas:

- Junction improvements - measures to improve the operation or safety of junctions
- Pedestrian improvements - measures to facilitate pedestrian movement and safety e.g. pedestrian crossings.
- Traffic management and safety schemes – measures to reduce traffic intrusion into residential and commercial areas and reduce traffic speeds.

For the purposes of the public transport modelling it is assumed that the public transport network remains as it is in the base year.

Assumptions have been made in terms of how parking charges and bus and rail fares change in the future.

Overall, it should be noted that there are no major changes to either the highway or public transport network in the Do Minimum.

A full list of Do Minimum schemes is included in Technical Note 02

3.2.2 The Do Something Model Scenario

The Do Something scenario represents a scenario with all of the identified NATS interventions in place.

A large number of potential interventions have been developed. These were prioritised for modelling based on

- a. which part of the NATS strategy it was supporting
- b. the deliverability of an individual measure
- c. the ability of the measure to be modelled

The major elements of the NATS Implementation Plan are:

- city centre pedestrian, cycle, bus priority and traffic management schemes;
- Bus Rapid Transit;
- improvements to rail facilities and services;
- the Northern Distributor Road and associated traffic management schemes;
- traffic signal priority for buses for signals on radial routes outside of the Inner Ring Road;
- off-board public transport improvements, e.g. through ticketing, pre-boarding purchase;
- traffic management and speed reductions in residential areas.

The strategy also includes a whole series of measures that are very difficult to represent in a traffic model e.g. soft 'Smarter Choices' measures; such measures will be taken into account as part of non-modelling appraisal.

The representation of the Do Something scenario required changes to both the highway and public transport model. Highway schemes have been coded explicitly into the highway model, including bus priority measures. The impacts of these schemes on bus journey times have been passed from the highway model to the public transport model. New bus services have been coded explicitly into the public transport model.

4. Initial Findings

4.1 Impact of Do Minimum

The assessment of results should bear in mind that demand for travel and network performance will change significantly between the base year and the assessment year without doing anything to the transport network.

It is important to understand the level of these changes.

Base year (2006) travel demand for both highway and public transport trips in the Greater Norwich area is typically the same in each of the AM and PM peak hours, with comparatively reduced traffic flows in an average inter peak hour. Overall mode split is similar in all time periods with private transport, and specifically cars, making up the vast majority of traffic and with public transport making the remainder.

Going forward in time to 2026, not taking into account constraints imposed by the transport network (or future improvements including NATS), highway demand is forecast to increase significantly with public transport forecast to increase also, but at a much lesser rate. This is as a result of increased population, changes to the composition of households and increases in car ownership and car availability, i.e. both the number of households owning cars and the number of cars owned per household. Given the relative size of the existing travel demand segments this will result in a large increase in car trips throughout the area and a much smaller increase in PT trips.

In terms of changes in highway network performance between 2006 and 2026, average network speed is forecast to reduce markedly over the whole of Greater Norwich. Total travel time on the network is forecast to increase significantly with a comparably lesser increase in vehicle kilometres. Queuing and delays are forecast to increase significantly.

Public transport journey times, which are to a certain extent affected by highway journey times are also forecast to increase significantly.

4.2 Impact of Do Something

4.2.1 Highway Network Performance

In the Do Something scenario there is substantial movement of traffic on to the NDR. Most traffic uses the road through more than one junction.

Analysis indicates that the NDR is used by traffic travelling around the city, including access to employment areas. This is instead of travelling through the city, using residential roads in the northern suburbs, the Outer Ring Road or even Inner Ring Road to cross the city.

The NDR removes traffic from a number of key radial routes and the Outer Ring Road.

Generally, roads in the north of the city show a reduction in traffic when the NDR is included in the Implementation Plan. This includes the Outer Ring Road and the main radial routes, but also on residential minor roads, such as through the Heartsease estate.

As a result of the NDR, minor roads also show reductions in traffic resulting from a combination of extra capacity on key radials and the Outer Ring Road and the proposed traffic calming introduced on roads through the residential areas, with traffic transferring from the residential roads to more strategic routes.

Overall the implementation of NATS results is an increase in average speed on the traffic network compared to the Do Minimum scenario, although both future year predicted future year average speeds remain below the 2006 level in peak periods.

Comparisons of travel conditions in the Inner and Outer Ring Road and key corridors were carried out between the Do Minimum and Do Something. This included looking at the journey times for vehicles travelling along these routes, the total amount of delay incurred and the average travel speed.

For all sections of the Inner Ring Road, in both directions, the travel time increases from the Do Minimum to Do Something scenario. The introduction of bus priority and traffic management inside the Inner Ring Road are considered to be the cause of these changes, with these measures decanting through traffic from the city centre to the Inner Ring Road.

The results for the Outer Ring Road indicate that there are reductions in travel time and delay compared to the Do Minimum scenario. The main reason for this is the construction of the NDR, which causes traffic to transfer from the Outer Ring Road to the NDR.

In comparing the results for the northern and southern parts of the Outer Ring Road, it is evident that changes in vehicle time, delay and speed on the northern part are much larger than the southern part,

consistent with the impact of the NDR which relieves the northern part of the city.

On radial routes, analysis indicates that there are significant traffic improvements with the Do Something scenario, with a reduction in travel time and delays and an increase in travel speed experienced on the majority of radial routes. The likely explanation of this is due to the proposed NDR whereby trips originating from the eastern and north-eastern areas of outer Norwich can now avoid passing through the city area and / or using the Outer Ring Road by using the NDR, thus alleviating traffic on five radial routes.

4.2.2 Public Transport Network Performance

The key changes in network performance on the public transport network are a reduction in bus journey times compared to the Do Minimum scenario. This is a result of a number of reasons including increased bus priority, impacts of city centre traffic management reducing delays to buses on the Inner Ring Road and the NDR reducing general traffic delays on key radial routes.

Note that improved level of network performance will result in improvements in reliability of public transport services, however it is difficult to capture the impact of this in the transport model so the increased use of public transport is probably underestimated.

4.2.3 Overall Impact on Demand

The highway measures in the Implementation Plan improve the highway network's performance and car journey times on key radial and orbital routes. At the same time, the introduction of measures favouring buses in the city centre and on the BRT routes, would lead to a shift in mode from car use to public transport.

Further work is required to optimise the public transport network efficiency within the overall NATS Implementation Plan by considering additional bus lanes and selected vehicle detection at junctions maximising benefits public transport. Such work would involve detailed consideration of priority measures e.g. consideration of effects of bus / BRT lanes at individual junctions including impacts on driveways and on-street parking.

Note that the results discussed above are preliminary and subject to change pending the completion of ongoing model output checking.

5. Conclusions

5.1 Approach

The initial work presented in this report has concentrated on assessing three main areas namely:

- The extent to which the NATS supports and compliments the planned growth proposed in the Joint Core Strategy
- Understand the role of the NDR as part of NATS Plus.
- Understand the inter-relationships of the NDR and the other NATS Plus interventions.

The conclusions presented here concentrate on how well the analysis to date can answer these questions.

5.2 Impact of NATS Interventions

Section 4 provided a description of the impact of NATS interventions on highway and public transport network performance and mode split.

Initial findings show that the introduction of the measures favouring buses in the city centre and on the BRT routes would lead to a shift in mode from car use to public transport.

Analysis also indicates that the performance of the highway network improves significantly with the implementation of the NATS Implementation Plan and there are reductions in traffic compared to a Do Minimum scenario on inappropriate roads through residential areas in the northern suburbs.

The shift in trips from cars to buses and trains is relatively small, which may reflect the limited number of interventions modelled. Further work is being undertaken on interventions that give buses additional priority.

The current modest change demonstrated by the model in mode split reflects the early stage of development of the NATS Plus interventions. Further detailed development of the implementation plan is required, to optimise the use of road space between private cars and other road users.

It is noted that it is not possible to assess the effectiveness of all NATS interventions using the models and there are a number of smarter choice interventions that should lead to reducing the need to travel and transfer to public transport, cycling and walking. These are likely to include not only BRT schemes, but also pedestrian and cycling infrastructure improvements that will not only make Norwich more attractive for vulnerable users, but will also improve road safety for

pedestrians and cyclists. An appropriate supplementary appraisal methodology will be applied to understand the impact of the smarter choice interventions.

5.3 Impact of NDR

The analysis of change in highway network conditions between the base year and future year indicates that there will be a significant deterioration in the level of service on the highway network if no interventions are introduced.

The deterioration on the highway network will also have a significant impact on the operation and reliability of the public transport network which in Norwich is almost exclusively bus based, running on the main highway network with limited priority. The deterioration in network performance will also impact on the movements of goods and services around the city.

With the introduction of the NDR as part of the NATS Implementation Plan there is a significant reduction in through traffic on the network, resulting in a reduction in traffic flows and improvement in journey time on key radials and the Outer Ring Road. The NDR also results in a reduction in traffic on residential roads that would otherwise increase without the NDR in place.

Therefore the NDR appears to be successful in ensuring the network can continue to function effectively.

5.4 Relationship between NDR and NATS Interventions

Generally, the NDR provides additional capacity on the radial routes in the northern suburbs. In the current implementation plan, some of this additional capacity is taken up by bus priority, some by a decanting of traffic from more minor routes through residential areas and some of this additional capacity remains available compared to the Do Minimum situation. This is highlighted by the reduced traffic volumes and reduced delays on these corridors. Further sensitivity testing indicates that with the NATS Implementation Plan in place, but without the NDR, the performance of these radial routes in terms of journey times and delays would be worse than the Do Minimum. This indicates that the NDR does provide additional capacity on these corridors. Further work is required to optimise the use of road space.

6. Summary

Analysis to date confirms that in overall terms the proposed NATS strategy implementation plan manages the increased travel demand from the planned growth proposed in the Joint Core Strategy works, the NDR achieves its objectives and allows other NATS interventions to be implemented. However, it is acknowledged that the NATS Plus measures are at an early stage of development and there is more work and testing to do. This would include:

- optimise individual measures
- understand the impact of interventions not currently modelled, plus non modelled appraisal impacts
- optimise the overall package and
- understand phasing issues

Phasing of interventions to date and analysis has concentrated on a 2026 scenario with all interventions included. Continuing work is being undertaken to assess the impacts in the forecast years 2016 and 2031 to assist with phasing.

Section 1: Executive Summary

Project Context

EDAW AECOM, in collaboration with Drivers Jonas, Faber Maunsell, and Gardiner & Theobald were commissioned in November 2008 by the Greater Norwich Development Partnership (GNDP) to review the infrastructure requirements associated with the delivery of 57,500 new homes and associated employment development by 2031. In addition to identifying and costing the capital infrastructure required to support the proposed growth, the study also incorporates a review of local authorities' ability to raise developer contributions to cover the cost of delivering the infrastructure requirements and a review of the potential delivery options.

The study is an important part of the evidence base for the Joint Core Strategy for Broadland, Norwich and South Norfolk (the spatial planning strategy that sets out the long term objectives for development in the districts). The study will also be used to inform the development of the Greater Norwich Integrated Development Plan (IDP) this is the GNDPs investment plan and will be updated using this study and the emerging JCS. It sets out the key packages and projects that the Greater Norwich Development Partnership has identified as necessary for the sustainable delivery of housing and job growth targets for Greater Norwich.

Report Content and Structure

The report identifies the following infrastructure requirements:

- Social Infrastructure:
 - Education
 - Healthcare
 - Emergency Services
 - Community Facilities
 - Open Space and Green Infrastructure
- Transport
- Utilities

The report also provides details of any identified funding sources and recommendations on the delivery and management arrangements necessary to deliver this growth including:

- A review of the infrastructure delivery and funding arrangements
- An assessment of the potential **developer tariffs** which may contribute to the cost of providing the identified infrastructure, based on an assessment of local market conditions.
- A summary of infrastructure costs and funding

Infrastructure Requirements & Costs

The report sets out the phasing and cost of providing social infrastructure facilities required to meet the demand arising from housing growth, having taken into consideration existing capacity and natural population changes. Opportunities for co-location with other facilities (such as community facilities and sports facilities) that have use and phasing synergies have also been included.

In addition to phasing, the early identification of the costs of providing the infrastructure is an essential element of preparing and planning for growth, not least as this will form an evidence base when bidding for government funding.

We have undertaken a cost assessment using an evidenced benchmarking exercise to determine the current costs associated with the delivery of each piece of infrastructure. The costs relate directly to the infrastructure required to deliver the growth trajectories, and are calculated using the assumptions set out in a Cost Report.

In relation to Education, Utilities and Open Space we have identified that there is more than one approach to delivering the infrastructure. In some cases this is because further work is required to test that the least expensive option is deliverable and able to meet the requirements of service providers. This report sets out where appropriate the best case and worst case scenarios but assumes the worst case scenario (most expensive option) as the default scenario so that infrastructure planning is sufficiently robust enough to cope with that eventuality. Despite this we would expect the best case (least expensive option) scenario to be achievable in most cases.

Education

The total cost of provision is almost £226m. Requirements include:

- 30 new pre-schools,
- 14 new primary schools, and
- 4 new secondary schools

This represents the maximum required provision and is consistent with the Norfolk County Council Children's Services' response to the favoured option for Broadland and South Norfolk, which assumes that the child yield is applied to the total development (i.e. it is not discounted for one bed accommodation or flats) and takes a pessimistic view of opportunities to increase student numbers through reconfiguration of existing facilities. The recommendations for Norwich are based on EDAW's analysis which consider existing capacity and demographic changes within Norwich and assume that additional facilities will be required to meet the residual demand.

Opportunities to co-locate pre-schools and primary schools and community facilities have been explored where phasing and location opportunities are present. Similarly, opportunities to co-locate sports facilities with secondary schools have also been investigated.

Healthcare

The total cost of providing the necessary healthcare facilities is almost £64 million, which has been discounted to allow for:

- The non-healthcare costs associated with co-located facilities and
- Healthcare demand that is not directly associated with housing growth.

Where possible, dentists and GPs surgeries have been co-located with each other as Primary Care Centres. Following discussions with the Norfolk Constabulary, opportunities for co-locating healthcare facilities with Safer Neighbourhood Teams have also been identified.

Of the total costs, over half (£34 million) are associated with the provision of hospital beds, which will not necessarily be provided within the districts themselves.

Emergency Services

The total cost of providing the necessary emergency services facilities is £14.5 million, which has been discounted to allow for:

- The non-emergency services costs associated with co-located facilities and
- Demand that is not directly associated with housing growth.

Where possible the Safer Neighbourhood Teams have been co-located with Primary Care Centres and Community Facilities to minimise the cost of providing these facilities. This is based on discussions with the Norfolk Constabulary.

The costs associated with smaller and expanded facilities are higher per officer than the larger and co-located facilities, and where possible a smaller number of larger SNT facilities have been proposed.

Community Facilities

Community facilities and associated community facilities will cost in the order of £38.5 million across all areas and facility types.

In Broadland, The Rackheath / Sprowston Growth Triangle will generate significant demand for community and leisure facilities, including two sports centres, a swimming pool, four standard size community spaces and two standard libraries. There will also be demand for community space to serve the wider district.

By 2031 there will be a need for a swimming pool and at least eight indoor sports courts in Norwich. As this demand increases over the growth period, it may be prudent to develop a sport centre earlier in anticipation of this future demand whilst creating capacity to existing demand.

Growth within Norwich will require significant new community space coming forward throughout the growth period, and two additional standard size libraries during the latter phases. There may be capital and revenue cost savings by combining some of these facilities.

In South Norfolk Growth within any one of the specific growth locations is insufficient to generate demand for a new, standard size library or community space in isolation. Collectively, however, they generate the need for an additional library and 3 additional community spaces. The greatest demand arises in Long Stratton and Wymondham. As such, these locations may provide suitable locations for strategic facilities, although both locations have existing facilities already (a new library has however recently been built at Wymondham). In addition, there is significant demand for additional library and community spaces elsewhere in South Norfolk required throughout the growth period that could offer opportunities to locate strategic facilities.

Green Infrastructure & Open Space

The total cost of providing the necessary green infrastructure and open space is just in excess of £288m. This includes provision of:

- Parks & Gardens
- Natural and semi natural greenspace (including green corridors)
- Informal/amenity open space
- Provision for children and young people (all play areas within other typologies)
- Outdoor Sport (all pitches, green and courts including those within other typologies)
- Allotments & community gardens

It is assumed, for the purposes of this study, that the open space will be delivered alongside development coming forward. Furthermore, there may be cost saving efficiencies in delivering green infrastructure and open space whilst delivering other infrastructure interventions, such as transport improvements. Opportunities for collaborative working in this way should be encouraged.

Waste

The total cost of providing the necessary increase in waste infrastructure is £770,000.

There is demand arising within the GNDP for the equivalent of two additional Household Waste Recycling Centres by 2026. Drawing on the findings above, and in discussion with waste managers at Norfolk County Council the preferred locations for these facilities would be to locate a new facility as part of development in the Rackheath / Sprowston Growth Triangle, and to utilise opportunities to expand the existing facility at Wymondham.

Utilities

AECOM (formerly Faber Maunsell) have compiled the utilities assessment, investigating the electricity, gas, and water infrastructure requirements. Once loadings were established, AECOM worked with the utility providers EDF Energy (electricity) and National Grid (gas), as well as consultants working on Norfolk's Water Cycle Study, Scott Wilson, to establish infrastructure requirements. Due to a lack of detail regarding the locations of many of these proposed new dwellings, only those dwellings with specified locations, including smaller settlements, have been considered in detail as part of this study.

Electricity

The total cost for electricity infrastructure is almost £50m.

EDF Energy summarise the requirements as follows:

- major reinforcement works would be required in the Greater Norwich area to accommodate the growth proposals;
- a new Grid Substation will be required to the east of Norwich at an existing EDF Energy site on Green Lane;
- three new Primary Substations will be required across the area, while two existing Substations will require the replacement of the transformers and switchgear;
- significant lengths of 132kV and 33kV underground cables will be required to feed these new developments, the laying of which will have the usual impacts on traffic and local residents

Gas

National Grid were unable to provide an estimate of infrastructure cost related to growth due to insufficient detail in the proposals, although they did highlight where reinforcement measures are probably required.

Water

This assessment of water infrastructure has been informed the Stage 2a Water Cycle Study (WCS), prepared by Scott Wilson in September 2008. Stage 2b of the WCS, will further develop the understanding of infrastructure requirements and delivery options associated with growth is currently being worked on. As such, the information included within this report is based on the best knowledge available at this time, but will need to be updated once the Stage 2b WCS has been completed.

Drawing on the Stage 2a WCS, it is predicted that the potable water infrastructure requirements maximum cost scenario would total £358,800,000. This would include:

- water mains and pumping stations from Heigham WTW to the development sites; and
- pumping stations and pipe work needed to maximise the existing boreholes; and
- pumping stations and pipe work needed for River Wensum reuse; or
- pumping stations and pipe work needed to link to the GOGDS; or
- civils, structural, excavation and land costs relating to water resource storage.

Stage2a of the WCS presents a range of options for delivering waste water infrastructure, and will be investigated further during Stage2b of the study. For the purposes of this study the worst case scenario of £99,530,000 has been incorporated into the cost projections.

Transport

The total cost of the proposed transport infrastructure is just over £389m

The Norwich Growth Area – Infrastructure Need and Funding Study (EDAW, 2007) sets out an assessment of the existing transport infrastructure and provides an evaluation of transport infrastructure demand based on two growth scenarios. Although the preferred proposed growth option subsequently determined differs from the growth scenarios reviewed in 2007, the evaluation is still partly applicable. As such, it has been agreed with the GNDP that no further analysis of transport infrastructure would be undertaken as part of this project and information on interventions included in this section have been identified through Norfolk County Councils ongoing transport work, including the refresh of the Norwich Area Transport Strategy (NATS). This work has identified a number of projects that will be required to support and facilitate the proposed growth, including:

- The Northern Distributer Road
- Highways / junction improvements
- Bus Rapid Transit
- Cycle Networks

Economic Development Activities

The GNDP Integrated Development Plan sets out a range of interventions that are necessary to support the sustained economic growth of the GNDP area. These projects and the associated capital costs (where identified) are considered as part of the overall infrastructure requirements necessary to support the proposed housing growth. These activities cost a total of £36.2 million.

Implementation

The successful delivery of infrastructure is dependent upon a well managed and regularly updated infrastructure delivery framework which should include:

1. Accurate housing and employment growth trajectories;
2. A full record of required and prioritised infrastructure;
3. A cost plan;
4. A funding plan, including all public and private sector funding sources;
5. A robust approach to maximising developers contributions;
6. Organisational Arrangements amongst various service providers, public sector agencies and the private sector.

The infrastructure delivery framework GNDP has developed as the Integrated Development Programme (IDP). The IDP is an evolution of GNDPs programme of development and will form the main delivery framework for the JCS. It sets out the key packages and projects that the GNDP has identified as necessary for the sustainable delivery of housing and employment growth targets for Greater Norwich. The study will form a key part of the evidence base and inform the update of the IDP.

Categorisation

We have categorised or prioritised the different elements of infrastructure relative to its importance in delivering growth. The three categories we have identified are critical, essential and necessary.

- **Critical infrastructure** is infrastructure that this study has identified which must happen to enable physical growth.
- **Essential infrastructure** is infrastructure that is required if growth is to be achieved in a timely and sustainable manner.
- **Desirable infrastructure** is infrastructure that is required for sustainable growth but is unlikely to prevent development in the short to medium term.

Table 1 below provides a summary of the total cost and the categorisation of the different infrastructure themes. It also provides an overview of the project funding that is discussed in the following section.

Table 0-1: Infrastructure Costs and Funding, by Infrastructure Type and Prioritisation

	Critical	Essential	Desirable	Total Costs	Associated Funding	Associated Funding Gap
Education	£0	£224,405,000	£1,620,000	£226,025,000	£0	£226,025,000
Healthcare	£0	£63,813,333	£0	£63,813,333	£0	£63,813,333
Emergency Services	£0	£14,467,500	£0	£14,467,500	£0	£14,467,500
Community Facilities	£0	£5,120,000	£33,410,000	£38,530,000	£0	£38,530,000
Open Space	£0	£288,245,472	£0	£288,245,472	£0	£288,245,472
Waste	£0	£770,000	£0	£770,000	£0	£770,000
Utilities	£507,269,000	£0	£0	£507,269,000	£493,750,000	£13,519,000
Transport	£263,500,000	£113,100,000	£12,500,000	£389,100,000	£100,700,000	£288,400,000
Economic Development	£0	£0	£36,290,000	£36,290,000	£11,620,000	£24,670,000
Additional Funding (Growth Point Funding)					£14,220,526	-£14,220,526
Total	£770,769,000	£709,921,305	£83,820,000	£1,564,510,305	£620,290,526	£944,219,779

Source: EDAW / Gardiner & Theobald

Funding

The report makes a broad assessment of the level of mainstream public funding, utilities AMP funding (a summary of which is provided in the table above), and private sector developer contributions that are either currently committed or are a reasonable future assumption. These assessments are based on discussions with the service and utilities providers during the study period, market analysis and land value capture projections and from our experience of work in the other growth areas. It should be noted that detailed further investigation of public funding sources will be required as part of the ongoing infrastructure planning process. Once the JCS has been adopted and infrastructure providers understand what is required and when a clearer funding picture will emerge the infrastructure delivery framework can be updated.

In reality, whilst the funding sources identified in the report will make a significant contribution towards the funding gap other funding sources and mechanisms will be need to explored and used to provide the cocktail of funding needed to fill the funding gap. The report identifies some of those that should be given consideration including:

- Prudential Borrowing
- Development Agreements
- Local Asset Based Vehicles

- Regional Infrastructure Funds
- Tax Increment Financing
- Business Rate Supplement

Assessing the Opportunities for introducing a tariff based charge

The Government believes that the infrastructure needed to support development should be at least partly funded by owners of land who benefit when planning permission is granted for development.

The key to a successful tariff model is that it is affordable and viable in the marketplace so as not to prevent development being brought forward. We have therefore undertaken a detailed analysis on the local property market and in the report we set out a few of the most salient points that will affect the setting of tariff policy and the potential income that can be derived from developer contributions. In setting the level of tariff, consideration needs to be given to the different market conditions within the region and we have identified a number of discernible sub-markets within Greater Norwich with different cost and value characteristics.

We have identified the cost of infrastructure for each of the growth locations and identified the cost of infrastructure by dwelling. This provides an understanding of the level or required developer contributions per dwelling required bridge the funding gap.

Given the market context both geographically and over time we have carried out an assessment of the level of tariff that could be achieved based on current and strong market conditions across each of the residential market areas. In setting the charging schedule, consideration will need to be given to applying a variable rate of tariff, particularly for schemes that come forward in the short term, which would otherwise be unviable.

We undertook appraisals for each of the districts, with two sets of appraisals being carried out for South Norfolk for each of the housing market areas identified in this district. The appraisals were based on current sales values and values being achieved during the last peak in the housing market. Given the different nature of residential development within Norwich city in comparison with South Norfolk and Broadland i.e. higher density and predominantly flatted schemes, we applied different density and unit mix assumptions for Norwich City.

To provide an indication of the potential maximum tariff levels that could be applied to residential developments we have used a single hectare development model to assess viability.

Potential Tariff Requirements

- Within Norwich a tariff of £19,469 per dwelling is needed if contributions from residential schemes are to bridge the funding gap identified. Although this could be achievable for an average sized scheme with housing grant, due to the individual nature of development sites within Norwich flexibility is needed to take into account site specific viability issues.
- Within Broadland the residential tariff required to fund the infrastructure needed for the Sprowston growth area is £28,603 significantly higher than for the rest of Broadland at £6,844. Whilst the tariff rate required for the rest of Broadland is achievable, the rate needed for the growth area is challenging and is likely to only be viable for agricultural sites with no alternative use value and where housing grant is available. This will still require landowners to agree to sell their land at significantly lower values in comparison to values that have been achieved previously.

- The residential tariff requirements for the South Norfolk strategic growth locations range from £10,992 in Cringleford to £61,071 in Wymondham. The detailed requirements by growth location are provide in Table 17-5. Given the range of funding gaps within these areas, the Norwich Housing Market area of South Norfolk and mid South Norfolk area residential schemes will generally only be able to achieve the tariff rate required to cover the funding gap in strong market conditions, on agricultural sites with no alternative use value, and where housing grant is available. However this will require landowners to agree to sell their land at significantly lower values in comparison to those that have been achieved previously.
- Within the rest of South Norfolk a tariff of £20,076 is required and this level of tariff may only be viable for agricultural sites with no alternative use value. In weak market conditions housing grant is likely to still be needed. However this will require landowners to agree to sell their land at significantly lower values in comparison to those that have been achieved previously.

Tariff Policy Options

Given the varying market and policy characteristics and different infrastructure requirements between each of the districts, a variable tariff policy is recommended across Greater Norwich. There are a number of options for this:

1. A district wide tariff rate for Norwich, South Norfolk and Broadland.
2. A tariff rate for each of the growth areas with a separate tariff for the rest of each district.
3. A tariff for each of the housing market areas.

There are a number of issues that need to be considered when establishing the tariff policy, particularly the potential impact on development activity and compliance with current national planning policy.

Review of tariff policy

Given the level of tariff that is required in comparison to historic s.106 contributions, and the potential impact this could have on land values, an adjustment in the market will be required, from both landowners and developers. The public sector will also need to support this process, for example through the provision of additional funding to pump prime infrastructure investment.

Given the time it will take to deliver the infrastructure needed to support future residential and commercial development any tariff policy will need to be reviewed on a regular basis in order to adjust to changing circumstances such as general market conditions, availability of other funding sources, changes in infrastructure requirements and costs. Any review may consider:

- the impact of the policy on development and the market
- the level of contributions secured in comparison to what was achieved prior to the policy being in place
- whether the policy needs to be changed

The infrastructure costs are likely to change over time and the tariff levels will need to be adjusted to reflect this. Going forward GNDP should seek legal advice on the approach taken to setting the tariff rate and the options as to how it could be applied & Consult with developers, landowners and the general public on the proposed tariff policy.

Summary Funding Position

As set out in detail in chapter out the level of potential tariff is based on the following key variables:

- the strength of the property market
- the land value
- the availability of housing grant

Using the range of tariffs identified earlier in the report we have made an assessment of the total amount of funding that tariffs could generate across the whole of growth area based on the following two scenarios:

Scenario 1 – High Land Values with housing grant

Scenario 2 – Low Land Values with housing grant

In both scenarios we have assumed that the current weak market will last until 2014 and return to a strong market for the remainder of the growth period.

As described below, the potential developer contributions for residential and employment land ranges from £392.0 million to £834.9 million, reducing the total funding gap between £552.2 and £109.3 million respectively.

Scenario 1: High Market Value for Residential and Employment Land

The table below shows the funding position based on the level of tariff that could be achieved assuming the high land values identified in Chapter 17 (closer to their 2007 peak values) and full housing grant. The table shows that in this scenario the growth area would face a funding gap of £552.2 million over the growth period with a significant funding shortfall in the earlier years of development.

Table 0-2: Accounting for Land Value Capture: Scenario 1, High Land Value

Cost / Income Analysis						
	2008/09- 2010/11	2011/12- 2015/16	2016/17- 2020/21	2021/22- 2025/26	2026/27- 2030/31	Total
Funding GAP: Before LVC	£45,865,956	£279,944,746	£135,904,931	£176,310,111	£306,194,036	£944,219,779
LVC: Residential: High Market Value	£1,682,000	£44,362,000	£115,544,000	£104,873,000	£120,319,000	£386,780,000
LVC: Employment Land: High Market Value	£0	£326,155	£1,630,777	£1,630,777	£1,630,777	£5,218,485
Total Funding GAP after LVC: High Market Value	£44,183,956	£235,256,590	£18,730,154	£69,806,334	£184,244,260	£552,221,294

Source: EDAW

Scenario 2: Low Market Value for Residential and Employment Land

The table below shows the funding position based on the level of tariff that could be achieved assuming the lowest land values identified in Chapter 17 and full housing grant. The table shows that in this scenario the growth area would face a much reduced funding gap of £109.3 million.

Table 0-3: Accounting for Land Value Capture: Scenario 1, Low Land Value

Cost / Income Analysis						
	2008/09- 2010/11	2011/12- 2015/16	2016/17- 2020/21	2021/22- 2025/26	2026/27- 2030/31	Total
Funding GAP: Before LVC	£45,865,956	£279,944,746	£135,904,931	£176,310,111	£306,194,036	£944,219,779
LVC: Residential: Low Market Value	£2,436,000	£83,374,000	£251,827,000	£229,111,000	£254,798,000	£821,546,000
LVC: Employment Land: Low Market Value	£0	£834,424	£4,172,122	£4,172,122	£4,172,122	£13,350,789
Total Funding GAP after LVC: Low Market Value	£43,429,956	£195,736,321	-£120,094,191	-£56,973,011	£47,223,915	£109,322,990

Source: EDAW

In both cases the overall costs include the maximum estimated costs scenario for Education Provision, Water Infrastructure and Open Space. Significant cost savings would be generated by approaching the 'best case' scenario for each of these infrastructure types and meeting the best case scenario in any category would close the funding gap in the Scenario 2 (low land value) and reduce the funding gap in the Scenario 1 (high land value) to £176,791,875.

An overview of the potential costs savings are provided in the table below.

Table 4: Best and Worst Case Cost Scenarios for Education, Open Space and Utilities

	Worst Case Costs	Best Case Costs	Potential Cost Saving
Education	£226,025,000	£101,665,000	£124,360,000
Open Space	£288,245,472	£183,038,053	£105,207,419
Utilities	£507,262,000	£361,400,000	£145,862,000
Total	£1,021,532,472	£646,103,053	£375,429,419

Source: EDAW

The headline implications of adopting the best base infrastructure costs are provided in the table 17-5 below. These are presented for the whole of the growth period.

Table 0-4: Infrastructure Costs and Funding Overview Adopting Best Case Costs

Cost / Income Analysis	
	(Total 2008-31)
Education Costs	£101,665,000
Healthcare Costs	£63,813,333
Emergency Services Costs	£14,467,500
Community Facilities Costs	£38,530,000
Open Space Costs	£183,038,053
Waste Costs	£770,000
Utilities Costs	£410,339,000
Transport Costs	£389,100,000
Economic Development Costs	£36,290,000
Total Infrastructure Costs	£1,238,012,886
Total Public / Private Funding	£523,360,526
Funding GAP - Before LVC	£714,652,360
LVC: Residential - High Market Value	£386,780,000
LVC: Employment Land - High Market Value	£5,218,485
Total Funding GAP after LVC - High Market Value	£322,653,875
LVC: Residential - Low Market Value	£821,546,000
LVC: Employment Land - Low Market Value	£13,350,789
Total Funding GAP after LVC - Low Market Value	-£120,244,429

Source: EDAW

The table above shows that assuming low market land values and best case scenario regarding costs that the funding gap could be closed.

Co-ordination and Management

The successful delivery of sustainable and timely employment and housing growth is dependent on strong co-ordination, management and governance. The current governance and support arrangements are based around a voluntary partnership arrangement which has evolved and strengthened over time.

Delivery of the projects within the Growth Programme will be coordinated through the Implementation Unit with strong links into all four Local Authorities.

The Greater Norwich Development Partnership is a successful decision-making, effective body with a proven track record for delivery.

Although the Implementation Unit has grown and strengthened recently and the Partnership at the Director and Member level is working well, it is generally accepted that more formal arrangements are required to engage and work with the full range of infrastructure delivery providers. This will be particularly important in trying to deliver efficiencies through innovative approaches to service delivery such as co-location or shared services.

Going forward, GNDP should use this infrastructure and funding study as a starting point for discussion with the three LSPs operating in the sub-region to identify if there are any opportunities for them to work together on the growth agenda and take a lead on specific infrastructure themes within the plan.

Recommendations/Next Steps

- GNDP should use the findings of this study and work with service providers to identify innovative ways to further reduce the costs of infrastructure including more co-location, changes in service provision so that dependence on actual facilities is reduced and expansion or intensification of existing facilities.
- Particular attention should be given to Education, Potable Water & Open Space as these infrastructure themes offer the greatest potential for cost saving. Intensive work should be undertaken in the short term to develop delivery solutions that are closer to the 'best case' cost scenarios set out in this report.
- GNDP should establish a formalised way of working with infrastructure providers to review and update the information contained within this report on a regular basis making it able to respond quickly and easily to changes in growth trajectories or local or national political priorities. As part of managing the growth agenda the recommendations should be monitored and updated when new information becomes available or as external factors change.
- GNDP should take the lead role and be seen as the organisation that provides accurate and current information about development progress against the housing and employment growth trajectories allowing infrastructure providers to plan for and fund the delivery of infrastructure in a timely and responsive manner.
- In some cases local planning authority policy decisions have a significant impact on the cost of delivery of infrastructure, e.g. provision of Open Space in South Norfolk. In these cases a review of policy may be necessary make the delivery of the infrastructure possible.

1.1 Funding and implementation Strategy

- GNDP should develop a funding strategy which includes an action plan on how to maximise the broad range of funding opportunities included in this report. This will need to consider the amount and timing of funding that is required taking into account the timescales for delivering the infrastructure. The strategy should have short term objectives which include identifying a range of actions to maximise existing grant fund sources and the potential of the HCA. The strategy should include medium to long term objectives which allow GNDP to be ready to emerging funding sources such as TIF by having the appropriate management and governance arrangements in place.

1.2 Maximising Developer Contributions

- GNDP should establish a working group with representatives from the County Council and the three districts to review and explore the issues and options relating to the introduction of a development tariff set out in this report. This should include obtaining legal advice on the options, particularly in terms of their compliance with current planning policy guidance.
- The working group should develop a draft development plan document (Supplementary Planning Document to the Joint Core Strategy) setting out the tariff policy, which will need to be consulted upon with the public, landowners and developers.
- Going forward GNDP should seek legal advice on the approach taken to setting the tariff rate options as to how it could be applied and how best to consult with developers, landowners and the general public on the proposed tariff policy.

DRAFT FINAL

Greater Norwich Development Partnership

**Joint Core Strategy for Broadland, Norwich
and South Norfolk**

**Strategy to Accommodate Major Housing
Growth in the Norwich Policy Area –
Topic Paper**

(September 2009)

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1. Summary

This topic paper is part of a series that explains how key aspects of the Joint Core Strategy (JCS) for Broadland and South Norfolk districts and the City of Norwich have been developed. It explains the considerations that underlie the strategy to accommodate major development in the Norwich Policy Area (NPA), and briefly describes the range of considerations that have shaped it.

The first task of the spatial strategy is to distribute the development likely to be needed over the next fifteen years, but to do it in a way that respects the character of the area and offers the best prospects for delivery.

In order to do this it starts by accommodating as much within the urban area as possible, and seeks to make the maximum use of previously developed land, consistent with maintaining the environmental qualities of the area.

It also examines the environmental assets of the area, both within and outside the urban area. This includes the sharply contrasting nature of the urban fringe in different parts of the area, and the form and character of places selected for major growth.

It looks at the need to promote accessibility by non car modes, including the potential offered by currently successful public transport corridors in the south west, corridors prioritised for improvement in the west and, and the need for a more radical approach to public transport priorities in the north east. It also looks at the relationship between locations proposed for major housing, and those for employment, and how connections between them can be made.

Outside of the urban area of Norwich the resultant strategy focuses on a large-scale urban extension to the north east of the city, based around two or three centres either side of the proposed Northern Distributor Road (NDR). To the south of the city there is a more dispersed pattern to the growth, focusing on utilising the Norwich fringe where possible, sustainable expansion of the market town of Wymondham and growing larger villages to encompass a wider range of services, facilities and employment opportunities.

There will also be opportunities, both north and south of the city, for a range of smaller sites to meet the needs of village communities.

The Greater Norwich Development Partnership (GNDP) recognises that this is a strategy that has to try to achieve a number of objectives rather than a single one, and that inevitably there are tensions between some of these. The GNDP believes however that it has promoted a strategy which is the “best fit” given the challenges it faces.

2. Purpose of this Topic Paper

This topic paper is part of a series that explain how key aspects of the Joint Core Strategy (JCS) for Broadland, South Norfolk and Norwich have been developed. It explains the considerations that underlie the strategy to accommodate major housing development in the Norwich Policy Area (NPA).

The JCS strategy aims to implement the housing targets set by the East of England Plan to 2021, plus a projection forward at a slightly higher rate to 2026, in order to achieve a 15-year supply at the time of adopting the document. The Strategy demonstrates how this housing growth can be delivered in the best locations to meet other regional plan requirements whilst taking into account a number of local factors, including the evidence base (see Appendix 4 for details of the main documents that make up the evidence base), environment protection and local distinctiveness. Both the sustainability appraisal and consultation have played a key role in this process. Further details about the approach taken in each of the main areas, the City, and Northern and Southern sectors of the NPA, are given in Appendices 1, 2 and 3.

The resulting housing growth strategy in this plan consists of:

1. Urban intensification;
2. A new large-scale sustainable urban extension;
3. Expansion of some existing sustainable communities and those in the most sustainable locations.

The paper shows that the range of types of housing development identified above will aid, and limit risk to, delivery, while relating new residential areas to strategically important employment locations.

3. The East of England Plan

The East of England Plan requires 37,500 new dwellings in the three districts between 2001 and 2021, with 33,000 of these in the NPA. Planning Policy Statement 3 (Housing) requires a 15-year housing land supply at the time of adopting the JCS. Therefore, taking account of completions to between 2001 and 2008, plus existing commitments at 1st April 2008, the JCS allocates 21,000 new dwellings for the period to 2026. This is an over allocation on the actual requirement which is designed to aid consistent and robust delivery.

In parallel to the housing growth the East of England Plan (EEP) also requires 35,000 additional jobs to be created in Greater Norwich from 2001 to 2021.

Policy NR1 of the EEP covers the NPA and it:

- promotes increased public transport use and cycling and walking.;
- supports development of the retail, leisure, educational and cultural role of Norwich, with particular emphasis on the city centre and its outstanding historic heritage;
- emphasises the need to address deprivation;
- promotes the area as a destination for tourists and visitors, and a gateway to the wider rural and coastal areas of Norfolk;

- places an emphasis on environmental protection, biodiversity and green infrastructure;
- identifies strategic employment locations and sectors to be promoted.

4. Vision and Objectives of the Joint Core Strategy

These were drawn from common themes running through the Sustainable Community Strategies for Broadland, Norwich and South Norfolk, and the County Strategic Partnership.

The Spatial Planning Objectives of the JCS are:

- To minimise the contributors to climate change and address its impact;
- To allocate enough land for housing, and affordable housing, in the most sustainable settlements;
- To promote economic growth and diversity and provide a wide range of jobs;
- To promote regeneration and reduce deprivation;
- To allow people to develop to their full potential by providing education facilities to support the needs of a growing population;
- To make sure people have ready access to services;
- To enhance transport provision to meet the needs of existing and future populations while reducing the need and impact;
- To positively protect and enhance the individual character and culture of the area
- To protect, manage and enhance the natural, built and historic environment, including key landscapes, natural resources and areas of natural habitat or conservation value;
- To be a place where people feel safe in their communities;
- To encourage the development of healthy and active lifestyles; and
- To involve as many people as possible in the planning process.

The choice of growth locations for major housing development has been made in the light of these objectives and reflects the balances that need to be made between them. In addition, in order to achieve these objectives development will need to be of a very high quality, both aesthetically and functionally, and would need to incorporate a range of ancillary non-residential uses.

5. Factors shaping the spatial strategy

In meeting the challenges of providing for the scale of development needed, while meeting the aspirations set out above, the GNPD has had regard to a number of sources:

- A comprehensive evidence base of studies undertaken (listed in Appendix 4)
- Sustainability appraisal (including strategic environmental assessment) and Appropriate Assessment in respect of internationally designated habitats.
- Previous consultation by Broadland and South Norfolk Councils on early stages of individual core strategies;
- Consultation on issues and options undertaken in November, 2007 under previous regulations.
- South Norfolk Council's public consultation exercise on development at Long Stratton to fund a bypass, in parallel with the Issues and Options consultation (January 2008)
- A technical consultation under new Regulation 25 (August 2008).

- A “critical friend” review from the Planning Inspectorate (February 2009)
- Public consultation under Regulation 25, including the “favoured option” for growth (March 2009).
- National guidance and policy
- Dialogue with service providers
- Other strategies of the partner authorities (Norwich Area Transportation Strategy, Norfolk Local Transport Plan, Sustainable Community Strategies, Economic Development Strategies, culture and leisure strategies)
- Other research reports

The responses to consultations on the JCS, the sustainability appraisal and Appropriate Assessment and the evidence base are available on www.gndp.org.uk .

6. Evolution of the Favoured Option

Following a series of stakeholder workshops centred on a set of topic papers in summer 2007, the first full-scale consultation on the JCS was the November 2007 Issues and Options. The Issues and Options presented 11 potential locations for ‘large-scale essential growth’. A short ‘context’ and ‘initial indications’ summary was produced for each potential growth location. The initial analysis for the Issues and Options suggested that a pattern of development centred on an urban extension North East of Norwich, and new ‘country town’ South West of Norwich (Hetherset area) and extensions to Wymondham provided ‘the better opportunities for larger-scale growth’. This pattern essentially formed the basis of Option 1.

Responses to the Issues and Options consultation, plus the results of the initial Sustainability Appraisal, resulted in a Preferred Option, which was presented to the **GNDP LDF Working Group on 21st April 2008**. The Preferred Option, which is set out as Option 1 in the table below, sought to: maximise efficient provision of infrastructure, including high quality public transport; provide good links with strategic employment locations; achieve self containment; and provide opportunities for continued growth post-2026 at Wymondham, Hetherset and the North East.

The Working Group raised a number of concerns, including the choice of particular locations for large-scale housing growth in the Preferred Option. It was therefore agreed that a further Working Group meeting would be held, looking at alternatives to the Preferred Option.

For the **GNDP LDF Working Group meeting of 24th May 2008** a paper was presented which responded to the member’s concerns by putting forward Options 1 to 5. A South Norfolk Council Member Briefing on 8th May 2008 resulted in a sixth option also being tabled at the meeting. The options were as follows:

Table 1

Locations	(Original) Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
City	4000	4000	4000	4000	4000	4000
SNDC Fringe	2000	2000	2000	2000	2000	2000
Broadland Fringe	2000	2000	2000	2000	2000	2000
East				1000		
NE Inside and Out	6000	6000	4000	2000		6000
North			4000	2000		2000
Hethersett	4000	4000	4000	2000		
West	2000	2000	2000	1000		
Long Stratton		2000		2000		1500
Poringland				2000		
North West				2000		
Wymondham	4000	2000	2000	2000		2000
Stand Alone					5000*	4500
City %	17	17	17	17	17	17
SNDC %	50	50	42	54	8+	42
Broadland %	33	33	42	29	8+	42
To 2026	24000	24000	24000	24000	13000	24000

* Only 5000 in the plan period the remainder (approx 11000) would be beyond 2026.

Option 2 involved a redistribution from Wymondham and Hethersett to the West (Costessey/Easton) and Long Stratton, the latter specifically to address the long-standing issue of a bypass for the village; *Option 3* proposed to give an even split of development between Broadland and South Norfolk; *Option 4* involved a wider distribution, covering most of the 11 Issues and Options growth locations; *Option 5* centred around a new settlement in an unspecified location; and *Option 6* retained the stand alone settlement, but at a much reduced scale, and focussed the growth in South Norfolk towards the A140 corridor by identifying Mangreen as the settlement location.

The advantages and disadvantages of the options were debated and particular concerns were raised about the prospect of delivering infrastructure under the wider dispersal in Option 4 and the fact that Option 5 failed to deliver sufficient housing in the JCS period; both of these options also performed poorly against the Sustainability Appraisal. It was concluded that further work be undertaken to appraise Options 1, 2 and 6, particularly as Option 6 had not been evaluated to the same degree as the others proposed. This further work would be considered by the GNDP Policy Group on 24th June 2008.

The **GNDP Policy Group on 24th June 2008** was advised that new Town and Country Planning Regulations governing LDFs would come into effect on 27th June. As such, the previously planned Preferred Options stage would no longer be applicable; however, this meant that there was now the opportunity to undertake wider consultation on the three options still under consideration. It was agreed that a draft document for consultation with 'specific and general consultation bodies', plus a newsletter for the wider public, be agreed by a meetings of the GNDP member Cabinets/Executives on 18th July 2008. In parallel the GNDP would continue to gather evidence about the three remaining options. The three options to be considered in this consultation were:

Table 2

Location	Option 1	Option 2	Option 3
Norwich	4,000	4,000	4,000
Broadland smaller sites	2,000	2,000	3,000
South Norfolk smaller sites	2,000	2,000	2,000
North East (Sprowston/Rackheath area)	6,000	6,000	6,000
South West (Hethersett/Little Melton area)	4,000	4,000	
South (Mangreen – Swardeston/Mulbarton area)			4,500
Wymondham	4,000	2,000	2,000
West (Costessey/Easton area)	2,000	2,000	1,000
Long Stratton		2,000 (to help deliver a bypass)	1,500 (to help deliver a bypass)
TOTAL	24,000	24,000	24,000

Option 3 (Table 2) evolved from the previous Option 6 as a result of officer and leading member discussions concerning the lack of justification for including North of Norwich as a growth location; the 2,000 units being redistributed to smaller sites in Broadland and the West (Costessey/Easton).

Following the **GNDP Policy Group on 18th July 2008** and meetings of the Cabinets/Executives of the constituent authorities immediately following the Policy Group, the above Options were agreed for a Technical Consultation starting in August 2008.

During the autumn of 2008 the calculation of the housing requirement in the JCS (i.e. the amount for which allocations need to be made) was updated from a 1st April 2006 to 1st April 2008 base date. The result was a reduction in the size of the housing allocation in the NPA from 24,000 units to 21,000, including a reduction of the remaining capacity in Norwich from 4,000 to 3,000 units.

The **GNDP Policy Group of 18th December 2008** considered the outcomes of the Technical Consultation, which had involved 1,250 technical experts, developers, service providers and community groups, plus the further supporting evidence that had been gathered/received. The proposal at the meeting was for a *Favoured Option* for growth in the NPA to be distributed for wider public consultation, including re-consultation with the 'Technical' consultees, and for the public to also be given the opportunity to comment on the other issues in the earlier 'Technical Consultation' document.

At the meeting the officer recommendation was that the evidence suggested that Option 1 should be the Favoured Option. South Norfolk Council tabled a further Option, a hybrid of Options 2 and 3, labelled 2A, as set out below, which took on board the updated housing baseline:

Table 3

Location	Option 2A
Norwich	3,000
Broadland smaller sites	2,000
South Norfolk smaller sites	1,800
North East (Sprowston/Rackheath area)	7,000
South West: Hetherset/Cringleford)	1,000/1,200
South (Mangreen)	0 (2,000 additional allocation pre-2026)
Wymondham	2,200
West (Costessey/Easton area)	1,000
Long Stratton	1,800
TOTAL	21,000 (plus 2,000 at Mangreen)

Advance notice of Option 2A had been given and a summary of the advantages and disadvantages was presented to the meeting; these concluded that the Option was a better fit with the existing settlement character and pattern of South Norfolk, but also that it presented significant challenges.

The meeting was also informed that the Planning Inspectorate (PINS) had offered to undertake a pre-submission review, which could be carried out in late January 2009. The meeting therefore resolved to agree Option 2A, subject to (a) endorsement by the constituent planning authorities, (b) the results of the PINS review giving confidence about the evidence base and (c) a further meeting of the GNDP Policy Group following the PINS review.

The PINS Review was undertaken in late January 2009 and a report issued in February 2009.

The outcomes of the PINS Review were presented to the **GNDP Policy Group on 19th February 2009**. In response to the concerns raised about the evidence base used to support Option 2A, a further revision, Option 2+, was proposed. Option 2+ remained the same as Option 2A, above, but with the omission of Mangreen. Additional work would be undertaken to evaluate the potential of a new settlement to accommodate any further development in the NPA, beyond the current JCS requirements.

Option 2+ was consulted on as the Favoured Option in the Public Consultation between March and June 2009.

7. Patterns and Rates of Growth Across the NPA

7.1 The Historic Pattern of Growth and its Influence on the Preferred Option

Norwich is, as the EEP recognises, the focal point for the area. As such the strategy aims to maximise access to the jobs, services and facilities in the city. As the following two sections explain, a focus on Norwich has and will capitalise on the opportunities for reuse of previously developed land and keep the loss of greenfield sites to the minimum necessary.

Over recent decades Norwich has expanded significantly beyond the historic and administrative boundaries of the city, consequently growth has been accommodated in Broadland and South Norfolk. Whilst the adjoining rural areas north and south of the city share a number of similarities and are both within close proximity of the city

centre, there are a number of key differences too. These differences are clearly reflected in the strategy and are expressed in more detail in the Appendix 2 (Northern part of the NPA) and Appendix 3 (Southern part of the NPA)

Norwich is located at the confluence of the Rivers Wensum and Yare, and developed in this location as a crossing point of these navigable waterways. The Wensum flows from Taverham/Costessey in the north west, through the city to the Broads, whilst the Yare skirts the southern boundary of the city.

With the Yare forming the southern boundary of the city, this has clearly limited urban expansion to the south, allowing greater protection of the historic setting of the city in this direction. The relatively few crossing points of the Yare have also kept large tracts of the countryside free from development, with settlements that have kept a greater degree of independence from Norwich.

In contrast, whilst the north and north-east are also marked by varying topography and important features, such as historic parklands and Mousehold Heath, there is not the same physical barrier between the city and the adjoining areas of Broadland. The lack of a particular geographic or topographic feature separating Norwich and Broadland also means the 'boundary' is much more permeable for transport connections. Consequently urban development has been more continuous, with a range of employment, retail and housing development, some of which span the boundary, creating a much more urban character around the northern ring road and a more extensive urban fringe beyond. There is also less distinction between the parishes within the Broadland fringe, where there is no longer physical separation to aid settlement identity.

These historic differences in the way in which the areas to the north and south of Norwich have evolved are reflected in the choice of growth locations in the Preferred Option, which aims to enhance the distinctiveness of the area. To the south the presence of the Yare Valley, the A47 Norwich Southern Bypass and the Norwich-Cambridge railway mean that, other than at Costessey, direct urban extensions are not feasible. Flood risk, landscape considerations, wildlife sites, historic features and the opportunity to establish a green infrastructure corridor along the Yare limit the development capacity of the fringe in this area. Whilst the strategy for this area recognises that some settlements will need to grow to accommodate the levels of growth required by the EEP, protecting the individuality of settlements is still important.

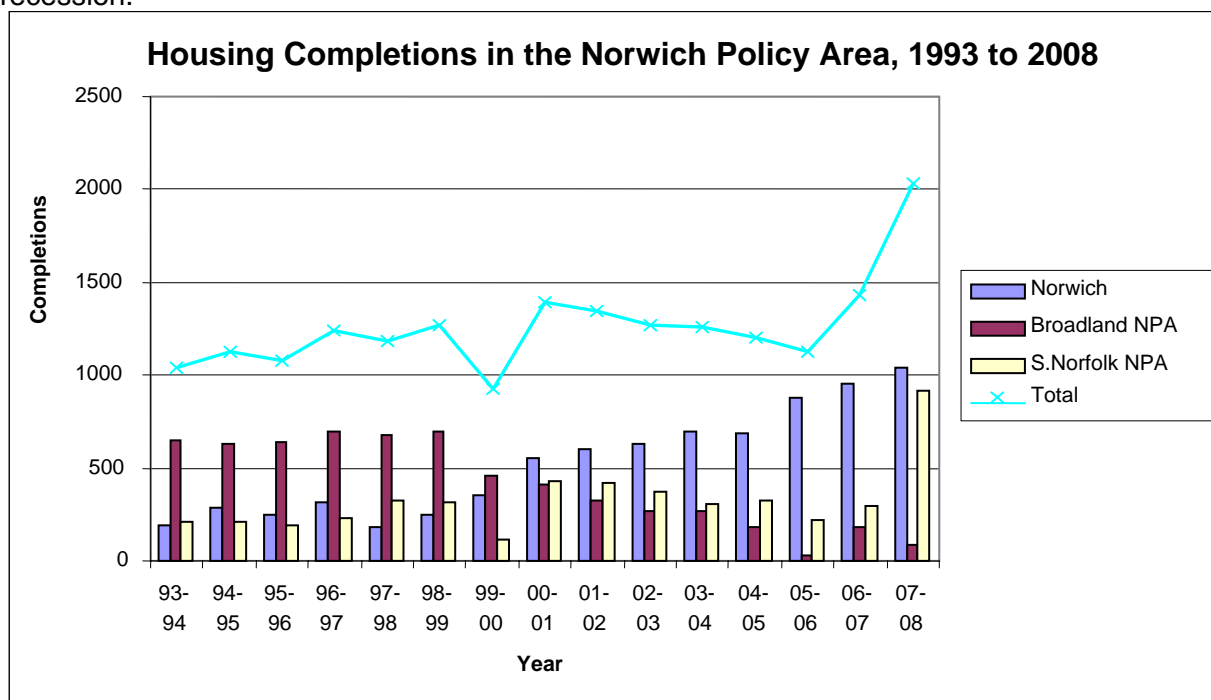
To the north east the strategy aims to build on the permeability with the city. This is both in terms of creating sustainable transport links, but also increasing the green infrastructure of the area through heathland habitat recreation and making the most of the presence of historic parkland and ancient woodland.

Overall the approaches aim to make the most of the positive aspects of historic patterns of development, whether that be close ties with the city or fostering individual settlement identities.

7.2 Rates of Past Growth

The graph below shows that completions for the NPA as a whole have been relatively constant over the last 15 years, between 1,000 and 1,500 units per annum, with a jump to over 2,000 units in 2007/08. However, provisional figures for 2008/09

suggest that completions have fallen back to around 1200 as a result of the present recession.



Although performance over the NPA as a whole has been consistent, there has been a marked difference in the number of completions in the different districts through this period. There has been a steady rise in the number of completions in Norwich, a steady decline in Broadland and fluctuations in South Norfolk, with a rapid increase to 2007/8. These changes reflect:

- A. The increased emphasis on brownfield development in urban areas resulting from changes in government policy, positive planning by Norwich City Council, site availability and more positive perceptions of urban living. As a consequence, a large number of brownfield sites, often ex-industrial and large scale, have been redeveloped and 88% of housing development in Norwich since 2000 has been on brownfield sites.
- B. The completion of major greenfield developments in Broadland at Dussindale and Thorpe Marriot during the 1990s. Only one major allocation has been made since, at White House Farm, Sprowston, however this has not yet started and completions have dropped rapidly as a result.
- C. The increased amount of growth in South Norfolk has taken place through the expansion of the larger settlements and on the key transport routes, particularly in the A11 corridor settlements of Wymondham, Hethersett and Cringleford, as well as renewed growth at Costessey, Long Stratton, Mulbarton and Poringland. The increase in housing completions in recent years has thus been the result of a large number of South Norfolk Local Plan allocations being developed in tandem. Further information on previous development rates is set out in Appendix 5.

What is clear from these trends is that different housing markets have performed strongly at different times over the past 15 years

7.3 Future Delivery

As previously noted, at least 21,000 new dwellings need to be accommodated in NPA by 2026. Of these evidence shows that 3,000 units can be accommodated

within Norwich. The Preferred Option divides the remaining dwellings equally between Broadland and South Norfolk; 9,000 dwellings each. If the distribution of houses between the partner authorities were to follow exactly that set out in the East of England Plan, the target provision for Broadland would increase slightly (by about 750) but could increase by more if the additional requirement for Norwich from 2021 to 2026 were assigned to Broadland as a consequence of capacity limitations in the city. South Norfolk has a similarly challenging target. Taking into account the need to safeguard sustainable locations in the city centre for office and retail uses, and the fact that maximum use of land for housing is already prioritised, the option of not accommodating major growth in Broadland and/or South Norfolk is not realistic.

All of the short term need will be met through existing allocations and permissions, with both the current Broadland and Norwich City Local Plans having allocations to 2011, some of which are not started, and the South Norfolk Local Plan including a contingency reserve for beyond 2006.

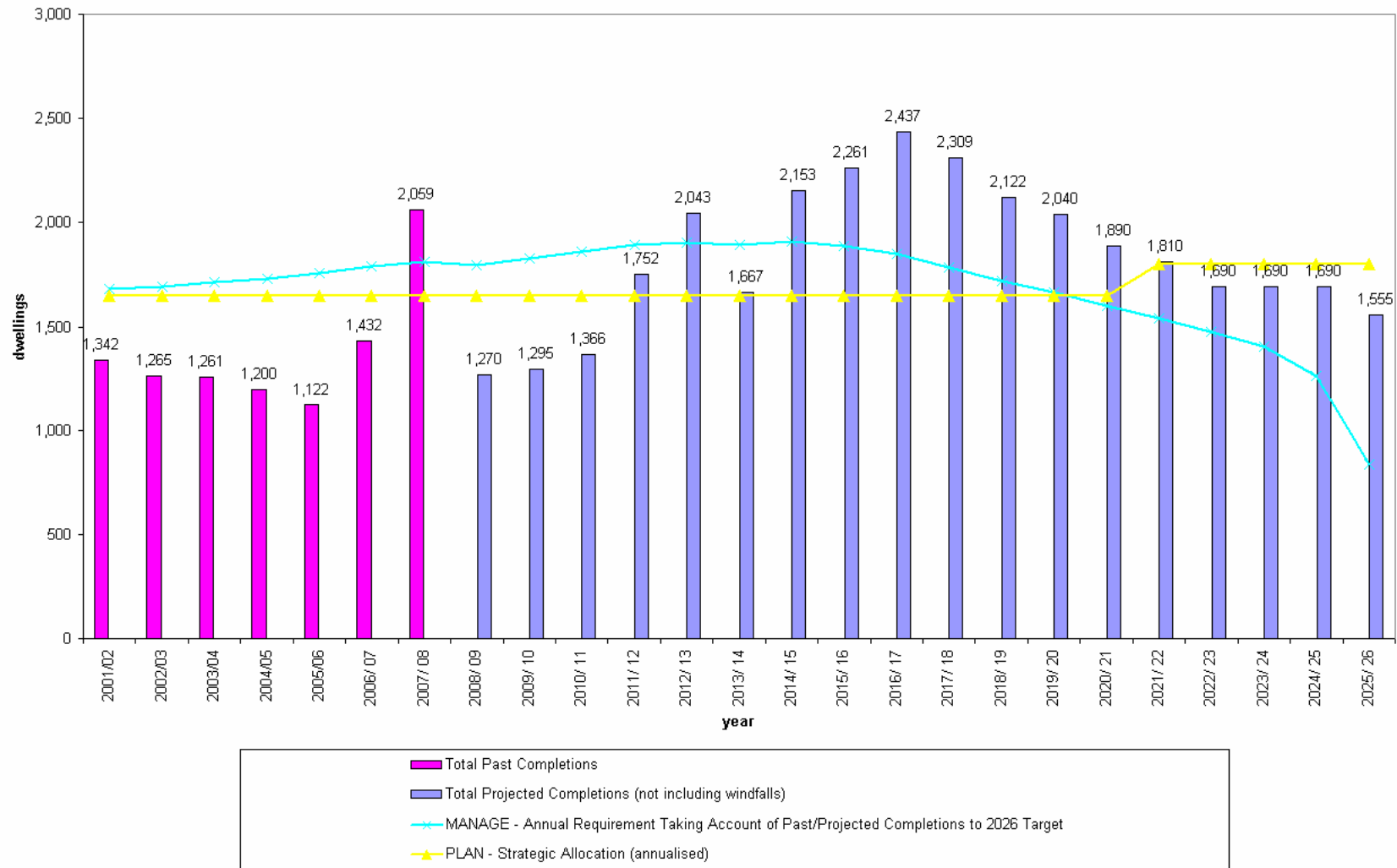
The trajectory table below shows that:

- A. The earliest development on new allocations will not be completed until 2011/12;
- B. Sites in Norwich will provide 250 dwellings/year from 2014/5;
- C. Housing delivery at the Old Catton, Sprowston, Rackheath, Thorpe St Andrew growth triangle will steadily increase to provide a 580 dwellings/year from 2015/16 onwards;
- D. The majority of growth locations in South Norfolk are likely to start delivering completions in 2014/15, and will be developed in parallel
- E. Additional smaller sites in Broadland and South Norfolk will provide 320 dwellings per year from 2014/15.

As a result, delivery will peak in the middle years of the plan period to enable housing growth requirements to be met. If these early delivery rates prove to be too challenging, there is scope for a flatter rate of delivery that would still meet the overall requirements for the NPA.

District/ growth area	Annual Completions from New Allocations (i.e. no existing commitments)																Total	Average Annual total
	2006 /11	2011 /12	2012 /13	2013 /14	2014 /15	2015 /16	2016 /17	2017 /18	2018 /19	2019 /20	2020 /21	2021 /22	2022 /23	2023/ 24	2024/ 25	2025/ 26		
Broadland	0	180	230	230	525	625	750	750	750	750	750	750	750	750	750	710	9,250	544
Rackheath Eco-Community		180	230	230	230	230	230	230	230	230	230	230	230	230	230	230	3,400	227
Remainder of Old Catton, Sprowston, Rackheath, Thorpe St Andrew Growth Triangle (inside NDR)					125	225	350	350	350	350	350	350	350	350	350	350	3,850	321
Additional smaller sites around Broadland (2,000)					170	170	170	170	170	170	170	170	170	170	170	130	2,000	167
Norwich	0	0	0	0	250	250	250	250	250	250	250	250	250	250	250	250	3,000	176
Norwich (3,000)					250	250	250	250	250	250	250	250	250	250	250	250	3,000	250
South Norfolk	0	0	0	0	435	565	785	860	950	1,040	890	810	690	690	690	595	9,000	529
Wymondham (2,200)					185	185	185	185	185	185	185	185	185	185	185	165	2,200	183
Long Stratton (1,800)								50	140	230	230	230	230	230	230	230	1,800	200
Hethersett (1,000)					50	90	175	175	175	175	100	60					1,000	125
Cringleford (1,200)						50	100	125	125	125	125	125	125	125	125	50	1,200	109
Easton/Costessey (1,000)					50	90	175	175	175	175	100	60					1,000	125
Additional smaller sites around South Norfolk (1,800)					150	150	150	150	150	150	150	150	150	150	150	150	1,800	150
TOTAL	0	180	230	230	1,210	1,440	1,785	1,860	1,950	2,040	1,890	1,810	1,690	1,690	1,690	1,555	21,250	1,181

Norwich Policy Area Housing Trajectory - Favoured Option - Plan and Manage 2001-2026



7.4 Developing the Elements of a Strategy

The choice of the approach to accommodating development formed part of the Issues and Options consultation exercise in 2007/2008. This included a full consultation document to which organisations and the public could respond, and a shorter questionnaire delivered to residential addresses throughout the area, as well as to a number of local organisations. The full document invited comments on the criteria for locating new housing, the merits of large-scale urban extensions, new towns, and a more dispersed approach, as well as inviting comments on a range of potential locations.

With regard to the locational principles for new development, the response from both documents gave priority to

- Good access by walking, cycling and public transport
- Infrastructure and service delivery
- Environmental impact

In terms of the strategy for provision of housing, the largest support (35%) was for large-scale urban extensions or a possible new settlement, though almost as many people (31%) were in favour of a more dispersed approach. While three options, (dispersal, medium sized concentration, large-scale urban extensions/new settlement) were offered, a number respondents spontaneously included the comment that the best outcome might be a mixture of these approaches. (Appendix 4, Ref. 21 Pg 18 and Pg 93)

The future delivery can broadly be broken down into three main strands that have led to the Favoured Option set out in Appendix 6.

7.4.1 Urban intensification

Existing housing commitments are high in Norwich. Significant numbers of planning permissions for housing have not yet been developed and housing allocations from the current local plan also remain to be developed. Therefore brownfield sites will provide a significant proportion of the land available for development in the short term. This proportion will decline through the plan period as the supply of brownfield land decreases and greenfield allocations come on stream. Overall the JCS aims to maximise the level of development on previously developed land (PDL), however, the opportunities for new allocations on PDL are limited. Only a very limited proportion of new employment allocations and fewer than 20% of new housing allocations are likely to be on PDL. When added to existing commitments the proportion of total housing development on PDL is likely to be between 25% and 30%, with a target of 25% set in the JCS Monitoring Indicators.

Thus whilst further brownfield redevelopment opportunities are available, the present supply of housing land is reduced compared to a decade ago. As well as housing development within Norwich, there is also a need accommodate other uses, including central area uses, and the need to protect and enhance green infrastructure, see Appendix 1 for further details. Taking these factors into account, further housing capacity beyond present commitments within Norwich has been identified as 3,000 units to 2026.

7.4.2 A Sustainable Urban extension

A significant element of the new housing development will be provided as a large-scale urban extension to the north east of Norwich. It will be sufficiently large to provide supporting facilities such as secondary education, primary health care, a district centre/high street, local energy generation and very high quality public transport, including a potential rail halt and bus rapid transit. Based on our understanding of the population needed to support the highest level of these facilities, a minimum of at least 7500 houses will be necessary. Such a scenario was tested as one of the options in first JCS Infrastructure and Funding study (Appendix 4, Ref. 5), but though the conclusion of this study was that such a scale of development might be delivered by 2021, it was extremely close to the limit of what might be achievable.

Another scenario tested was a completely free standing settlement, but the study concluded (paragraph 6.16) that this would be unlikely, on its own, to deliver development rapidly enough to meet the targets of the East of England plan up to 2021.

The GNPD has undertaken its own research into the rates of development achieved on large developments (Appendix 4, Ref. 18). This highlights two significant factors: For new settlements, the average time between initial proposals for a new settlement being agreed, including broad location, and the start of construction, is typically just over six and a half years, with occupation of the first homes being a further year behind. For the Old Catton, Sprowston, Rackheath, Thorpe St Andrew growth triangle it is anticipated that this will be considerably shortened, due to the main requirements for development being identified at an early stage and the efforts of the GNPD to secure delivery. For the eco-town element (outside the NDR) lead in is shortened to approximately two and a half years from confirmation of the eco-town status. For the remainder of the Old Catton, Sprowston, Rackheath, Thorpe St Andrew growth triangle the first completions are anticipated approximately four years from adoption of the JCS, in parallel with a number of the other growth locations in South Norfolk.

The second point is that average build rates on large scale developments already in construction are up to 240 dwellings per year, probably representing the combined efforts of up to six developers. Table 2 in the research document shows some higher projections, but the reality of those developments in the course of implementation suggests that around 240 dwellings represents a realistic maximum over the longer term. To deliver 7,250 houses in the Old Catton, Sprowston, Rackheath, Thorpe St Andrew growth triangle by March 2026 requires a gradual build up to a rate of 580 units/year from 2016 onwards. 230 units/year is assumed to be the peak rate for the eco-town (outside the NDR), and 350 units/year for the area inside the NDR, probably based around two centres.

Because the required rates of expansion in the Growth Triangle mean it is necessary for development to proceed in three locations simultaneously, the area selected for this growth needs to offer the potential to form three neighbourhoods. Even so, the development rates proposed are considerably below the peaks shown as deliverable in the evidence study (Appendix 4, Ref. 18) to allow for the fact that the three centres may be in relatively close proximity and therefore there will be some overlap in housing markets.

Appendix 2 identifies why the Old Catton, Sprowston, Rackheath, Thorpe St Andrew growth triangle provides the best location for such development, meeting regional policy requirements and taking account of local environmental factors.

7.4.3 Extensions to Settlements

i) Large scale allocations

To the south of Norwich the main growth is focussed on five large-scale allocations ranging from 1,000 to 2,200 units. As well as respecting the historic growth and current form and character of the South Norfolk NPA, as noted above, this approach also aims to reduce the risks to the consistent delivery of new housing. Whilst considerable effort has gone into establishing the deliverability of all of the growth locations, unforeseen problems could potentially pose a greater risk the fewer locations that are progressed. Consequently the reliance on a second large concentration of development within the NPA, whether as an urban extension or the expansion/amalgamation of existing settlements, would raise concerns over whether this increases the risks to the overall delivery of housing.

As with the evidence on new settlements/large scale settlement extensions (Appendix 4, Ref.18), development on the largest sites within the South Norfolk NPA has shown a considerable lag between the allocation of the site and first completions; the Housing Trajectory table above shows that all of the growth locations are likely to start in 2014/15 at the earliest, and consequently will need to be developed in parallel in order to achieve sufficient completions by 2025/26. At the largest existing site within the NPA (Queens Hills, Costessey) developers with multiple phases have concentrated on one phase at a time; however the same developers have progressed in parallel with other sites/phases of sites in nearby settlements e.g. at Roundhouse Park, Cringleford. At this stage it is not known how many developers will be involved in each of the growth locations, but it is not inconceivable, looking at current examples around the Norwich area, that a site of 1,000+ units would be developed by as few as two or three developers. This suggests a build time in strong market conditions of 7+ years *after* the main site infrastructure is in place. Given the relatively small pool of national and regional builders involved in major developments and capable of building multiple sites in parallel at the necessary speed, the need to reduce risk by ensuring that developments are spread across a range of locations in South Norfolk, where much of the infrastructure is already in place, becomes more apparent.

The issue of the speed at which major developments can be progressed is exacerbated by the current slow housing market, which could result in some of these builders being engaged in completing existing commitments for longer than anticipated.

The majority of the growth locations, north and south of the city, fall within the overall Norwich housing market, whereas the Housing Market Assessment (Appendix 4, Ref. 1) recognises that Wymondham and Long Stratton have separate defined housing markets. Distribution of development to these locations also allows people greater choice within the housing market to suit their family, employment and social requirements. Greater market choice could aid quicker sales and therefore further enhance the potential for consistent delivery.

Overall, having different approaches to the distribution of development south and north of the city should give a more robust prospect of delivery for the Norwich Policy Area as a whole.

ii) Allocations through Site Allocation Plans

The Favoured Option also makes provision for 3,800 units on smaller sites, 2,000 in Broadland and 1,800 in South Norfolk, to be distributed on the basis of the settlement hierarchy through the Site Allocation Plans. These smaller sites offer the opportunity both to deliver some housing in a shorter timescale and also the choice of location could have an impact of the viability of infrastructure provision i.e. which school or doctors catchment do they fall into, ability to feed into enhanced public transport routes, shared new facilities with other smaller settlements etc.

Again, the great flexibility offered by these sites should help make the JCS more robust, particularly in terms of providing timely and consistent housing delivery.

Appendix 1 - Norwich

This appendix shows why the figure of 3,000 dwellings has been identified for housing growth in Norwich.

In compliance with national and regional policy, the strategy is urban focussed. It aims to provide a variety of housing to meet local need within Norwich, whilst also:

- Promoting office, cultural, tourism and retail development in the city centre as a major regional centre;
- Enabling regeneration of deprived parts of the city and other areas with growth potential, providing for high quality sustainable access to local employment and services;
- Protecting specific parts of the city allocated for other uses such as employment areas and open spaces from inappropriate housing development.

Recent housing development and existing plan allocations

Norwich has experienced unprecedented housing development this decade, rising annually and peaking at over 1000 dwellings in 2007/8 (see graph in 7.2 above). As a result, 5,484 dwellings were built in Norwich from 2001 to 2008, 57% of the dwellings built in the Norwich Policy Area (NPA). Efficient use of land was made, average densities rising steadily through the decade and peaking at 88 dwellings per hectare in 2007/8. Whilst there has been some greenfield development, notably at Three Score, Bowthorpe, 88% of housing development in Norwich since 2000 has been on brownfield sites. Many of the brownfield sites have been ex-industrial and large scale, reflecting the decline in manufacturing industry in the city. At the same time, employment on allocated sites has grown steadily, and other uses such as retailing and leisure have grown rapidly. Significant areas of land are protected from development for environmental reasons, approximately 20% of the area of the city is open space.

There have also been high rates of “windfall” development on housing sites not identified through plans. An average of 240 dwellings per year were developed on largely small scale windfall sites from 2001 to 2008. The high rates can be attributed to strong market conditions and to the large number of social housing schemes developed on council owned land. As a result of this and larger social housing regeneration schemes on allocated sites, delivery of affordable housing has risen. There were 291 affordable housing completions recorded in 2007-08, the highest figure in the East of England and in the top ten nationally.

The current housing commitment (sites with planning permission or allocated in the local plan at JCS the base of April 2008) in Norwich is for 5,911 dwellings, representing half of the committed sites for the NPA.

As a result, there is a diminishing supply of land available for further housing development within the tightly bounded council area.

Identifying further housing land

Since detailed SHLAA evidence on the capacity for future housing development within Norwich was not available during the early stages of plan making, an initial

broad estimate for further growth potential was made to inform the Issues and Options consultation in November 2007 (paragraph 5.5). This suggested there was capacity for 5,000 further dwellings.

Further work undertaken for the Regulation 25 Technical Consultation in August 2008 (policy 5) on the basis of monitoring, previous housing capacity work and professional knowledge of local sites reduced the figure to 4,000 dwellings.

Responses to the technical consultation, emerging evidence from studies and the adoption of the East of England Plan, emphasised the need for a significant land requirement for employment, retail and leisure uses, thus reducing housing capacity. As further monitoring information became available showing the high level of completions between 2006 and 2008 (and therefore the reduced number of sites available for future development), it became clear that the estimate of 4,000 dwellings was too high. Thus estimates were reduced to 3,000 dwellings for Regulation 25 Public Consultation in March 2009 (policy 14).

Since then, completion of the SHLAA has provided a more robust evidence base to assess housing capacity. Taking account of the need to retain land for commercial uses, and the need to protect other uses such as green space as set out above, the SHLAA has undertaken a site-by-site analysis of housing development potential. It concluded that, from the sites identified, 3,242 dwellings could be developed in the city council area to 2026. This figure corroborates the revision to the estimate made for the Regulation 25 Public Consultation. It is appropriate to slightly discount this figure as it is unlikely that all these sites will come forward for housing development, therefore the figure of 3,000 dwellings previously consulted upon is carried forward to the submission version of the JCS as a minimum housing requirement.

In addition to allocations, relatively high “windfall” rates are likely to continue. Though the recent market downturn may reduce small scale private housing development in the short term, and government definitions may change, redevelopment of council owned land for social housing is planned to continue.

City Centre

Recent development

Until the 2009 recession, the city centre and adjoining areas experienced rapid regeneration, unprecedented in recent decades. A large proportion of the redevelopment was for flats at high densities, with an average density of development 135 dwellings per hectare in recent years. In the 5 years from 2004/5 to 2008/9, approximately 1200 dwellings were completed in the city centre, with a peak in 2007/8 of 524 dwellings, but this slowed to approximately 225 in 2008/9.

In addition, there was significant development of leisure facilities, mainly at Riverside and new cultural facilities were provided at the Forum. Large scale retail development took place at Chapelfield, specialist shopping areas have been promoted and the market has been renewed. Major office development is presently taking place at Whitefriars.

The strategy

1. Housing

The strategy's target for new dwellings, including mixed uses with housing and family housing, is a **minimum** of 2,750 dwellings 2008 to 2026, including existing permissions and allocations. Housing development is required to meet need and to ensure that the centre becomes increasingly vibrant both during the day and in the evening.

These **minimum** housing requirements are approximately 65% than those achieved in the last 5 years. These targets are based on a clear evidence base from the Strategic Housing Land Assessment as to the housing capacity of the remaining brownfield sites in the city centre likely to come forward for development in the plan period.

The housing numbers in the policy also take account of:

- the fact that many of the city centre brownfield sites have been developed in recent years;
- the need to ensure that sufficient land is available for regional services such as employment, retailing and leisure and for open spaces;
- the need to supply a variety of housing types and sizes to meet all needs. Whilst the majority of housing in the city centre will continue to be high density, there is also a need for family housing.

2. Employment

Regional policy, which requires a substantial growth in employment in the city centre as it is a regional centre. The The Employment Growth and Sites and Premises study shows that at least 1000 m² of new offices will be required in the city centre and the wider central area by 2026, a land take of around ten hectares. Recent market trends support such an approach, showing a revival in demand for high quality offices, but with little demand for older, poorer quality offices and pressure in some cases for conversion to housing.

3. Retailing

The retail and town centres study concludes that there is the potential capacity for 40,000m² of comparison retailing in the city centre to 2016 and 68,000m² to 2021. This analysis was undertaken in October 2007, prior to the present recession. As a result of the increase in retail vacancies associated with the recession and of consultation, this figure is regarded as potentially being too high. Therefore the JCS has taken a flexible approach. It provides for 20,000 m² of comparison retail development in the city centre to 2016. It requires continued regular monitoring of retail vacancies and development to inform assessment of retail change. The GNDP will commission a further detailed retail assessment later in the plan period to ensure policy can be adapted to future needs. Much of this retail development could be achieved through intensification of uses in existing retail areas and through mixed-use development.

The study also identifies the potential for a new modern superstore of 3500 square metres net in the Norwich urban area by 2011, with the potential doubling by 2021 (Appendix 4, Ref. 9, Chapter 13). The report suggests (paragraph13.54) that in the short term, qualitative considerations suggest new food store development should take place in the city centre. Planning permissions granted for supermarkets at Anglia Square in the city centre and at Harford Place will, if implemented, meet this need.

4. Leisure

Regional policy and the evidence base have also identified that a substantial amount of space is required for other service related uses, such as leisure and tourism. The study recommends new café, bar and restaurant development of approximately 3,000m².

City Centre Regeneration Areas

Three specific areas are identified for regeneration in the city centre through policy 11 of the JCS in line with the evidence base. All three areas have great potential, but are presently failing to achieve this, largely as a result of outmoded retailing and office facilities:

- The Northern City Area will be redeveloped through its Area Action Plan. As well as housing development (with x dwellings allocated), this involves transport improvements, the regeneration of the Large District Centre including a supermarket, office development and significant improvements to the public realm.
- The St. Stephens area will be redeveloped through its emerging masterplan. Redevelopment will include retail, office, leisure and housing development (approximately 500 units). The best mix of these uses, and their commercial viability, has been established through the masterplanning process.
- Rose Lane will be redeveloped, primarily for office uses as part of the improved commercial core of the city centre, through a Supplementary Planning Document.

Housing development outside the city centre

Based on the SHLAA, a variety of types of brownfield sites are likely to contribute to overall urban intensification, including commercial premises that are likely to be vacated, vacated school sites and existing low density housing sites suitable for redevelopment. The suitability of these sites for housing development will be considered through the Site Allocation Plan.

Areas unsuitable for housing development

Many parts of the city can not be considered for urban housing intensification due to specific constraints:

Open Space: approximately twenty per cent of Norwich is identified as open space and is protected from development under Local Plan policies. This includes a variety of uses such as semi natural areas, parks, sports fields, allotments and play areas.

Employment land: extensive areas are also allocated for employment. Since the EEP sets a requirement for significant employment growth in the area, the Employment study recommends that existing employment sites should be retained, potentially with intensification of employment use on existing sites and thus do not provide potential for housing development..

Other protected areas: these include Health and Safety Executive exclusion zones, such as around Bayer Crop Science and Heigham Waterworks, environmental and heritage designations and areas at risk of flood.

Consultation

The consultation response at the issues and options stage was broadly supportive of a strategy that seeks to promote continued commercial and retail growth within the city centre. (Appendix 4, Ref. 21, page 22), and supportive of the overall approach to the approach proposed for the outer urban area (Appendix 4, Ref. 21, page 25).

Sustainability Appraisal (SA)

The SA supports the strategy for the city centre as it co-locates employment, services and housing, focussing employment growth on the most sustainable location in sub-region and providing housing and services to support vitality. This will both reduce the need to travel and ensure maximum use of sustainable transport modes.

Conclusion

The strategy for Norwich is evidence based and represents the most sustainable approach to support housing development and to promote the regional function of the city centre and regeneration in deprived areas of the city. Further housing allocations should ensure continued high affordable housing delivery.

Appendix 2 - Northern part of the NPA

1. Nature of the Urban Fringe, Impact of Growth and Service Delivery

In the north, the NPA includes a large urban fringe, continuously developed except where Norwich International Airport extends to meet open countryside. In the north west, this extends some way along the valley of the River Wensum. Of the remaining ten parishes in the Broadland part of the NPA, some have grown into large settlements, predominantly acting as dormitories for Norwich, (notably Horsford, Spixworth, Blofield and Brundall) while many other villages remain small.

For the 9,000 dwellings that need to be accommodated in the Broadland sector of the NPA, an equal distribution between the sixteen parishes would imply just over 560 dwellings in each. If three very small parishes were excluded, the share for the remaining thirteen would rise to just short of 700 newly allocated dwellings in each. Such a scale of growth would dramatically affect the form and character of all of the settlements concerned particularly taking into account the existing commitment at March, 2008 of over 1750 dwellings.

More recent guidance on the creation of sustainable communities sees merit in concentration, in the absence of an existing centre on which to build. The Eco – towns prospectus published by the Department for Communities and Local Government in July, 2007 notes that any new settlement must be of sufficient size to ensure a good level of services, jobs and community facilities to create attractive and sustainable places to live. This is translated into a target of 5000 – 10,000 homes in the key criteria set out in paragraph 13. Experience elsewhere in the country paints a similar picture. Cambourne, in Cambridgeshire, has a current projected size of 4250 dwellings. An evaluation by Cambridge Architectural Research Limited for Inspire East (Lessons From Cambourne) notes (page five) “there is immense pressure from developers for Cambourne to grow, possibly to double its present size ... a doubling the size (sic) would allow a secondary school to be built and would make the other facilities like shops and services more viable”. Northstowe, the next planned addition to the Cambridge area, is destined to be twice the size of Cambourne. According to the website (www.northstowe.uk.com) Northstowe is planned for approximately 9500 new homes and will include six primary schools, a secondary school and a post-16 education facility.

In parallel with, and guiding the preparation of the JCS, work has been undertaken on a **sustainability appraisal**. The SA covers individual policies, individual locations considered for major growth, and the growth locations packaged together as ‘options’. Looking at the individual locations in Broadland, the north east inside the NDR appears to perform best, with the north east *outside* the NDR slightly ahead of (but very close to) the other alternatives. However many of the environmental and social disadvantages of the outside the NDR location, associated with a large development detached from Norwich both by distance and by the NDR itself, can be overcome if this location is considered in combination with the inside the NDR location. Essentially, the potential for the two areas to share critical infrastructure such as secondary schools, public transport priorities and a wider range of facilities suggest the north east outside the NDR will perform better in combination with the north east inside the NDR than it would alone.

The large-scale growth forming the major part of the strategy for the northern part of the NPA is balanced by the requirement to find locations for 2000 dwellings on smaller sites north of Norwich. A number of sites within the urban fringe parishes and larger villages have been put forward through the consultation processes, and the GNDP is confident that this scale of development can be met on sites which align with the settlement hierarchy. These will add a degree of choice, and should enable some development to come forward early in the plan. It is recognised however that this is a limited component in the northern part of the NPA, and in terms of delivery, needs to be complemented by more sites in the City of Norwich and the southern part of the NPA which can also come forward early.

The following four sections look at the impact of dispersal or concentration on the provision of education, health care, shopping/commercial facilities and transport.

Education

Dialogue with Children's Services, and experience gained during the preparation of the current Broadland Local Plan, it is apparent that by spreading development the scale of growth would have a dramatic and detrimental effect on primary schools in the area, but without the critical mass, in any single location, to justify the provision of a new primary school. Clearly, a completely even spread would be improbable, but by way of illustration, in the Broadland part of the Norwich policy area there are about 21 primary schools (counting infants and juniors as one) and on average each would be expected to serve another 400+ houses. It is thus inconceivable that a strategy of spreading growth evenly would not cause problems in a number of locations, but would lack the critical mass to resolve them.

There are four secondary schools in this part of Broadland, at Taverham, Hellesdon, Sprowston and Thorpe St Andrew, all of which have limited or no spare capacity, and in some cases, retain many dated buildings. Within the nearby areas of Norwich, there are two secondary schools, one of which has been awarded academy status. The other, Sewell Park College, lies some way from the urban edge. An even spread of development would present even more acute problems for the secondary sector. The newly created Open Academy has just been established and major expansion would present huge challenges. The impact on the remaining four schools in the Broadland part of the Norwich policy area would average over 2000 dwellings each, and would still be very significant even if secondary schools outside the Broadland part of the Norwich policy area were taken into account. The view of Children's Services is that to justify the building of a new secondary school a very significant concentration of housing is needed. While the precise amount will vary according to the details of current capacities, forecast demographic change and impact on future capacity, and current thinking in terms of the curriculum, school configuration etc, a reasonable "rule of thumb" appears to be that around 7000 houses are the minimum that can be expected to support a new secondary school and sustain that support into the future.

Health Care

Another key factor in sustainable communities is the presence of primary health care. Looking at current capacities, at a district-by-district scale (within the confines of the Norwich policy area) the 2007 Growth Infrastructure and Funding Study (Appendix 4, Ref. 5) concluded that, in Greater Norwich, one general practitioner typically serves between 1350 and 1525 residents, while one dentist typically serves about 2000 residents. While individual practices may have the varying degrees of capacity at

present, prospect of the population of the plan area growing by in excess of 40,000 people up to 2026 clearly implies a need for new facilities. The study suggests for one of the scenarios modelled, an additional 3 primary care centres and 2 GP surgeries may be needed by 2021 and a further primary care centre and 4 GP surgeries by 2031. These are global figures, across the entire NPA. The study (paragraph 2.24) notes the changing pattern of primary health care, with current government policy promoting primary and community services together, with social services co-located where possible. Primary care facilities can also accommodate a number of diagnostic and treatment services, and therefore reduce the level of demand for acute services. The primary supplier of acute services is the Norfolk and Norwich University Hospital at Colney. The study goes on to suggest that in the context of the Norwich area a “hub and spoke” model of provision may prove to be the most feasible with larger primary care centres in central urban areas supported by smaller centres located in outer residential areas. In order to provide the critical mass for primary care centres, some degree of concentration is clearly required. Even a practice consisting solely of four GPs is likely to require the support from some 5,400-6,100 patients, representing about 2500 dwellings. These figures will rise if a wider range of services or diagnostic facilities is to be offered.

Shopping and Commercial Facilities

While commercial facilities can be expected to flourish where there is sufficient demand, if the intention is to create a critical mass of commercial facilities to act, along with the community facilities, as a focal point for new development, a concentration of development is likely to be the best way to achieve this. Much of the urban fringe of Broadland grew in the past without such focal points. More recently focal points have been created through development, for example the district centres at Dussindale and Old Catton. At Sprowston, current strategies seek to add community facilities in the vicinity of the Tesco superstore to create a new district centre. The creation of further centres to cater for the scale of development proposed could best be achieved through a policy of concentration.

Transport and Accessibility

The East of England Plan requires the strategy to seek to achieve a step change in the share of journeys made without relying on the car. Achieving this will require a significantly more attractive public transport offer than has been the case in the past, and the strategy seeks to achieve this by promoting bus rapid transit (BRT) to achieve attractive frequencies, reliability and journey times. The study on public transport requirements of growth (Appendix 4, Ref. 13) notes, in the executive summary, that BRT will require “a more radical approach to bus priority including the reallocation to buses of some existing road space for general traffic”. This is particularly true on the northern side of the urban area, where there are no corridors with comprehensive priorities comparable to those on Newmarket Road, in the south west. The study describes a vision for high quality public transport, involving significant investment in vehicles and infrastructure along routes, including new ticketing systems and waiting areas. While the report was looking at sample scenarios, it does offer the comment in the executive summary that developments “of 2000 to 3750 homes in scenarios A. and B. are well below the size that would support a dedicated express bus service to the city centre”. Section 2.1.3 of the main report notes that if growth were lined up along a north east and south west corridor, the corridor would, under the growth assumptions tested, “need to provide capacity for a total of 3891 peak hour trips in 2031. This level of demand is still just within the maximum system capacity of a standard bus service, but sufficient to support a bus

rapid transit service with a high level of segregation from general traffic". While it was not the remit of the study to specify a minimum threshold to justify a bus rapid transit service, there is clearly a critical mass required to underpin such a service, and this cannot be obtained through a strategy of dispersal.

The strategic employment sites identified in the East of England Plan include Thorpe St Andrew (St Andrews and Broadland Business Parks), the city centre and Norwich Airport. The development in the north east should be able to offer good connections to these locations; to the existing Airport industrial area and Broadland Business Park by existing footpath and cycle connections, to the city centre by existing cycle routes and also a dedicated bus rapid transit route, which would also serve an existing significant area of employment on the urban fringe at Sprowston. In addition, further employment growth is proposed within the eco community at Rackheath, and this too should be accessible by non-car modes from the major development in the north east.

It is noteworthy that the Employment Growth and Sites and Premises study undertaken by Arups confirmed the broad pattern of strategic employment sites (Appendix 4, Ref. 7, Para 1.17) and also supported the selection of the Airport as a location for a new employment allocation (Para 1.5.5).

2. Environmental considerations

Broadland exhibits a very high level of environmental quality throughout the district, and development inevitably raises environmental issues for which there is rarely a simple solution. Selecting locations for major development inevitably involves some trade offs. Nowhere is this more acute than in the NPA where the scale of the development to be accommodated and the limited range of options compound the difficulty. Looking at the range of environmental assets, the position can be summarized as follows.

In the following descriptions, north west refers to the area west of the A140, north refers to the area between the A140 and Spixworth, north east refers to the area shown as the proposed area action plan location (the Old Catton, Sprowston, Rackheath, Thorpe St Andrew growth triangle), and east refers to the area outside the proposed Norwich northern distributor road, and south of Salhouse Road.

High quality agricultural land

There is a large area of grade 1 and 2 agricultural land in the east part of the Norwich policy area around Great and Little Plumstead, Brundall, Blofield and Postwick. There is a small area of grade 2 land in the north east, to the west of Wroxham Road

Flood risk

Horsford Beck, which flows west to east through from the north west (Horsford) involves zones 2 and 3 on the Environment Agency's indicative maps, and through the north (Horsham and Newton St Faith and Spixworth). There are smaller watercourses associated with small areas of land in zones 2/3 west of Rackheath, in the north east, and west of Plumstead hospital in the east. The rivers Wensum and Yare are both bounded by areas of flood probability, but both are much larger watercourses than Horsford Beck. The areas of flood of probability around the river Yare are generally outside the plan area, and within the area of the Broads Authority.

International wildlife sites

The River Wensum in the north west is a Special Protection Area. There are similar SPA's, also designated as Ramsar sites in the area of the Broads and to the south of Brundall

Sites of Special Scientific Interest

There are SSSIs in the north west at Upgate Common and Alderford Common, although these are some way from the urban edge and the degree of any effect would depend on the scale of allocations made in this area. Similarly, Crostwick Common lies to the north, but just outside the Norwich policy area.

County wildlife sites

There are large areas of county wildlife sites comprising woodland and heathland to the north west, and woodland to the north. In the north east, there is a significant area at Racecourse Plantation, and smaller County wildlife sites in the vicinity of Rackheath Park and the watercourse north of Rackheath.

Environmentally sensitive areas

These are located along the River Yare, and along Horsford Beck in the north

Historic parkland

Within the NPA, only Catton Park, and the associated Deer Park, is formally recorded on the English Heritage register, but locally recognised parkland exists at Spixworth Park (north) and in the north east at Sprowston Manor golf course, Beeston Park and Rackheath Park. In the north west, the grounds of Taverham Hall School are designated, though this occupies an area in the Wensum valley where further allocations for large scale development might well be resisted for other reasons

Conservation areas

The only conservation areas lie within the built-up urban edge at Old Catton and Thorpe St Andrew, and within the built-up part of Horsham St Faith, although it has been suggested in some quarters that Thorpe End should be considered as a potential conservation area

Scheduled Ancient Monuments

In the NPA, within Broadland, there are seven Scheduled Ancient Monuments. Of these, Drayton Lodge, Drayton Cross, Hellesdon Cross, a cross in St Mary's churchyard, Hellesdon, and Horsham St Faith Priory are all within existing built up areas, albeit Horsham St Faith is a modest sized village, and the Priory is adjacent to open countryside, but close to an established employment area. The remaining, rural Scheduled Ancient Monuments both lie within Horsford, and are Horsford Castle, a motte and bailey castle to the east of the village, and some tumuli to the north of the village, within woodland.

Ancient Woodland

There are a number of pockets of ancient woodland in the north east, principally close to Rackheath Park

Minerals

There is a large area of minerals, some of which has consent for extraction in the north, in the vicinity of Spixworth.

Impact of Norwich International Airport

There are public safety zones extending to the east and west of the runway, though these affect relatively limited areas. Areas in the vicinity of the airport, and particularly along the runway's east/west alignment are affected to some degree by Airport noise. These considerations affect parts of the north west, north and north east, though in all cases they are relatively localized.

Landscape character

The District Council had landscape character assessments prepared in 1999, and 2008, (the latter to take account of updated guidance). However, the 1999 assessment remains valid, as it is the foundation for the areas of landscape value shown in the local plan adopted in 2006, and which remain current policy.

North west

Within this area three character areas (B,E and I) as defined in the 1999 assessment are found:

B. consists of the Wensum valley slopes, and is small scale including a confined valley flood plain. It is an essentially rural landscape which has survived intact. All of this area is shown as being of high landscape of value

E. is a plateau with little topographical variation, but a distinctive character arising from the sandy soils overlaying sands and gravels. Large parts of the area were once heath, though now it is dominated by woodland, with small areas of remnant heath and sparse settlement. It is generally categorised as medium/high landscape value.

I is an area of sands and gravels, to the north of Norwich. Although semi-rural, it is affected in parts by the proximity of the Airport, which also has some more localised effect in the need to maintain the immediate takeoff and landing routes free from trees.

North

Within this area, three character areas are found. E and I are described above.

F, an area rising from the river Bure, and in this part of the district consisting of the very upper slopes of the valley is described as an "ordinary working arable landscape", and is generally considered to be of medium quality, though there is a small area of higher character where streams, including Horsford Beck form wooded incisions into the plateau. This localised area is shown in the assessment as a medium/high

North east

Within this area there are two landscape character areas. I is described above

J is an area of light sandy soils, with little topographical variety. Much of it was historically heathland but more recently it has been taken into agriculture and consists of agricultural land interspersed with copses, plantation and woodland. Some smaller estates have been developed with a parkland landscape. The north east urban edge of Norwich features a number of woodland blocks which contribute to its setting. An area of medium to high quality lies in the vicinity of Beeston and Rackheath Parks, though elsewhere this character area is of medium to low quality

East

Within this area there are two landscape character areas, J. as described above and L.

L. is an undulating landscape dissected by tributaries of the River Yare. In the western part in particular the land is of high agricultural quality where boulder clay overlays earlier geology, and is in predominantly arable use. The landscape is high to medium around Plumstead hospital, leading to Brundall and Blofield but of low quality closer to Norwich. The landscape character assessment notes however that the landscape has managed to absorb development well at the edge of the urban area.

Within the Landscape Character Assessment undertaken in 2008, a more broad brush approach has been adopted, and the only character areas defined around the urban edge are described within the overall category of "Wooded Estatelands", apart from a very small area of "Marshes Fringe" in the east, south of the original line of the A47, and an area of River Valley to the south and west of Taverham.

The Wooded Estatelands are typified by small manors and halls, some with parkland in a strongly ordered, human influenced landscape with copses, woods, and plantations punctuating a largely arable landscape, and in some areas giving a sense of enclosure. The same sub area, under the heading "Spixworth" includes all the land immediately adjacent to the urban fringe. The landscape character assessment notes that the eastern part has a mature landscape structure with more enclosure as a consequence of the trees in the landscape compared with the more open landscape in the west.

The guidelines for accommodating development suggest the rural character should be kept, and the landscape structure retained and enhanced, including restoration of hedgerows, and the setting of halls or houses and parkland. New development should also seek to respond to the historic settlement pattern, and the landscape setting of the villages, maintaining green spaces between the urban edge and villages. In some areas there is an opportunity to soften the urban edge. In places, this character area extends only a short distance from the urban edge, and in the north east gives way to another sub area under the heading "Rackheath/Salhouse".

In the Rackheath/Salhouse area the topography is generally flatter, away from rivers, and lighter sandy soils mean that much of it was historically heathland, although there are three Historic Parks at Rackheath, Beeston and Salhouse (none on the English Heritage register). Similar characteristics and planning guidelines are noted for this area, though they also refer to the need for caution in accommodating tall structures.

In the north west, the narrow urban edge area of Wooded Estatelands gives way to an area described as Woodland Heath Mosaic, which occupies an extensive area in the western and central part of Broadland. Topographically the ground is predominantly a plateau with relatively infertile soils many formerly occupied by heathland, but now extensively wooded. Again, the planning guidelines refer to the need for care in accommodating tall structures, and the need to consider the effect of development on wide expansive views. Any new development requires an intelligent landscape and urban design strategy.

West and south of Taverham, the landscape is dominated by the Wensum Valley where the prerequisites are to conserve the undeveloped rural tranquillity of the area, apply caution in accommodating tall structures and maintain space between villages and the Norwich urban area. There are also a number of mills, halls and churches which enjoy an attractive landscape setting. The sense of openness in the valley floor should be conserved, and the benefits of green corridors extending into the urban area protected.

The location of a major development in the north east will undoubtedly have an effect on the local environment, but some of this can be beneficial. One of the key strategic corridors the green infrastructure strategy seeks to promote links the north east of the urban area towards the Broads. It has been noted above that the north east includes a number of assets, in the form of historic parklands, ancient woodlands and county wildlife sites, and the disposition of these suggests they could form the basis for a striking element of green infrastructure connecting existing urban edge woodlands to the countryside beyond Rackheath. Rackheath Park and Beeston Park are relatively close, and the concentration of county wildlife sites and ancient Woodlands in the vicinity of Rackheath Park and to the north east of Beeston Park could be augmented by green infrastructure within the growth triangle and which could help to define the local neighbourhoods within it. Some of the historic parkland may also be made available for informal recreational areas as part of the development.

3. Public Consultation

A number of potential locations for major growth within Broadland were included in the initial Issues and Options consultation. These were to the north west of the urban area, to the north, to the north east inside the line of the northern distributor road, to the north east outside the line of the northern distributor road, and to the east of the urban area.

The most favoured location in Broadland, in responses to the full Issues and Options document was the north east sector inside the NDR. The north west was the least popular location in Broadland with the others grouped fairly closely, but mostly scoring less than options in South Norfolk. In the full questionnaire the north east outside the Norwich northern distributor road recorded a reasonable number in favour, but almost as many opposing. (Appendix 4, Ref. 21, Q12a, Pg 95). In contrast, in responses to the short questionnaire, the north east outside the Norwich northern distributor road was the fourth most favoured location from the 11 identified, though this dropped if only first preferences were counted. Interestingly, it received more support than the north east inside the NDR on either count. (Appendix 4, Ref. 21, Q6, Pg 76). Tables in the same reference (Pg 77) show the responses according to the district of residence of the respondent. These shows that, whether first preference only or first and second preference combined are taken into account the

north is the most favoured location in Broadland, followed by north east outside the NDR and north east inside the NDR, for Broadland residents.

Before embarking on the JCS, Broadland District Council had undertaken some work on an individual core strategy, including a consultation on issues and options in 2006, which was reported to the Council in January 2007. This had suggested four possible approaches to the distribution of the major growth; urban fringe (in as many locations as required, but accepting this would require greenfield extensions); a focus on a major urban extension and inviting comment on whether the north west or the north east might be preferable (but inviting people to suggest alternatives for a concentrated form of development if they supported that approach, but favoured neither the north east nor the north west); urban dispersal (a combination of urban fringe parishes and the larger villages in the Norwich policy area). The pros and cons of each approach, as it appeared to the Council, were set out. While the total responses to the exercise were limited, 50% of all those responding supported an urban extension to the north east, with a 26% supporting urban dispersal, 16% an urban extension to the north west, and 8% a strategy of seeking to accommodate all development in or around the entire urban fringe.

4. Conclusion

Drawing the threads above together, the view of the GNDP is that EEP housing requirement for the area necessitates a large proportion of the housing being provided in a concentrated form through a major urban extension. The nature of the urban fringe in Broadland has been referred to above, and contrasts markedly with much of that in South Norfolk, as described in more detail below. Taking into account the full range of criteria (the public response to the Issues and Options consultation, and to the earlier Broadland core strategy consultation; sustainability appraisal work; and evidence studies, notably the water cycle study [Appendix 4, Ref. 11 and 12]), the views of the GNDP, and Broadland District Council are that such a major urban extension is best located to the north east of the urban area.

Taking into account likely rates of development and the need to deliver sufficient houses by the end of the plan period, the proposal is for a large urban extension spanning the NDR. The belief is that this will enable the creation of distinct communities which can nevertheless share some critical high level infrastructure. The reasons this is considered the best available location can be summarized as:

- The absence of a proposed NDR link across the Wensum Valley, coupled with the likelihood of Longwater, the Norwich Research Park and the NNUH attracting flows across the valley if major development were located in the north west;
- The water cycle study indicates that the sewerage system within the Norwich is generally at capacity. A location in the north west or north would be more difficult to connect to Whitlingham than the north east;
- The Airport public safety zone and noise issues affect the north west to a greater extent than the north east and would make an urban extension in the north difficult to achieve;
- The radial road serving the north west (the A1067) offers little scope for public transport priority, with limited choice of alternative routes for displaced traffic;
- Limited access to strategic employment locations from the north west (see access problems to Longwater and the NRP, above);
- Good access to a range of strategic employment locations at Rackheath, Broadland Business Park, Sprowston fringe, Airport and ring road sites from the north-east;
- Extensive high quality agricultural land to the east of the urban area;

- Limited choice of radial roads in the east, the difficulty of creating bus priorities on the Thorpe Road corridor, and the risk of encouraging the use of the A47 trunk road for local journeys, to avoid the Thorpe Road corridor.
- The north east has a choice of radial routes meaning that major bus priorities on one route would leave any unavoidably displaced traffic a choice of alternatives
- There is a potential public transport priority along Salhouse Road, Gurney Road, leading to Barrack Street and the established bus priority system from Anglia Square to Norwich city centre.
- Consistent advice from Children's Services expressing their preference for a concentrated solution, and favouring the north east, particularly for secondary education

With regard to environmental considerations, there is no sector where there is no constraint. The main constraints affecting the north east are historic parkland and ancient woodland. None of the historic parklands in the area feature on the English Heritage register, although all are, in varying degrees, of local importance. Sprowston Park is a golf course, and much changed, but clearly serves a valuable function as a green space, and for recreational purposes. Beeston and Rackheath Parks are not currently open to the public, and are less changed than Sprowston Park, but as designed landscapes intended to be viewed from within, their principal value must lie in protecting views from within, which may include vistas beyond the park. Much of the ancient woodland is close to historic parks. Provided development can be accommodated outside these areas, and with due respect for them, they offer the opportunity to enhance development not only by providing appealing green spaces, but also by offering the beginnings of a framework for green infrastructure corridors linking habitats which can be enhanced as part of the development.

NOTE Proposal for an eco-community at Rackheath

During the preparation of the JCS, the Government developed its proposals for exemplar eco towns, and invited proposals for their implementation. Initially, such a proposal was made in respect of land at the former Coltishall air base. This was opposed by the local authorities in the area, including the authorities within the GNDP. One of the submissions made by a prospective developer at the issues and options stage was for development at Rackheath, and sought to espouse the highest environmental standards. The GNDP has been supportive of the efforts of the promoters of the scheme to be included within the government's eco-towns scheme. It should be emphasized, however, that the proposal to include an allocation outside the Norwich northern distributor road at Rackheath is independent of the Government's eco-towns programme. Therefore, if the proposal for an eco community at Rackheath should fall by the wayside, the allocation will remain. Equally, however, if the eco community proposal proceeds, it will contribute to meeting the housing provision in this area. The original proposal for an eco town at Coltishall has been dropped.

Appendix 3 - Southern part of the NPA

1 Introduction

This appendix aims to provide a rationale for the optimum pattern of growth in South Norfolk, set out in the Joint Core Strategy (JCS) Favoured Option, which protects the factors identified in the assessment of the area as important to the local character and distinctiveness. It will provide evidence that allows the Greater Norwich Development Partnership to demonstrate how the Favoured Option (Appendix 6) reinforces the attractiveness of existing settlement pattern and the settlements themselves, having regard to their form, characteristics and functions.

The initial JCS Issues and Options Consultation (November 2007) identified a number of possible growth locations in South Norfolk, as well as the capacity of the Norwich Fringe, consequently this appendix broadly covers:

- Norwich Fringe Parishes: Colney, Costessey, Cringleford, and Trowse;
- West: Costessey and Easton;
- South West: Hethersett and Little Melton;
- Wymondham;
- South/Mangreen: Mulbarton, Swardeston and Swainsthorpe;
- South East: Poringland; and
- Long Stratton

Section 5 of this appendix provides more detailed settlement assessment of the above, excluding Trowse and Poringland, which were not proposed locations for large-scale growth in any of the consultation options.

Initial Sustainability Appraisal and infrastructure work indicated that focussing on one or two major urban extensions was the most appropriate approach, both north and south of the Norwich, with the South West and Wymondham being the most suitable locations in South Norfolk. However, as referred to above, this appendix sets out why, in the light of local circumstances, a different approach is justified in South Norfolk to that in Broadland and how this approach complements development across Norwich and Broadland to produce a more robust overall strategy for delivering housing development across the NPA.

2 Character Overview of South Norfolk's sector of the Norwich Policy Area

2.1 Character Overview

The different approaches advanced north and south of Norwich reflect the fact that the South Norfolk element of the Norwich Policy Area (NPA) is distinctly different to Broadland. To the south there is currently very little contiguous development with the city, New Costessey being the only built up area of South Norfolk that is not physically separated from Norwich. Features such as the Yare Valley, the A47 Norwich Southern Bypass and the Norwich-Cambridge rail line mark a break between the urban edge and the wider rural area.

Beyond the A47 there is a diverse range of settlements, with a higher number of freestanding large villages than to the north of the city and the NPAs only market town, Wymondham. These settlements have varying levels of service provision and facilities, detailed in the Settlement Evaluations below. Many, such as Wymondham, Hethersett and Long Stratton, retain a wide range of core features including shops, high school, doctors, libraries, community and religious buildings, local employment opportunities and leisure and recreation facilities. The presence of these facilities has been the focus around which these settlements have continued to expand over recent years. However, despite expansion, each of these places has retained an individual identity.

Beyond these larger settlements is a network of smaller villages and hamlets, some with a core of facilities (often a primary school, community hall and church), but which look to nearby larger neighbours for key day-to-day activities. Consequently, whilst growth in the South Norfolk sector of the NPA has been driven in part by the importance and proximity of Norwich as a regional focus for employment, retail, cultural and other key activities, the area has retained a rural settlement pattern rather than developing a suburban character.

2.2 Pattern of Past Growth

Despite the development pressures across the Norwich area, the dispersal of this growth amongst a number of settlements in South Norfolk, consolidating existing settlement forms, has allowed their physical separation to be maintained. A series of maps to illustrate the growth patterns south of Norwich are being produced (example Maps 1a – Old Costessey and Map 7 - Wymondham attached). These illustrate the extent of development in: 1946, the start of the modern planning era; 1988, showing how the significant growth over the intervening 40 years has been accommodated; and 2008, showing how recent development has reinforced these patterns and how recent South Norfolk Local Plan allocations, the largest planned allocations in district's history, have been incorporated.

For the South Norfolk NPA settlements there has been a broad trend of consolidating development between extremities/parameters that were often evident in 1946. For settlements such as Hethersett and Wymondham the outlying development and features, including roads and railway lines, which still mark the extremities of the settlement were largely apparent on the 1946 maps. For example, in 1946 development at Wymondham clearly extended along Norwich Road, Tuttle Lane and Chapel Lane/Barnham Broom Road and much of the subsequent development to 1988 'infilled' this triangle, whilst growth from 1988 to 2008 was focussed on the area between Norwich Road and the Norwich-Cambridge rail line. For Hethersett too the nucleus of the settlement around Lynch Green, Great Melton Road, Henstead Road was evident in 1946, with outlying development at New Road, Mill Road and Old Hall, which subsequently became part of the main development by 1988. Between 1988 and 2008 development was focussed on the area between the village and Shop Lane and at Myrtle Road. Similarly, more linear settlements, such as Long Stratton, Easton, Old Costessey and Little Melton, have tended to expand along side roads branching out from the main spine road, but without extending the linear form of the settlement beyond the 1946 extents.

Whilst some settlements have clearly grown more quickly and to a greater extent than others, the pattern of growth has very much been dispersed across a range of locations.

2.3 Landscape Character Assessment

In preparation for the current South Norfolk Local Plan, and in recognition of the continual pressures on the landscape surrounding the key settlements and the vulnerabilities to loss of settlement identity, a landscape character assessment was undertaken which focussed on the NPA (Land Use Consultants, 2001). The aim of the assessment was to ensure that further development respects and enhances the landscape and avoids detrimental impacts. As a result of the landscape character assessment a number of designations were included in the 2003 South Norfolk Local Plan to protect some of the key features of the NPA: specifically:

- **River Valleys**, these are considered to have their own special character and visual identity and/or make an important contribution to the urban form (the importance of river valleys are also picked up under the Green Infrastructure Strategy, see 2.3.3 B. i) below);
- **The A47 Norwich southern bypass landscape protection zone**, which is a planning tool intended to prevent adverse landscape impacts, protecting the landscape setting of the road (which itself was designed to fit into the landscape), views to and from the City (including long distance views), elements that contribute towards the historic setting of Norwich, such as the wooded slopes, and to help prevent the road becoming a hard boundary for development; and
- **Open gaps between settlements**, where these were considered to be particularly vulnerable to encroachment. Three settlement gaps were identified where openness was considered to be an important characteristic: Costessey to Easton, Cringleford to Hethersett and Hethersett to Wymondham. These gaps vary in size and character:
 - *Costessey – Easton*: fragmented 2.5km gap which surrounds the existing and allocated employment and commercial areas at Longwater on both sides of the A47 Norwich Southern Bypass, and incorporates the Royal Norfolk Showground and various mineral extraction sites;
 - *Cringleford – Hethersett*: 3.35km gap, which wraps around the eastern edge of Hethersett, includes large tracts of open land, but also covers a stretch of the A47 Norwich Southern Bypass, and the development at the Thickthorn interchange; and
 - *Hethersett – Wymondham*: a relatively undisturbed 2.25km gap, with some fragmented frontage development to the B1172.

The JCS Issues and Option consultation showed significant support for a pattern of development that safeguarded existing locally protected landscape designations.

3 Alternative Development Patterns and Core Guiding Principles

3.1 Ensuring Strategic Gaps

As noted in 2.2.3 above (Landscape Character Assessment), protection of the setting of settlements in South Norfolk has been a key feature of the development of the area; balancing the need for new development in locations with good access to the facilities, services and opportunities in Norwich against retaining the rural character of the area.

The Settlement Evaluations (section 5, below) indicate some of the key characteristics of the areas considered for growth. Taking these characteristics into account the Favoured Option allows for the proposed levels of growth to be

accommodated whilst maximising containment within existing features, whether these be environmental constraints, landscape features or existing manmade barriers such as roads and railway lines, as illustrated on the historic growth maps. Importantly, the Favoured Option should allow for a choice of sites through the Site Specific Policies DPD that retains the open gaps between settlements which have become a key part of both the character of the area and important in retaining the individual identity of settlements.

3.2 An Appropriate pattern of growth

3.2.1 Why an urban extension is not appropriate for South Norfolk

As noted in the *Character Overview* the scope for urban extensions to the south of Norwich are physically limited by a number of factors, principal amongst these being the River Yare and A47 trunk road. That none of the proposed growth options included an urban extension to the south of Norwich, in the literal sense, highlights the limited potential for this form of development south of the city; i.e. the largest growth proposals in the post-June 2008 options considered for South Norfolk represented a doubling in size of an existing market town, the amalgamation of two villages around a new centre, or a new stand alone settlement. In all cases these were clearly detached from the city itself.

Between the boundary with the Broads Authority at Trowse and Bawburgh/Colney Lakes the River Yare forms the administrative boundary between the City and South Norfolk. The GNDP Green Infrastructure Strategy identifies one of the key issues for the whole area as being the 'importance of riverscapes to the overall character of the Greater Norwich Area generally, and their particular importance to the character, identity and setting of Norwich City'. The Green Infrastructure Strategy goes on to propose this part of the Yare Valley as a Sub-Regional Green Infrastructure Corridor. The Strategy highlights the existing public access to the valley (via the Yare Valley Walk) between Cringleford and Bowthorpe and identifies the potential to extend this access to Trowse, Whitlingham and beyond. The Valley is also identified as a Priority Wetland Habitat Enhancement and Creation Area. Consequently encroachment of development into the Valley could seriously impinge these elements of the Green Infrastructure Strategy.

Many of the areas immediately adjoining the river fall within Environment Agency flood risk Zone 3 and 2, again limiting the scope of development of urban extensions. The river valley also contains a number of SSSIs and County Wildlife Sites, which particularly constrain development around Cringleford and Colney.

Beyond the Yare Valley the A47 Norwich Southern Bypass trunk road forms a significant physical barrier, limiting the scope for large-scale growth even at those locations with potential (Cringleford and Costessey). Beyond the main road interchanges with the A146, A140, A11, B1108 and A1074, which are generally not pedestrian and cycle friendly environments, there are few physical crossing points from the Norwich fringe to the countryside beyond. The edge of the built-up area between Trowse and Keswick is also bounded by the mainline Norwich-Cambridge railway, again with limited physical crossing points, which reinforces the difficulty of creating an urban extension in this area.

Within these constraints the closest alternative to a direct urban extension is to consider the role and capacity of those sustainable locations in close physical

proximity to the city, whilst recognising their individual characters. As such growth locations have been included at Cringleford and Costessey/Easton and further consideration will be given to the role of Trowse, as part of the settlement hierarchy, in accommodating part of the 1,800 houses on smaller sites.

It is considered that the distribution of development in the Favoured Option, including active consideration of sites in the Norwich fringe for part of the 1,800 dwellings on smaller sites, maximises the opportunities to balance the benefits of proximity to the city with the physical constraints that make a large scale urban extension unviable.

3.2.2 Links to Strategic Employment Locations

In addition to providing a sustainable location for housing, the Norwich fringe is also a key location for employment uses. In line with the requirements of Regional Spatial Strategy (RSS) Policy NR1, provision needs to be made for employment growth at both Colney/Cringleford (Norwich Research Park and the Norfolk and Norwich University Hospital) and Costessey (Longwater). The ultimate extent of the land requirement for the NRP, beyond that allocated in the current South Norfolk Local Plan, has yet to be established. However the uniqueness of the opportunity for uses linked both conceptually and physically with the University of East Anglia (UEA), Norfolk and Norwich University and Spire Hospitals and the existing institutes that make up the NRP could mean that an over-concentration of housing in the Cringleford-Colney area prematurely limits the scope of the broader NRP.

Conversely, a strategy that promotes development at a range of locations offers the opportunity to link housing development to both of these strategic employment locations, along with the Hethel Engineering Centre, which falls within the Wymondham/A11 corridor, which is also identified in RSS Policy NR1. Further employment growth at Wymondham and/or Hethersett, particularly if high tech or rail related, would also be compatible with the RSS.

3.2.3 Developing Local Employment

Wymondham, in particular, has seen a steady take up of employment land, with less than 7% of the land allocated in the SNLP remaining uncommitted at 31st March 2008. This limits the opportunities remaining on the existing employment areas/allocations in the town, particularly for any users requiring a larger site. The strong take up of employment and the proximity of the Hethel Engineering Centre suggest that a balanced approach to delivering housing and employment at Wymondham could create an opportunity for a more self-contained settlement, whereas more substantial growth could create an over reliance on longer-distance commuting to Norwich.

Although not identified as a strategic employment location, Long Stratton also has a relatively strong employment base, including the offices of South Norfolk Council and Saffron Housing Trust. Within Long Stratton there is currently a policy of restraint in terms of future development in the village, due to the traffic congestion problems; conversely there is perceived to be a lack of scope for further expansion of the successful employment area at Tharston Industrial Estate, and during the early call for sites for the South Norfolk LDF a request was submitted to increase the size of this estate.

Other settlements with more limited employment bases, less direct access to strategic employment areas and less prospect of improved non-car access to

Norwich, such as Mulbarton and Poringland have not been promoted through the growth options as significant locations for major development.

Initial consultation on the JCS Issues and Options indicated support for a development that 'sought to ensure that all sectors of the economy would have opportunities to expand' (GNPD Policy Group report, 24/06/08), consequently growth that relates to a range of locations and employments sites, as well as to Norwich, would support this aspiration.

4 Limited Growth

4.1 Relationship to infrastructure

It should be recognised that the combination of updating of the housing requirements (from a 2006 base date, used for the Issues and Options and Technical Consultations, to the 2008 base date used for choosing the Favoured Option for the Public Consultation) and balancing the growth north and south of the city, has resulted in a reduction of 3,000 units to be located in the South Norfolk part of the Norwich Policy Area (see section 6 of the main Topic Paper). This has significant impacts in terms of balancing the distribution of development across a variety of locations to limit the risks to delivery, provide choice within the housing market, match growth with the strategic employment locations etc., against the quantum of development needed to support infrastructure.

The Favoured Option has evolved from the options presented in the Technical Consultation. Option 1 performed strongest in the Sustainability Appraisal and provided for the most economic provision of infrastructure, but raised concerns in terms of local landscape impacts. Option 2 added Long Stratton as a growth location, in order to facilitate improvements to the A140 as a priority for the local authorities. The Favoured Option uses the same broad locations as Option 2, but reflects the overall reduction in the amount of development to be allocated¹.

4.1.1 Transport and Access

One of the key factors in meeting the requirements of the RSS will be achieving a significant change in travel mode from car to public transport, walking and cycling. Although each of the individual growth locations in the A11 corridor is considered unlikely to be large enough to support the goal of high-quality public transport, using Bus Rapid Transit, the overall concentration of development within the A11 corridor (a total of 4,400 units) 'gives an opportunity to sustain reasonable bus services' (SA of Favoured Option, 23/04/09) in order to promote a modal shift. In addition 4,000 units are proposed at Attleborough under the Breckland Core Strategy and there remains the potential for some further smaller sites within South Norfolk with access to this corridor, at villages such as Spooner Row, Morley, Wicklewood, Ashwellthorpe and Ketteringham², where further investigation is needed to assess to what extent these which could bolster the viability of services.

The 1,000 units proposed at Costessey/Easton is also considered to be of insufficient size to deliver radical improvements to public transport; however, a Bus Rapid

¹ The overall reduction in allocations reflects the increase in completions and commitments.

² Levels of development in smaller villages will be dependent on their classification in the overall settlement hierarchy.

Transit service is already proposed for the Dereham Road corridor as part of the current Norwich Area Transport Strategy (NATS) refresh. The Public Transport Assessment of the favoured option indicates that the business case for an incremental extension of a BRT service on the Dereham Road corridor to any further development at Costessey/Easton should be considered within a holistic approach to the design of a high quality public transport network to serve this corridor. The Assessment of the Favoured Option goes on to recommend that for Long Stratton the extension and improvement of existing services is going to be the most appropriate solution and recommends a number of interventions that would help maximise the public transport take up of the Favoured Option.

Consideration also needs to be given to the scope for walking and cycling. Direct non-car access between Hethersett, Cringleford and Norwich has been improved though the provision of a dedicated cycle path along the B1172, whilst development at Cringleford will be able to maximise the linkages with the Norwich Research Park, including the hospital and UEA. Beyond these links, the Bowthorpe perimeter road connects Colney with the Bowthorpe employment area and the proposed Bawburgh/Colney Lakes recreation area. Further investigation would be required to assess the potential for walking and cycling with, for example:

- a safer and more pleasant environment in Long Stratton village centre facilitated by the bypass;
- the improvement of the currently poor links between Easton and the services, facilities and employment at Longwater and Costessey; and/or
- improvements to Hethersett Lane to facilitate better access between Hethersett and the NRP

Overall the scope for increased walking and cycling should be improved by linking growth locations to a range of strategic employment sites and supporting the services and facilities in existing settlements.

In terms of highways capacity all of the proposed growth options present concerns, particularly with impacts on the Trunk Road network and the A47 Norwich Southern Bypass junction improvements. Essentially all of the growth option combinations raise concerns over the same junctions:

- A1074, Longwater - the long-term capacity of the A47 Longwater interchange has already been a concern in relation to existing committed development in the area. Although an agreed solution exists to mitigate the impacts of the currently permitted development, this has yet to be implemented and may need to be reviewed in the light of the additional development proposed.
- A11, Thickthorn - A range of solutions have also been proposed which vary widely in terms of the level of intervention and cost.
- A140 Harford – a number of specific measures have been proposed to accommodate any additional traffic from growth in the A140 corridor, which would also incorporate measures to aid public transport prioritisation.

The potential for a growth location at Long Stratton is linked to the status of the A140 as a significant corridor connecting Norwich to Ipswich and the Haven Gateway, as well as locally important for settlements in South Norfolk, and the opportunity that this could be enhanced through the provision of a Long Stratton Bypass. The bypass, a route for which already has planning approval, has been a long-term ambition of both the County and District Councils. The capacity for Long Stratton to accommodate growth is clearly linked to the provision of a bypass, without it the capacity is very limited due to the existing congestion in the heart of the village. The potential environmental improvements afforded by the bypass led to the conclusion in the

Sustainability Appraisal that the consequent possibilities for local investment and economic development makes it a suitable location for growth.

At the Issues and Options stage there was clear support for growth related to a bypass in the main consultation document responses, with 68% of respondents supporting 'major mixed use growth at Long Stratton to improve that section of the A140'. In parallel a separate consultation was undertaken asking specifically about (a) whether the JCS should promote growth at Long Stratton in conjunction with improvements to the A140 and (b) what scale of development is appropriate for the settlement. The results were more equivocal, showing an almost even split in those supporting development and those not. Not surprisingly the respondents tended to favour the lowest level of growth needed in order to achieve the bypass.

The volume of traffic through the village causes a number of environmental and social impacts in terms of air quality, noise, degradation of the historic environment, severance of some services from residential areas etc. The allocation of 1,800 homes, the minimum needed to ensure delivery of the bypass, will help achieve the goal of improving the quality of the environment in the village whilst also complementing the overall strategy by providing greater choice in terms of housing markets.

4.1.2 Water Cycle

In terms of the Water Cycle Study, phasing of development in some locations may be necessary to enable improved infrastructure to be provided to serve new development. The Costessey/Easton area and Hethersett/Cringleford will require new strategic sewers to link to Whitlingham for wastewater treatment. Upgrading will be required to the waste water treatment works to protect water quality to accommodate the proposed growth at Long Stratton.

4.1.3 Renewable Energy

In terms of renewable energy provision the scale of development proposed at each of the growth locations is still sufficient to facilitate onsite renewables, with 500 units being the likely threshold for an on-site renewables requirement in the JCS. Ultimately it will be the density, layout and specification of the specific schemes that will determine the actual provision. The issue of renewable energy will be particularly significant in the Costessey/Easton area and the A11 corridor where there are concerns over the capacity of the existing network to accommodate further development, particularly any employment uses that place significant electricity demands.

4.1.4 Education

The most significant concern identified through the current infrastructure and Sustainability Appraisal work has been the lack of a certain solution to secondary education provision. Previous options have proposed levels of growth that are significantly in excess of the preferred option, yet still proposed further development beyond the current JCS period to secure a secondary education solution. The loss of units from both the Wymondham and Hethersett High School catchments is broadly reflective of the loss of 3,000 units from the overall South Norfolk NPA requirement caused by increased commitments. The impact of the favoured option, which has smaller but still substantial allocations in the catchments of Costessey, Hethersett,

Long Stratton and Wymondham High Schools are still being assessed in conjunctions with the schools and the governing bodies.

4.1.5 Spreading the Benefits

Overall, although the cost of providing infrastructure is a crucial consideration, a balance needs to be struck between the potential additional cost of providing infrastructure across a wider range of growth locations and the greater spread of the potential benefits from new development to a wider range of existing communities.

4.2 Capacity of settlements to absorb growth

As historic growth patterns have indicated, the growth location settlements in South Norfolk have experienced sustained growth over a number of years. In many cases this growth has been accompanied by improvements to key infrastructure, such as new and improved schools, community buildings, recreation and open space provision, health care facilities etc. However it has often been difficult for settlements to absorb the levels of development they have faced, with criticisms in public consultation responses that the benefits of development arrived after the impacts of development and the occupants of new developments have not integrated with the existing community. If any delays do occur with infrastructure provision, these issues are likely to be felt more acutely with a strategy for the NPA that solely promotes accelerated growth in a few locations.

The main infrastructure issues are covered above, however there are also issues relating to physical capacity of these settlements. Particularly significant is the historic fabric of Wymondham, where the impact of increasing numbers of users on the town centre may make higher levels of growth difficult to absorb. There is no doubt that 2,200 additional properties will have an impact, however the opportunities for expanding the town centre functions beyond the core Market Place are more likely to be sufficient to cope with this more moderate expansion than the doubling of the settlement proposed under earlier growth options. Specifically, the Retail Study already identifies Wymondham as being potentially deficient in terms of convenience and comparison goods floorspace, consequently there is already pressure to make more use of town centre and nearby sites; however, should an even greater level of development be proposed, requiring a 'rival' centre to be established (due to lack of suitable expansion sites in/around the town centre, lack of parking, restricted access etc.), the study also identifies that this could undermine the existing centre. Hence a balance needs to be struck between a level of growth that supports the town centre and can be accommodated by development that enhances the centre against greater growth that would overheat the town and undermine it by necessitating a 'rival' focus.

It will be more difficult to assess the capability of the growth locations to both establish a community identity and integrate with the existing communities. Although these problems would be common to both the Favoured Option and the other suggested patterns of development, the Favoured Option would allow for a more gradual delivery of development across locations that already have individual identities rather than swamping communities or attempting to forge completely new identities. The potential spread of new/improved facilities across a wider range of locations may also aid community integration, with a number of the favoured growth locations also having a 'catchment' of smaller rural settlements that could also benefit.

5. Settlement Evaluations

5.1 Colney and Cringleford

Form, character, scale, local distinctiveness

Colney is situated mainly within the Yare Valley and although dispersed in nature, forms an attractive identifiable settlement with the main nucleus of housing focused around the church. Colney Hall and its parkland form an important and significant feature to the north of the B1108 Watton Road, beyond which lie the Colney/Bawburgh Lakes County Wildlife Sites.

Cringleford is a large, attractive village located south of Norwich, either side of the A11, separated from the City by the Yare Valley. The River Yare and its floodplain form the eastern limit to the built-up area. There are many trees throughout the village, contributing in some parts to a spacious, 'green' outlook. The quality of the environment in the core of the village is also reflected by the designation of a Conservation Area.

The A47 Norwich Southern Bypass has a major impact on the landscape west of the village, and severs some smaller areas of farmland adjoining the village from the surrounding countryside. The railway line forms a physical barrier to the south of the village, with areas of very attractive landscape between the built-up area and the line. These include the floodplains of the River Yare and the Intwood Stream along Keswick Road, the valley of Cantley Stream to the west, and the grounds of Cringleford Hall. The Yare Valley and those of the Intwood and Cantley Stream tributaries include a number of County Wildlife Sites, particularly to the south and east of the village. Not surprisingly flood risk is a constraint to development within these valleys.

The more recent development, to the north of the A11, built at the higher densities characteristic of current housing, is bounded by Roundhouse Way, which connects the A11 to Colney Lane and the NNUH and NRP.

Function

The village possesses a good range of social and community facilities including a shop/post office, village hall, medical centre and primary school, plus local employment at the Intwood Road complex. Additional facilities are due to be provided as part of the Roundhouse Park development, currently under construction, which will incorporate a primary school, community hall and new district centre. The village also has access to the facilities in Eaton, including the district centre immediately to the north of the river; however, the capacity to improve access is limited by Cringleford Bridge, which is an Ancient Monument.

One of the principal advantages of this location is the proximity of residential areas to the existing and future research, health and education opportunities at the NRP, NNUH and UEA, as well as the high quality public transport and cycle links to the city centre.

Conclusion

The scope for large-scale development is broadly confined by environmental constraints to the area north of Cringleford and south of the NRP, bounded by the

A47 and Colney Lane. Currently the extent of the further land required for the NRP has not yet been finalised, and scope will need to be given to potential further expansion of this flagship employment site. Given that the existing commitment at Cringleford is likely to rise to over 800 units with intensification of the current allocation, the proposed 1,200 units in the Favoured Option will result in approximately 2,000 units to be delivered by 2026. Further work would be needed to establish both the capacity of local infrastructure to accommodate development beyond these 2,000 units, and the landscape/character implications of concentrating development into this location. Education issues to be resolved, as section 4.1.4 above.

5.2 Costessey and Easton

Form, character, scale, local distinctiveness

Costessey is situated west of Norwich in the valleys of the Rivers Wensum and Tud. There are three main residential parts of the parish: Old Costessey, which developed along The Street south of a loop in the Wensum; New Costessey, a densely built up area of 20th century housing contiguous with the built up area of Norwich; and Queens Hills, which is currently under construction in a former minerals extraction/processing site, west of the existing settlements, between the Rivers Tud and Wensum. The Tud Valley provides an attractive open break between Old and New Costessey, with the break along Norwich Road/Townhouse Road being particularly significant.

Costessey has experienced considerable residential development since the 1960s, comprising both estate scale development and smaller sites within the built-up area. The intensity of development potentially masks the numerous environment and heritage designations in the area. Most significantly the River Wensum to the north (which forms the administrative boundary with Broadland) is afforded international SAC status. Beyond the river itself, the floodplain and valley sides of the Wensum at the western end of the village have numerous SSSIs and County Wildlife Sites. There are further CWSs in the Tud Valley, close to the Queens Hills development. Within Old Costessey itself, there are numerous Listed Buildings, two Conservation Areas and two significant areas of heavily wooded, low-density development, which help give the village its character.

The Longwater area of Costessey lies either side of the A47 trunk road, close to the A47/A1074 junction, using semi-derelict land and former minerals workings. A number of high profile uses (supermarket, retail warehouses, car showrooms) are prominent from the A47, whilst the remainder of the site (along Dereham Road and between the retail park and the valley of the River Tud) is a mix of industrial and commercial uses along with continued mineral extraction. To the east is the Norfolk Environmental Waste Services waste disposal and recycling facility, which acts as a constraint to further residential development in the immediate vicinity.

Easton originated as a 'street village' with development along the main road; more recent estate scale development has taken place south of the old A47. The village has developed on a 'plateau' with the open landscape to the north and south falling away to the Tud and Yare Valleys respectively. To the north the boundary of the village is formed largely by the line of the A47 Norwich Southern Bypass, to the west are the visually important wooded grounds of the Vicarage; whilst to the east is the open landscape of the Royal Norfolk Showground. To the south of the village is Easton College, which has continued to expand over recent years and will play an

important part in achieving the JCS policy of promoting Norwich 'as a "learning city" ... (where an) expansion of existing further and higher education opportunities will be encouraged'. The College also provides meeting and conference facilities as well as local sports and recreation opportunities.

Function

The two traditional residential areas of Old and New Costessey offer a wide range of social and community facilities. New Costessey effectively functions as a suburb of Norwich, with the local centre at Norwich Road and facilities such as the high school, medical centre, library and a range of community buildings. Old Costessey has similar facilities to a large rural village (local shop, parish room, primary sector schools etc.), but benefits from good access to the higher order facilities in New Costessey.

The new development at Queens Hills is intended to be largely 'self sufficient' in terms of local facilities such as convenience shops, primary school, community hall etc., but integration with the existing community will partly come about through the use of higher order facilities in New Costessey and the sharing of some new recreational facilities with Old Costessey.

As a Norwich fringe parish Costessey has consistently been seen as a sustainable location for further residential and commercial development. As at 1st April 2009 the remaining commitment of residential development stood at 1,452 units. This alone represents approximately 50% more development than has occurred over the past 15 years.

The Longwater area presently contains a variety of commercial uses including a supermarket, retail warehouses, restaurants, car showrooms, gym, waste disposal site, general industry, storage uses and mineral workings. These provide both local employment opportunities and facilities that serve a wider catchment as a strategic employment location, as identified in the RSS. Although take up of land at Longwater has been steady, particularly in terms of the retail, restaurant and car showroom uses close to the A47, there is still approximately 19.5 hectares of employment land available.

Although Easton has a primary school and village hall, other facilities are limited. Bypassing of the village has resulted former service/employment sites along the old A47 being reused for housing. The availability of employment, retail, high school, medical and other facilities at Costessey is an advantage, however the very proximity of these facilities means that without significant further development the scope for substantially improved facilities within the village itself are limited. This problem is exacerbated by the current lack of safe foot and cycle links and direct public transport access between Costessey and Easton.

Conclusion

With the largest outstanding commitment in the South Norfolk NPA at Costessey/Easton, this sector already needs to absorb more development than is proposed in most of the growth locations. This commitment is concentrated in the two uncompleted housing allocations at Costessey. Environmental, landscape and character constraints make accommodating significant development around Old Costessey undesirable. Consequently the options for large-scale growth are focussed on extensions to Lodge Farm/Bowthorpe and at Easton. Given the limited

number of settlements in which to locate the unallocated smaller sites in the South Norfolk NPA, and depending on the final choice of site(s) to accommodate the 1,000 units in Costessey/Easton, it is likely this area will need to absorb some of the unallocated 1,800 units. Although access to the city centre will be significantly improved by Bus Rapid Transit on the Dereham Road, concerns over wastewater treatment, secondary school provision and the Longwater interchange would suggest that a higher growth option figure would be difficult to accommodate.

5.3 Hethersett and Little Melton

Form, character, scale, local distinctiveness

Hethersett is located on the B1172 on an elevated area of land, which falls away towards the north west and south east. There are attractive long distance views from the village in both directions; with particularly fine views towards the south east where there are several mature trees and mixed plantation woodlands. Views back towards the village from this area and from the B1172 are also noteworthy. The village has clearly defined boundaries on three sides; to the north east by Shop Lane/Back Lane, to the south-east by the B1172 (including attractive wooded areas and undeveloped spaces) and to the west by New Road. Hethersett has experienced significant growth since the 1960s with both estate scale development and smaller infill plots within the built-up area. Despite the extensive growth of the village over the last four decades, the village still has an historic core containing a number of listed buildings.

South of the B1172 the landscape includes the setting of listed buildings at Park Farm Hotel, Old Hall School, St Remigius' Church and Thickthorn Hall, whilst the grounds of both Hethersett Hall and Thickthorn Hall are also protected as Historic Parklands.

Little Melton is a broadly linear village with small-scale estate development behind the main road frontages. The landscape, particular to the north is very open, with views to/from the village from the B1108. Breaks in frontage have helped retain the rural character of the settlement and despite the proximity of the village to Norwich, the NNUH, NRP and UEA, allocations have been limited to 77 houses over the past 15 years in order to avoid swamping the character of the village. The A47 Norwich Southern Bypass forms a distinct barrier to the east.

Function

Hethersett has a wide range of facilities and services, including a modern village hall/community centre, plus small-scale local employment opportunities. However the retail and employment facilities are clearly not what would normally associated with a settlement of this size and the village is reliant on the relatively easy access to nearby opportunities at the NRP, UEA and the city centre.

Little Melton functions as a smaller rural village, with a range of local facilities that have been the basis for supporting modest growth, but relying on proximity to Hethersett and Norwich for the most day-to-day activities.

Conclusions

If the separation of settlements in the A11 corridor is to be maintained as an important feature of the pattern and character of South Norfolk, the scope for

expansion of Hethersett is effectively limited to north/north-east. However, development to the north will itself be constrained by the need to maintain sufficient distance from Little Melton to allow the village to retain its role and character as a small rural community. Whilst the physical capacity to accommodate more development and maintain settlement separation may exist, the capacity of secondary education in Hethersett is unlikely to support development in excess of 1,000 units proposed (particularly when taking into account the associated development in Cringleford that affects Hethersett High School), without jumping to a much higher level of development which would not respect the local character and settlement pattern.

5.4 Long Stratton

Form, character, scale, local distinctiveness

Long Stratton has developed from its linear origins as a street village located on the Norwich to Ipswich Road. To the west of the A140, estate scale development has taken place in four distinct areas, from the 1960s onwards. This has considerably altered the original historic form of the settlement. Development to the east of the A140 has been limited to the more recent Churchfields development.

The historic core of the village has a concentration of Listed Buildings and a Conservation Area that reflects the quality of the built environment. Congestion through the centre of the village is likely to see it become the first air quality management zone in South Norfolk, which gives an indication of the potential health and environmental impacts of continued traffic through the village.

Function

Long Stratton has a wide range of retail and community facilities. The number of shops and services is already high for a settlement of this size, making it closer in function to a market town than most villages. With South Norfolk Council and Saffron Housing located in the village the employment base is also considerably larger than would normally be expected in a village of this size.

Conclusion

Provision of a bypass at Long Stratton is a priority and the 1,800 homes proposed is considered to be the appropriate amount needed to deliver a bypass plus the other necessary infrastructure, such as improvements to school provision, affordable housing, recreation facilities etc. The range of shops, services and employment in the village could be further enhanced with the removal of much of the through traffic, particularly the high proportion of commercial vehicles. However, an even higher level of development at Long Stratton would place an increased burden on other infrastructure in the village, such as secondary school provision, and on the remaining unimproved parts of the A140, which would be more complex/expensive to resolve.

5.5 Mulbarton, Swainsthorpe and Swardeston

Form, character, scale, local distinctiveness

Historically Mulbarton has developed around the triangle of roads that bound The Common. This part of the village retains the core of village facilities, such as the

school, medical centre, village hall complex, church and public house. Important gaps in the frontage have been retained, preserving the rural character of this part of the village. The Common, has a range of Listed Buildings and is designated a Conservation Area. The northern entrance to the village is marked by the listed buildings at Paddock Farm, whilst views of the church are prominent throughout the Conservation Area.

More recently significant estate-scale development has taken place to the south of the village, which has had a considerable impact on the form and character of the settlement. The most recent element of this, at Cuckoofield Lane, is still under construction. Further significant development to the north and south would potentially create coalescence with Swardeston and Bracon Ash.

Swainsthorpe is a small rural community concentrated between the A140 to the east and the Norwich-London railway line to the west and centres around the church. The frontage to the A140 is marked by the public house and the former filling station, currently used by Framingham Tractors.

Swardeston has developed as a street village along the B1113. To the east of the B1113 is some small-scale estate development, beyond which the landscape is relatively open. To the west the more sporadic development around The Common gives the settlement a very rural character.

Function

Despite Mulbarton having grown extensively over recent years, there is only a limited employment base, primarily as part of the existing services in the village. Relatively poor links to Wymondham means that Mulbarton is reliant on Norwich for both higher order functions and the majority of employment. Swainsthorpe has very few facilities and has shown a gradual decline in population over the last 40 years, whilst Swardeston also has relatively few facilities; most noticeably there is no school provision within the parish.

Conclusions

Further work will be undertaken to establish the suitability and infrastructure needs of a new settlement in this location to accommodate future housing requirements. In the meantime these settlements will be considered for appropriate smaller scale development as part of the unallocated 1,800 units on smaller sites in the South Norfolk sector of the Norwich Policy Area.

5.6 Wymondham

Form, character, scale, local distinctiveness

The origins and importance of Wymondham as a market town are clearly reflected in its layout and fabric. The Market Place is the focal point of roads from all directions and it is one of the highest points in the town centre.

The building of the Abbey after the Norman Conquest prevented westward development. The best views of the town are from the north west and south west. From the north west the splendour of the Abbey lying in the river valley can be seen from some considerable distance. From the south west the Abbey is glimpsed through trees and hedges that line the approach roads. From the north, the gently

rolling countryside rises up to Tuttle Lane with some notable tree groups around Downham. Views from the northern side of the town looking outwards are extensive, particularly towards the west.

Wymondham's central area is densely packed with historic buildings. Within the Conservation Area some 203 buildings are listed as being of special architectural or historic interest, including the iconic Market Cross. To fully appreciate the character of the town it is necessary to look behind the facades, and between and beyond the buildings on the street fronts. Long narrow 'burgage' plots running back from the street still clearly predominate in the central area. A second Conservation Area exists at The Lizard, the large green area fronted by terraced properties that forms an important feature between the railway line and the A11 bypass.

Function

Wymondham clearly functions as a successful market town, boasting a range of retail facilities, local services, community groups and employment opportunities; this is particularly noteworthy given the proximity of the town to Norwich. Although at the time of producing the South Norfolk Local Plan the take up of employment land in Wymondham had been considered relatively slow, subsequent permissions mean that there is now less than 1.5ha of the almost 22ha allocated land. Indeed the attractiveness of Wymondham's location, with its good road and rail links, has attracted a number of high profile employers, including the headquarters of the Norfolk Constabulary. Community facilities, such as the new library, Central Hall, Ketts Park etc. are already well used due to the on-going growth of the town. Wymondham also acts as a focus for a range of surrounding rural settlements, offering an alternative to both Norwich and the nearby market town of Attleborough for key day-to-day activities.

Conclusion

The outstanding housing commitment plus the allocation of 2,200 new homes makes Wymondham the largest growth location in South Norfolk yet, other than Long Stratton, it is the furthest from Norwich. The proximity of Hethel Engineering Centre and the release of further employment land as part of the LDF process could help Wymondham become more self contained; however, a push for a higher level of housing growth would make this increasingly difficult to achieve. The draw of Wymondham has been as a successful and attractive market town, focussed on its appealing historic core. However, the twin concerns of excessive new development are that the historic centre cannot physically accommodate significantly more activity without diminishing its appeal, whilst there remains the potential to undermine the existing centre with a new 'district' centre promoted as part of significantly larger growth. Secondary education issues remain to be resolved, as section 4.1.4 above.

2.5 Key outcomes for South Norfolk

The favoured growth option retains the broad pattern of growth from Option 2 of the Technical Consultation document, which itself was derived from Option 1, the option that performed strongest in the Sustainability Appraisal, but with the addition of Long Stratton as a locally important element. The quantum of growth at particular locations has been varied in order to better reflect the character of the NPA in South Norfolk and to help retain the identity of the settlements in this area.

The historic pattern of development in the South Norfolk sector of the NPA has been characterised by the expansion of clearly identifiable settlements of varying sizes and functions, the only urban extension being New Costessey.

The growth of settlements has, in some cases, been significant, but the retention of clear settlement boundaries and distinct gaps between settlements has helped retain the character of the area.

Although there may be some economies for infrastructure provision from larger growth proposals, distributing development to a number of growth locations could make delivery of housing more reliable and less vulnerable to unforeseen problems than concentration in a few locations.

Taking into account the existing housing commitments at 1st April 2009, even the smallest of the growth locations (Hethersett) will need to deliver at least 90 units every year by 2026, assuming development commences in 2014/15.

Distributing growth can relate the housing to the range of Strategic Employment locations identified in the RSS, as well as local employment locations such as Long Stratton.

Given the reduced level of overall housing post-1st April 2008, concentration of development in fewer growth locations could lead to the reduction in size/deletion of other locations; any further reduction in the size of growth locations could severely compromise outcomes such as delivery of the Long Stratton Bypass, a shift to sustainable transport patterns in the A11 corridor and the use of on-site renewable energy.

Appendix 4

List of evidence studies

1. Greater Norwich Housing Market Assessment – Greater Norwich Housing Partnership (2007)
2. Evidence Base for Housing Market Assessment (Greater Norwich Housing Need and Stock Condition Survey) – Opinion Research Services (2006)
3. Strategic Housing Land Availability Assessment – Greater Norwich Development Partnership, with input from Nathaniel Lichfield and Partners (awaiting completion, Autumn 2009)
4. Strategic Flood Risk Assessment – T.A. Millard (2008)
5. Infrastructure Need and Funding Study – EDAW (2007)
6. Infrastructure and funding study based on proposed distribution of development – EDAW (2009)
7. Employment Growth and Sites and Premises study – Arup and Oxford Economics (2008)
8. Green infrastructure study – Chris Blandford associates (2007)
9. Greater Norwich retail and Town Centres study – GVA Grimley (2007)
10. Integrated Water Cycle Study: Stage 1 – Scott Wilson (2007)
11. Integrated Water Cycle Study: Stage 2a – Scott Wilson (2008)
12. Integrated Water Cycle Study: Stage 2b – Scott Wilson (2009)
13. Greater Norwich Joint Core Strategy Public Transport Requirements of Growth – Mott MacDonald (2008)
14. Public transport assessment option2+ (favoured option)- Mott MacDonald (2009)
15. A 47 Southern Bypass Junctions study -- Mott MacDonald (2008)
16. A 140 Bus lane study –Scott Wilson (2008) and GNDP assessment of study
17. Greater Norwich Conference Centre Feasibility Study – Tourism UK (2009)
18. Greater Norwich study of development rates on large scale developments (unpublished, for further information contact the GNDP)
19. Norfolk Economic Growth Study – Roger Tym and partners (2005)
20. Lessons From Cambourne – Cambridge Architectural Research Limited for Inspire East
21. Report of consultations undertaken at issues and options stage – Greater Norwich Development Partnership (2008)
22. Landscape Character assessments for Broadland (1999 and2008)
23. Constraints mapping on existing local plan proposals maps
24. Parish Plans for a number of parishes in the area

Appendix 5:

	Dwelling Stock at 1 st April 2009	Completions 1 st Jan 1994 to 31 st March 2009	Completions 1 st Jan 1994 to 31 st March 2009 - annualised	Remaining commitments at 1 st April 2009	Proposed growth in the JCS	Minimum % increase in dwellings 1 st April 2009 – 31 st March 2026 (JCS and commitments)	Minimum proposed Growth 1 st April 2009 – 31 st March 2026 (JCS and commitments) – annualised
Colney/ Cringleford	1165 (65/1100)	289 (3/286)	19	835 ³ (0/835)	1,200	175%	120
Costessey/ Easton	5764 (5156/608)	1,251 (1,026/225)	82	1,459 (1,452/7)	1,000	43%	145
Hethersett/ Little Melton	2906 (2534/372)	596 (485/111)	39	59 (51/8)	1,000	41% (Hethersett only) 36% (Hethersett & Little Melton)	62
Long Stratton/ Tharston	2154 (1855/299)	566 (423/143)	37	95 (75/20)	1,800	88%	111
Mulbarton/ Swardeston/ Swainsthorpe	1888 (1445/280/163)	356 (311/39/6)	23	111 (97/7/7)	Unknown		n/a
Poringland/ Framingham Earl	2017 (1643/374)	301 (275/26)	20	680 (659/21)	Up to 200	44%	52
Trowse	388	151 ⁴	10	1	Unknown		n/a
Wymondham	6318	1,295	85	458	2,200	42%	156

³ Includes increase in density at Roundhouse Park to a total of 1,065 units

⁴ Includes 56 units at Whitlingham Hospital

Appendix 6

Location for new housing allocations up to 2026	Number of homes
Norwich	3,000
Old Catton, Sprowston, Rackheath and Thorpe St Andrew growth triangle	7,000 – (Rising to 10,000 after 2026)
South West:	
■ Hethersett	1,000
■ Cringleford	1,200
Wymondham	2,200
Costessey/Easton	1,000
Long Stratton	1,800
Broadland smaller sites	2,000
South Norfolk smaller sites	1,800
Other rural areas:	Rural area growth 1,600
■ Acle	■ Hingham
■ Aylsham	■ Loddon/Chedgrave
■ Blofield	■ Reepham
■ Brundall	■ Wroxham
■ Diss	■ Other smaller villages
■ Harleston	
Total	22,600

Map 1a – Old Costessey



Map 7 – Wymondham

