East Midlands Regional Plan
Consolidated Sustainability Appraisal Report

Government Office for the East Midlands
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22.0 SUMMARY AND CONCLUSIONS
NON TECHNICAL SUMMARY

1. INTRODUCTION
ENVIRON have been employed by the Government Office for the East Midlands (GOEM) to undertake a sustainability appraisal (SA) of the Proposed Changes and final revisions to the East Midlands Regional Plan and produce a Consolidated SA Report which reports on all the SA work that has been undertaken on the plan.

The draft Regional Plan was subject to an appraisal process undertaken by LUC and GHK consultants and was tested at an Examination in Public held from 22nd May to 19th July 2007. The Panel Report on the Examination was published in November 2007. Based on the Panel’s recommendations GOEM prepared Proposed Changes to the Regional Plan for consultation with the public and stakeholders. These were subject to SA by ENVIRON in July 2008 building on the SA that was undertaken by LUC and GHK consultants on the draft Regional Plan. Final changes were made to the plan in February 2008 and these have also been subject to SA. This report is the Consolidated SA Report and outlines all of the SA work that has been undertaken on the plan.

2. PURPOSE OF THE SA
The East Midlands Regional Plan is required to be subject to a Sustainability Appraisal (SA) in accordance with the Planning & Compulsory Purchase Act 2004, and a Strategic Environmental Assessment (SEA) in accordance with the European SEA Directive 2001/42/EC. Both of these requirements have been met within a single assessment referred to as a ‘Sustainability Appraisal’ (SA).

This report constitutes the Consolidated SA Report for the East Midlands Regional Plan.

An Appropriate Assessment (AA) of the East Midlands Regional Plan is required under Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Treweek Environmental Consultants have been employed by the GOEM to undertake the Appropriate Assessment (AA) of the Proposed Changes and of the final revisions to the plan. The AA Report is also being published at the same time as the final East Midlands Regional Plan and the Consolidated SA Report.
3. **THE REGIONAL PLAN PROCESS**

The Regional Plan process is shown below.

- Stage 1: Identify the issues for a revision and prepare a project plan, including a statement of public participation;
- Stage 2: Develop options and policies, taking account of assessed effects, and develop the draft revision;
- Stage 3: Publish and formally consult on the draft RSS revision;
- Stage 4: Examination-in-Public;
- Stage 5: Publication of the Panel Report;
- Stage 6: Consultation on the Secretary of State’s proposed changes (this stage);
- Stage 7: Issue of revised RSS (this stage); and
- Stage 8: Implementation, monitoring and review.

The East Midlands Regional Plan provides a spatial framework to inform the preparation of Local Development Frameworks (LDFs), Local Transport Plans (LTPs) and regional and sub-regional strategies and programmes that have a bearing on land use activities. It does this by setting out a broad spatial development strategy for the East Midlands region for the period to 2026. When adopted, the plan will set out:

- The region’s scale of housing provision to 2026; and
- The priorities for economic development, retail growth, transport investment, the environment, minerals, and waste treatment and disposal.

The East Midlands Regional Plan is split into 2 main sections, Part 1, the Regional Strategy and Part 2, Sub Regional Strategies developed by the Section 4(4) Authorities. Part 1 of the Strategy is divided into three sections; Section 1: Core Strategy, Section 2: Spatial Strategy and Section 3: Topic Based Priorities. The Regional Plan supports the spatial theme of the East Midlands Integrated Regional Strategy (IRS) and the Regional Economic Strategy (RES). The IRS, which was developed by EMRA, comprises 4 themes: Social; Environmental; Economic; and Spatial. A summary of the IRS objectives is shown below.

<table>
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<td><strong>Social</strong></td>
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<td>1. To ensure that the existing and future housing stock meets the housing needs of all communities in the region.</td>
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<td>2. To improve health and reduce health inequalities by promoting healthy lifestyles, protecting health and providing health services.</td>
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<td>3. To provide better opportunities for people to value and enjoy the Region’s heritage and participate in</td>
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cultural and recreational activities.
4. To improve community safety, reduce crime and fear of crime.
5. To promote and support the development and growth of social capital across communities of the Region.

Environmental
6. To protect, enhance and manage the rich diversity of the natural, cultural and built environmental and archaeological assets of the Region.
7. To enhance and conserve the environmental quality of the Region by increasing the environmental infrastructure.
8. To manage prudently the natural resources of the Region including water, air quality, soils and minerals.
9. To minimise energy usage and to develop the Region’s renewable energy resource, reducing dependency on non-renewable resources.
10. To involve people, through changes to lifestyle and at work, in preventing and minimising adverse local, regional and global environmental impacts.

Economic
11. To create high quality employment opportunities and to develop a culture of ongoing engagement and excellence in learning and skills, giving the Region a competitive edge in how we acquire and exploit knowledge.
12. To develop a strong culture of enterprise and innovation, creating a climate within which entrepreneurs and world-class businesses can flourish.
13. To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies.

Spatial
14. To ensure that the location of development makes efficient use of existing physical infrastructure and helps to reduce the need to travel.
15. To promote and ensure high standards of sustainable design and construction, optimising the use of previously developed land and buildings.
16. To minimise waste and to increase the reuse and recycling of waste materials
17. To improve accessibility to jobs and services by increasing the use of public transport, cycling and walking, and reducing traffic growth and congestion.

4. **APPROACH TO THE SA**

Although the SA was carried out by independent consultants (LUC and GHK in the early stages and ENVIRON for the Proposed Changes stage onwards), it is important that the SA is an integral component in the preparation of the Regional Plan with close working between those responsible for preparing the Regional Plan and the SA consultancy team throughout. To this end, in addition to the formal SA reports produced, there has been regular dialogue between EMRA officers (responsible for the production of the draft Regional Plan), the GOEM (responsible for the Proposed Changes onwards) and the two SA teams. The stages of the SA work are outlined below.

4.1 **SA SCOPING**

Stage 1 of the SA consisted of scoping which comprised the following work:
A. Review of the objectives and indicators of the Integrated Regional Strategy\(^2\), and international, national and regional environmental protection, economic and social policy objectives;
B. Review of the other strategies, plans and programmes relevant to the East Midlands;
C. Review of baseline information to identify and confirm the environmental, social and economic characteristics and trends of the East Midlands;
D. Characterisation of the East Midlands and identification of key sustainability issues (or problems) facing the region; and
E. Development of SA objectives.

4.1.1 1A: Review of environmental, economic and social policy objectives

The SEA Directive (Annex 1 e) requires ‘the relationship of the plan with other plans and programmes’ and ‘the environmental protection objectives established at the international, EC or national level, which are relevant to the plan…and the way those objectives and any environmental considerations have been taken into account during its preparation’ to be set out.

Key environmental protection objectives established at the EC level include those contained in the Directive on the Conservation of Wild Birds (The Birds Directive, 79/409/EEC) and the Directive on the Conservation of Natural Habitats and Wild Flora and Fauna (The Habitats Directive, 92/42/EEC). The review of environmental protection objectives went beyond those specifically mentioned in the SEA Directive, to include other international objectives for environmental protection (e.g. Kyoto Protocol to the UN Convention on Climate Change, 1992), other EU Directives (e.g. Water Framework Directive 2000/60/EC), national environmental objectives (e.g. Planning Policy Statement 9 Nature Conservation), and regional environmental policy objectives (e.g. The East Midlands Biodiversity Strategy – Putting Wildlife Back on the Map).

The review also included social and economic policy objectives at the national and regional level that were considered to be relevant to the Regional Plan, such as those included in the Regional Economic Strategy and Regional Housing Strategy.

4.1.2 1B: Review of the other strategies, plans and programmes relevant to the East Midlands

The Regional Plan provides the spatial expression of many of the region’s environmental, social, economic strategies and is therefore vital to the delivery of a range of regional policy objectives and targets. For example, the Regional Water Resources Strategy sets out the necessary infrastructure requirements to maintain an appropriate supply/demand balance in the region which will need to be integrated with development proposals in the Regional Plan.

The Regional Economic Strategy is a key regional strategy and its alignment with the Regional Plan is essential to working towards more balanced and sustainable patterns of housing and employment development. Some regional strategies such as the Biodiversity Strategy and commissioned research such as the Regional Flood Risk Assessment can influence the extent, location and quality of new development in the region. The majority of strategies have established partnerships between relevant public private and voluntary sector organisations to bring about change which, when considered in conjunction with the policies of the Regional Plan, could result in cumulative impacts.

### 4.1.3 1C: Review of baseline information

The review of baseline information helped to identify key sustainability issues, the current situation, and trends (i.e. whether the situation is getting better or worse, and/or whether it is near any known thresholds). The baseline information also helped to provide the basis for prediction and monitoring of the likely effects of the draft Regional Plan – i.e. the reference point for each of the objectives and detailed questions in the SA Framework. The baseline information was updated throughout the SA, particularly to take into account the technical reports of research commissioned by EMRA or other bodies (e.g. the East Midlands Regional Development Agency, EMDA) that informed the draft Regional Plan.

### 4.1.4 1D: Characterisation of the East Midlands and identification of key sustainability issues

From the above work, a description of the environmental, economic and social characteristics of the East Midlands was built up, and a number of key sustainability issues (or ‘problems’) identified of relevance to the Regional Plan. These are summarised in Box 1.
Box 1: The character and sustainability issues facing the East Midlands

The East Midlands comprises the counties of Derbyshire, Leicestershire, Lincolnshire, Northamptonshire, Nottinghamshire, and the unitary authority of Rutland. The region’s population of around 4.3 million people is spread amongst the Principal Urban Areas of Nottingham, Leicester, Derby, Lincoln and Northampton and the smaller Sub-Regional Centres and market towns, although just under 30% of its population living in town and villages with populations of less than 10,000. There are 46 local authorities, including the Peak District National Park. The region’s population has grown at a faster rate than the national average in recent years.

Although relatively prosperous overall, spatial variations in health, employment and housing are quite marked. Deprivation levels are also disparate. Districts such as Rutland, South Northamptonshire and Rushcliffe rank within the 10% least deprived in the country. Conversely, Nottingham City Council and Leicester City Council are within the 10% most deprived.

A strong urban-rural split exists within the region. The rural areas have a relatively higher representation of older people, and the cities have a relatively younger age structure. The percentage of people in rural districts of the region with no qualifications is generally less than in urban districts of the region, especially Leicester and Nottingham. However, in parts of Lincolnshire, hidden unemployment is a problem and rural areas have a lower proportion of employees working in the high wage ‘knowledge economy’. Rural Leicestershire has the highest proportion of parishes without a post office. Rutland has the lowest proportion of parishes without village shops and public houses.

The East Midlands economy, in general, is performing well with strong overall growth in GVA since 1995:

- Around half of the region’s economy is in and around the three cities of Derby, Leicester and Nottingham. This is where the best transport links, the largest companies and the most Research and Development activity (R&D) are to be found.
- The eastern part of the region, particularly the Lincolnshire coast, is poorly performing, and suffers from poor access.
- The former coalfields to the north of the region have undergone a major economic restructuring over the last 20 years and are still performing relatively poorly. The southern part of the region has generally been performing well.
- Despite the generally strong economy, the region is an exporter of people with higher level skills. This affects all parts of the region, but in particular areas such as Lincolnshire where the need for skills to help regenerate the economy is most acute.
- Primary industries, such as agriculture (which will be affected by changes to CAP), mineral extraction, and energy production are significant sectors in the region. Such industries tend to generate less income and can be vulnerable to external pressures.
- The region has historically relied heavily on manufacturing which, although reducing, is still a major employer. The region will be adversely affected by a continuing decline in this sector in future years.

The social character of the region only partly mirrors that of the economy:

- Deprivation is concentrated in pockets of the major cities, particularly Nottingham and Leicester, the
Lincolnshire coast and the former coalfield areas of north Derbyshire and north Nottinghamshire.

- The East Midlands generally has a low crime rate, although there are significant variations across the region.

- Overall, the health of people in the region is similar to that of the country as a whole, although the East Midlands have one of the highest rates of obesity nationally. Differences in health within the region generally reflect the pattern of deprivation.

- For first-time buyers, the house price - income ratio for the East Midlands is less than the England average, although house prices are rising faster. The southern part of the region is where affordability is at its most acute. A significant amount of the rental housing stock in Derby, Leicester and Nottingham is sub-standard.

- The average age of the population is increasing, particularly in rural areas.

Transport and accessibility in the region varies significantly dependent upon location:

- Most of the main rail and road routes in the region are north-south, and run through the western part of the region. East-west routes, and the eastern part of the region, are relatively poorly provided for.

- Rural areas are becoming increasingly inaccessible for those without a car due to a decline in public transport services, and the closure of community and shopping facilities in smaller towns and villages.

- The East Midlands has one of the highest increases in the UK in road traffic since 1993.

The picture of the region from an environmental point of view is mixed:

- Biodiversity levels are amongst the lowest in England, largely reflecting the significant proportion of high-grade agricultural land and associated intensive farming. Fragmentation of habitats is a major issue.

- The east coast, such as the Wash, has a number of sites of international significance for nature conservation. Upland Derbyshire is also important for biodiversity.

- The region’s landscape is not perceived as being as dramatic as in other parts of England, with the exception of the Peak District National Park. The Lincolnshire Wolds is the only AONB. Landscape quality has been declining.

- The region has significant historic and cultural heritage, although loss and damage continues from neglect, and low profile damaging practices such as deep ploughing.

- Woodland cover is below the UK average, although there are initiatives to increase this, most notably the National Forest.

- Air quality appears to be better than the national average, although worse along the main road routes.

- Overall water quality is generally good, although in parts of the region pollution from agriculture is an issue.

- The region generates a significant amount of waste. Its household recycling rates are higher than the national average and improving, but still low overall.

Climate change is likely to be a significant issue in the future:

- The region experiences seasonal water shortages, particularly in parts of Lincolnshire, and there is little potential for additional supplies from existing surface water resources – a situation which is likely to be exacerbated by climate change and additional development, unless measures are taken to use water more efficiently or develop new sources of supply.
A significant part of the region is already at risk of flooding, including coastal flooding in the east, and land adjacent to the River Trent. Although the level of flood defences means the most vulnerable areas are protected, the risk of flooding is likely to increase with climate change.

4.1.5 1E: Development of SA objectives

The SA objectives were taken from the Integrated Regional Strategy, which ‘draws together the key issues and challenges for the region,’ reflects both national policies and specific regional issues and concerns, drew on a wide range of expertise and extensive consultation, and was endorsed by key regional organisations. However, the objectives were altered where necessary to meet the requirements of the SEA Directive and to address issues that were identified during the baseline data collection. The final SA Framework objectives are shown below:

1. To ensure that the housing stock meets the housing needs of the region
2. To improve health and reduce health inequalities
3. To provide better opportunities for people to value and enjoy the region’s heritage and participate in cultural and recreational activities
4. To improve community safety, reduce crime and the fear of crime
5. To promote and support the development and growth of social capital across the region
6. To increase biodiversity levels across the region
7. To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the region
8. To manage prudently the natural resources of the region including water, air quality, soil and minerals
9. To minimise waste and increase the re-use and recycling of waste materials
10. To minimise energy usage and to develop the region’s renewable energy resource, reducing dependency on non-renewable resources
11. To make efficient use of the existing transport infrastructure, help reduce the need to travel by car, improve accessibility to jobs and services for all and to ensure that all journeys are undertaken by the most sustainable mode available
12. To create high quality employment opportunities
13. To develop a strong culture of enterprise and innovation
14. To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies.

The SA objectives were used to appraise the spatial development options and housing growth scenarios and the policies in the Regional Plan. This comprised the use of appraisal matrices to determine the extent to which each option, scenario or policy would be likely to help achieve or undermine the SA objective. Recommendations for increasing the positive effects on SA objectives, and reducing negative effects, for example by changing policy wording, were provided throughout the SA process.
4.2 SUSTAINABILITY APPRAISAL OF PLAN VERSIONS

Prior to the Proposed Changes stage, the appraisal of the draft Regional Plan was divided into four separate but complimentary processes and reported in four separate SA reports. The appraisal of Part 1 of the Regional Plan (Regional Strategy) was undertaken by LUC and GHK. The appraisal of Part 2 of the Regional Plan (the Sub-Regional Strategies) was undertaken by two separate parties. The appraisal of the Three Cities and the Northern Sub-Regional Strategies was undertaken by White Young Green consultants and the appraisal of the Lincoln Sub-Regional Strategy was undertaken by Lincolnshire County Council.

4.2.1 SA of the Draft Regional Plan: Part 1

The appraisal work undertaken by LUC and GHK has been undertaken in three broad stages:

- SA of Options for Change Document;
- SA of Part 1 of Version 3A of the draft Regional Plan; and
- SA of Part 1 of Version 4C of the draft Regional Plan.

Further information on the approach taken to these stages are reported below

SA of Options for Change Document comprised the following key tasks:

- Appraisal of the draft Regional Plan objectives; and
- Appraisal of the housing growth and spatial options (as shown below):
  - Limiting Growth (below trend): This was based on the ODPM Projections less 20% and implied a reduction in projected in-migration from other regions.
  - Trend Based Growth: Based on the ODPM Projections. This implied a level of housing growth of about 13,700 new dwellings per year. This was higher than the current RPG8, but recent levels of actual development have running at around 13,500 new dwellings per year.
  - Going for Growth (above trend): This was based on the ODPM Projections plus 20% and implies maximising in-migration from neighbouring regions, in particular the ‘Wider South East’.

SA of version 3A of the Draft Regional Plan comprised of the following key tasks:

- A full appraisal in order to inform the development of subsequent versions; and
- The production of an Interim SA Report summarising the findings of the SA.

SA of final draft Regional plan and consultation on SA Report comprised of the following key tasks:

- A full SA of Part 1 of the final draft Regional Plan was undertaken in August 2006 by LUC and GHK; and
- Incorporation of the results of the four Sub-Regional Strategies that comprise Part 2 of the plan:
Three Cities Sub-Region – this was appraised by White Young Green using the SA Framework developed by LUC and used for Part 1 of the Plan;

Northern Sub-Region – this was also appraised by White Young Green using the SA Framework developed by LUC and used for Part 1 of the Plan;

Lincoln Policy Area – this was appraised by Lincolnshire County Council using the SA Framework developed by LUC and used for Part 1 of the Plan;

Milton Keynes South Midlands Sub-Region – this was adopted by the Secretary of State in March 2005. It remains largely unaltered by the review of the Regional Plan, except for two alterations relating to housing provision. Provisional housing figures for the Northampton Implementation Area are being reviewed separately from December 2006 due to an earlier legal challenge. The second alteration is a continuation of build rates for new dwellings for the period 2021 to 2026. These figures are reflected in Parts 1 and 2 of the Plan and have been appraised as part of the SA of Part 1.

4.2.2 SA of the Draft regional plan: Part 2

*Three Cities Sub-Regional Strategy*

The following options were tested as part of the SA:

- Do Nothing and promote development following RSS criteria;
- Sub Regional Strategy to promote development in Principal Urban Areas and for local needs / urban consolidation / on small scale windfalls following RSS criteria;
- SRS to promote development in Principal Urban Areas / Sub Regional Centres (or Larger Main Towns) and for local needs / urban consolidation / on small scale windfalls following RSS criteria;
- SRS to promote development in Principal Urban Areas / Sub Regional Centres / Other Main Towns and for local needs / urban consolidation / on small scale windfalls following RSS criteria; and
- SRS to promote development in Principal Urban Areas and permit development in other locations (including a new settlement) following RSS criteria.

An initial draft of the SRS was also appraised using the SA framework and the results were provided to the six Local Planning Authorities on 16 August 2006 prior to finalization of the draft SRS text.

*Northern Sub-Regional Strategy*

The following options were tested as part of the SA:

- Do Nothing and promote development following RSS criteria;
- SRS to promote development in & adjoining Sub Regional Centres and for local needs following RSS criteria;
• SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria;
• SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria PLUS permit employment regeneration based development in other locations where the public benefit arising from enhancing green infrastructure is significant; and
• SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria PLUS permit regeneration based development in other locations.

An initial draft of the SRS was appraised by using the SA framework. An interim draft of this Sustainability Report was provided to Nottinghamshire and Derbyshire County Councils on 15 August 2006 prior to finalisation of the draft SRS text, the Local Planning Authorities determined that no significant changes were required.

Lincoln Sub Regional Strategy

The following options were tested as part of the SA:
• Commitment/urban capacity;
• 30% growth; and
• Super growth option.

The spatial options were tested and the potential sustainability advantages and disadvantages of each option were identified. The policies contained within the SRS were also appraised and this was reported in the SA report written by Lincolnshire County Council.

4.2.3 SA of the Proposed Changes

The approach to the review of plans, programmes, policies and baseline data

Some updating of the baseline data and review of plans and policies has taken place where significant new data or policy has emerged since the previous review in September 2006.

The approach to the assessment

The focus of the assessment has been on the significant changes that have been made to the plan. The appraisal matrices produced as part of the previous appraisal work have been reproduced, any changes to the appraisal conclusions added in red italic and the appraisal of new policies added in a green row. Although Parts 1 and 2 of the draft Regional Plan were appraised separately, it was felt at this stage that it would be useful to bring the appraisals into one SA report. The SA framework and scoring system used in the previous work has been retained.
4.2.4 SA of the final version of the Regional Plan

The approach to the review of plans, programmes, policies and baseline data

The baseline data and policy reviews have not been updated because the changes that have been assessed at this stage are minimal. Therefore, all of the baseline data in this Consolidated SA report refers updated data at the Proposed Changes SA stage.

The approach to the assessment

The focus of the assessment has been on the changes that have been made to the plan. The appraisal matrices produced as part of the previous appraisal work have been reproduced and any changes to the appraisal conclusions added in green italic.

5. RESULTS OF THE SA

Some of the key issues raised at each stage of the appraisal are discussed below.

5.1 OPTIONS FOR CHANGE CONSULTATION

The SA noted the importance of matching housing provision with housing demand and employment growth in order to ensure Principal Urban Areas continue to develop as places where people want to live and work. The SA concluded that the higher the housing growth rate (Option 3, 20% above ODPM trend growth rather than Option 1, 20% below ODPM trend growth), the more likely that:

- Affordable housing will be delivered and house prices overall will increase more slowly (although consultation responses queried whether this would happen in practice).
- Homes built will increase faster than jobs are created, which could increase out-commuting from the region.
- Pressure will be put on environmental resources such as water and minerals, and on environmental assets such as wildlife and the landscape.
- Total CO2 emissions and waste generated by the region will increase.
- Investment will be available for improvements to the environment, community facilities, transport and other infrastructure.

5.2 RESULTS OF THE SUB REGIONAL STUDY OPTIONS APPRAISALS

For summaries of the results of the appraisal of the SRS options please see the SRS SA reports.

5.2.1 Three Cities Sub Regional Strategy

The results of the options appraisal are shown below.

Derby

- Sustainability Appraisal Option 3 is equivalent to the preferred housing allocation;
- Options 1 & 4 were excluded on the basis that they did not accord with Policy 2 of the RSS;
- Option 2 would require an additional 10000 dwellings within the Derby PUA which would most likely take the form of urban extensions. This would increase pressure on the Green Belt; Green
Wedges; other environmentally and culturally sensitive areas. It could also lead to development away from key transport corridors and in locations that are more difficult to serve by frequent and reliable public transport;

- Option 3 would require an additional 6800 dwellings within the Derby PUA and this is considered to be achievable without the release of Green Belt or large areas of Green Wedge; and
- Both Options 2 and 3 have transport implications but these are considered to be less acute under the preferred housing allocation.

**Leicester**

- Sustainability Appraisal Option 2 is equivalent to the preferred housing allocation;
- Options 1 / 3 / 4 were excluded on the basis that they did not accord with Policy 2 of the RSS;
- Under Option 2 provision of 620 dwellings per annum in the Leicester PUA would be required. This would place significant pressure on Green Wedges and other environmentally or culturally sensitive areas; there are also highways concerns about accommodating this level of development;
- Option 2 but with a slightly greater spread of development across the sub regional centres has been put forward as the preferred housing allocation. Investment in both transport and infrastructure will be required under this option.

**Nottingham**

- Sustainability Appraisal Option 3 is equivalent to the preferred housing allocation;
- Options 1 & 4 were excluded on the basis that they did not accord with Policy 2 of the RSS; and
- Option 3 was selected on the basis that it was regeneration focused. For example it opens up the opportunity for redevelopment of the collieries at Stanton and Cotgrave.

### 5.2.2 Northern Sub Regional Strategy

The Sustainability Appraisal of the options identified a number of potential effects associated with the options both beneficial and adverse. The appraisal matrices were used by the two Local Planning Authorities to inform the preparation of the draft Northern SRS. Subsequently they decided to adopt the approach that is as expressed in Policies 1 & 2 of the Northern SRS, and in the dwelling allocations for the districts based on the need to:

- Strengthen the roles of the sub regional centres;
- Promote the regeneration of smaller settlements in former mining areas in a way that promotes a more sustainable pattern of development; and
- Improve long term economic prospects.

The following is a summary of the justification provided by Nottinghamshire and Derbyshire County Councils for their preferred approach:
Nottingham Outer HMA

- The above trend dwelling allocation is intended to support the two growth point bids submitted for Mansfield – Ashfield and Newark;
- Growth point bids will need to address requirement for infrastructure investment, particularly in respect of water supply & treatment and transport infrastructure;
- Increasing levels of in-migration will be maintained by above trend dwelling allocation due to housing market renewal and town centre regeneration; continued growth should help lift job growth above the regional average;
- Considerable previously developed land is available for redevelopment and there are large scale opportunities for economic regeneration.

Northern HMA

- Recent house building has generated high levels of in-migration which is considered unsustainable; settlement pattern is fragmented and there are concerns about the capacity of the area to accept large scale growth;
- The below trend dwelling allocation requires Greenfield development but there are sensitive areas of landscape and Green Belt, including areas close to settlements;
- House building should not keep pace with job growth owing to out commuting concerns; and
- There are large scale opportunities for economic regeneration.

5.2.3 Lincoln Sub Regional Strategy

In preparing the LPA SRS, various spatial options for development in the sub-region have been appraised. There were 3 growth options identified:

- Commitment/urban capacity;
- 30% growth; and
- Super-growth option.

The results of this option assessment are not reported in the Lincoln SRS SA report so have not been reported here.

5.3 SA OF VERSION 3A OF THE DRAFT REGIONAL PLAN

The full findings of the SA of the options for change document were presented in the ‘Initial Sustainability of Options for Change’ (LUC and GHK: October 2005). The draft Interim Report produced in June 2006\(^3\) provided an initial SA commentary for Version 3A of the draft Regional Plan. Some of the main points were.

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- The draft Regional Plan is generally expected to result in positive effects on health but more emphasis could be placed on encouraging healthy lifestyles;
- Policies in the draft Regional Plan are likely to result in positive effects on crime but more attention to the crime problems of Nottingham could be included;
- The majority of policies are expected to contribute positively to social capital in the region and there is a strong emphasis on regeneration which is expected to positively affect social capital. However, there could be more reference to the need to provide community facilities alongside development;
- There are a good range of policies in the draft Regional Plan covering biodiversity issues but there is a need for more explicit reference to Natura 2000 sites in the Strategy and policies need to recognise the need to help biodiversity to adapt to climate change;
- There are strong policies in the draft Regional Plan to protect the region’s natural, cultural, built, environmental and archaeological assets but there may be a potential conflict between the protection and enhancement of the built environment and development pressures in the East Midlands. Water resource capacity and sewerage capacity are a major concern in the Region;
- Large areas of the East Midlands are in zone 2 or 3 flood risk, although there are many areas which are adequately defended;
- There are a large number of policies in the draft Regional Plan that are likely to lead to improvements in air quality, but transport policies could go a lot further to reduce traffic, as this is the main cause of air pollution problems;
- Climate change mitigation and adaptation are not well addressed in the Strategy; and
- Policies are generally supportive of the objective to develop a strong culture of enterprise and innovation.

### 5.4 SA OF THE DRAFT REGIONAL PLAN (SEPTEMBER 2006)

The appraisal of the Part 1 policies found that:
- Housing provision likely to meet identified needs but there are uncertainties of delivery in relation to water resources and biodiversity;
- The draft Regional Plan is generally expected to result in positive effects on health but more emphasis could be placed on encouraging healthy lifestyles;
- There is a good range of policies recognising the value of the region’s cultural assets but some aspects of housing and transport policies are likely to increase pressure on cultural assets and distinctiveness;
- Policies in the draft Regional Plan are likely to result in positive effects on crime and the majority of policies are expected to contribute positively to social capital in the region;
- There is a strong emphasis on regeneration in the draft Regional Plan which is expected to positively affect social capital;
- There are a good range of policies in the draft Regional Plan covering biodiversity issues and the protection of Natura 2000 sites is well covered in the Draft Regional Plan, although there are still some concerns relating to implementation. An Appropriate Assessment (AA) will ensure that negative effects on Natura 2000 sites are mitigated;
- Policies implicitly recognise the need to help biodiversity to adapt to climate change but local biodiversity could be given more consideration in the draft Regional Plan;
- There are strong policies in the draft Regional Plan to protect the region’s natural, cultural, built, environmental and archaeological assets;
- Whilst policies of the draft Regional Plan address the need for sustainable design and construction, the scale of development is likely to significantly affect the character of parts of the Region;
- The impacts of transport development may adversely affect the landscape and historic and natural environment of the Region and the draft Regional Plan is likely to result in a reduction in the extent of ‘tranquil areas’ in the region;
- The draft Regional Plan contains a strong policy on water resources and water quality but uncertainty remains in relation to maintaining a balanced supply and demand for water resources and sewerage treatment works are at risk of a lack of capacity in the future in some areas of the Region;
- The draft Regional Plan may result in the loss of Best and Most Versatile agricultural land in some areas in the Eastern Sub-Area;
- The draft Regional Plan moves towards increased secondary and recycled sources of aggregates but potential for sterilisation of mineral reserves remains;
- Large areas of the East Midlands are in zone 2 or 3 flood risk, although there are many areas which are adequately defended;
- There are a large number of policies in the draft Regional Plan that are likely to lead to improvements in air quality but there is concern relating to the trunk road and major highway priorities outlined in the draft Regional Plan;
- The targets of zero growth in waste by 2016 and recycling targets are positive but dependent on delivery. Sub-Area guidance and policy on the siting of waste management infrastructure is welcomed;
- The draft Regional Plan contains strong polices on working towards achieving carbon neutrality and sets ambitious renewable energy targets
- Proposed improvements to public transport services and modal shift for freight industry are welcomed but the detail behind the Plan needs to reflect the Plan’s good intentions and East Midlands Airport (EMA) proposals are likely to contribute to the effects of climate change;
- Policies in the draft Regional Plan are generally supportive of creating high quality employment opportunities and seek to accommodate rather than restrict growth in the Southern Sub-Area;
- The impact on rural areas is difficult to assess; and
• Policies are generally supportive of the objective to develop a strong culture of enterprise and innovation but how far the policies provide land of the right type depends on whether there is any constraint on the property market.

5.5 SA OF THE PROPOSED CHANGES AND FINAL VERSION OF THE PLAN
The appraisal focused on the significant changes that had been made to the Regional Plan since the Examination in Public and found that on the whole the changes made the plan a stronger one in terms of sustainability. Some of the key changes that strengthen the plan are:

• Fuller coverage of environmental issues in the vision and objectives of the plan and in many of the policies;
• Better protection of Natura 2000 sites through additions to various policies and through the addition of a specific air quality policy;
• Fuller consideration of the effects of climate change including in the design policy and in the treatment of the Lincolnshire Coastal Districts;
• Better treatment of social objectives, for example the addition of a criteria on social infrastructure to the Northern Sub –Area policy, the inclusion of a policy on rural affordable housing and an increase in pitch provision for gypsies and travellers;
• Further strengthening of policies on the economy, for example the new policy on Regional Priorities for the Economy and the addition of a clause to the regeneration policies that regeneration should conform to the locational strategy of the plan; and
• Sub regional issues - A stronger policy on identification of land surrounding Nottingham and the removal of named growth quadrants for Lincoln leaving more discretion at the local level.

However, there are still some areas of the plan where the risk of significant sustainability issues remains and ideally these will be dealt with by the review of the Regional Plan. These are:

• The design policy has been significantly changed and in some areas weakened. The policy would be stronger in sustainability terms if it required all major development to achieve the highest viable level of building sustainability, rather than only urban extensions. It would also be stronger in sustainability terms if the policy included a requirement for major developments to secure 10% of their energy from decentralised, renewable or low carbon sources (this is currently included in the supporting text but would be clearer if it was in policy);
• The RSS panel recognised that there was uncertainty regarding the deliverability of sustainable transport measures. An early review of the RTS is to begin shortly. It will be important for this review to prioritise public and other sustainable transport measures; and
• The focus of the plan in terms of regenerating peripheral areas is through improving accessibility. In the next review of the RSS, consideration should be given to alternative ways of regenerating peripheral areas that are more sustainable.
6. **MONITORING**

The purpose of monitoring is to identify unforeseen effects of the implementation of the plan. It is the responsibility of the East Midlands Regional Assembly as the Regional Planning Body to carry out this monitoring and review in liaison with Government Office East Midlands and other partners who have important roles to play in monitoring the progress of the RSS. Their roles should be co-ordinated by the Assembly in order that, where possible, a common evidential base is created and duplication avoided.

The East Midlands Regional Assembly will publish an Annual Monitoring Report (AMR), which will be submitted to the Secretary of State each year. The Annual Monitoring Report, together with Government’s headline and good practice guide indicators will provide the context for measuring progress towards the key objectives of the Regional Plan.

A number of monitoring indicators has been developed to monitor the plan and these are shown in the table below.
<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SA Framework Objective 1: Meeting housing needs</strong></td>
<td><strong>Housing trajectories</strong>&lt;br&gt;<strong>Affordable housing completions by HMA areas</strong>&lt;br&gt;<strong>Number of homeless people in the region</strong></td>
</tr>
<tr>
<td>Provides for those in housing need, taking into account relationships with neighbouring regions.</td>
<td>Removes the risks of housing stock to the impacts of climate change.</td>
</tr>
<tr>
<td><strong>SA Framework Objective 2: Health</strong></td>
<td><strong>As no significant negative effects on health have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend that levels of obesity continue to be monitored, along with health inequalities in the region.</strong></td>
</tr>
<tr>
<td><strong>SA Framework Objective 3: Access to and enjoyment of heritage, culture and recreation</strong></td>
<td><strong>Protects or enhances existing cultural assets.</strong>&lt;br&gt;<strong>Promotes, celebrates and/or develops local and regional cultural distinctiveness and strengths.</strong></td>
</tr>
<tr>
<td><strong>SA Framework Objective 4: Community safety and crime</strong></td>
<td><strong>As no significant negative effects on community safety and crime have been identified in the Sustainability Appraisal, proposals for monitoring have not been included.</strong></td>
</tr>
<tr>
<td><strong>SA Framework Objective 5: Social capital</strong></td>
<td><strong>As no significant negative effects on social capital have been identified in the Sustainability Appraisal, proposals for monitoring have not been included.</strong></td>
</tr>
<tr>
<td><strong>SA Framework Objective 6: Biodiversity</strong></td>
<td><strong>Helps to protect and enhance internationally designated sites and species e.g. SPAs, SACs and Ramsar sites.</strong>&lt;br&gt;<strong>To help protect and enhance other designated sites e.g. SSSIs, County Wildlife Sites, LNRs etc.</strong></td>
</tr>
<tr>
<td><strong>SA Framework Objective 7: Protection and enhancement of natural, cultural and built environmental and archaeological assets</strong></td>
<td><strong>Protects and enhances the landscape quality and character.</strong>&lt;br&gt;<strong>Adversely affects designated landscapes.</strong>&lt;br&gt;<strong>Enhances and manages the region’s environmental infrastructure.</strong></td>
</tr>
<tr>
<td><strong>Effect that needs to be monitored</strong></td>
<td><strong>Indicators</strong></td>
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<tr>
<td>taking into account climate change.</td>
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<tr>
<td>Reduces the extent of the region defined as ‘tranquil’.</td>
<td>Reduction in areas defined as tranquil</td>
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<tr>
<td><strong>SA Framework Objective 8: Natural resources (water)</strong></td>
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<tr>
<td>Reduces levels of pollution to water in the region.</td>
<td>Ecological river quality</td>
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<td></td>
<td>Number of pollution incidents reported to the Environment Agency</td>
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<td></td>
<td>Chemical water quality</td>
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<td></td>
<td>River Project Cover</td>
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<tr>
<td>Is within the capacity of available water resources, taking into account climate change.</td>
<td>Planning permissions granted against Environment Agency advice</td>
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<td></td>
<td>Number of leakages reported to water companies</td>
</tr>
<tr>
<td><strong>SA Framework Objective 8: Natural resources (soil)</strong></td>
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<tr>
<td>Avoids the loss of, and damage to, the best and most versatile agricultural land.</td>
<td>Change in area of BMV agricultural land</td>
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<td></td>
<td>Change in condition of BMV agricultural land</td>
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<tr>
<td>Avoids the sterilisation of mineral reserves.</td>
<td>Areas of minerals sterilised by development</td>
</tr>
<tr>
<td></td>
<td>Establishment of minerals consultation areas in Minerals Local Plans</td>
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<tr>
<td><strong>SA Framework Objective 8: Natural resources (natural hazards)</strong></td>
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<tr>
<td>Reduces the effects of flooding, taking into account climate change.</td>
<td>Planning permissions granted contrary to Environment Agency advice on flood defence grounds</td>
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<tr>
<td></td>
<td>Strategic Flood Risk Assessments completed</td>
</tr>
<tr>
<td><strong>SA Framework Objective 8: Natural resources (air)</strong></td>
<td></td>
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<tr>
<td>Will it reduce levels of pollution to air in the region?</td>
<td>Number of Air Quality Management Areas in the region</td>
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<tr>
<td><strong>SA Framework Objective 9: Waste</strong></td>
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<tr>
<td>As no significant negative effects on waste have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, due to the challenges of reducing waste and delivering increased waste recycling, recovery and composting facilities, we recommend ongoing monitoring of waste production and the proportion of waste being sent to landfill and being recycled.</td>
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<tr>
<td><strong>SA Framework Objective 10: Energy</strong></td>
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<tr>
<td>Helps to minimise energy usage and encourage energy efficiency.</td>
<td>Domestic and Industrial/Commercial Energy Consumption</td>
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<td>New development compliant with BREEAM / Code for Sustainable Home standards</td>
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<td></td>
<td>Number of local authorities including requirements for on site renewable energy generation and Code for Sustainable Homes and BREEAM requirements</td>
</tr>
<tr>
<td></td>
<td>Energy efficient construction</td>
</tr>
<tr>
<td><strong>SA Framework Objective 11: Transport and accessibility</strong></td>
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<tr>
<td>Reduces the need to travel for those with the greatest barriers to travel.</td>
<td>Proximity of housing development to services, facilities and employment.</td>
</tr>
<tr>
<td></td>
<td>Density of new housing</td>
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<td></td>
<td>% of region’s new development in PUAs</td>
</tr>
<tr>
<td>Helps to reduce the distances people have to travel on a regular basis for education, employment and services.</td>
<td>Proximity of new housing development to education, services and employment.</td>
</tr>
<tr>
<td>Enables urban and rural users to gain equal access.</td>
<td>Relevant transport improvements in rural areas</td>
</tr>
<tr>
<td><strong>Effect that needs to be monitored</strong></td>
<td><strong>Indicators</strong></td>
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<tr>
<td>Reduces road congestion.</td>
<td>Scale of congestion in urban areas and on inter-regional routes</td>
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<td></td>
<td>Levels of traffic growth</td>
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<tr>
<td>Helps develop a transport network that minimises the impact on the environment.</td>
<td>Journeys made by cycle</td>
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<td></td>
<td>Level of bus and light rail patronage</td>
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<td></td>
<td>Journeys made on foot</td>
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<td></td>
<td>Punctuality and reliability of services</td>
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<td></td>
<td>New Public Transport Interchanges Developed</td>
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<td></td>
<td>% of passengers accessing EMA by public transport</td>
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<tr>
<td></td>
<td>Development served by public transport</td>
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<tr>
<td></td>
<td>No. of bus passenger journeys per year in rural areas</td>
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<tr>
<td></td>
<td>No. of bus passenger journeys per year in urban areas</td>
</tr>
<tr>
<td></td>
<td>Carbon Dioxide emissions</td>
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<tr>
<td></td>
<td>Number and length of new cycle routes provided</td>
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<tr>
<td>Is robust enough to cope with the expected effects of climate change.</td>
<td>Planning permissions for transport infrastructure developments granted contrary to Environment Agency advice on flood defence grounds</td>
</tr>
<tr>
<td></td>
<td>Transport infrastructure damaged due to subsidence</td>
</tr>
<tr>
<td>Encourages the use of locally sourced services and products in the economy.</td>
<td>Number passengers using EMA</td>
</tr>
<tr>
<td>Further increases demand for air travel.</td>
<td>Number passengers using airports in the region</td>
</tr>
</tbody>
</table>

**SA Framework Objective 12: Employment opportunities**
As no significant negative effects on employment have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend continued monitoring of a range of indicators for employment and the economy, as set out in the Annual Monitoring Report.

**SA Framework Objective 13: Enterprise and innovation**
As no significant negative effects on enterprise and innovation have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend continued monitoring of a range of indicators for employment and the economy, as set out in the Annual Monitoring Report.

**SA Framework Objective 14: Economic infrastructure**
As no significant negative effects on modern economic structure have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend continued monitoring of a range of indicators for employment and the economy, as set out in the Annual Monitoring Report.
1 INTRODUCTION

ENVIRON have been employed by the Government Office for the East Midlands (GOEM) to undertake a sustainability appraisal (SA) of the Proposed Changes and final revisions to the East Midlands Regional Plan and produce a Consolidated SA Report which reports on all the SA work that has been undertaken on the plan.

The East Midlands Regional Assembly (EMRA) prepared a draft Regional Plan between April 2005 and September 2006. LUC and GHK were commissioned by the East Midlands Regional Assembly (EMRA) in December 2004 to assess the sustainability of this plan as it was being developed. The sustainability appraisal of the draft Regional Plan\(^{4}\) (undertaken by Land Use Consultants (LUC) and GHK), was submitted to the Secretary of State in September 2006.

The Regional Plan was tested at an Examination in Public held from 22\(^{\text{nd}}\) May to 19\(^{\text{th}}\) July 2007 and the Panel Report on the Examination was published in November 2007. Based on the Panel’s recommendations GOEM prepared Proposed Changes to the Regional Plan for consultation with the public and stakeholders. These were subject to SA by ENVIRON in July 2008 building on the SA that was undertaken by LUC and GHK consultants on the draft Regional Plan. Final changes were made to the plan in February 2008 and these have also been subject to SA. This report is the Consolidated SA Report and outlines all the SA work that has been undertaken on the plan.

1.1 PURPOSE OF THE SUSTAINABILITY APPRAISAL

The plan is required to be subject to a Sustainability Appraisal (SA) in accordance with the Planning & Compulsory Purchase Act 2004, and a Strategic Environmental Assessment (SEA) in accordance with the European SEA Directive 2001/42/EC. EMRA decided to meet these two requirements within a single assessment referred to as a ‘Sustainability Appraisal’ (SA) that will also conform to the 2005 Office of the Deputy Prime Minister (ODPM) guidance on sustainability appraisal\(^{5}\) (‘ODPM SA Guidance’). This integrated approach has been continued throughout the entire SA process.

The purpose of Sustainability Appraisal is to promote sustainable development by integrating sustainability considerations into the preparation and adoption of plans. The objective of SEA, as

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defined in Article 1 of the SEA Directive is ‘to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans…with a view to promoting sustainable development’.

The ODPM SA Guidance explains the difference between environmental assessments required under the SEA Directive and SA of development plans as required by the UK Government. There are many parallels but also some differences, and the guidance clearly shows how assessment to comply with the SEA Directive can be integrated with current practice on SA. Simply put, SA includes a wider range of considerations, extending to social and economic impacts of plans, whereas SEA is more focussed on environmental impacts. The SA guidance describes how it is possible to satisfy both requirements through a single appraisal process.

A key output of the SA process is a Sustainability Appraisal Report (in this case called the ‘SA Report’) which describes what elements of the draft Regional Plan have been appraised and how, and the likely significant sustainability effects of implementation of the East Midlands Regional Plan. This report is the Consolidated SA Report which outlines the results of all stages of the process.

1.2 AIM OF THE SA REPORT
This report constitutes the Consolidated SA Report for the East Midlands Regional Plan. As noted above, the SA has sought to meet the requirements of both the Planning and Compulsory Purchase Act 2004 and the SEA Directive (European Directive 2001/42/EC). This Consolidated SA Report therefore includes the required elements of an ‘Environmental Report’ (the output required by the SEA Directive). Table 1.1 signposts the relevant sections of the Consolidated SA Report that are considered to meet the SEA Directive requirements.

A Sustainability Appraisal Statement has been published at the same time as the Consolidated SA Report. The purpose of this is comply with the requirements of the SEA Directive to provide a statement summarising how environmental considerations have been integrated into the plan and how the environmental report and the opinions of consultees have been taken into account.

An Appropriate Assessment (AA) of the Regional Plan is required under Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Treweek Environmental Consultants have been employed by the GOEM to undertake the Appropriate Assessment (AA) of the Proposed Changes and the final version

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4 From this point on, references to the Sustainability Appraisal (SA) shall be taken as meaning ‘the SA incorporating SEA’.
of the plan. The final AA Report is also being published at the same time as the final plan and the Consolidated SA Report.

Table 1.1 Signposts to the SEA Directive Requirements

<table>
<thead>
<tr>
<th>SEA Directive Requirements</th>
<th>Where covered in SA Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation of an environmental report in which the likely significant effects on implementing the plan or programme, and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated. The information to be given is (Art. 5 and Annex I):</td>
<td>Chapters 8-21 and Appendix B</td>
</tr>
<tr>
<td>An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes</td>
<td>Chapter 3 and Appendix A</td>
</tr>
<tr>
<td>The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme</td>
<td>Chapters 4 and 8-21</td>
</tr>
<tr>
<td>The environmental characteristics of areas likely to be significantly affected</td>
<td>Chapters 4 and 8-21</td>
</tr>
<tr>
<td>Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC.</td>
<td>Chapters 4 and 8-21</td>
</tr>
<tr>
<td>The environmental protection, objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental, considerations have been taken into account during its preparation</td>
<td>Chapter 3 and Appendix A</td>
</tr>
<tr>
<td>The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects)</td>
<td>Chapters 8-21 and Appendix B</td>
</tr>
<tr>
<td>The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme</td>
<td>Chapters 8-21 and Appendix B</td>
</tr>
<tr>
<td>An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>A description of measures envisaged concerning monitoring in accordance with Art. 10;</td>
<td>Chapters 8-21</td>
</tr>
<tr>
<td>A non-technical summary of the information provided under the above headings</td>
<td>Non-Technical Summary</td>
</tr>
<tr>
<td>The report must include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process to avoid duplication of the assessment (Art. 5.2)</td>
<td>Whole SA Report</td>
</tr>
<tr>
<td>Consultation: Authorities with environmental responsibility, when deciding on the scope and level of detail of the information which must be included in the environmental report (Art. 5.4)</td>
<td>These provisions do not apply to the Consolidated SA Report which is provided for information only rather than for the purposes of consultation.</td>
</tr>
<tr>
<td>Authorities with environmental responsibility and the public, shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme (Art. 6.1, 6.2)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Other EU Member States, where the implementation of the plan or programme is likely to have significant effects on the environment of that country (Art. 7)</td>
<td>Chapter 6</td>
</tr>
<tr>
<td>Taking the environmental report and the results of the consultations into account in decision-making (Art. 8)</td>
<td></td>
</tr>
</tbody>
</table>

Whole SA Report
<table>
<thead>
<tr>
<th>SEA Directive Requirements</th>
<th>Where covered in SA Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of information on the decision: When the plan or programme is adopted, the public and any countries consulted under Art. 7 must be informed and the following made available to those so informed: The plan or programme as adopted A statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report of Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Art. 7 have been taken into account in accordance with Art. 8, and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with</td>
<td>Please see separate SA Statement.</td>
</tr>
<tr>
<td>Monitoring of the significant environmental effects of the plan's or programme's implementation (Art. 10)</td>
<td>Chapters 8-21</td>
</tr>
</tbody>
</table>

1.3 THE REGIONAL PLAN PROCESS
The Regional Plan process is shown below.

- Stage 1: Identify the issues for a revision and prepare a project plan, including a statement of public participation;
- Stage 2: Develop options and policies, taking account of assessed effects, and develop the draft revision;
- Stage 3: Publish and formally consult on the draft RSS revision;
- Stage 4: Examination-in-Public;
- Stage 5: Publication of the Panel Report;
- Stage 6: Consultation on the Secretary of State’s proposed changes;
- Stage 7: Issue of revised RSS (this stage); and
- Stage 8: Implementation, monitoring and review.

1.4 BACKGROUND TO THE EAST MIDLANDS REGIONAL PLAN
The East Midlands Regional Plan provides a spatial framework to inform the preparation of Local Development Frameworks (LDFs), Local Transport Plans (LTPs) and regional and sub-regional strategies and programmes that have a bearing on land use activities. It does this by setting out a broad spatial development strategy for the East Midlands region for the period to 2026. When adopted, the plan will set out:

- The region’s scale of housing provision to 2026; and
- The priorities for economic development, retail growth, transport investment, the environment, minerals, and waste treatment and disposal.

The East Midlands Regional Plan is split into 2 main sections, Part 1, the Regional Strategy and Part 2, Sub Regional Strategies developed by the Section 4(4) Authorities. Part 1 of the Strategy is divided
into three sections; Section 1: Core Strategy, Section 2: Spatial Strategy and Section 3: Topic Based Priorities.

The Regional Plan supports the spatial theme of the East Midlands Integrated Regional Strategy (IRS) and the Regional Economic Strategy (RES). The IRS, which was developed by EMRA, comprises 4 themes: Social; Environmental; Economic; and Spatial. A summary of the IRS objectives is shown below.
IRS Objectives for the East Midlands

Social
1. To ensure that the existing and future housing stock meets the housing needs of all communities in the region.
2. To improve health and reduce health inequalities by promoting healthy lifestyles, protecting health and providing health services.
3. To provide better opportunities for people to value and enjoy the Region’s heritage and participate in cultural and recreational activities.
4. To improve community safety, reduce crime and fear of crime.
5. To promote and support the development and growth of social capital across communities of the Region.

Environmental
6. To protect, enhance and manage the rich diversity of the natural, cultural and built environmental and archaeological assets of the Region.
7. To enhance and conserve the environmental quality of the Region by increasing the environmental infrastructure.
8. To manage prudently the natural resources of the Region including water, air quality, soils and minerals.
9. To minimise energy usage and to develop the Region’s renewable energy resource, reducing dependency on non-renewable resources.
10. To involve people, through changes to lifestyle and at work, in preventing and minimising adverse local, regional and global environmental impacts.

Economic
11. To create high quality employment opportunities and to develop a culture of ongoing engagement and excellence in learning and skills, giving the Region a competitive edge in how we acquire and exploit knowledge.
12. To develop a strong culture of enterprise and innovation, creating a climate within which entrepreneurs and world-class businesses can flourish.
13. To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies.

Spatial
14. To ensure that the location of development makes efficient use of existing physical infrastructure and helps to reduce the need to travel.
15. To promote and ensure high standards of sustainable design and construction, optimising the use of previously developed land and buildings.
16. To minimise waste and to increase the reuse and recycling of waste materials
17. To improve accessibility to jobs and services by increasing the use of public transport, cycling and walking, and reducing traffic growth and congestion.

1.5 STRUCTURE OF THE SA REPORT
This Consolidated SA Report sets out the process and findings of the SA of the East Midlands Regional Plan. Much of the material in this SA Report has been drawn from the SA Scoping Report

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Interim Data Report 8, SA Scoping Report 9, SA of the Options for Change 10, SA of the Submission Draft 11 and the consultation responses received on those reports. ENVIRON would like to thank LUC, GHK and EMRA for their permission to reproduce this work.

This chapter provides the background to the SA of the East Midlands Regional Plan, and an outline of the content and main objectives of the plan. The remainder of this report is structured into the following chapters:

- **Chapter 2** – SA approach, describes the approach used for the SA process and the specific SA tasks undertaken;
- **Chapter 3** – Review of other plans and programmes discusses the plan’s relationship with other relevant plans, policy guidance and strategies, and highlights the key sustainability objectives influencing the plan;
- **Chapter 4** – The character and sustainability issues of the East Midlands, characterises the East Midlands in terms of sustainability issues relating to development, identified from the baseline information gathered;
- **Chapter 5** – SA framework, describes the development of the SA objectives for assessing the plan;
- **Chapter 6** – How the SA influenced the plan, describes the different types of input the SA has made and how recommendations were taken on board;
- **Chapter 7** – Discussion of the overall spatial strategy, considers the overall strategy for housing provision in relation to expected trends in the growth of jobs and the environment;
- **Chapters 8 to 21** – Topic papers, based on the SA objectives describing the following in relation to each topic:
  - The character of the East Midlands;
  - Relevant plans and programmes;
  - Key issues relating to the topic and their likely evolution without the Regional Plan;
  - The sustainability ‘objectives’ and ‘sub-questions’ that were developed for use in the appraisal;
  - Significant positive and negative effects of the regional and sub-Regional strategies (Parts 1 and 2 of the Regional Plan);
  - Cumulative effects;
  - Uncertainties in the appraisal process; and
  - Monitoring and implementation.

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(please note that some of the policy references in these sections may refer to the policy numbering system included in the draft plan).

- **Chapter 22** – Summary and conclusions.

In addition the following appendices are included:

*Appendix A - Supplementary Information to the SA*
- Appendix A – Update of the Review of plans and programmes

**APPENDIX B - Detailed Appraisal Matrices for the Plan incorporating the Proposed Changes and final changes to the plan (these matrices also include the assessment of Part 2 of the Regional Plan – the Sub-Regional Strategies):**
- Appendix B1 - Housing
- Appendix B2 - Health
- Appendix B3 - Access to the enjoyment of heritage, culture and recreation
- Appendix B4 - Community safety and crime
- Appendix B5 - Social capital
- Appendix B6 - Biodiversity
- Appendix B7 - Protection and enhancement of natural, cultural, built and archaeological assets
- Appendix B8 - Natural resources
- Appendix B9 - Waste
- Appendix B10 - Energy
- Appendix B11 - Transport and accessibility
- Appendix B12 - Employment opportunities
- Appendix B13 - Enterprise and Innovation
- Appendix B14 - Economic infrastructure
2.0  APPROACH TO THE SUSTAINABILITY APPRAISAL

2.1  INTRODUCTION

The appraisal of the draft Regional Plan was divided into four separate but complimentary processes and reported in four separate SA reports. The appraisal of Part 1 of the Regional Plan (Regional Strategy) was undertaken by LUC and GHK. The appraisal of Part 2 of the Regional Plan (the Sub-Regional Strategies) was undertaken by two separate parties. The appraisal of the Three Cities and the Northern Sub-Regional Strategies was undertaken by White Young Green consultants and the appraisal of the Lincoln Sub-Regional Strategy was undertaken by Lincolnshire County Council.

The sections below summarise the work that was undertaken for the SA of the draft Regional Plan:

2.2  SA OF THE DRAFT REGIONAL PLAN: PART 1

The work undertaken by LUC and GHK has been undertaken in four broad stages:

- Stage 1 – SA Scope, Context and Sustainability Issues;
- Stage 2 – SA of Options for Change Document;
- Stage 3 – SA of Part 1 of Version 3A of the draft Regional Plan; and
- Stage 4 - SA of Part 1 of Version 4C of the draft Regional Plan.

The key tasks undertaken for each of these stages is described in the following sections. This information is in a summarised form. For a fuller description see the September 2006 SA Report by LUC and GHK.

Stage 1 (Scoping) of the SA comprised the following key tasks:

- Review of the objectives and indicators of the IRS, and international, national and regional environmental protection, economic and social policy objectives and review of any other strategies, plans and programmes relevant to the East Midlands;
- Review of baseline information to identify and confirm the environmental, social and economic characteristics and trends of the East Midlands; and
- Identification of key sustainability issues (or problems) facing the East Midlands and development of the SA Framework.

Stage 2 (SA of Options for Change Document) comprised the following key tasks:

- Appraisal of the draft Regional Plan objectives; and
Appraisal of the housing growth and spatial options (as shown below):

- Limiting Growth (below trend): This was based on the ODPM Projections less 20% and implied a reduction in projected in-migration from other regions.
- Trend Based Growth: Based on the ODPM Projections. This implied a level of housing growth of about 13,700 new dwellings per year. This was higher than the current RPG8, but recent levels of actual development have running at around 13,500 new dwellings per year.
- Going for Growth (above trend): This was based on the ODPM Projections plus 20% and implies maximising in-migration from neighbouring regions, in particular the ‘Wider South East’.

Stage 3 SA of version 3A of the Draft Regional Plan comprised of the following key tasks:

- A full appraisal in order to inform the development of subsequent versions; and
- The production of an Interim SA Report summarising the findings of the SA.

Stage 4 SA of final draft Regional plan and consultation on SA Report comprised of the following key tasks:

- A full SA of Part 1 of the final draft Regional Plan was undertaken in August 2006 by LUC and GHK; and
- Incorporation of the results of the four Sub-Regional Strategies that comprise Part 2 of the plan:
  - Three Cities Sub-Region – this was appraised by White Young Green using the SA Framework developed by LUC and used for Part 1 of the Plan;
  - Northern Sub-Region – this was also appraised by White Young Green using the SA Framework developed by LUC and used for Part 1 of the Plan;
  - Lincoln Policy Area – this was appraised by Lincolnshire County Council using the SA Framework developed by LUC and used for Part 1 of the Plan;
  - Milton Keynes South Midlands Sub-Region – this was adopted by the Secretary of State in March 2005. It remains largely unaltered by the review of the Regional Plan, except for two alterations relating to housing provision. Provisional housing figures for the Northampton Implementation Area are being reviewed separately from December 2006 due to an earlier legal challenge. The second alteration is a continuation of build rates for new dwellings for the period 2021 to 2026. These figures are reflected in Parts 1 and 2 of the Plan and have been appraised as part of the SA of Part 1.
Three Cities Sub-Regional Strategy

The following options were tested as part of the SA:

- Do Nothing and promote development following RSS criteria;
- Sub Regional Strategy to promote development in Principal Urban Areas and for local needs / urban consolidation / on small scale windfalls following RSS criteria;
- SRS to promote development in Principal Urban Areas / Sub Regional Centres (or Larger Main Towns) and for local needs / urban consolidation / on small scale windfalls following RSS criteria;
- SRS to promote development in Principal Urban Areas / Sub Regional Centres / Other Main Towns and for local needs / urban consolidation / on small scale windfalls following RSS criteria; and
- SRS to promote development in Principal Urban Areas and permit development in other locations (including a new settlement) following RSS criteria.

An initial draft of the SRS was also appraised using the SA framework and the results were provided to the six Local Planning Authorities on 16 August 2006 prior to finalization of the draft SRS text.

Northern Sub-Regional Strategy

The following options were tested as part of the SA:

- Do Nothing and promote development following RSS criteria;
- SRS to promote development in & adjoining Sub Regional Centres and for local needs following RSS criteria;
- SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria;
- SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria PLUS permit employment regeneration based development in other locations where the public benefit arising from enhancing green infrastructure is significant; and
- SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria PLUS permit regeneration based development in other locations.

An initial draft of the SRS was appraised by using the SA framework. An interim draft of this Sustainability Report was provided to Nottinghamshire and Derbyshire County Councils on 15
August 2006 prior to finalisation of the draft SRS text, the Local Planning Authorities determined that no significant changes were required.

**Lincoln Sub Regional Strategy**

The following options were tested as part of the SA:
- Commitment/urban capacity;
- 30% growth; and
- Super growth option.

The spatial options were tested and the potential sustainability advantages and disadvantages of each option were identified. The policies contained within the SRS were also appraised and this was reported in the SA report written by Lincolnshire County Council.

### 2.4 THE APPROACH TO THE SA OF THE PROPOSED CHANGES AND FINAL VERSION OF THE PLAN

**The approach to the review of plans, policies and programmes and baseline data**

It is not necessary under SEA regulations or SA guidance to update the review of plans, policies and programmes or the sustainability baseline. However, it was felt that some updating would be useful where new policies, plans or baseline data have been developed/reported since the original SA Report was written. Therefore, at the Proposed Changes stage, the review undertaken as part of the September 2006 SA Report was updated to include the significant plans, policies and programmes that have been published since September 2006 and easily available baseline data that would be applicable to the policy changes that have been made. Please see Section 3.1 and Appendix 1A for more details. Further data has also been added regarding conditions in the sub regions. This information has been taken from the Sub Regional Strategy SA reports. Please see Section 3.1 and 3.2 for more details. The baseline data and policy reviews have not been updated at the final SA stage because the changes that have been assessed at this stage are minimal. Therefore, all of the baseline data in this Consolidated SA report refer to those updated at the Proposed Changes SA stage.

**The approach to the assessment**

The purpose of this stage of the appraisal is to ensure that any significant changes to the Regional Plan as a result of the Panel Report, other representations and policy changes, are assessed in terms of their potential impact on sustainability within the region. This reflects ODPM SA guidance which
states that sustainability appraisal carried out at this stage of the RSS should focus on the significant changes made by the Secretary of State that have hitherto not been appraised.

The best way to ensure that the appraisal focuses on key changes would be to appraise only those policies that are new or have changed significantly and then analyse how this may have changed the effects of the plan overall. However, the SA Report produced by LUC and GHK in September 2006 does not include a stand alone appraisal matrix for each policy/set of policies but is organised according to each sustainability criteria (see section 5.2 of this report for a fuller explanation), therefore it is difficult just to appraise the policies that are new or are significantly changed as any change made will effect all of the appraisal matrices. This has required the following approach to be developed:

- Where any changes were made to the plan the appraisal matrices were checked to ensure their conclusions remain valid. Where changes are made these have been highlighted in red italic (for changes made at the Proposed Changes stage) and green italic (for changes made at the final plan stage);
- Where new policies were added these were appraised as new and added to the appraisal matrices;
- To bring together the appraisals of Part 1 and Part 2 of the Regional Plan to ensure that the plan is appraised as a whole, the results of the appraisal of the Sub Regional Strategies was added to the appraisal matrices and updated to reflect any policy changes; and
- The effect of the changes to the plan on each sustainability criteria as a whole was updated through updating the section of the appraisal matrices on cumulative effects.

**The SA framework and scoring system**

The same SA framework and significance scoring system has been used for the appraisal of the Proposed Changes and the final plan as has been used for previous appraisals of the plan. This is in order to ensure that the changes to the plan are assessed against the same model of sustainability as previous versions.

In common with the sustainability appraisals undertaken on the previous versions of the plan, the following questions were used to determine whether an effect is likely to be significant:

- Whether the effect is likely to be permanent or temporary;
- The likelihood of the effect occurring;
- The scale of the effect (e.g. whether it will affect one location or a wide area);
- Whether it will combine with the effects of other policies and proposals to generate a cumulative effect greater than the effect of each individual policy or proposal;
- Whether there are policies elsewhere in the plan, or at a national level, that will help to mitigate adverse effects occurring or support positive effects;
The current status and trends in the environmental, social and economic baseline or characteristics of the area affected; and

Whether it is likely to affect particularly sensitive locations (e.g. landscapes, communities, habitats, historic buildings, etc., particularly those that are designated at the international or national level) or mean that thresholds might be breached (e.g. air quality standards).

To distinguish between types of effect, symbols have been used as shown in Table 2.1.

Table 2.1 Symbols used in the SA for recording the significance of effects

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>++</td>
<td>Significant positive effect</td>
</tr>
<tr>
<td>+</td>
<td>Positive effect</td>
</tr>
<tr>
<td>0</td>
<td>No or neutral effect</td>
</tr>
<tr>
<td>-</td>
<td>Negative effect</td>
</tr>
<tr>
<td>--</td>
<td>Significant negative effect</td>
</tr>
<tr>
<td>?</td>
<td>Uncertain effect</td>
</tr>
<tr>
<td>I</td>
<td>Dependant on implementation – could be a positive or negative effect</td>
</tr>
</tbody>
</table>

2.4 ASSUMPTIONS AND LIMITATIONS OF THE ASSESSMENT

Sustainability Appraisal is not a simple task. At the regional level, the task becomes even more challenging, as it is often necessary to understand the baseline situation and issues at a local level in order to make predictions about effects for the whole Region, therefore the scale of the task increases. For this reason, managing the assessment within the time and resource constraints and ensuring that the SA has the opportunity to influence the development of the plan has been a challenge.

There have been a number of uncertainties throughout the SA process:

- There have been difficulties in interpreting data in relation to the balance of jobs and homes, due to the limitations of different data sets and the fact that new household projection figures only became available from the Office of National Statistics (ONS) during the latter stages of the Plan’s development;
- Since many of the effects of the plan will be at the local scale (e.g. with respect to landscape and biodiversity), it has not been possible to assess with certainty whether the effects are likely to be positive or negative, despite policies in the plan that aim to protect and enhance the environment (in many instances this will need to be examined further in the preparation of Local Development Frameworks);
- Although housing numbers have changed they have not changed in way that has significantly changed the jobs/homes balance (see section 7 of this SA report). Therefore, it is difficult to assess whether any changes in housing numbers are significant.
Throughout the SA process, the assessment has had to make use of professional judgement. This has been backed up by baseline information and evidence provided by EMRA and GOEM. In all instances the reasons for judgements have been recorded in order to ensure that the basis of the assessment is as transparent as possible.

The SA has been undertaken on the basis of the likely effects of implementation of the Regional Plan, rather than what the Regional Plan aspires to achieve. Judgements have been made on the basis of:

- The current sustainability issues and trends facing the Region;
- The likely influence of the plan on these trends compared to other factors (e.g. Government policy and funding priorities, market forces, other regional strategies, plans and programmes); and
- The powers and mechanisms available to the planning system to achieve what the plan aims to achieve.
3.0 REVIEW OF OTHER PLANS AND PROGRAMMES

3.1 REVIEW OF OTHER STRATEGIES, PLANS AND PROGRAMMES RELEVANT TO THE EAST MIDLANDS

The SEA Directive (Annex 1e) requires ‘the relationship (of the Regional Plan) with other plans and programmes’ and ‘the environmental protection objectives established at the international, EC or national level, which are relevant to the plan…and the way those objectives and any environmental considerations have been taken into account during its preparation’ to be set out.

Key environmental protection objectives established at the EC level relevant to the Regional Plan include those contained in the Directive on the Conservation of Wild Birds (The Birds Directive, 79/409/EEC) and the Directive on the Conservation of Natural Habitats and Wild Flora and Fauna (The Habitats Directive, 92/42/EEC), which together establish a legislative framework for protecting and conserving Europe’s wildlife and habitats. The Directives implement in Community law the international requirements of the Bonn Convention on the Conservation of Migratory Species and the Bern Convention on the Conservation of European Wildlife and Natural Habitats. However, the review of environmental protection objectives goes beyond those specifically mentioned in the SEA Directive, to include other international objectives for environmental protection (e.g. Kyoto Protocol to the UN Convention on Climate Change, 1992), other EU Directives (e.g. Water Framework Directive 2000/60/EC), national environmental objectives (e.g. Planning Policy Statement 9 Nature Conservation), and regional environmental policy objectives (e.g. The Regional Environment Strategy). The review also includes social and economic strategies, plans and programmes at the national and regional level that were considered to be relevant to the Regional Plan.

The East Midlands Integrated Regional Strategy brings together a range of environmental, social, economic and spatial strategies to ensure policies are integrated at the regional level to help move the Region towards its vision, objectives and priorities. The IRS provided the primary reference point for developing the SA Framework (see Appendix A3). In addition, the information generated during the review of relevant plans and programmes was cross-checked against the SA Framework and has been used as a reference point during the SA.

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The Regional Plan provides the spatial expression of many of the region’s environmental, social, economic strategies and is therefore vital to the delivery of a range of regional policy objectives and targets. For example, the Regional Water Resources Strategy and Water Company’s Water Resource Management Plans set out the necessary infrastructure requirements to maintain an appropriate supply/demand balance in the Region which will need to be supported through the Regional Plan and delivered at Local Planning Authority level.

The Regional Economic Strategy is a key regional strategy and its alignment with the Regional Plan is essential to working towards more balanced and sustainable patterns of housing and employment development. Some regional strategies such as the Regional Flood Risk Assessment and Biodiversity Strategy can influence the extent, location and quality of new development in the region. The majority of strategies have established partnerships between relevant public private and voluntary sector organisations to bring about change which, when considered in conjunction with the policies of the Regional Plan, could result in cumulative impacts.

A review of the strategies, plans and programmes relevant to the Regional Plan has been undertaken as part of the SA and is set out in Appendix A1. This is an update of the review included in the SA Report of the draft Regional Plan in September 2006 and includes only the new plans and policies that have been reviewed. The strategies, plans and programmes that have been added to this review are:

- PPS 10 – Planning for Sustainable Waste Management (2005);
- Climate Change: The UK Programme (2006);
- PPS3: Housing (2006);
- PPS25: Planning and Flood Risk (2006);
- Waste Strategy for England and Wales (2007);
- Meeting the Energy Challenge: a White Paper on Energy (2007);
- Heritage White Paper – Heritage Protection for the 21st Century (2007);
- PPS1: Planning and Climate Change - Supplement to Planning Policy Statement 1 (2007);
- Homes for the future: more affordable, more sustainable - Housing Green Paper (2007);
- A Water Resource Strategy for the East Midlands (2006);
- East Midlands Innovation Strategy (2007-2010); and

These policy reviews have been used to inform the assessment of the policies in the plan.
3.2 REVIEW OF BASELINE INFORMATION

The purpose of the review of baseline information is to provide the basis for prediction and monitoring of the likely effects of the Regional Plan – i.e. the reference point for each of the objectives and detailed questions in the SA Framework. The Interim Data Report (February 2005) and Scoping Report (April 2005) provided a description of the preliminary baseline information gathered under each of the high level objectives and detailed questions and obvious gaps in available data where known were highlighted.

The earlier review of baseline information helped to identify key sustainability issues, the current situation, and trends (i.e. whether the situation is getting better or worse, and/or whether it is near any known thresholds). In this way, it provided the background for the economic, environmental and social ‘character’ or condition of the Region in relation to each topic described in Chapters 8 to 21 which meets the requirement under Annex 1(b), (c) and (d) of the SEA Directive to describe: “the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme; the environmental characteristics of areas likely to be significantly affected; any existing environmental problems which are relevant to the plan or programme, in particular those relating to any areas of a particular environmental importance”.

Since the work done in SA Stages 1 and 2, other sources of baseline data have proved useful, particularly the technical reports of research commissioned by EMRA or other bodies (e.g. the East Midlands Regional Development Agency, EMDA) that have informed the Regional Plan. The baseline included at the beginning of each of the 14 Topic Papers reflects key new baseline information, and specific data and reports have been referenced throughout the appraisal matrices and findings of the SA.
4.0 THE CHARACTER AND SUSTAINABILITY ISSUES OF THE EAST MIDLANDS

4.1 INTRODUCTION

Annex 1 of the SEA Directive requires a description to be provided of:

"the environmental characteristics of areas likely to be significantly affected [by the plan]"

This chapter of the SA Report sets out the environmental characteristics of the East Midlands. The description is extended to include social and economic characteristics in accordance with the ODPM SA Guidance. The aim is not to present all issues relevant to the character of the East Midlands, but to draw out those that are particularly significant and relevant to the preparation of the Regional Plan, and the SA process. The chapter is divided into three main sections:

- A general description of the character of the East Midlands;
- Specific descriptions of the character of the ‘Sub-Areas’; and
- The relationship of the East Midlands with surrounding regions.

4.2 THE CHARACTER OF THE EAST MIDLANDS

The East Midlands is home to around 4 million people, and geographically is the fourth largest region in England. The Region’s population has grown at a faster rate than the national average in recent years and the average age of the population is increasing, particularly in rural areas.

The East Midlands has a distinctive ‘polycentric’ spatial structure. Its population is spread amongst the Principal Urban Areas of Nottingham, Leicester, Derby, Lincoln and Northampton and the smaller Sub-Regional Centres and market towns. The East Midlands is also a relatively rural region, with just under 30% of its population living in town and villages with populations of less than 10,000. It comprises the following counties:

- Derbyshire;
- Leicestershire;
- Lincolnshire;
- Northamptonshire;
- Nottinghamshire; and
- Rutland (Unitary Authority).
There are 46 local authorities, including the Peak District National Park.
Although the Region is relatively prosperous overall, spatial variations in health, employment and housing are quite marked in the East Midlands. Deprivation levels are also disparate. Areas such as Rutland, South Northamptonshire and Rushcliffe rank within the 10% least deprived in the country. Conversely, Nottingham and Leicester are within the 10% most deprived. Coronary heart disease and strokes kill more people in the East Midlands than any other disease, with the rate in some areas almost twice that of others. Cancer is the second most common cause of death in the East Midlands, with significant inequalities within the Region.

A strong urban-rural split exists within the Region. The rural areas have a relatively higher representation of older people, and the cities have a relatively younger age structure. Key Stage 2 attainment levels are higher in rural districts for all subjects, and the percentage of people in rural districts of the region with no qualifications is generally less than in urban districts of the Region, especially Leicester and Nottingham. However, in parts of Lincolnshire, hidden unemployment is a problem and rural areas have a lower proportion of employees working in the high wage ‘knowledge economy’. Rural Leicestershire has the highest proportion of parishes without a post office. Rutland has the lowest proportion of parishes without village shops and public houses.

The East Midlands economy, in general, is performing well with strong overall growth in Gross Value Added (GVA) since 1995. Given this context, the most notable issues from an economic point of view are:

- Around half of the Region’s economy is in and around the three cities of Derby, Leicester and Nottingham. This is where the best transport links, the largest companies and the most Research and Development activity (R&D) are to be found;
- The eastern part of the region, particularly the Lincolnshire coast, is poorly performing, and suffers from poor access although parts of the Eastern Sub-Area have recently led economic growth above the Regional average;
- The former coalfields to the north of the Region have undergone a major economic restructuring over the last 20 years and are still performing relatively poorly. The southern part of the Region has generally been performing well;
- Despite the generally strong economy, the Region is an exporter of people with higher level skills. This affects all parts of the Region, but in particular areas such as Lincolnshire where the need for skills to help regenerate the economy is most acute;
- Primary industries, such as agriculture (which will be affected by changes to the EU Common Agricultural Policy - CAP), mineral extraction, and energy production are significant sectors in
the Region. Such industries tend to generate less income and can be vulnerable to external pressures; and

- The Region has historically relied heavily on manufacturing which, although reducing, is still a major employer. The Region will be adversely affected by a continuing decline in this sector in future years.

The social character of the Region only partly mirrors that of the economy:

- Deprivation is concentrated in pockets of the major cities, particularly Nottingham and Leicester, the Lincolnshire coast and the former coalfield areas of north Derbyshire and north Nottinghamshire;
- The East Midlands generally has a low crime rate, although there are significant variations across the Region;
- Overall, the health of people in the Region is similar to that of the country as a whole. Differences in health within the Region generally reflect the pattern of deprivation;
- For first-time buyers, the house price - income ratio for the East Midlands is less than the England average, although house prices are rising faster. The southern part of the Region is where affordability is at its most acute. A significant amount of the rental housing stock in Derby, Leicester and Nottingham is sub-standard; and
- The average age of the population is increasing, particularly in rural areas.

Transport and accessibility in the Region varies significantly dependent upon location:

- Most of the main rail and road routes in the Region are north-south, and run through the western part of the Region. East-west routes, and the eastern part of the Region, are relatively poorly provided for;
- Rural areas are becoming increasingly inaccessible for those without a car due to a decline in public transport services, and the closure of community and shopping facilities in smaller towns and villages; and
- The East Midlands has one of the highest increases in the UK in road traffic since 1993.

The picture of the Region from an environmental point of view is mixed:

- Biodiversity levels are amongst the lowest in England, largely reflecting the significant proportion of high-grade agricultural land and associated intensive farming. Fragmentation of habitats is a major issue;
- The east coast, such as The Wash, has a number of sites of international significance for nature conservation. Upland Derbyshire is also important for biodiversity;
• The Region’s landscape is not perceived as being as dramatic as in other parts of England, with the exception of the Peak District National Park. The Lincolnshire Wolds is the only AONB. Landscape quality has been declining;
• The Region has significant historic and cultural heritage, under threat from development, including road building and mineral extraction, poor or inappropriate management or neglect and agricultural practices;
• Woodland cover is below the UK average, although there are initiatives to increase this, most notably the National Forest;
• Air quality appears to be better than the national average, although worse along the main road routes;
• Overall water quality is generally good, although in parts of the Region pollution from agriculture is an issue; and
• The Region generates a significant amount of waste. Its household recycling rates are higher than the national average and improving, but still low overall.

Climate change is likely to be a significant issue in the future:
• The Region experiences seasonal water shortages, particularly in parts of Lincolnshire, and there is little potential for additional supplies from existing surface water resources – a situation which is likely to be exacerbated by climate change and additional development, unless measures are taken to use water more efficiently or develop new sources of supply; and
• A significant part of the Region is already at risk of flooding, including low-lying land in the east, and land adjacent to the River Trent. Although the level of flood defences means the most vulnerable areas are protected, the risk of flooding is likely to increase with climate change.

4.3 KEY CHARACTERISTICS OF THE SUB AREAS
For the purposes of the existing Regional Plan, the East Midlands was divided into five Sub-Areas, some of which contain Housing Market Areas (HMAs). Figure 4.1 shows the location of the Sub-Areas and HMAs in the Region, which are listed below:

Northern Sub-Area: comprising the former coalfields of north Derbyshire and north Nottinghamshire
• Newark/Ashfield/Mansfield (Nottingham Outer) HMA
• Northern (Sheffield/Rotherham) HMA
• Peak Sub-area/Peak, Dales and Park HMA
Southern Sub-Area: comprising Northamptonshire and the southern part of Leicestershire
- Northampton (West Northamptonshire) HMA
- Corby/Kettering/Wellingborough (North Northamptonshire) HMA

Three Cities Sub-Area: comprising Derby, Leicester and Nottingham and their hinterlands
- Derby HMA
- Leicester and Leicestershire HMA
- Nottingham Core HMA

Eastern Sub-Area: comprising Lincolnshire, Rutland and parts of Leicestershire and Nottinghamshire
- Coastal Lincolnshire HMA
- Central Lincolnshire HMA
- Peterborough Partial HMA

Peak Sub-Area: comprising the Peak District National Park and surrounding upland areas
- Peak Dales and Park HMA
This section describes the key social, economic and environmental characteristics of each of these Sub-Areas.

**Northern Sub-Area**

- The Northern Sub-Area has experienced major industrial change as a result of the decline of the coal industry. 9% of wards in the Region are within the 10% most deprived in the country, with the northern coalfields particularly affected. In Bolsover over 50% of wards are within the 10% most deprived.

- There is an oversupply of poor quality housing in this Sub-Area due to the legacy of declining industries. North Derbyshire and North Nottinghamshire have relatively low wages and a concentration of low-paid employment in Small and Medium Enterprises.

- The Sub-Area has undergone a rapid decline in biodiversity and 70% of scarce plant species have become extinct since 1970. Areas of important landscape and biodiversity value can be found in the Sub-Area, such as Sherwood Forest. The Sub-Area has notable historic heritage, including Creswell Crags, Bolsover Castle and the Dukeries Estates of North Nottinghamshire.
Southern Sub-Area

- The Southern Sub-Area has experienced particularly rapid growth since the 1960’s. It includes the Principal Urban Area of Northampton and the Sub-Regional Centres of Corby, Kettering, Wellingborough and Daventry.
- The Sub-Area has generally been performing well economically due to its proximity to London and the South East. Northamptonshire is experiencing an increasing presence of service sector activity, and now has a lower proportion of employment in manufacturing than services. Corby has experienced severe economic and social problems resulting from the decline of the steel industry, but is now starting to show signs of growth and regeneration.
- The lack of affordable housing is a key issue in this Sub-Area.
- The Sub-Area has many historical assets, particularly large estates and country houses, although it has seen a rapid decline in biodiversity. Northamptonshire contains significant areas of ancient woodland, such as Rockingham Forest.

Three Cities Sub-Area

- The Three Cities Sub-area contains the largest cities in the Region, Derby, Leicester and Nottingham, and is the most urbanised part of the East Midlands. The three cities are the commercial, administrative and cultural hub of the Region.
- All three cities have seen growth in GVA above the national average, however unemployment rates are still relatively high, with an increasing level of social exclusion. The Three Cities Sub-Area had a relatively high proportion of employment in manufacturing, but has recently seen an increasing presence of public and service sector activity. The Sub-Area has the lowest dependency on small employers and a concentration of universities and major firms. East Midlands Airport (EMA) is important to the economy of the Region.
- The cities have relatively high levels of poor quality housing. Nottingham and Leicester are the 14th and 23rd most deprived districts in England in terms of employment deprivation and the 10th and 12th most deprived districts in terms of income deprivation. Nottinghamshire has a relatively high crime rate, and low wages and skills.
- Nottingham City has the largest population in the Region. It is the key economic centre in the Region. However, it also has the lowest employment rate and is the area of the lowest average earnings for males, with increasing risks of social polarisation. There is a high level of dereliction.
- Leicester has the second largest population in the Region and the highest ethnic population at 36%. Employment is concentrated in declining industries such as manufacturing. Unemployment is higher than the national average and a high proportion of residents have low basic skill levels.
• Derby has GVA above the regional and UK average, and in the period 1995-2001 saw significant growth in GVA of 64%. Its unemployment is about the national average, although it has a high level of dependency on manufacturing.

• There is a significant risk of flooding in the River Trent floodplain.

• The urban centres include significant historic heritage, from medieval through to industrial times (e.g. the Adams Building in Nottingham). Leicester has significant Roman archaeology including the standing remains of the Jewry Wall.

Eastern Sub-Area

• This Sub-Area comprises the eastern third of the Region. With the exception of the Wolds, the land is generally low and flat. As a result, many of the main towns and cities were sited on higher ground to avoid flood risk. Parts of the Eastern Sub-Area are at significant risk from natural hazards and the Sub-Area experiences considerable development pressure. The Sub-Area experiences low rainfall.

• The Lincolnshire coast is an area of economic disadvantage. Places such as Skegness, Mablethorpe and Sutton on Sea suffer from high levels of deprivation much of it due to a decline in traditional tourism. The Sub-Area has low unemployment and the lowest level of wages in the Region. There are affordable housing gaps and deprivation in the more inaccessible rural areas.

• The Sub-Area is characterised by an ageing rural population. It experiences relative isolation and poor transport infrastructure. Parts of the Sub-Area also have poor access to health services.

• This Sub-Area has a significant proportion of high quality Grade 1 and 2 agricultural land, associated with large, arable landholdings. It is generally characterised by relatively low levels of biodiversity. However, the water environments of the Lincolnshire Coast, The Wash and Rutland Water have been recognised as outstanding in biodiversity terms. The chalk grasslands of the Lincolnshire Wolds are also important.

• The Sub-Area has the highest number of listed buildings (6,936) in the region. Lincoln is one of the Region’s finest historic settlements and the Lincolnshire coast is an area of historic importance, particularly for its buried archaeology.

Peak Sub-Area

• The Peak Sub-Area has the only National Park in the region - the Peak District. It covers over 5% of the land area of the Region and consists of dramatic upland moorland and limestone dales landscapes and is important for its historic interests. The Sub-Area has the highest rainfall in the Region.

• It has high levels of biodiversity associated with the National Park. Over a third of the land area is designated as Sites of Special Scientific Interest (SSSIs). It has a high concentration of upland
oak and ash woodlands. However, the Sub-Area has experienced recent, significant loss of flower rich hay meadows due to agricultural intensification.

- Quarrying and to a lesser extent lead mining has shaped parts of the landscape of the Sub-Area. The tourism and visitor economy is important, but high visitor numbers can place heavy pressure on infrastructure and the natural environment.
- The Sub-Area has pockets of deprivation, some of which is due to a decline in hill farming. The Sub-Area is desirable for retirement homes and second homes, which is preventing first time buyers purchasing houses. Small concentrations of manufacturing can be found in the towns of the Peak District, although these are undergoing some restructuring.

4.4 **RELATIONSHIPS WITH NEIGHBOURING REGIONS**

The East Midlands is a very disparate Region and tends to be significantly influenced by the major urban areas in surrounding regions. Generally, each Sub-Area tends to reflect the character, and experience similar issues to, the region adjoining it. For example, Northamptonshire tends to reflect many of the characteristics of Milton Keynes and the South East. North Nottinghamshire and Derbyshire tend to reflect many of the characteristics and deprivation issues associated with southern Yorkshire.

**East of England**

- The East Midlands has several important transport links to the East of England including two main line railways and the M1. The A14 also provides links to the ports of Harwich and Felixstowe.
- Peterborough provides employment for many residents in neighbouring parts of the Region, particularly southern Lincolnshire.
- The south and eastern parts of the East Midlands also share relationships in terms of agricultural land and activity, flood risk and water shortages, and issues arising from climate change.

**West Midlands**

- There are strong transport links with the West Midlands along the A14/M6, M69, A38 and A50 and the West Coast Main Line, as well as other smaller roads and railway links. Residents of the western parts of Region are often likely to work in places such as Nuneaton, Coventry, Rugby, Tamworth and Birmingham. However, the influence of the West Midlands Conurbation is to a large extent balanced by that of the Three Cities Sub-Area.
- The Peak District National Park is a major recreational resource to those living in the north of the West Midlands. The National Forest crosses the West-East Midlands boundary from Burton-upon Trent to South-west Derbyshire and into Leicestershire.
North West

- There are significant labour market relationships with Manchester and Stockport, and commuting between the two regions. Manchester, in particular, affects the housing market in this part of the region. The Peak District National Park is a major recreational resource for those living in the North West.

Yorkshire and Humber

- The primary relationship is the north-south transport route, including the M1 and the A1. Functional labour and housing markets also exist with the Sheffield/Rotherham conurbation and between Grimsby/Cleethorpes and parts of Lincolnshire. The Peak District National Park is a significant recreational resource to residents of south and west Yorkshire.

South East

- The growth of London and the South-East has a substantial effect on the southern part of the East Midlands, particularly the Southern Sub-Area. Important transport links include three mainline railways and the M1. These facilitate a significant amount of commuters into the London area. This in turn has resulted in increases in house prices in Northamptonshire and South Lincolnshire.
- In addition to the Greater London labour market there are also labour market links with Milton Keynes and Banbury. Parts of the Southern Sub-Area are included within the Government’s Sustainable Communities Plan Milton Keynes and South Midlands Growth Area.
5.0 SA FRAMEWORK

5.1 THE DEVELOPMENT OF SA OBJECTIVES

The SA objectives are shown in Table 5.1 below. These have been taken from the Integrated Regional Strategy, which ‘draws together the key issues and challenges for the region,’ reflects both national policies and specific regional issues and concerns, drew on a wide range of expertise and extensive consultation, and was endorsed by key regional organisations including the Regional Assembly. However, the objectives have been altered where necessary to meet the requirements of the SEA Directive and to address issues that were identified during the baseline data collection. The Proposed Changes and the final version of the plan have been appraised against the same SA framework that has been used for previous appraisals of the plan. This is in order to ensure that the changes to the plan are assessed against the same model of sustainability as previous versions of the Regional Plan.

Table 5.1: SA framework objectives

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To ensure that the housing stock meets the housing needs of the Region</td>
</tr>
<tr>
<td>2.</td>
<td>To improve health and reduce health inequalities</td>
</tr>
<tr>
<td>3.</td>
<td>To provide better opportunities for people to value and enjoy the Region’s heritage and participate in cultural and recreational activities</td>
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<tr>
<td>4.</td>
<td>To improve community safety, reduce crime and the fear of crime</td>
</tr>
<tr>
<td>5.</td>
<td>To promote and support the development and growth of social capital across the Region</td>
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<tr>
<td>6.</td>
<td>To increase biodiversity levels across the Region</td>
</tr>
<tr>
<td>7.</td>
<td>To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the Region</td>
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<tr>
<td>8.</td>
<td>To manage prudently the natural resources of the Region including water, air quality, soil and minerals</td>
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<tr>
<td>9.</td>
<td>To minimise waste and increase the re-use and recycling of waste materials</td>
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<tr>
<td>10.</td>
<td>To minimise energy usage and to develop the Region’s renewable energy resource, reducing dependency on non-renewable resources</td>
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<tr>
<td>11.</td>
<td>To make efficient use of the existing transport infrastructure, help reduce the need to travel by car, improve accessibility to jobs and services for all and to ensure that all journeys are undertaken by the most sustainable mode available</td>
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<tr>
<td>12.</td>
<td>To create high quality employment opportunities</td>
</tr>
<tr>
<td>13.</td>
<td>To develop a strong culture of enterprise and innovation</td>
</tr>
<tr>
<td>14.</td>
<td>To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies</td>
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</tbody>
</table>

Appendix A3 of the 2006 SA Report lists the objectives and provides an initial assessment of the suitability of the IRS objectives for use in the SA process. It also shows how the SA objectives were derived from the IRS objectives. Some of the IRS objectives include an element of ‘process’ as well
as ‘outcomes’. Process objectives have been reworded to make them more outcome orientated, where feasible. For example, the IRS objective “To improve health and reduce health inequalities by promoting healthy lifestyles, protecting health and providing health services” combines both an outcome element (To improve health and reduce health inequalities) and a process element (by promoting healthy lifestyles, protecting health and providing health services). For the purposes of the SA Framework, the outcome element has been included as the SA objective, and the process element as supporting sub-questions.

Sustainability sub-questions are used to clarify the meaning behind each headline SA objective. They provide guidance on what to look for in a plan in order to determine whether or not the SA objective is likely to be achieved. They are meant to act as a guide to the appraisal process rather than a requirement of the plan. However, they are also useful to ensure that the requirements of the SA and the SEA process are met and nothing is overlooked.

To fulfil the requirements of Annex 1 of the SEA Directive, the SA objectives must cover biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape, and interrelationships between them. Table 5.2 shows which SEA topic is covered by which objective. The numbers in the right hand column refer to the SA objective:

**Table 5.2 Relationship between SEAD topics and the East Midlands SA objectives**

<table>
<thead>
<tr>
<th>SEA Directive topics</th>
<th>Relationship to SA Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity</td>
<td>6. To increase biodiversity levels across the Region</td>
</tr>
<tr>
<td>Population</td>
<td>1. To ensure that the housing stock meets the housing needs of the Region</td>
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<tr>
<td></td>
<td>2. To improve health and reduce health inequalities</td>
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<tr>
<td></td>
<td>3. To provide for better opportunities for people to value and enjoy the Region’s heritage and participate in cultural and recreational events</td>
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<td></td>
<td>4. To improve community safety, reduce crime and fear of crime</td>
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<td></td>
<td>5. To promote and support the development of social capital across the region</td>
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<tr>
<td>Human health</td>
<td>2. To improve health and reduce health inequalities</td>
</tr>
<tr>
<td>Fauna</td>
<td>6. To increase biodiversity levels across the Region</td>
</tr>
<tr>
<td>Flora</td>
<td>6. To increase biodiversity levels across the Region</td>
</tr>
<tr>
<td>Soil</td>
<td>8. To manage prudently the natural resources of the region, including water, air quality, soil and minerals</td>
</tr>
<tr>
<td>Water</td>
<td>8. To manage prudently the natural resources of the region, including water, air quality, soil and minerals</td>
</tr>
<tr>
<td>Air</td>
<td>8. To manage prudently the natural resources of the region, including water, air quality, soil and minerals</td>
</tr>
<tr>
<td>Climatic factors</td>
<td>1. To ensure that the housing stock meets the housing needs of the Region</td>
</tr>
<tr>
<td></td>
<td>6. To increase biodiversity levels across the Region</td>
</tr>
<tr>
<td></td>
<td>7. To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the region</td>
</tr>
<tr>
<td></td>
<td>8. To manage prudently the natural resources of the region, including water, air quality, soil and minerals</td>
</tr>
</tbody>
</table>
|                      | 11. To make efficient use of existing transport infrastructure, help reduce the need to travel by car, improve accessibility to jobs and services for all and to ensure that all
### SEA Directive topics

<table>
<thead>
<tr>
<th>Relationship to SA Objective</th>
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<tbody>
<tr>
<td>journeys are undertaken by the most sustainable mode available</td>
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</table>

### Material assets

1. To ensure that the housing stock meets the housing needs of the Region
2. To improve health and reduce health inequalities
3. To provide for better opportunities for people to value and enjoy the Region’s heritage and participate in cultural and recreational events
5. To promote and support the development of social capital across the region
7. To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the region
8. To manage prudently the natural resources of the region, including water, air quality, soil and minerals
11. To make efficient use of existing transport infrastructure, help reduce the need to travel by car, improve accessibility to jobs and services for all and to ensure that all journeys are undertaken by the most sustainable mode available
14. To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies

### Cultural heritage

3. To provide for better opportunities for people to value and enjoy the Region’s heritage and participate in cultural and recreational events
7. To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the region

### Landscape

7. To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the region

### 5.2 SA OBJECTIVE APPROACH

Sustainability appraisals often follow the method of taking each policy in turn and appraising it against the SA objectives. However, an alternative ‘objective based approach’ was taken for the SA of the Regional Plan. A matrix was developed for each SA objective, and all policies were appraised against the 14 objectives. For example, the matrix developed for Objective 6: To increase biodiversity levels across the region had 6 columns in the rows across the top showing the sub-questions, and all of the Regional Plan policies along the vertical column down the left hand side.

There are a number of advantages to this ‘objective based approach’. These are outlined below:

- This approach allows the appraiser to focus on one topic e.g. biodiversity (objective 6), energy (objective 10) and appraise all policies in relation to this topic. This proved more straightforward than looking at one policy in turn and appraising it against all of the different objectives (or topics).
- The approach allowed topic papers to be produced for each SA objective. The topic papers are included in Chapters 8 to 21. Each topic paper describes the character of the East Midlands with respect to the topic (or SA objective), plans and programmes that are relevant to the topic, key issues relating to the topic and their likely evolution without the Regional Plan, and the sustainability ‘objectives’ and ‘sub-questions’ that were developed for use in the appraisal. The topic papers then present the findings of the effects of the Regional Plan on the SA objective, plus recommendations for improvement. Suggested changes to policy wording at included in Appendix B.
• The approach allows readers (in particular consultees) to focus on their area of expertise and read the topic paper relevant to their organisation/interest.

5.3 THE ROLE OF SA

The outcomes of the SA have tested and challenged policies in some areas. SA is not just a test of consistency with current Government policies: it should aim to help the Regional Plan work towards sustainability. According to the internationally accepted definitions, sustainable development is about reconciling a human aspiration – ‘meeting the needs of the present’, or ‘improving the quality of life’ – with a constraint: ‘not compromising the ability of future generations to meet their own needs’, or ‘living within the carrying capacity of supporting ecosystems.’ The sustainability appraisal needs to identify points where promoting one of these aims threatens another.

It should also be remembered that SA is only a tool. It does not make decisions. Inclusion of an SA criterion (for example on reducing air or road transport) does not instantly veto all road or air travel expansion. What it does do is ensure that the full range of sustainability consequences of options or choices are made clear so that ultimately political choices about policies can take these into account.
6.0  **HOW THE SA HAS INFLUENCED THE REGIONAL PLAN**

Chapter 2 of this SA Report outlines the input the SA has had to the development of the Regional Plan, since the SA began in December 2004. In addition to formal input into the process, there was frequent and regular communication between EMRA officers preparing the draft Regional Plan, the SA Steering Group and consultants undertaking the SA to debate issues and challenges as they arose (e.g. alternatives to be considered), share baseline information (e.g. maps) and discuss background to policy formation (e.g. housing distribution numbers).

There has been close liaison with the statutory environmental bodies throughout. For example environmental organisations in the region collaborated to produce a joint statement\(^{13}\) on environmental capacity which helped to highlight key environmental capacity issues and how these might be taken into account within the policy framework of the Regional Plan.

This chapter sets out in more detail the type of input the SA has made, and how SA recommendations have been taken on board by EMRA and influenced the development of the Regional Plan.

6.1  **SA COMMENTARIES ON EMERGING REGIONAL PLAN**

*Options for Change Consultation (October 2005)*

The SA of the Options for Change Consultation\(^{14}\) included two components: an appraisal of the Regional Plan objectives; and an appraisal of the housing growth and spatial options. This was the main stage at which reasonable alternatives were considered, as required by the SEA Directive. Further alternatives were considered in relation to individual policies of the Plan as it developed. To test for compatibility, a matrix was created plotting the SA objectives against the regional plan objectives. The relationship between each SA objective and each regional plan objective was given a score as defined below:

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\(^{14}\) Review of the East Midlands Regional Plan to 2026. Options for Change (EMRA, October 2005).
The appraisal of Regional Plan objectives showed a number of synergies with SA objectives. Whilst no strong incompatibilities or inconsistencies were identified a small number of potential conflicts and uncertainties arose. Many of these centred on the amount, location and nature of new development proposed in the region and how this will affect the quality of the urban and rural environment. Table 6.1 in the September 2006 SA report shows the results of the appraisal of the Regional Plan objectives.

The SA noted the importance of matching housing provision with housing demand and employment growth in order to ensure Principal Urban Areas continue to develop as places where people want to live and work. The SA concluded that the higher the housing growth rate (Option 3, 20% above ODPM trend growth rather than Option 1, 20% below ODPM trend growth), the more likely that:

- Affordable housing will be delivered and house prices overall will increase more slowly (although consultation responses queried whether this would happen in practice).
- Homes built will increase faster than jobs are created, which could increase out-commuting from the region.
- Pressure will be put on environmental resources such as water and minerals, and on environmental assets such as wildlife and the landscape.
- Total CO$_2$ emissions and waste generated by the region will increase.
- Investment will be available for improvements to the environment, community facilities, transport and other infrastructure.

The full findings of the SA of the options for change document were presented in the ‘Initial Sustainability of Options for Change’ (LUC and GHK: October 2005).
6.2 REASONS FOR SELECTING THE PREFERRED OPTION

The Initial SA of the Options for Change document found that a key issue in determining the sustainability of the proposed distribution of development will be the alignment between jobs and homes. If this is out of alignment, then increased commuting is likely to result. This is a significant issue since, in percentage terms, the trend is for the number of jobs in the less developed east of the region to increase at a faster rate than the number of jobs in the more urbanised west of the region, even though the total number of jobs will be considerably less.

It was noted therefore that, whilst the Urban Concentration and Regeneration Option had many sustainability advantages, the success of such an approach would be highly dependent upon the success of economic policy intervention to foster economic growth in the Principal Urban Areas, and planning policy to strengthen demand in the Principal Urban Areas as places where people want to live and work. The Government announced in June 2006 that the following locations in the East Midlands would, in principle, be awarded Growth Point status:

- Leicester/Derby/Nottingham (the ‘Three Cities’).
- Lincoln, Grantham and Newark.

The Growth Points initiative will provide Government funding and support for local communities who wish to pursue large scale and sustainable growth, including new housing. As a result, figures for housing provision in the Regional Plan incorporated the scale and extent of growth anticipated in these locations.

The SA highlighted the likely sustainability effects of each option, helping to inform decisions made by EMRA on the preferred options to be taken forward. The preferred option pursued for each Housing Market Area inevitably required balancing projected trends in household growth with the need to respect environmental capacity and balancing the advantages of strong urban concentration and regeneration, such as increased likelihood of delivering new services and facilities such as public transport, with the need to provide affordable housing in rural areas.

In ERMA’s view, the Regional Plan provides the most sustainable approach to meeting the development needs of the Region, taking into account the full range of environmental, social and economic factors. It is a Plan that seeks to accommodate a significant increase in growth, but with strong policy safeguard to ensure that the quality of development delivered is of the high standard.
Draft Interim Report (June 2006)
The draft Interim Report produced in June 2006\textsuperscript{15} provided an initial SA commentary for Version 3A of the draft Regional Plan. A number of the recommendations outlined in this report were taken on board in revised Versions of the draft Regional Plan. Key messages from the draft Interim Report are set out in Table 6.1.

Table 6.1 Key Messages from Draft Interim SA Report

<table>
<thead>
<tr>
<th>SA Objective</th>
<th>Key Message from Interim SA Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1: To ensure that the housing stock meets the housing needs of the region.</td>
<td>Insufficient detail to complete this appraisal.</td>
</tr>
<tr>
<td>Objective 2: To improve health and reduce health inequalities.</td>
<td>The draft Regional Plan is generally expected to result in positive effects on health. More emphasis could be placed on encouraging healthy lifestyles.</td>
</tr>
<tr>
<td>Objective 3: To provide better opportunities for people to value and enjoy the region’s heritage and participate in cultural and recreational events.</td>
<td>Good range of policies recognising the value of the region’s cultural assets. Effects of climate change e.g. from EMA proposals may adversely affect heritage and cultural assets.</td>
</tr>
<tr>
<td>Objective 4: To improve community safety, reduce crime and the fear of crime.</td>
<td>Policies in the draft Regional Plan are likely to result in positive effects on crime. Attention to the crime problems of Nottingham could be included in the East Midlands Regional Plan.</td>
</tr>
<tr>
<td>Objective 5: To promote and support the development of social capital across the region.</td>
<td>The majority of policies are expected to contribute positively to social capital in the region. There is a strong emphasis on regeneration in the draft Regional Plan which is expected to positively affect social capital. There could be more reference in the draft Regional Plan to the need to provide community facilities alongside development.</td>
</tr>
<tr>
<td>Objective 6: To increase biodiversity levels across the region.</td>
<td>There are a good range of policies in the draft Regional Plan covering biodiversity issues. There is a need for more explicit reference to Natura 2000 sites in the Strategy. There is a need to make reference to Biodiversity Conservation and Enhancement Areas. Policies need to recognise the need to help biodiversity to adapt to climate change.</td>
</tr>
<tr>
<td>Objective 7: To protect and enhance the rich diversity of the natural, cultural and built, environmental and archaeological assets of the region.</td>
<td>There are strong policies in the draft Regional Plan to protect the region’s natural, cultural, built, environmental and archaeological assets. There may be a potential conflict between the protection and enhancement of the built environment and development pressures in the East Midlands. It may be difficult to achieve all of the aims set out in Policy 25: Protecting and Enhancing the Region’s Natural and Cultural Assets. The impacts of transport development may adversely alter the landscape of the Region. The draft Regional Plan is likely to result in a reduction in the extent of tranquil areas in the Region.</td>
</tr>
<tr>
<td>Objective 8: To manage prudently the natural resource capacity is a major concern in the Region. Sewage Treatment Works are at risk of a lack of capacity in the future in some areas</td>
<td>Water resource capacity is a major concern in the Region. Sewage Treatment Works are at risk of a lack of capacity in the future in some areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SA Objective</th>
<th>Key Message from Interim SA Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>resources of the region, including water, air quality, soil and minerals.</td>
<td>of the Region. Many of the East Midlands Regional Plan policies are expected to have positive effects on soil in the Region, but potential loss of Best and Most Versatile Land is a concern in the Eastern Sub-Area. Large areas of the East Midlands are in zone 2 or 3 flood risk, although there are many areas which are adequately defended. There are a large number of policies in the draft Regional Plan that are likely to lead to improvements in air quality, but transport policies could go a lot further to reduce traffic, as this is the main cause of air pollution problems.</td>
</tr>
<tr>
<td>Objective 9: To minimise waste and increase the reuse and recycling of waste materials.</td>
<td>The targets of zero growth in waste by 2016 and recycling targets are welcomed but dependent on delivery. Need for guidance on the mix of waste treatment technologies to be pursued. Sub-Area guidance welcomed but need for a policy on the siting of waste management infrastructure.</td>
</tr>
<tr>
<td>Objective 10: To minimise energy usage and to develop the region’s renewable energy resource, reducing dependency on non-renewable resources.</td>
<td>Some significant positive effects on energy are expected to arise from the implementation of the draft Regional Plan. A large number of significant negative effects on energy are likely to arise from the draft Regional Plan. The energy policy does not contain targets for energy reduction. Expanding the East Midlands Airport is likely to have significant implications on energy use and greenhouse gas emissions. Climate change mitigation and adaptation are not well addressed in the Strategy.</td>
</tr>
<tr>
<td>Objective 11: To make efficient use of existing transport infrastructure, help reduce the need to travel by car, improve accessibility to jobs and services for all and to ensure that all public transport journeys are undertaken by the most sustainable mode available.</td>
<td>Improvements to public transport services and modal shift for freight industry are welcomed. Reducing the need to travel needs to be at the heart of the Regional Plan.</td>
</tr>
<tr>
<td>Objective 12: To create high quality employment opportunities.</td>
<td>Policies in the draft Regional Plan are generally supportive of creating high quality employment opportunities. Policies in the Plan seek to accommodate rather than restrict growth in the Southern Sub-Area. The impact on rural areas is hard to assess.</td>
</tr>
<tr>
<td>Objective 13: To develop a strong culture of enterprise and innovation.</td>
<td>Policies are generally supportive of the objective to develop a strong culture of enterprise and innovation.</td>
</tr>
<tr>
<td>Objective 14: To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies.</td>
<td>Policies are generally supportive of the objective to provide the physical conditions for a modern economic structure. How far the policies provide land of the right type depends on whether there is any constraint on the property market. Structural change, the knowledge economy and expansion of office based activity implies that existing settlements are well suited.</td>
</tr>
</tbody>
</table>

Version 3A was subsequently strengthened for the draft version. Key areas of the draft Regional Plan where improvements have been made since Version 3A of the Plan include:

- The need to develop green infrastructure is now highlighted extensively in the Regional Plan.
• The Plan aims for carbon neutrality in all development that requires an EIA, promotes operational carbon neutrality wherever practicable and aims to reduce energy demand.
• The Derwent Valley Mills World Heritage Site is given specific protection.
• The need to protect and enhance the historic and cultural assets and the countryside of the Region is better reflected within a number of policies of the Plan.
• The need to develop the rural economy is now given better coverage.
• Natura 2000 sites are given a significantly higher level of protection.
• Reference to Biodiversity Enhancement Areas and Biodiversity Conservation Areas, as outlined in the Regional Biodiversity Strategy, is now made in the supporting text.
• The Plan contains a significant amount of additional detail on water resources and water quality.
• Policy 35: A Regional Approach to Managing Flood Risk now specifically outlines Derby, Nottingham and Newark as priority areas for Strategic Flood Risk Assessments.
• Ambitious targets for renewable energy now included in the Plan.
• Criteria for the location of waste management facilities are now included in the Plan.
• Policy 41: Core Strategy and Regional Transport Objectives now aims the rate of traffic growth to be reduced to at least zero by the end of the Plan period.

**SA of the Draft Regional Plan (September 2006)**

The appraisal of the Part 1 policies found that:
• Housing provision likely to meet identified needs but there are uncertainties of delivery in relation to water resources and biodiversity;
• The draft Regional Plan is generally expected to result in positive effects on health but more emphasis could be placed on encouraging healthy lifestyles;
• There is a good range of policies recognising the value of the region’s cultural assets but some aspects of housing and transport policies are likely to increase pressure on cultural assets and distinctiveness;
• Policies in the draft Regional Plan are likely to result in positive effects on crime and the majority of policies are expected to contribute positively to social capital in the region;
• There is a strong emphasis on regeneration in the draft Regional Plan which is expected to positively affect social capital;
• There are a good range of policies in the draft Regional Plan covering biodiversity issues and the protection of Natura 2000 sites is well covered in the Draft Regional Plan, although there are still some concerns relating to implementation. An Appropriate Assessment (AA) will ensure that negative effects on Natura 2000 sites are mitigated;
• Policies implicitly recognise the need to help biodiversity to adapt to climate change but local biodiversity could be given more consideration in the draft Regional Plan;
• There are strong policies in the draft Regional Plan to protect the region’s natural, cultural, built, environmental and archaeological assets;

• Whilst policies of the draft Regional Plan address the need for sustainable design and construction, the scale of development is likely to significantly affect the character of parts of the Region;

• The impacts of transport development may adversely affect the landscape and historic and natural environment of the Region and the draft Regional Plan is likely to result in a reduction in the extent of ‘tranquil areas’ in the region;

• The draft Regional Plan contains a strong policy on water resources and water quality but uncertainty remains in relation to maintaining a balanced supply and demand for water resources and sewerage treatment works are at risk of a lack of capacity in the future in some areas of the Region;

• The draft Regional Plan may result in the loss of Best and Most Versatile agricultural land in some areas in the Eastern Sub-Area;

• The draft Regional Plan moves towards increased secondary and recycled sources of aggregates but potential for sterilisation of mineral reserves remains;

• Large areas of the East Midlands are in zone 2 or 3 flood risk, although there are many areas which are adequately defended;

• There are a large number of policies in the draft Regional Plan that are likely to lead to improvements in air quality but there is concern relating to the trunk road and major highway priorities outlined in the draft Regional Plan;

• The targets of zero growth in waste by 2016 and recycling targets are positive but dependent on delivery. Sub-Area guidance and policy on the siting of waste management infrastructure is welcomed;

• The draft Regional Plan contains strong polices on working towards achieving carbon neutrality and sets ambitious renewable energy targets

• Proposed improvements to public transport services and modal shift for freight industry are welcomed but the detail behind the Plan needs to reflect the Plan’s good intentions and East Midlands Airport (EMA) proposals are likely to contribute to the effects of climate change;

• Policies in the draft Regional Plan are generally supportive of creating high quality employment opportunities and seek to accommodate rather than restrict growth in the Southern Sub-Area;

• The impact on rural areas is difficult to assess; and

• Policies are generally supportive of the objective to develop a strong culture of enterprise and innovation but wow far the policies provide land of the right type depends on whether there is any constraint on the property market.

Results of the SRS options appraisals
For summaries of the results of the appraisal of the SRS options please see the SRS SA reports.

**Three Cities Sub Regional Strategy**

In preparing the 3-Cities SRS the six Local Planning Authorities developed a number of options for the location of housing development in the three Housing Market Areas within the sub region. For the purposes of the Sustainability Appraisal the following options were appraised using the Sustainability Appraisal framework:

- 0 - Do Nothing and promote development following RSS criteria;
- 1 - SRS to promote development in Principal Urban Areas and for local needs / urban consolidation / on small scale windfalls following RSS criteria;
- 2 - SRS to promote development in Principal Urban Areas / Sub Regional Centres (or Larger Main Towns) and for local needs / urban consolidation / on small scale windfalls following RSS criteria
- 3 - SRS to promote development in Principal Urban Areas / Sub Regional Centres / Other Main Towns and for local needs / urban consolidation / on small scale windfalls following RSS criteria
- 4 - SRS to promote development in Principal Urban Areas and permit development in other locations (including a new settlement) following RSS criteria.

The results of the options appraisal are shown below.

**Derby**

- Sustainability Appraisal Option 3 is equivalent to the preferred housing allocation;
- Options 1 & 4 were excluded on the basis that they did not accord with Policy 2 of the RSS;
- Option 2 would require an additional 10000 dwellings within the Derby PUA which would most likely take the form of urban extensions. This would increase pressure on the Green Belt; Green Wedges; other environmentally and culturally sensitive areas. It could also lead to development away from key transport corridors and in locations that are more difficult to serve by frequent and reliable public transport;
- Option 3 would require an additional 6800 dwellings within the Derby PUA and this is considered to be achievable without the release of Green Belt or large areas of Green Wedge; and
- Both Options 2 and 3 have transport implications but these are considered to be less acute under the preferred housing allocation.

**Leicester**

- Sustainability Appraisal Option 2 is equivalent to the preferred housing allocation;
- Options 1 / 3 / 4 were excluded on the basis that they did not accord with Policy 2 of the RSS;
Under Option 2 provision of 620 dwellings per annum in the Leicester PUA would be required. This would place significant pressure on Green Wedges and other environmentally or culturally sensitive areas; there are also highways concerns about accommodating this level of development; and

Option 2 but with a slightly greater spread of development across the sub regional centres has been put forward as the preferred housing allocation. Investment in both transport and infrastructure will be required under this option.

**Nottingham**

- Sustainability Appraisal Option 3 is equivalent to the preferred housing allocation;
- Options 1 & 4 were excluded on the basis that they did not accord with Policy 2 of the RSS; and
- Option 3 was selected on the basis that it was regeneration focused. For example it opens up the opportunity for redevelopment of the collieries at Stanton and Cotgrave.

**Northern Sub Regional Strategy**

In preparing the Northern SRS the two Local Planning Authorities developed a number of options for the location of housing development in the three Housing Market Areas within the sub region. For the purposes of the Sustainability Appraisal the following options were appraised using the Sustainability Appraisal framework:

- 0 - Do Nothing and promote development following RSS criteria;
- 1 - SRS to promote development in & adjoining Sub Regional Centres and for local needs following RSS criteria;
- 2 - SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria;
- 3 - SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria PLUS permit employment regeneration based development in other locations where the public benefit arising from enhancing green infrastructure is significant; and
- 4 - SRS to promote development in & adjoining Sub Regional Centres / regeneration based development in defined Other Urban Areas and for local needs following RSS criteria PLUS permit regeneration based development in other locations.

The Sustainability Appraisal of the options identified a number of potential effects associated with the options both beneficial and adverse. The appraisal matrices were used by the two Local Planning Authorities to inform the preparation of the draft Northern SRS. Subsequently they have decided to
adopt the approach that is as expressed in Policies 1 & 2 of the Northern SRS, and in the dwelling allocations for the districts, as detailed in Section 6.2.2, based on the need to:

- Strengthen the roles of the sub regional centres;
- Promote the regeneration of smaller settlements in former mining areas in a way that promotes a more sustainable pattern of development; and
- Improve long term economic prospects.

The following is a summary of the justification provided by Nottinghamshire and Derbyshire County Councils for their preferred approach:

**Nottingham Outer HMA**

- The above trend dwelling allocation is intended to support the two growth point bids submitted for Mansfield – Ashfield and Newark;
- Growth point bids will need to address requirement for infrastructure investment, particularly in respect of water supply & treatment and transport infrastructure;
- Increasing levels of in-migration will be maintained by above trend dwelling allocation due to housing market renewal and town centre regeneration; continued growth should help lift job growth above the regional average;
- Considerable previously developed land is available for redevelopment and there are large scale opportunities for economic regeneration.

**Northern HMA**

- Recent house building has generated high levels of in-migration which is considered unsustainable; settlement pattern is fragmented and there are concerns about the capacity of the area to accept large scale growth;
- The below trend dwelling allocation requires Greenfield development but there are sensitive areas of landscape and Green Belt, including areas close to settlements;
- House building should not keep pace with job growth owing to out commuting concerns; and
- There are large scale opportunities for economic regeneration.

**Lincoln Sub Regional Strategy**

In preparing the LPA SRS, various spatial options for development in the sub-region have been appraised. There were 3 growth options identified:

- Commitment/urban capacity;
- 30% growth; and
- Super-growth option.
The results of this option assessment are not reported in the Lincoln SRS SA report so have not been reported here.

6.3 **SUBSEQUENT CHANGES MADE TO PROPOSED CHANGES AND FINAL VERSION OF THE REGIONAL PLAN**

The Proposed Changes version of the plan was written to respond mainly to the report of the Panel that undertook the Examination in Public of the Submission Draft Regional Plan (itself driven by the need to promote sustainable development within the region). A concerted effort has also been made to make changes to the plan to respond to the SA recommendations made by LUC and GHK in their report of September 2006. The main changes that have been made in the Proposed Changes version of the plan are:

- A new strategy for the Lincolnshire Coastal Districts to take into account the coastal flooding issues in that area;
- A new policy on air quality to address particularly the effects of air quality on internationally designated nature conservation sites;
- A new policy on affordable rural housing to ensure that the good intentions of the plan are enshrined in policy;
- A new policy on regional priorities for the economy to ensure that Local Authorities and other partners work together effectively;
- Additions to Policy 1 and other policies to reflect climate change concerns;
- Additions throughout the RSS in response to the Appropriate Assessment adding further safeguards to Natura 2000 sites;
- Phasing of housing provision over 5 year periods;
- Removal of site specific references to major locations for growth around Nottingham, Leicester and Lincoln;
- The removal of Appendix 1 (Implementation Framework) from the plan with the requirement that it should be brought up to date and published as a regularly updated freestanding Implementation Plan;
- Updated pitch requirements for gypsies and travellers
- A new policy on strategic distribution recognising a previous gap in policy; and
- Updating of the housing figures to take into account the 2004 household projections and concern about coastal flooding issues.

The final version of the plan has been written to take into account the consultation on the Proposed Changes and recommendations made as part of the ongoing SA and Appropriate Assessment processes. The main changes that have been made in the final version of the plan are:
Changes to the overall housing numbers. Policy 13 has now been divided between 13a (excluding Northants) and 13b (Northants). The numbers have been rebased to 2006-26 and are slightly reduced, especially Nottingham, with some minor reductions around Leicester and adjoining districts. The 5 year phasing has also been removed from Policy 13a;

Policy 13a and 13b also now include a clearer definition of what housing provision means and that the total provision figures are not ceilings (except for the three Lincolnshire Coastal districts) and that higher figures can be planned for provided that they are consistent with sustainability principles and subject to SA;

The Three Cities SRS Policy 3 now includes some greater flexibility on the housing numbers expected to be provided in and adjoining the Nottingham PUA in districts within the Nottingham Core HMA;

The numbers of affordable houses in Policy 14 has changed as a result of changes to policy 13;

Policy 16 on gypsy and traveler sites has revised pitch numbers;

Policy 32 on water resources has been strengthened in terms of ensuring timely provision of appropriate additional infrastructure for water supply and wastewater treatment; and

Policy 38 on waste management is now clearer in terms of the waste management required to service the Peak Sub Area.
7.0 SUSTAINABILITY APPRAISAL - OVERALL SPATIAL STRATEGY

7.1 CONTEXT FOR THE SPATIAL STRATEGY
Since the publication of the Draft Regional Plan, the most significant development of relevance to the preparation of the East Midlands Regional Plan has been the publication by CLG of the 2004 and the 2004 revised Household Projections. In addition, the recently issued 2006 population projections suggest that in the next 20 years the region could be the fastest growing English region, increasing by 922,000, a growth of 21%. Also of relevance is the National Housing and Planning Advice Unit report, Meeting the requirements of an aspiring and growing nation (June 2008) which suggests that the next RSS should test housing provision within the range 23,400-24,600 dwellings per annum. It is unclear however how the recent economic slowdown will affect housing formation.

To ensure that the house price to income ratio is not exacerbated, housing provision will need to keep pace with household formation. It should be noted, however, that a number of consultation responses on the Options for Change document and the accompanying Initial Sustainability Appraisal Report questioned the assumption that the provision of more market housing is more likely to lead to the delivery of affordable housing. This issue is complex but should be borne in mind in discussions on the amount, type and location of housing to be delivered in the Region over the Plan period.

Sustainability can also be measured by improvements in quality of life (e.g. the creation of rewarding jobs, improvements to living, working and recreational environments, and quality of community services provided such as schools), and efficiency of resource use (e.g. greenhouse gas emissions per head of population – which tend to be lower in urban areas than more rural locations16) and the quality of the natural environment. These are all factors that have been taken into account during the SA process.

A number of analyses were undertaken by LUC and GHK as part of the Draft Regional Plan SA report. Where data is available, a number of these have been reproduced to check that the fundamental strategy of the changes to the plan would not have significantly different sustainability effects as that contained in the Draft Regional Plan.

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16 Data gathered by Defra show that Derby, Leicester, Lincoln, Northampton and Nottingham all had per capita CO2 emissions below the regional average (Experimental Statistics on Carbon Dioxide Emissions at Local Authority and Regional Level, Defra Statistics Summary, 21 October 2005)
7.2 KEY ISSUES TO CONSIDER WITH RESPECT TO THE OVERALL SPATIAL STRATEGY

A key issue in determining the sustainability of the proposed distribution of development will be, firstly, the alignment between dwelling provision and household formation, and secondly between the anticipated generation of jobs and delivery of new homes. If household formation is significantly higher than dwelling provision, then inflationary pressures on house prices may result. If the jobs/homes balance is out of alignment, then increased commuting is likely to result.

The other key issue to consider is environmental constraints and opportunities. Whilst it is important to achieve an alignment between jobs and homes, there are many parts of the Region that, environmentally, have greater capacity to accommodate development than others. The Peak District National Park, for example, is particularly sensitive. However, there are other areas of the Region, such as the coast and along river corridors where flood risk could be an issue, or areas where water resources are in short supply. The sensitivity of landscapes and townscapes, and important areas of biodiversity interest also need to be taken into account, among other factors. Some parts of the Region are also in need in environmental improvement, for example through bringing brownfield land back into use, or through investment in improvements to the natural and built environment. The overall Spatial Strategy, to be most sustainable, therefore needs to take all these factors into account.

This section of the SA Report considers how well this has been achieved by summarising the results of the SA of the Draft Regional Plan and then discussing any key changes that have been made to the spatial strategy as part of the Proposed Changes.

A note on data analysis and presentation

For the submission draft of the Regional Plan, LUC and GHK carried out an analysis of how the dwelling provision figures corresponded to likely employment growth and also likely household formation (taken from the 2003 household projections). This was undertaken for the region as a whole and also each housing market area. The jobs data were generated by the East Midlands Development Agency (EMDA) Experian Scenario Impact Model (which was used to inform the reviews of both the Regional Economic Strategy and the Regional Plan) which enabled an analysis of the relationship between forecast employment growth in each of the HMAs with the preferred housing distribution to be carried out. The Model only covers the period up to 2016 (i.e. half the period to be covered by the East Midlands Regional Plan) so the comparison stops at this date. The comparison analysis is inevitably simplistic, and should be treated with some caution. The true relationship between job creation and household formation/need/demand is complex, reflecting a number of factors such as the population structure in different parts of the Region, the existing balance between jobs and homes, and travel to work patterns. The comparison analysis nonetheless provides a starting
point in understanding the extent to which the proposed scale and distribution of housing will align with where households are forecast to form, and jobs are likely to be generated.

ENVIRON has attempted to find updated figures for both the jobs figures and the household formation figures. Unfortunately, the Experian Scenario Impact Model has not been updated since the LUC/GHK analysis was undertaken. However, the household projection figures were updated after the RSS Examination in Public and ENVIRON have re-calculated the figures using the 2004 household projections and the Proposed Changes dwelling provision figures.

After compiling this information for the region as a whole and each HMA it was found that the Proposed Changes draft of the plan would not have significantly different sustainability effects than the Submission Draft of the Plan for the region as a whole or in any of the HMAs in terms of balance between jobs and dwellings and dwellings and likely household formation. This is shown for the region as a whole by Table 7.1 which presents the analysis undertaken by LUC and GHK (using the Submission Draft dwelling provision figures, the 2003 household projections and the Experian employment figures) and the ENVIRON analysis (using the Proposed Changes dwelling provision figures, the 2004 household projections and the Experian employment figures). For the sake of transparency of analysis, the discussion focuses firstly on how the Submission Draft of the plan performed and then in a yellow text box, how the Proposed Changes version of the plan may perform differently. Because the figures are not significantly different for any of the HMAs, these individual tables have not been included in this report.

ENVIRON considered re-running this analysis for the final dwelling provision figures. However, since they had changed only a small amount (decreasing only by around 1%) it was not considered that the results would show a significant difference to the analysis undertaken for the Proposed Changes. In addition the fact that the housing numbers included in Policy 13a and 13b had been re-based to 2006 would make any comparison to earlier figures difficult. The change in national economic circumstances also casts some uncertainty over the employment growth data. For all these reasons it was felt that re-running the analysis was unnecessary.

**The effects of the spatial strategy on the Region as a whole**

Across the East Midlands as a whole, the Submission Draft Regional Plan dwelling numbers were almost in line with household projections (see Table 7.1) with the region seeing a very small change in dwellings per household between 2001 and 2016.
### Table 7.1 Jobs/Homes Analysis for East Midlands 2001-2016

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<tbody>
<tr>
<td>Jobs (FTE's)</td>
<td>1,642,400.00</td>
<td>1,745,000.00</td>
<td>102,600.00</td>
<td>6.25</td>
</tr>
<tr>
<td>Households</td>
<td>1,737,165.00</td>
<td>2,058,000.00</td>
<td>320,835.00</td>
<td>18.47</td>
</tr>
<tr>
<td>Jobs per household</td>
<td>0.95</td>
<td>0.85</td>
<td>-0.10</td>
<td>-10.32</td>
</tr>
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#### Submission Draft Dwelling Figures

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<tbody>
<tr>
<td>Dwellings</td>
<td>1,801,605.00</td>
<td>2,107,875.00</td>
<td>306,270.00</td>
<td>17.00</td>
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<tr>
<td>Dwellings per household</td>
<td>1.04</td>
<td>1.02</td>
<td>-0.01</td>
<td>-1.24</td>
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#### Proposed Changes Dwelling Figures

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<tbody>
<tr>
<td>Dwellings</td>
<td>1,801,605.00</td>
<td>2,110,305.00</td>
<td>308,700.00</td>
<td>17.13</td>
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<tr>
<td>Dwellings per household</td>
<td>1.04</td>
<td>1.03</td>
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</tr>
</tbody>
</table>

Whilst additional dwellings only added a relatively small proportion to the overall housing stock (although in some parts of the Region, a significant increase will occur), the planned dwellings in the Submission Draft RSS should keep pace with household formation. This suggests that the total number of dwellings, in supply and demand terms, is set at an appropriate level in the draft Regional Plan, and should not lead to further shortfalls in housing. One of the key aims of the Spatial Strategy is to regenerate the urban areas and to promote a closer alignment between jobs and homes in order to reduce the need to travel. Over the period 2001-2016 full time employment (FTE) is anticipated to increase by 6.25%. The total number of dwellings planned in the Region as part of the Submission Draft Plan will increase the total housing stock by 17.0%, almost three times the rate of increase in jobs. As a result, jobs per household will fall between 2001 and 2016 by 8.5%. This partly reflects the tendency for smaller households, but overall would seem to imply that the overall housing provision should comfortably accommodate job creation.

**Does the Proposed Changes version of the plan perform differently?**

- No significant change in dwellings per household (1.03 compared to 1.02)
- In terms of jobs per household, it can be seen that the figures presented as part of the Proposed Changes represent a drop of 10% (from the 2001 baseline) changing from 0.95 jobs per household to 0.85 jobs per household. This is likely to be a result of smaller households in the forecast dwelling provisions. Also, this analysis is focusing on a comparison of the household projections (rather than the dwelling provision figures in the plan) against the jobs forecast so is not analysing the proposals within the plan per se.

**Other economic considerations arising from the draft Regional Plan**

Notwithstanding the findings of the work carried out for EMDA, the SA has found that, from an economic perspective, the draft Spatial Strategy is generally positive, at least at the Regional level. The results of the economic modelling indicate that overall the preferred option has a small positive effect compared to baseline trends on GVA and employment. The effects at the sub-regional level are
harder to define – partly because they depend on policy implementation in support of growth in the principal urban areas and partly because they are influenced by changes in commuting patterns.

However, it is probable that the Regional effects on the economy from the balance of development is likely to be positive – assuming that concentration policies will be able to encourage business investment, especially in the Three Cities Sub-Area.

The draft Regional Plan does not specifically recognise the north-south gradient in prosperity and incomes (which is not the same as the urban / rural issues that are apparent along the west-east gradient). The effects on the economy of the rural areas need to be distinguished between suburban and ‘deep’ rural. The suburban areas are likely to be more adaptable and to benefit from the draft Plan. The ‘deep rural’ areas are probably not that sensitive to the draft Plan.

The effects on innovation are likely to be positive (e.g. focusing investment in the areas around the universities), but needs to have regard to the types of housing and workforce attracted. More generally, the provision of employment land (as traditionally defined) is likely to become less relevant over the period of the draft Plan. Industrial, distribution and campus offices are beginning to merge, and mixed-use is becoming more attractive as part of urban concentration. The main exception is large warehousing.

More effective demand management of transport will assist with supporting higher value added activities, so long as charging raises substantial sums for public transport investment. It is not clear how economic objectives have been built into the transport priorities although these need to be set within the wider context of reducing traffic to be sustainable.

**The proposed housing distribution and environmental considerations**

The main concentrations of environmental assets in the Region exist within the Eastern and Peaks Sub-Areas, as illustrated in Figure 7.1. Spatial analyses undertaken by LUC and GHK showed that in terms of the proposed distribution of total dwellings for the whole of the Plan period (2006-2026), physical constraints appeared to have been taken into account to a large extent. In contrast, they stated that it was more difficult to depict a clear relationship between the distributional strategy and the likely effects on the supply, demand and quality of natural resources such as water and air quality.

In some areas, the changes in dwelling provision figures as presented as part of the Proposed Changes and in the final plan further strengthen environmental considerations and constraints within the plan as most of the districts within the Eastern Sub Area see a significant % decrease in allocations (in
some districts up to a 45% decrease). The Peak sub area will see a 19% increase (as compared to the Submission Draft figures) in overall dwelling provision over the plan period. However, this looks more significant than it is due to the small overall numbers involved (the 19% only equates to an additional 2000 houses over the plan period – less than 100 additional houses a year) and it must be remembered that none of this provision includes the Peak District National Park itself.

The areas that have seen the most significant increases in dwelling numbers over and above the Submission Draft figures are mainly in the urban areas with Nottingham seeing the most significant increase in the Proposed Changes. However, the figure for Nottingham has been reduced in the final plan.

The overall scale of development, across large parts of the Region, will be significant, and will noticeably affect the character of many locations, depending upon the extent to which development will take place within existing built-up areas, or on greenfield sites, and also on the amount of infrastructure built, employment land developed, community facilities provided, traffic generated, and environmental improvements achieved.

Nearly three-quarters of all new dwellings are to be provided within the Three Cities and Southern Sub-Areas, with around 40% to be provided within the Three Cities Sub-Area and around 25% to be provided in the Southern Sub-Area. Other areas are also likely to see a significant scale of increase in dwelling provision include a number of districts in the vicinity of the cities of Nottingham, Leicester and Derby.

The cumulative effects of development should also be taken into account. For example, the impacts on the non-designated environment should also be considered, especially where this would adversely affect landscape character, or would lead to erosion in the overall biodiversity resource.

As part of the SA, it was recommended by members of the SA Steering Group that any environmental capacity issues should be highlighted that may be issues under the proposed draft Regional Plan. From the work undertaken on the SA, the following capacity issues are the most pertinent to have been identified:

- Availability of water resources, especially in the East Midlands (Derbyshire, Leicestershire, and Nottinghamshire) and Lincolnshire Fens water resource zones.
- The capacity of sewage treatment works to accommodate further development without adverse effects on water quality, especially in the Northern and Three Cities Sub-Areas.
• The achievement of air quality and greenhouse emissions targets, especially with respect to transport.
• The potential permanent loss of best and most versatile land to development, for example around Boston.
• Flood risk in the Southern and Three Cities Sub-Areas, and possibly parts of the coast.
• The capacity of historic settlements to accommodate further development, especially Lincoln, but also smaller settlements such as Stamford.
• Despite the relatively small amount of development to be accommodated in the Peak Sub-Area, there could be some capacity issues with respect to landscape and biodiversity.
• It is uncertain at this stage whether there are capacity issues with respect to biodiversity more generally, although it should be borne in mind that the biodiversity interest of the Region is already comparatively low.

With respect to these and other environmental capacity issues, it is important to bear in mind that whether or not development will breach the capacity of the Region to accommodate depends as much on the way that development is delivered as how much. For example, if the environmental policies in the draft Regional Plan are strictly applied, then damage to the environment should be avoided in the first instance. If damage cannot be avoided then it should be considered whether there are other ways or locations of delivering the Regional Plan objectives that will avoid such damage. If no such alternatives exist, then it will be important to ensure that any adverse effects are minimised through mitigation, and then compensation. Finally, it will also be important to consider how development proposals can be utilised to deliver improvements to the environment where it could be considered that capacity limits have been breached in the past (i.e. make good past damage).
Figure 7.1 Environmental Assets and Resources

Source: LUC and GHK (2006); Sustainability Appraisal of the Draft East Midlands Regional Plan. Reproduced with kind permission of EMRA and LUC.
8.0 SUSTAINABILITY APPRAISAL TOPIC: MEETING HOUSING NEEDS

Objective 1: To ensure that the housing stock meets the housing needs of the region

8.1 INTRODUCTION
Housing is one of the basic needs of human beings alongside air, food and water. This is reflected in the Human Rights Act 1998 which sets out that every person has the right to respect for their home. The UK Government intends that everyone should have the opportunity of a decent home. Furthermore there should be adequate housing choice, for both affordable and market housing, so that housing does not reinforce social distinctions. This requires the recognition of housing needs in the community, including those requiring affordable or special housing in both urban and rural areas.

To promote sustainable patterns of development the focus for additional housing should be locations providing ready access to jobs, key services and infrastructure. Developments should be attractive, safe and designed and built to a high quality.

Analysis of the effects of development on housing need and affordability should be informed by housing needs assessments and analysis of housing markets, taking into account population growth, immigration and household formation as well as house prices relative to average household incomes. Housing provision can be described in terms of housing mix, density, affordability, and tenure. The main challenges in housing provision generally relate to:

- Affordability.
- Regional disparities.
- Urban regeneration.
- Social exclusion.
- Housing and community support.
- Housing and the elderly.
- Gender and housing.
- Black and Asian minorities and housing.
- Homelessness.
- Delivering high quality sustainably designed and constructed stock.

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17 Human Rights Act 1998, Schedule 1, Part 1, Article 8
18 Planning Policy Guidance 3 – Housing. The Office of the Deputy Prime Minister
8.2 CHARACTERISATION

House prices

Rising house prices have increased the average price-income ratios in the region and have resulted in affordability issues, with first time buyers struggling to buy property at the bottom end of the market\(^{19}\). In 1995, average house prices were more than three times average income in only seven districts in the region. By 2003, houses cost on average more than five times average income in five districts, and were more than four times average income in 29 districts\(^{20}\).

Figure 8.1 Ratio of average dwelling price to average income by postcode sector in 2003\(^{21}\)

\(^{19}\) East Midlands Regional Housing Strategy 2004-2010 (Regional Housing Board 2004)

\(^{20}\) Additional Work on background information on the East Midlands Housing Market (CURS, March 2004)

\(^{21}\) East Midlands Regional Housing Strategy 2004-2010 (Regional Housing Board 2004)
In 2007, the average house price ranged from £140,968 in Derby to £234,648 in Rutland. The average income for a first time buyer (25-29 year old) in the East Midlands was £30,886 and the average house price was £117,687, creating a price-income ratio of 3.22. This compares to a UK price-income ratio of 3.45. Although the average house price in the region is the fifth lowest in England and Wales at £151,405, it has also seen the fifth highest change in price at 17.9%.

**Housing provision**

The East Midlands housing situation reflects the national polarising of north and south; with lower demand and the need for regeneration in the north due to declining traditional industries and high house prices and growth pressures in the south due to good transport links and proximity to London and the South East. The most pressing affordable housing gaps are in the Eastern and Southern sub-regions. The East Midlands is expected to deliver around 97,000 between 2001 and 2021 as part of the Milton Keynes South Midlands Growth Area provision.

**Affordable housing**

A total of 2,513 affordable homes were built in the East Midlands between 2005 and 2006. However, affordable housing completions have been at a level of 11%, compared with a requirement of 27%. Housing Corporation data indicates higher numbers, however, this is still a long way below the requirements for the RSS.

Affordability problems throughout the region may result in increases in homelessness figures in the future. Some districts have already experienced increases over 100% in Homelessness acceptances since 1999.

In 2004, 28.1% of private sector housing and 34.3% of social housing in the East Midlands failed to meet the ‘Decent Homes Standard’. Of the region’s 1.5m privately owned homes, 5.5% are rated as unfit.

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23 Quarterly House Price Focus: Quarter 3 of 2004 (ODPM)
24 Additional Work on background information on the East Midlands Housing Market (CURS, March 2004)
Previously Developed Land

When compared to all other regions in England, the East Midlands has the lowest percentage of housing completions on previously developed land (PDL). Between 2000-2003, average completions on PDL in the East Midlands were calculated at 49%. Table 8.1 below gives a comparison of completions of PDL in the East Midlands with England.

Table 8.1 East Midlands comparison with England 1994-2006

<table>
<thead>
<tr>
<th>Year</th>
<th>East Midlands % completions on PDL</th>
<th>England % completions on PDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>37</td>
<td>51</td>
</tr>
<tr>
<td>1995</td>
<td>38</td>
<td>54</td>
</tr>
<tr>
<td>1996</td>
<td>37</td>
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<td>1997</td>
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<td>1998</td>
<td>35</td>
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<td>1999</td>
<td>37</td>
<td>56</td>
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<tr>
<td>2000</td>
<td>43</td>
<td>58</td>
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<tr>
<td>2001</td>
<td>48</td>
<td>61</td>
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<tr>
<td>2002</td>
<td>54</td>
<td>64</td>
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<tr>
<td>2003</td>
<td>54</td>
<td>67</td>
</tr>
<tr>
<td>2004</td>
<td>56</td>
<td>72</td>
</tr>
<tr>
<td>2005</td>
<td>54</td>
<td>74</td>
</tr>
<tr>
<td>2006</td>
<td>64</td>
<td>71</td>
</tr>
</tbody>
</table>

Additional information on the Sub-Regional Study Areas

Three Cities Sub-Region

The Three Cities SRS covers the following Housing Market Areas:

Nottingham HMA: The integrated and overlapping housing markets of Nottingham and Derby are reflected in the strong clusters of travel to work and household migration movements centred upon these two cities. Their close proximity plus the high capacity transport infrastructure that links them and the effect of the M1 allowing equal access from north and south to both cities are key factors contributing to the complexity of household movements and travel to work patterns. The Nottingham housing market is centered on a well-defined urban core and a peripheral area. The dominant clusters of household and travel to work movements between Nottingham / Broxtowe / Gedling / Rushcliffe / Erewash mark the spatial extent of the urban core of the housing market.

Derby HMA: The Derby housing market stretches from South Derbyshire to Amber Valley and extends across the regional boundary into East Staffordshire. There are heavy commuting flows from Amber Valley and South Derbyshire into Derby itself. South of Derby towns such as Swadlincote

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have restricted access to Derby and thus demonstrate greater connectivity with the Burton on Trent labour market.

Leicester HMA: The Leicester housing market exhibits a high degree of self containment with a heavy concentration of household and travel to work movements evident between Leicester / Hinckley and Bosworth / Blaby / Harborough / Charnwood / Oadby and Wigston. Travel to work patterns from the local authority areas surrounding Leicester and the relative absence of large scale commuting movements into alternative centres of employment reveal the strong reliance upon the Leicester labour market. The large number of household movements between Charnwood and Leicester suggests the Leicester housing market to be a more dominant influence over Charnwood than Nottingham. The relationship between Leicester and Coventry is weak in terms of the numbers of people moving home expressed as a % of resident population of the area of origin. However there is a clear cross regional connectivity between Hinckley and Bosworth / Nuneaton and Bedworth. Melton district displays the highest degree of individual self-containment of all the local authority areas in the sub region as reflected in its highly restricted household and travel to work movements. The spatial extent of its travel to work area is almost exclusively contained within its district boundaries although there are limited commuting flows into Leicester from Melton.

Northern Sub-Region
The Northern SRS covers the following Housing Market Areas:
Nottingham Outer HMA: The integrated and overlapping housing markets of Nottingham and Derby are reflected in the strong clusters of travel to work and household migration movements centred upon these two cities. Their close proximity plus the high capacity transport infrastructure that links them and the effect of the M1 allowing equal access from north and south to both cities are key factors contributing to the complexity of household movements and travel to work patterns. There is a demonstrable peripheral area of relatively small but inter-linked household and travel to work movements which take place between Newark and Sherwood / Mansfield and Ashfield districts and which link orbitally with the urban nucleus of Nottingham.

Northern (Sheffield/Rotherham): Districts in the northern fringe of the region such as North East Derbyshire / Chesterfield / Bolsover and to a lesser extent Bassetlaw exhibit a high degree of connectivity with Sheffield and Rotherham. Due to their location and the pattern of road and rail connections a large proportion of the residents of these districts work in Sheffield and Rotherham as reflected in the pattern of travel to work movements. These districts also experience commonality in the issues faced in their respective housing markets. Areas of low housing demand, pockets of
economic deprivation and the legacy of the downturn in the coal mining industries are key housing related problems experienced in these areas.

**Lincoln Sub-Region**

No further data was collected as part of the Lincoln Sub-Regional Strategy SA report.

**Information Gaps**

None identified.

### 8.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

**Table 8.2 Plans, programmes and policies**

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• PPS3: Housing (ODPM, 2006)</td>
</tr>
<tr>
<td>• Homes for the future: more affordable, more sustainable - Housing Green Paper (DCLG, 2007)</td>
</tr>
<tr>
<td>• Sustainable Communities Plan: Building for the Future (ODPM, 2003).</td>
</tr>
<tr>
<td>• Making it Happen: The Northern Way (ODPM, 2004).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional &amp; Sub-regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The East Midlands Regional Housing Strategy 2004-2010 (Regional Housing Board, 2004).</td>
</tr>
</tbody>
</table>

The key messages identified from these relevant plans and programmes and initiatives include:

- 60% brownfield development targets should be met by 2008.
- Sustainable communities should be planned for and the needs of these communities may be very different from place to place.
- Balance, inclusion and co-ordination is important when delivering housing.

### 8.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of housing in the East Midlands without the implementation of the RSS is described in Table 8.3.

**Table 8.3 Key housing issues and their likely evolution without the RSS**

<table>
<thead>
<tr>
<th>Key Issue</th>
<th>Likely evolution without the RSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordable housing: Affordable housing gaps in the Southern and Eastern Sub-Areas need to be met.</td>
<td>The market could stagnate or continue to rise, further increasing the house price: income ratio.</td>
</tr>
<tr>
<td>High house prices: High house prices prevent first time buyers starting on the property ladder and are also forcing people to commute longer distances, which in turn leads to transport congestion as well as environmental costs.</td>
<td>The market could stagnate or continue to rise, further increasing the house price: income ratio.</td>
</tr>
<tr>
<td>Housing provision: There are currently housing provision issues in the Northern and Peak Sub-areas due to poor quality housing and transport problems.</td>
<td>Housing need issues in the south are likely to be reduced by the additional provision of housing as part of the Milton Keynes South Midlands Growth Area.</td>
</tr>
<tr>
<td>Key Issue</td>
<td>Likely evolution without the RSS</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Delivering decent homes: There are vulnerable groups on low incomes living in poor conditions across the region in both urban and rural locations.</td>
<td>Housing demand in the north is currently low but is likely to rise due to housing renewal policies which are currently being tested.</td>
</tr>
<tr>
<td>Attracting business: Improving quality of private sector housing should help to attract businesses.</td>
<td>Trend likely to continue.</td>
</tr>
<tr>
<td>Distribution of housing: A significant amount of housing is currently allocated to the Southern Sub-area as part of the Growth Area provision.</td>
<td>Quality of new housing is likely to be higher, potentially attracting business to the region.</td>
</tr>
<tr>
<td></td>
<td>Current trends likely to continue as development continues in the Milton Keynes South Midlands Growth Area.</td>
</tr>
</tbody>
</table>

8.5 **SUSTAINABILITY APPRAISAL OBJECTIVES**

The SA Scoping Report for the Regional Spatial Strategy included the Objective: To ensure that the housing stock meets the housing needs of the region. The sub questions relating to this objective are set out below:

a) Will it provide for those in housing need, taking into account relationships with neighbouring regions?
b) Will it help to improve the quality or upkeep of the current and new housing stock?
c) Will it provide housing affordable to all sections of the community?
d) Will it contribute to the viability and sustainability of urban communities?
e) Will it contribute to the viability and sustainability of rural communities?
f) Will it help to provide appropriate housing for vulnerable groups?
g) Will it reduce the risks of housing stock to the impacts of climate change?

8.6 **EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)**

The SA of the draft plan stated that many aspects of the Plan score well in relation to housing provision, including Sub-Area policies which aim to reduce or reverse unsustainable patterns of commuting through a better balance of jobs and homes, housing provision and affordable housing policies which help to meet housing needs. There are uncertainties of delivery in relation to certain environmental capacity issues such as water resources, and climate change is likely to continue to have implications for the existing and new housing stock.

_The Proposed Changes design policy has been strengthened in terms of dealing with some aspects of climate change and new developments will be expected to address carbon sinks and urban heat island effects. However, the potential effects on climate change and resource use (especially water use) remain. The Proposed Changes is also clearer in terms of Growth Points helping to ensure that they can assist in addressing the region’s housing objectives. The Strategy for the Lincolnshire Coastal Districts makes it more difficult for housing to achieve some social objectives; however, in order to achieve sustainable growth, this precautionary approach is needed. The provision of affordable_
housing has been strengthened with the addition of the new rural affordable housing policy and also
the increase in allocation in the Peak area (all of which are for affordable housing).

The final version of the plan includes a reduced housing provision. These changes are relatively
small (a decrease of around 1% or 4000 houses) and most places will see a very small decrease
(much smaller than 1%). The effects of the housing numbers on housing issues such as affordability
and viability of communities etc are therefore the same as the Proposed Changes due to the relative
size of the decrease in most places. The amount of affordable housing allocated to the Peak, Dales
and Park HMA has increased and this will be positive in this area.

Cumulative effects

The level and distribution of housing provision is likely to meet demand, including affordable housing
needs and the needs of vulnerable groups, although delivery may be constrained by environmental
capacity issues such as water resources. There is little in the Plan to improve the quality of the
existing housing stock although it is recognised that this is outside the responsibility of the plan.
There are positive aspects in relation to reducing the risks associated with climate change e.g. Policy
on the design of development, but this is overshadowed by transport policies which are likely to have
an indirect negative effect. The uncertainty of how the RTS is expected to deliver sustainable
transport was recognised by the RSS Panel and an early review of the RTS is expected to start soon.

Issues for the review of the Regional Plan

Ongoing action is needed to ensure that the amount of housing proposed in the East Midlands is
sustainable in regards to water consumption and sewage treatment.

Uncertainties/Information Gaps

None identified.

8.7 PROPOSALS FOR MONITORING

It is recommended that information on the indicators listed in Table 8.4 is collected in order to
monitor the significant effects of implementing the RSS policies on housing.

Table 8.4: Proposals for monitoring housing in the East Midlands

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides for those in housing need, taking into account relationships with neighbouring regions.</td>
<td>Housing trajectories</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Affordable housing completions by HMA areas</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Number of homeless people in the region</td>
<td>No</td>
</tr>
<tr>
<td>Reduces the risks of housing stock to the impacts of climate</td>
<td>Planning permissions granted contrary to Environment Agency advice on flood defence grounds</td>
<td>Yes</td>
</tr>
<tr>
<td>Effect that needs to be monitored</td>
<td>Indicators</td>
<td>Included in the Implementation Framework?</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>change.</td>
<td>Developments with Sustainable Urban Drainage</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strategic Flood Risk Assessments completed</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Houses damaged due to subsidence</td>
<td>No</td>
</tr>
</tbody>
</table>
9.0 SUSTAINABILITY APPRAISAL TOPIC: HEALTH

Objective 2: To improve health and reduce health inequalities

9.1 INTRODUCTION

Good health, ‘expected healthy years of life,’ is fundamental to achieving a good quality of life, and is one of the Government’s 15 key headline indicators of sustainability. Trends show that generally life expectancy in the UK is increasing well; however, healthy life expectancy has not increased as fast. This means that more people are likely to be living in poor health for longer.  

Health inequalities are often a function of wider societal inequalities. Providing access to medical facilities for all that meet the needs of the communities that they serve is central to maintaining the vitality of an area. In addition, health and wellbeing benefits can be derived by encouraging healthy activities such as cycling and walking. This requires planning for the adequate provision of the necessary infrastructure including cycleways and green/open space.

9.2 CHARACTERISATION

Overall, the health of the population in the East Midlands is similar to that of the UK as a whole, but this masks wide inequalities in health levels. Male life expectancy across the region is 76.5 years which very close to the national average of 76.55 years. Life expectancy for women across the region is 80.7 which is also very close to the U.K. average (80.9). Male life expectancy in the most deprived tenth of East Midlands’ wards averages about six years less than in the least deprived tenth of wards.

Table 9.1 below shows that life expectancy of residents in the East Midlands is improving and the East Midlands is within the average range for England.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>South East</td>
<td>74.9</td>
<td>80.3</td>
<td>75.4</td>
<td>80.6</td>
<td>75.8</td>
<td>80.8</td>
</tr>
<tr>
<td>South West</td>
<td>74.9</td>
<td>80.1</td>
<td>75.4</td>
<td>80.4</td>
<td>75.8</td>
<td>80.5</td>
</tr>
<tr>
<td>East of</td>
<td>75.0</td>
<td>80.1</td>
<td>75.5</td>
<td>80.2</td>
<td>75.9</td>
<td>80.5</td>
</tr>
</tbody>
</table>


Coronary heart disease and strokes kill more people in the East Midlands than any other disease with the rate in some areas almost twice that of others. Cancer is the second most common cause of death in the East Midlands, with significant inequalities within the region. Together, these two account for almost two-thirds of all deaths in the region. Death rates from accidents are among the worst in England31.

There are wide geographical variations in mortality rates at local authority level within the East Midlands. Infant mortality varies significantly between the urban areas and the counties with a much higher rate in Nottingham than for Leicestershire County.

In 2002/2003 adults were slightly less likely to have a limiting long-standing illness than the UK average. Overall 19% of the East Midlands in 2002/2003 suffered from a long-standing illness as opposed to 23% of the UK population32.

The East Midlands has one of the highest rates of obesity in the country. In 2001, 25% of men and 32% of women between 45 and 64 in the East Midlands were classified as clinically obese32. Diets in the East Midlands are high in sugar and fat, in comparison to the rest of the country, which is likely to contribute to the high obesity rates33.

2002/2003 figures for cigarette smoking and alcohol consumption were also close to the national average. 24% of males and females in the East Midlands smoked, as opposed to the UK average of 27% and 23.5 % respectively34.

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</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Midlands</td>
<td>73.7</td>
<td>79.0</td>
<td>74.3</td>
<td>79.3</td>
<td>74.8</td>
<td>79.7</td>
<td>75.1</td>
<td>79.9</td>
<td>75.7</td>
<td>80.3</td>
<td>76.3</td>
<td>80.5</td>
</tr>
<tr>
<td>London</td>
<td>73.3</td>
<td>79.3</td>
<td>73.7</td>
<td>79.5</td>
<td>74.1</td>
<td>79.7</td>
<td>74.9</td>
<td>80.1</td>
<td>75.5</td>
<td>80.5</td>
<td>76.0</td>
<td>80.8</td>
</tr>
<tr>
<td>Yorkshire and the Humber</td>
<td>73.1</td>
<td>78.7</td>
<td>73.6</td>
<td>79.1</td>
<td>74.1</td>
<td>79.4</td>
<td>74.4</td>
<td>79.7</td>
<td>75.1</td>
<td>80.0</td>
<td>75.6</td>
<td>80.4</td>
</tr>
<tr>
<td>West Midlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North West</td>
<td>72.4</td>
<td>77.4</td>
<td>72.8</td>
<td>78.0</td>
<td>73.2</td>
<td>78.4</td>
<td>73.6</td>
<td>78.5</td>
<td>74.2</td>
<td>79.1</td>
<td>74.8</td>
<td>79.5</td>
</tr>
<tr>
<td>North East</td>
<td>72.0</td>
<td>77.9</td>
<td>72.7</td>
<td>78.3</td>
<td>73.1</td>
<td>78.5</td>
<td>73.5</td>
<td>78.6</td>
<td>74.3</td>
<td>79.1</td>
<td>74.7</td>
<td>79.5</td>
</tr>
</tbody>
</table>

31 Trent Public Health Observatory: East Midlands Health Profile 2003.
32 ONS. Region in Figures: East Midlands. Winter 2004/05. No 9. Age-standardised mortality rates have had their figures have been adjusted to take into account these differences in age structure.
33 Trent Public Health Observatory: East Midlands Health Profile 2003.
34 ONS. Region in Figures: East Midlands. Winter 2004/05. No 9. Age-standardised mortality rates have had their figures have been adjusted to take into account these differences in age structure.
There are two strategic health authorities in the East Midlands and 28 Primary Care Trusts. However, most parts of the East Midlands have fewer GPs than the national average\textsuperscript{35}.

\textit{Additional information on the Sub-Regional Study Areas}

\textit{Three Cities Sub-Region}

Table 9.2 shows a number of health indicators for the Three Cities Sub Region.

\textsuperscript{35} Trent Public Health Observatory: East Midlands Health Profile 2003.
Table 9.2 Health in the Three Cities Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicester</th>
<th>Nottingham</th>
<th>Darby</th>
<th>Derby</th>
<th>East Midlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardised Mortality Ratio: UK 100</td>
<td>01/03 - 12/03</td>
<td>116 95 116</td>
<td>102</td>
<td>105</td>
<td>104</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>% of people with long term limiting illness</td>
<td>04/03</td>
<td>18.76 15.45 20.11</td>
<td>19.97</td>
<td>19.33</td>
<td>20.13</td>
<td>18.41</td>
<td></td>
</tr>
<tr>
<td>% residents who state their general health as good</td>
<td>04/01</td>
<td>65.54 70.40 64.97</td>
<td>66.81</td>
<td>66.45</td>
<td>65.82</td>
<td>68.76</td>
<td></td>
</tr>
<tr>
<td>% residents who state their general health as fairly good</td>
<td>04/01</td>
<td>24.21 22.21 24.01</td>
<td>23.38</td>
<td>23.61</td>
<td>23.98</td>
<td>22.21</td>
<td></td>
</tr>
<tr>
<td>% residents who state their general health as not good</td>
<td>04/01</td>
<td>10.24 7.36 11.01</td>
<td>9.81</td>
<td>9.93</td>
<td>10.20</td>
<td>9.03</td>
<td></td>
</tr>
<tr>
<td>% working days lost to sickness</td>
<td>2004 - 2005</td>
<td>10.04 9.34 9.89</td>
<td>11.57</td>
<td>9.49</td>
<td>7.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% participation in Drug Treatment Programmes</td>
<td>2004 - 2005</td>
<td>65 21.1 12.3</td>
<td>37.2</td>
<td>44.7</td>
<td>83.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of residents who rate ease of access to Doctors Surgery as very easy</td>
<td>2000</td>
<td>52 56 63</td>
<td>67</td>
<td>65</td>
<td>61</td>
<td>59</td>
<td></td>
</tr>
</tbody>
</table>

Northern Sub-Region

Table 9.3 shows a number of health indicators for the Northern Sub Region.

Table 9.3 Health in the Northern Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
<th>East Midlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardised Mortality Ratio: UK 100</td>
<td>102</td>
<td>104</td>
<td>1.2</td>
</tr>
<tr>
<td>% people with long term limiting illness</td>
<td>19.97</td>
<td>20.13</td>
<td>18.41</td>
</tr>
<tr>
<td>% residents who state their general health as good</td>
<td>66.81</td>
<td>65.82</td>
<td>68.76</td>
</tr>
<tr>
<td>% residents who state their general health as fairly good</td>
<td>23.38</td>
<td>23.98</td>
<td>22.21</td>
</tr>
<tr>
<td>% of residents who state their general health as not good</td>
<td>9.81</td>
<td>10.20</td>
<td>9.03</td>
</tr>
<tr>
<td>% working days lost to sickness</td>
<td>11.57</td>
<td>7.15</td>
<td>-</td>
</tr>
<tr>
<td>% participation in Drug Treatment programmes</td>
<td>37.2</td>
<td>83.9</td>
<td>-</td>
</tr>
<tr>
<td>% residents who rate ease of access to Doctors Surgery as Very Easy</td>
<td>67</td>
<td>61</td>
<td>59</td>
</tr>
</tbody>
</table>
**Lincoln Sub-Region**

Lincoln City compares poorly with other districts in Lincolnshire for mortality rates from many causes including infant mortality, circulatory disease, cancer, accidents and suicide. Life expectancy is lower for both males and females in Lincoln than it is in any of the other districts in Lincolnshire.

The average age of the population in the sub area is increasing, particularly in rural areas. This is likely to continue, and to result in increased pressures on health and care services. There is also a concentration of deprivation and economic disadvantage in Lincoln. There is a hidden’ deprivation in rural communities.

**Information Gaps**

None identified.

### 9.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

**Table 9.4 Plans, programmes and policies**

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Service Agreement. Department of Health. 2004</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional &amp; Sub-regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment for Health: EMRA. 2003</td>
</tr>
</tbody>
</table>

The key messages identified from these other relevant plans and programmes and initiatives include:

- The importance of promoting healthy living, sense of well-being and reduce risk from environmental pollution.
- The importance of reducing health inequalities and provide better healthcare services.

### 9.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of housing in the East Midlands without the implementation of the Regional Plan is described in Table 9.5.
Table 9.5 Key health issues and their likely evolution without the Regional Plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Links to deprivation:</strong></td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>Health inequalities across the region are pronounced and often related to quality of life issues. These areas tend to be clustered in: areas with high levels of deprivation; in the large cities; in the areas where the basic industries have declined or disappeared.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td><strong>Obesity:</strong></td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>The East Midlands has one of the highest rates of obesity in the country.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td><strong>Ageing population:</strong></td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>The ageing population has implications for the provision of health services such as more frequent visits to GPs and hospitals.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td><strong>Access to health facilities:</strong></td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>Some parts of the region have poor access to health facilities, particularly in the eastern part of the region.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td><strong>Accidents:</strong></td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>The region has a high level of accidental deaths including falls and traffic accidents, with Corby the highest in the country.</td>
<td>Continuation of current trend.</td>
</tr>
</tbody>
</table>

9.5 **SUSTAINABILITY APPRAISAL OBJECTIVES**

The SA Scoping Report for the draft Regional Plan included the Objective: To improve health and reduce health inequalities. The sub questions relating to this objective are set out below:

- a) Will it help to promote healthy lifestyles?
- b) Will it improve the region’s efforts to protect the public’s health?
- c) Will it reduce health and welfare inequalities in the region?
- d) Will it address health needs and inequalities in urban communities?
- e) Will it address health needs and inequalities in rural communities?
- f) Will it improve access to health services?

9.6 **EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)**

The SA of the draft plan stated that the policies in the Plan are generally expected to positively affect health in the region, although few of these effects are likely to be significant and many have uncertainties associated with them. Many of the area-specific policies aim to reduce deprivation, which has the potential to indirectly affect health. Additionally, those policies that encourage walking, cycling a reduction in private car and the creation of green infrastructure are likely to have a positive influence.

The Proposed Changes design policy strengthens the consideration of the urban heat island, possibly helping to ameliorate a future health problem. Another change relevant to health is the recognition in the landscape protection policy that tranquillity is a key factor in valued landscapes. The recognition
of the RSS Panel that the success of the sustainable transport measures in the RTS is uncertain may mean that policies that encourage walking, cycling and a reduction in private car are not as positive as they could be in delivering health benefits. The transport schemes have been amended so they are linked to the implementation of policy more clearly. However, the effects of this are uncertain until the RTS is reviewed.

There are no significant changes as a result of the changes made to the final plan.

Cumulative effects

Appraisal against the health SA objective shows that the Regional Plan is generally expected to result in positive cumulative effects. The Plan encourages walking and cycling and the provision of green infrastructure, along with encouraging sport and protecting the natural environment, which are all likely to impact positively on health (although the delivery of sustainable transport measures is uncertain). This may lead to reductions in air quality and therefore potential negative cumulative effects on public health.

Issues for the Review of the Regional Plan

In the light of the fact that the RTS is subject to an early review, there are no further recommendations.

Uncertainties/Information Gaps

Further information on health inequalities would be useful to the appraisal.

9.7 PROPOSALS FOR MONITORING

As no significant negative effects on health have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend that levels of obesity continue to be monitored, along with health inequalities in the region.
10.0 SUSTAINABILITY APPRAISAL TOPIC: ACCESS TO AND ENJOYMENT OF HERITAGE, CULTURE AND RECREATION

Objective 3: To provide better opportunities for people to value and enjoy the region’s heritage and participate in cultural and recreational events

10.1 INTRODUCTION

Our built heritage and historic environment is protected in many ways including, internationally through UNESCO as World Heritage Sites; nationally by being listed and graded by English Heritage, the scheduling of ancient monuments and through local planning designations. Access to services describes the provision of necessary services, such as health care, education and greenspace, as well as the infrastructure required to allow people to use them. Providing access to services that meet the needs of existing and future communities is vital to developing sustainable communities with good social cohesion and provide equal opportunities for all; a key Government goal. In addition, providing good access to services help to maintain the vitality of city and town centres, maintaining critical thresholds of activity that is required to attract a range of other land uses. This can help maintain a rounded demographic distribution and contribute to community continuity.

10.2 CHARACTERISATION

Historic Environment

The East Midlands Region played a leading role in the industrial revolution, as reflected in the Derwent Valley Mills World Heritage Sites, the only WHS in the Region. A legacy of ancient road networks, the Civil War, and historic wealth from sheep farming, leaves the East Midlands with a considerable range of heritage assets. This is reflected in the high number of designated places of archaeological, architectural and historic importance, on a region wide, per capita basis. Waterways such as the Grand Union Canal are an integral part of the region’s heritage. The region contains many historic market towns such as Stamford.

The distribution of regional assets related to the historic environment is set out in Table 10.1.

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37 English Heritage Consultation Comments on Draft Interim Report.
38 Viewpoints on the Historic Environment of the East Midlands (East Midlands Regional Heritage Forum, 2002)
Table 10.1 The historic environment of the East Midlands: distribution of assets 39

<table>
<thead>
<tr>
<th>Unitary Authority</th>
<th>Distribution of listed buildings</th>
<th>Distribution of museums</th>
<th>Distribution of scheduled monuments</th>
<th>Distribution of registered parks and gardens and battlefields</th>
<th>Conservation areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derbyshire</td>
<td>5,569</td>
<td>36</td>
<td>476</td>
<td>30</td>
<td>272</td>
</tr>
<tr>
<td>Derby</td>
<td>372</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Leicestershire</td>
<td>3,915</td>
<td>18</td>
<td>181</td>
<td>14</td>
<td>200</td>
</tr>
<tr>
<td>Leicester</td>
<td>388</td>
<td>13</td>
<td>10</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Rutland</td>
<td>1,398</td>
<td>3</td>
<td>28</td>
<td>2</td>
<td>34</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>6,936</td>
<td>37</td>
<td>478</td>
<td>28</td>
<td>155</td>
</tr>
<tr>
<td>Northamptonshire</td>
<td>6,448</td>
<td>32</td>
<td>174</td>
<td>29</td>
<td>159</td>
</tr>
<tr>
<td>Nottinghamshire</td>
<td>3,762</td>
<td>22</td>
<td>157</td>
<td>17</td>
<td>128</td>
</tr>
<tr>
<td>Nottingham</td>
<td>791</td>
<td>3</td>
<td>10</td>
<td>8</td>
<td>29</td>
</tr>
</tbody>
</table>

There are 137 registered parks and gardens, 1,013 conservation areas and 5 historic battlefields in the East Midlands 40. Between 1989 and 2000, the number of conservation areas in the East Midlands increased by 46% 39.

Other designated sites are the Lincolnshire Wolds AONB, the Derwent Valley UNESCO World Heritage Site and the Peak District National Park. Cultural assets include forests, parks and country houses. The East Midlands is one of the three regions in England with the lowest amount of ancient woodland.

**Sport and Recreation**

The Urban Parks Survey in 2003 identified 2,807 parks in the region, but 39% of the region’s parks and open spaces are in a state of decline 40. Areas identified as having the least or a relatively low amount of open space are generally urban, particularly around the Three Cities (Nottingham, Leicester and Derby), Chesterfield, Lincoln and Northampton 41.

The vast majority of the East Lindsey, High Peak, Wellingborough, Northampton, Broxtowe and Geding districts are within the lowest 25th percentile of the region in terms of sports facilities 41. Overall, 30% of men in the East Midlands were found to be active at the level recommended by the Department of Health. This is an average of 5 or more occasions of moderate or vigorous activity (of at least 30 minutes duration) per week (Level 3 of sport participation) 42.

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40 Sustainable Communities in the East Midlands, ODPM 2003
42 Patterns of Physical Activity in the East Midlands – A Regional Briefing, Department of Health, EMPHO, HAD and Sport England 2004
More men (38%) than women (23%) were active at this level. Relatively few people aged 65 and
over met the recommended levels. 61% of girls and 45% of boys aged 2-15 years in the East
Midlands do not meet the Government’s minimum physical activity guideline of one hour a day.

In East Midlands’ men, the proportion active at Level 3 is higher for the manual social classes (43%) compared to women who are more active in the non-manual social classes (28%). The activity
levels in the East Midlands are very similar to the rest of England. The East Midlands has a number of
world-class facilities and centres such as the Sport England funded National Ice Centre in Nottingham. A high percentage of English athletes are based in the East Midlands, and 10 national
governing bodies have headquarters here. Loughborough University is an internationally renowned
sports science and education institution and has world-class training facilities. The region has a good
selection of high profile professional clubs in rugby, cricket, football, basketball, ice hockey and 6
motor racing circuits. In 2000, 12 major professional sports clubs in the region, attracted
approximately 150,000 spectators on a regular basis. Each club runs programmes to involve young
people in sport.

2.25% of the region is employed in the sport sector compared with 1.75% in England as a whole.
Sports tourism is important in the East Midlands – in 2003, the region received just under 420,000 day
sports-related visitors, spending around £10m on admissions to sporting events such as the British
Grand Prix at Silverstone. Councils in the region provide 197 leisure centres and 1,114 swimming
pools.

The East Midlands Sport Board is working to promote sport and physical activity and encourage
inclusion through sport in area-based initiatives where traditionally participation in sport is low. Health initiatives such as Green Gyms, Healthy Walks and Sport Action Zones have been set up. Braunstone Sports Action Zone was based on a year’s consultation to find out what local people want – resulting in the Fitness and Active Braunstone Team. Leicester Racial Equality and Sport Project works to develop positive images and role models of local ethnic minority women in the community involved in sport. A drop in the juvenile crime rate was recorded in Bolsover during the summer sports programme.

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43 Sustainable Communities in the East Midlands, ODPM 2003
45 Time for Culture – A Cultural Strategy for the East Midlands, Culture East Midlands 2001
46 Region in Figures: East Midlands, Office of National Statistics 2004
48 Investment for Health: A Public Health Strategy for the East Midlands, EMRA 2003
The Regional Plan for Sport 2004 – 2008 (Change 4 Sport) includes a target to increase the percentage of the adult population taking part in sport from its current level of 21.2% to 25.2% by 2008. To achieve this goal 133,414 people need to be encouraged into sport.

**Natural Resources**

The region has a wide range of natural resources, including most of the Peak District National Park and a large area of the National Forest in the East Midlands. There is a growing network of rights of way, footpaths, multi-use trails and long-distance paths, making up 18,763 km of footpaths, bridleways and byways across the region. Recreational assets range from the East Midlands National Trails, through middle distance routes such as the Viking Way, down to shorter circular routes in and around the towns and villages. The region has the National Cycle Network running through it, through the Greenwood Community Forest\(^{49}\).

The region has reservoirs such as Rutland Water - the largest man-made lake in Western Europe and Carsington Water which is heavily used for sculling and angling. There are rivers such as the Trent, a network of canals and the Lincolnshire coastline, which provide water-based recreation\(^{45}\). Many opportunities have been presented by the tradition of mining in the area. The National Water Sports Centre at Holme Pierrepoint was developed from disused mineral workings. There are continued opportunities to develop local playing fields and informal open spaces around the many former clay pits, spoil heaps and gravel workings in the region\(^{47}\).

EMRA has identified the provision of green infrastructure as a priority for action to encourage the sustainable use of the region’s recreational resources. Green infrastructure – a sub-regional network of protected sites, nature reserves, green spaces and greenway linkages - has been proposed to protect and enhance the East Midlands’ recreational assets\(^{50}\).

**Additional information on the Sub-Regional Study Areas**

**Three Cities Sub-Region**

The National Forest lies partially within the 3-Cities sub region and covers 200 square miles; including Charnwood Forest in northwest Leicestershire. The National Forest embraces differing land uses providing a diverse setting for leisure, tourism, farm diversification and rural industries. The restoration of the National Forest landscape is intertwined with the regeneration of the economy and the enrichment of lives and well being of its residents and growing number of visitors.

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\(^{49}\) East Midlands Regional Environment Strategy, EMRA 2003  
\(^{50}\) Regional Environmental Infrastructure Phase 1 Scoping Study for the East Midlands, EMRA 2005
Greenwood Forest is a Community Forest in Nottinghamshire. It is becoming a rich mosaic of land uses and wildlife habitats set in 161 square miles stretching from Nottingham in the south to the countryside beyond Mansfield in the north. Sherwood Forest covers a swathe of land from Mansfield northwards. Table 10.2 shows a variety of statistics relating to leisure and cultural facilities in the Three Cities Sub Region.

Table 10.2 Leisure and cultural facilities in the Three Cities Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Nottingham</th>
<th>Derby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visits to tourist attractions</td>
<td>2003</td>
<td>286,949</td>
<td>-</td>
<td>117,350</td>
</tr>
<tr>
<td>% of people within 20 minutes travel time of three different sports facilities</td>
<td>2003 – 2004</td>
<td>45</td>
<td>32.1</td>
<td>29.8</td>
</tr>
<tr>
<td>% of residents who think that over the last 3 years cultural facilities have got better or stayed the same</td>
<td>2003 – 2004</td>
<td>84.18</td>
<td>88.67</td>
<td>94.18</td>
</tr>
<tr>
<td>% of residents who think that over the last 3 years sports facilities have got better or stayed the same</td>
<td>2003 – 2004</td>
<td>84.61</td>
<td>87.47</td>
<td>93.49</td>
</tr>
</tbody>
</table>

*Northern Sub-Region*

Greenwood Forest is a Community Forest in Nottinghamshire. It is becoming a rich mosaic of land uses and wildlife habitats set in 161 square miles stretching from Nottingham in the south to the countryside beyond Mansfield in the north. Sherwood Forest covers a swathe of land from Mansfield in the south to Worksop in the north. Sherwood sandstones lies just beneath the surface and this has had a major influence on the way the area has been used and settled since earliest times and consequently on its current appearance and the pattern of wildlife habitats. Newark and Sherwood District Council have designated a swathe of land as the Sherwood Forest Heritage Area due to its economic and historic significance with particular reference to the remnants of ancient woodland within the forest. Table 10.3 shows the number of visits to tourist attractions in the Northern Sub Region.

Table 10.3 number of visits to tourist attractions in the Northern Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visits to tourist attractions</td>
<td>2003</td>
<td>130,000</td>
<td>1,378,330</td>
</tr>
</tbody>
</table>

*Lincoln Sub-Region*

No further data was collected as part of the Lincoln Sub-Regional Strategy SA report.
**Information Gaps**

- A lack of data on the quantity and quality of open space.
- The lack of data on the quality of the built environment, particularly outside of historic centres.

### 10.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

**Table 10.4 Plans, programmes and policies**

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- PPG 15: Planning and the Historic Environment (DoE, 1994)</td>
</tr>
<tr>
<td>- PPG 16: Archaeology and Planning (DoE, 1990)</td>
</tr>
<tr>
<td>- PPG 21: Tourism (DoE, 1992)</td>
</tr>
<tr>
<td>- Department of Culture, Media and Sport Public Service Agreement (2004)</td>
</tr>
<tr>
<td>- Planning Policy Guidance 17: Planning for Open Space, Sport and Recreation (ODPM, 2002)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Destination East Midlands (Regional Tourism Strategy) (EMDA, 2003)</td>
</tr>
<tr>
<td>- Physical Activity in the East Midlands – A Regional Briefing (Department of Health, EMPHO, HAD and Sport England 2004)</td>
</tr>
<tr>
<td>- Regional Environmental Infrastructure Phase 1 Scoping Study for the East Midlands (EMRA, 2005)</td>
</tr>
</tbody>
</table>

The key messages identified from these other relevant plans and programmes and initiatives include:

- Conserve and enhance historic buildings.
- Tourism should be encouraged whilst avoiding adverse impacts.
- Uptake of sport, recreational and cultural activities should be encouraged.

### 10.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of access to and enjoyment of the region’s heritage, cultural and recreational assets in the East Midlands without the implementation of the RSS is described in Table 10.5.

**Table 10.5 Key heritage, cultural and recreational access issues and their likely evolution without the Spatial Plan**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the RSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of awareness: Landowners and managers lack awareness of the potential distribution and significance of possible archaeological sites and scheduled ancient monuments.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>Pressure for development: Pressures for development</td>
<td>Pressure likely to continue to increase as regeneration</td>
</tr>
<tr>
<td>Issue</td>
<td>Likely evolution without the RSS</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>in archaeologically sensitive areas, particularly in the south of the region and areas such as Nottingham and Derbyshire where regeneration is the main priority.</td>
<td>schemes are implemented.</td>
</tr>
<tr>
<td>Damage from the elements: Poor air quality can cause acid rain affecting historic buildings and changes in climate and weather (e.g. flooding) can also damage historic assets.</td>
<td>Increasing population likely to lead to an increase in traffic, decreasing air quality.</td>
</tr>
<tr>
<td>Participation in sport: The Government Strategy for Sport sets a target of 70% adult participation in sport by 2020. As the region is currently at 30%, there is a marked shortfall (particularly in female participation) between the current level and the achievement of this target.</td>
<td>A greater percentage of East Midlands residents are expected to participate in sport as the East Midlands Regional Plan for Sport (2004-2008) and the East Midlands Culture Strategy are implemented.</td>
</tr>
<tr>
<td>Protecting and improving local facilities: Even though several flagship schemes and high budget leisure facilities have been set up in the East Midlands to raise the profile of sport – e.g. the National Ice Centre, there is an issue with the protection of open land in the region, in particular playing fields.</td>
<td>39% of the region’s parks are in decline. This trend is expected to continue as development increases pressure on open spaces. However, Access to open space would be likely to be maintained and improved as a result of existing policies.</td>
</tr>
</tbody>
</table>

10.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the Regional Spatial Strategy included the Objective: To provide better opportunities for people to value and enjoy the region’s heritage and participate in cultural and recreational activities. The sub questions relating to this objective are set out below:

a) Will it help people to increase participation in cultural activities?
b) Will it protect or enhance existing cultural assets?
c) Will it support the development of a vibrant cultural economy?
d) Will it promote, celebrate and/or develop local and regional cultural distinctiveness and strengths?
e) Will it increase the number of people in urban areas with access to public open space?
f) Will it improve the condition of public open spaces in the region?
g) Will it help to improve access to sports facilities?

10.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)

The SA of the draft plan stated that there is a good range of policies to cover heritage, culture and recreation, many of which are well worded and cover the key issues. Some aspects of the housing provision policy and transport policies are likely to put increased pressure on cultural assets and maintaining and developing cultural distinctiveness. Delivering new and high quality green infrastructure and ensuring cultural distinctiveness is maintained in developed will be highly dependent on effective implementation in areas such as Lincoln. Work needs to be undertaken to fully understand the likely affects of development and some policies e.g. the policy on the historic environment, appear to be reactive and currently add uncertainty as to how heritage, cultural and recreation assets will be affected.
The increase in housing provision in the Proposed Changes could exert increased recreational pressure on Natura 2000 sites, especially the Nene Valley cSPA. Recommendations have been included in the Appropriate Assessment to help mitigate these effects. The housing allocation for Lincoln and adjacent districts has increased by 67% making it more likely that a change in the character of the settlement could take place with development (depending on the proportion of this allocation that is placed in Lincoln). Maintaining Lincoln’s cultural distinctiveness will be highly dependent on effective delivery.

The decrease in housing numbers reduces the risk that housing will impact upon valued resources. However, the reduction is small, therefore any improvement in the performance of the plan is minor.

Cumulative effects
A small number of policies include an objective to increase participation in cultural activities and this aim will be highly dependent on implementation. Whilst a number of policies aim to protect and enhance cultural assets and cultural distinctiveness, adverse effects may be likely in areas such as the Nene Valley and Lincoln. Policies are likely to be beneficial for communities in encouraging employment and economic activity in urban and rural areas. Policy 27 Regional Priorities for Environmental and Green Infrastructure could result in increased provision of quality green infrastructure.

Issues for the Review of the Regional Plan
In the next review of the RSS consideration should be given to alternative ways of regenerating peripheral areas, rather than focusing on improved accessibility – his would have positive effects on areas of cultural significance and communities.

10.7 PROPOSALS FOR MONITORING
It is recommended that information on the indicators listed in Table 10.6 is collected in order to monitor the significant effects of implementing the RSS policies on access to and enjoyment of heritage, cultural and recreational assets.

Table 10.6 Proposals for monitoring access to and enjoyment of heritage, culture and recreation in the East Midlands

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protects or enhances existing cultural assets.</td>
<td>Cases of damage to cultural assets and compensatory measures</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Number of Listed Buildings at risk</td>
<td>Yes</td>
</tr>
<tr>
<td>Promotes, celebrates and/or develops local and regional cultural distinctiveness and strengths.</td>
<td>% of people taking part in cultural activities</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>% contribution of the cultural industries to the region’s GDP.</td>
<td>Yes</td>
</tr>
</tbody>
</table>
11.0 SUSTAINABILITY APPRAISAL TOPIC: COMMUNITY SAFETY AND CRIME

Objective 4: To improve community safety, reduce crime and the fear of crime

11.1 INTRODUCTION
Crime reduction is any action taken to reduce the frequency and seriousness of criminal events; crime reduction delivered through the planning system usually takes place in the form of crime prevention that is intervention in the causes of criminal events. Although reducing crime and the fear of crime is not solely or principally deliverable by any spatial planning mechanism, local planning is an integral part of reducing crime through design issues. In addition, certain factors such as social exclusion (including deprivation, unemployment, truancy/exclusions and poor education) can all impact upon the rates of crime.

11.2 CHARACTERISATION
The six key offences the British Crime Survey use to measure crime statistics are: violence against the person, sexual offences, robbery, burglary of a dwelling, theft of a motor vehicle, and theft from a motor vehicle. In the East Midlands there were 11,720 crimes recorded in 2003/04 per 100,000 population and crime is estimated to cost the East Midlands about £1.6bn per year. However, 77% of the crime went unrecorded. According the ONS online statistics, in 2005/2006 this has decreased to 10,207 per 100,000 population (lower than the national average of 10,331).

In 2004-5 in the East Midlands there were (per 100,000 population) (figures in brackets are 2003-4 figures for comparison):

- 1,876 (1,752) recorded incidents of violence against the person (up from 03/04);
- 124 (99) recorded sexual offences (up from 03/04);
- 1571 (1933) burglaries (down from 03/04);
- 124 (156) cases of robbery cases of burglary of a dwelling (down from 03/04);
- 3870 (4489) cases of theft and handling of stolen goods (down from 03/04);
- 525 (606) cases of fraud and forgery (down from 03/04);
- 2299 (2306) cases of criminal damage (down from 03/04);
- 213 (204) drug offences (up from 03/04); and
• 132 (155) cases of ‘other’ crime.\textsuperscript{51} (down from 03/04).

Table 11.1 shows the trend in crime over the last ten years.

**Table 11.1 Recorded crime in the East Midlands between 1991 and 2005**

<table>
<thead>
<tr>
<th>Crime Category</th>
<th>In the last twelve years</th>
<th>In the last year (2003/4-2004/5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number of cases per 100,000 population since 1991\textsuperscript{52}</td>
<td>% change\textsuperscript{53}</td>
</tr>
<tr>
<td>Violence against a person</td>
<td>Increased 1,289 cases</td>
<td>Increased 15%</td>
</tr>
<tr>
<td>Sexual offences</td>
<td>Increase 34 cases</td>
<td>Increased 63%</td>
</tr>
<tr>
<td>Burglary</td>
<td>Decreased 350 cases</td>
<td>Decreased 20%</td>
</tr>
<tr>
<td>Robbery</td>
<td>Increased 102 cases</td>
<td>Decreased 21%</td>
</tr>
<tr>
<td>Theft and handling</td>
<td>Decreased 1164 cases</td>
<td>Decreased 6%</td>
</tr>
<tr>
<td>Fraud and forgery</td>
<td>Increased 344 cases</td>
<td>Decreased 9%</td>
</tr>
<tr>
<td>Criminal damage</td>
<td>Increased 993 cases</td>
<td>Decreased 1%</td>
</tr>
<tr>
<td>Drug Offences</td>
<td>Increased 191</td>
<td>Increased 31%</td>
</tr>
<tr>
<td>Other</td>
<td>Increased 110</td>
<td>Decreased 15%</td>
</tr>
<tr>
<td>Total</td>
<td>Increased 1574</td>
<td>Decreased 2%</td>
</tr>
</tbody>
</table>

15% of women feel very worried about burglary and 25% of women aged 60 and over feel very unsafe walking alone at night\textsuperscript{54}.

In Nottinghamshire, the rates of recorded violent crime, burglary and theft are the highest in the region\textsuperscript{55}. The level of personal victimisation and the proportion of respondents being witness to crime was significantly higher in Northamptonshire compared to the average for England and Wales\textsuperscript{53}.

For all types of offence in the region, rural crime rates are lower than in urban areas. However, violence against a person incidences rose by 13% between 2002/03 and 2003/04, although rural East Midlands is still below the average for England in this category.

During 2003/4 the East Midlands had the fourth highest rate of recorded crime per 1,000 population in the English regions and Wales\textsuperscript{63}. However, crimes relating to violence against the person, sexual offences, robbery and drug offences are less common than the national average. The region also has a higher rate of solving crimes / finding the criminal (the ‘clear-up rate’) than the national average.

The British Crime Survey found police performance in Nottinghamshire to be rated either excellent or good by 39%, compared to 49% across England and Wales as a whole\textsuperscript{56}.

Co-ordinated action to tackle community safety issues in the region continues to improve. Local authorities and many statutory and voluntary sector organisations and professions help support

\textsuperscript{51} Region in Figures: East Midlands, Office of National Statistics 2005 and 2006
\textsuperscript{52} Region in Figures: East Midlands, Office of National Statistics 2005 and 2006
\textsuperscript{53} Home Office Statistical Bulletin Crime in England and Wales 2004/05: East Midlands Region, Home Office 2005
\textsuperscript{54} Region in Figures: East Midlands, Office of National Statistics 2005 and 2006
\textsuperscript{55} East Midlands State of the Region Report IRS Framework Objective 4 - Crime and Community Safety
community safety. There are also a number of well-established multi-agency partnerships, which seek to tackle specific issues.

The Home Office Public Service Agreement 2004 includes the following targets for tackling crime\textsuperscript{57}:

- Reduce crime by 15\%, and further in high crime areas, by 2007-08;
- Improve the delivery of justice by increasing the number of crimes for which an offender is brought to justice to 1.25 million by 2007-08; and
- Reassure the public, reducing the fear of crime and anti-social behaviour, and building confidence in the Criminal Justice System without compromising fairness.

Additional information on the Sub-Regional Study Areas

Three Cities Sub Region

Figures relating to crime in the Three Cities sub region are shown in Table 11.2.

\textsuperscript{57} SR 2004- Public Service Agreement Technical notes (2005)
### Table 11.2 Crime statistics for the Three Cities Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burglaries no. per 1,000 household</td>
<td>2004/05</td>
<td>23.5</td>
<td>10.9</td>
<td>51.1</td>
<td>18.5</td>
<td>17.9</td>
<td>10.5</td>
</tr>
<tr>
<td>Vehicle crimes no. per 1000 population</td>
<td>2004/05</td>
<td>18.5</td>
<td>9.5</td>
<td>36.2</td>
<td>17.0</td>
<td>15.2</td>
<td>9.0</td>
</tr>
<tr>
<td>No. of recorded racial incidents per 100,000 population</td>
<td>2004/05</td>
<td>230</td>
<td>80.8</td>
<td>133</td>
<td>7.9</td>
<td>143</td>
<td>9.6</td>
</tr>
<tr>
<td>% of racial incidents that resulted in further action</td>
<td>2004/05</td>
<td>99.8</td>
<td>98.0</td>
<td>100</td>
<td>97.6</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>No. of domestic violence refuge places per 100,000 population</td>
<td>2004/05</td>
<td>1.8</td>
<td>0.3</td>
<td>1.3</td>
<td>0.2</td>
<td>2.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Notifiable offences recorded by the police; violence against the person</td>
<td>April 04 – March 05</td>
<td>11,488</td>
<td>-</td>
<td>9,067</td>
<td>-</td>
<td>6105</td>
<td>-</td>
</tr>
<tr>
<td>Notifiable offences recorded by the police: robbery</td>
<td>April 04 – March 05</td>
<td>1,015</td>
<td>-</td>
<td>1,515</td>
<td>-</td>
<td>503</td>
<td>-</td>
</tr>
<tr>
<td>Notifiable offences recorded by the police: burglary in dwelling</td>
<td>April 04 – March 05</td>
<td>2,807</td>
<td>-</td>
<td>6,391</td>
<td>-</td>
<td>1,803</td>
<td>-</td>
</tr>
</tbody>
</table>
Northern Sub Region

Figures relating to crime in the Northern sub region are shown in Table 11.3

Table 11.3 Crime statistics in the Northern sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burglaries No. per 1,000 household</td>
<td>2004/05</td>
<td>18.5</td>
<td>10.5</td>
</tr>
<tr>
<td>Vehicle Crimes No. per 1000 population</td>
<td>2004/05</td>
<td>17.0</td>
<td>9.0</td>
</tr>
<tr>
<td>No. of recorded racial incidents per 100000 population</td>
<td>2004/05</td>
<td>7.9</td>
<td>9.6</td>
</tr>
<tr>
<td>% of facial incidents that resulted in further action</td>
<td>2004/05</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>No. of domestic violence refuge places per 100000 population provided/supported by local authorities</td>
<td>2004/05</td>
<td>0.2</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Lincoln Sub Region

No further data was collected as part of the Lincoln sub regional strategy SA report.

Information Gaps

None identified.

11.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

Table 11.4 Plans, programmes and policies

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Home Office Public Service Agreement 2002</td>
</tr>
<tr>
<td>• Planning Policy Statement 1.</td>
</tr>
</tbody>
</table>

Regional & Sub-regional Plans and Programmes

<table>
<thead>
<tr>
<th>Regional &amp; Sub-regional Plans and Programmes</th>
</tr>
</thead>
</table>

The key messages identified from these other relevant plans and programmes and initiatives include:

- The need to reduce crime, anti-social behaviour and fear of crime.
- Placing an emphasis on public health, thereby providing a safe environment for people to live in.
### 11.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of crime in the East Midlands without the implementation of the Regional Plan is described in Table 11.5.

Table 11.5 Key community safety and crime issues and their likely evolution without the Regional Plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reporting crime</strong>: It is estimated that over 70% of the crime in the East Midlands goes unrecorded. If this data were included, the crime statistics would be much worse.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td><strong>The fear of crime</strong>: Nearly a third of female pensioners are extremely nervous about the possibility of being a victim of crime – and the statistics are not solely confined to older people</td>
<td>Fear of crime and feelings of safety in the East Midlands are not expected to be greatly reduced in the absence of regional policies to design out crime and make the region feel safer.</td>
</tr>
<tr>
<td><strong>Problem areas</strong>: There is a pronounced uneven distribution of crimes committed across the East Midlands region. Nottinghamshire emerges from the data as a key crime area as it has a third more crime than Leicestershire and Derbyshire (when the populations of the county are taken into account).</td>
<td>Continuation of current trend.</td>
</tr>
</tbody>
</table>

### 11.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the draft Regional Plan included the Objective: *To improve community safety, reduce crime and fear of crime*. The sub questions relating to this objective are set out below:

a) Will it provide safer communities?  
b) Will it help to create communities where people feel safe?

### 11.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)

The SA of the draft plan stated that there are a number of policies in the East Midlands Regional Plan that are expected to positively influence the reduction of crime and fear of crime. Although only policy “Promoting Better Design” specifically addresses the need to design to reduce crime and fear of crime, polices which are likely to lead to better quality environments, for example those that promote regeneration and the provision of green infrastructure, are likely to have minor positive effects on crime and fear of crime.

*The new policies in the Proposed Changes will have positive effects on crime and community safety through reduction of the risk of flooding (through the strategy for Lincolnshire’s coastal districts). There are no significant changes as a result of the changes made to the final plan.*
**Cumulative effects**

The East Midlands Regional Plan has the potential to have minor positive cumulative effects on crime and fear of crime. The policies in the Plan are cumulatively expected to result in regeneration and improved environments, which may potentially lead to crime reduction and a reduction in fear of crime. Ensuring that development is designed to reduce crime is likely to cumulatively affect this SA objective throughout the region, in all locations where new housing development takes place. The plan will also positively affect safety through reduction in the risk of flooding in Lincolnshire’s coastal districts.

**Issues for the Review of the Regional Plan**

None identified.

**Uncertainties/Information Gaps**

None identified.

**11.7 PROPOSALS FOR MONITORING**

As no significant negative effects on crime have been identified in the Sustainability Appraisal, no specific proposals for monitoring have been included.
12.0 SUSTAINABILITY APPRAISAL TOPIC: SOCIAL CAPITAL

Objective 5: To promote and support the development of social capital across the region

12.1 INTRODUCTION
Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society’s social interactions... Social capital is not just the sum of the institutions which underpin a society – it is the glue that holds them together. (The World Bank, 1999).

Social equality is a state where there is equal opportunity for all people, irrespective of their situation or background, to access employment and services, opportunities to earn equal income, and experience the same quality of living environment. Social inequality describes the disparity between people, or groups of people. There are many forms of inequality. Discrimination may be targeted against a particular group due to race or religion, social standing, gender or sexual preference. People may also become socially excluded if they are physically isolated (i.e. they live in rural areas with poor connections) or they cannot access the same information to make informed decisions.

In 2000 the ODPM commissioned a study to assess the levels of deprivation in all of England’s local authorities. The study identifies multiple types of deprivation that combine as indicators and cover a range of domains (income, employment, health deprivation and disability, education skills and training, housing and geographical access to services) into a single deprivation score for each area. This study has also been updated in 2004 and 2007.

12.2 CHARACTERISATION
In Spring 2005, 84,000 people of working age people in the East Midlands were unemployed and 9.6% were without qualifications\(^{58}\) (4.2% had GCSE qualifications of A*-C). In 2002-3, 23% of children lived in households with relatively low income (below 60% of the contemporary median) and 2001 and 9% of households experienced fuel poverty. Nottingham, Leicester and Bolsover are within the 10% most deprived districts in England\(^{59}\).

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\(^{58}\) Labour Force Survey, Office for National Statistics
\(^{59}\) East Midlands State of the Region’s Economy, East Midlands Observatory 2002
Poor housing is a factor, which contributes to the overall cycle of deprivation and social exclusion. At present, 28.1% of private sector housing and 34.3% of social housing in the East Midlands is failing to meet the ‘Decent Homes Standard’\textsuperscript{60}. There is a low level of homeless households but Leicester, Northampton and Nottingham are amongst the 25 locations in the country with the highest number of rough sleepers\textsuperscript{61}.

The East Midlands is a diverse economic and social mix ranging from prosperous city dwellers and commuters to pockets of serious urban and rural deprivation. Deprivation in the East Midlands is highly concentrated in the cities and coalfield areas as well as some parts of the Lincolnshire coast. Deprivation is also found in rural areas, where opportunities for employment and access to key, basic services are limited. There has been a steady decline in the provision of rural services since 1991. Rural East Midlands has a higher proportion of rural parishes without a post office, pubs and banks/building societies than is the case nationally. It does however have slightly fewer parishes without village shops or GPs\textsuperscript{62}.

\textit{Access}

Rural households have above average (for England) access to supermarkets, job centres and libraries. However, they have worse than average access to banks and secondary schools. Access to cash points, post offices, petrol stations, primary schools and GP surgeries are very close to England’s average\textsuperscript{63}. The more remote rural areas of the eastern half of the region may be benefiting from relative isolation and poor transport infrastructure maintaining the economic viability of existing services.

\textsuperscript{60} East Midlands Regional Housing Strategy 2004-2010 (Regional Housing Board, 2004)
\textsuperscript{61} Regional Quality of Life Counts, Defra, 2003
\textsuperscript{62} Countryside Agency’s Survey of Rural Services 2000.
The decline in rural services and increasing reliance on the private car experienced by rural residents in the East Midlands is in line with national trends. The region has an older than average age profile, and the average age continues to increase. Rural areas in the south and west of the region are generally far more accessible than those in the east of the region. A significant proportion of new development is likely to occur in rural areas to the south of the region (e.g. the Milton Keynes South Midlands Growth Area) increasing access to services for existing populations.

As outlined in the Regional Strategy for Tourism\textsuperscript{64}, tourism in the East Midlands contributes £5 billion to the region’s economy. 90% of trips are day trips, 9% are staying trips from other parts of the region and 1% are from overseas. The region hosts 800,000 foreign visitors annually. The Peak District, especially, experiences high visitor numbers placing heavy pressure on infrastructure and the natural environment.

There is currently a lack of available data on levels of access to the countryside (and, in particular, the urban-fringe) for people living in urban areas of the region, although data from 2000 indicates that the extent of signposting and extent of ease of use of public rights of way is significantly below the national average. However, the Countryside and Rights of Way Act 2000 is leading to improvements. There is a higher ratio of businesses to population in rural than in urban areas of the East Midlands, with over 85% of rural business having 10 or fewer employees. There is a noticeable difference between accessible and remote rural areas, with accessible rural areas near the urban-fringe, generally, out-performing the regional average in terms of the economy in recent decades\textsuperscript{65}

Additional information on the Sub-Regional Study Areas

Three Cities Sub-Region

Table 12.1 shows community data for the Three Cities sub region.

Table 12.1 Community data for the Three Cities sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicester shire</th>
<th>Nottingham</th>
<th>Nottingham shire</th>
<th>Derby</th>
<th>Derby shire</th>
<th>East Midlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of respondents that are involved in any local community activity</td>
<td>2000</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Ease with which respondents get access to the library (non-mobile) % graded very difficult</td>
<td>2000</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Ease with which respondents get access to a library (non-mobile) % graded very easy</td>
<td>2000</td>
<td>-</td>
<td>49</td>
<td>-</td>
<td>61</td>
<td>-</td>
<td>45</td>
<td>49</td>
</tr>
<tr>
<td>% respondents that have been involved in any unpaid voluntary work during the past 12 months</td>
<td>2000</td>
<td>-</td>
<td>15</td>
<td>-</td>
<td>13</td>
<td>-</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>% of local authority buildings suitable for and accessible by disables people</td>
<td>04/05</td>
<td>55.9</td>
<td>-</td>
<td>24</td>
<td>73</td>
<td>43</td>
<td>33.5</td>
<td>-</td>
</tr>
<tr>
<td>Visits to libraries Number per capita</td>
<td>04/05</td>
<td>6744</td>
<td>4577</td>
<td>4782</td>
<td>5579</td>
<td>5512</td>
<td>3935</td>
<td>-</td>
</tr>
<tr>
<td>School pupil visits to museums and galleries</td>
<td>04/05</td>
<td>21423</td>
<td>21024</td>
<td>29330</td>
<td>0</td>
<td>8297</td>
<td>1107</td>
<td>-</td>
</tr>
<tr>
<td>Medical and care establishments Communal Establishments Court</td>
<td>April 01</td>
<td>133</td>
<td>221</td>
<td>105</td>
<td>305</td>
<td>87</td>
<td>325</td>
<td>1871</td>
</tr>
</tbody>
</table>
Northern Sub-Region

Table 12.2 shows community data for the Northern sub region.

Table 12.2 Community data for the Northern sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
<th>East Midlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of respondents that are involved in any local community activity</td>
<td>2000</td>
<td>6</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Ease with which respondents get access to the library (non-mobile) % graded very difficult</td>
<td>2000</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Ease with which respondents get access to a library (non-mobile) % graded very easy</td>
<td>2000</td>
<td>61</td>
<td>45</td>
<td>49</td>
</tr>
<tr>
<td>% residents that have been involved in any unpaid voluntary work during the past 12 months</td>
<td>2000</td>
<td>13</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>% of local authority buildings suitable for and accessible by disabled people</td>
<td>2004/2005</td>
<td>73</td>
<td>33.6</td>
<td>-</td>
</tr>
<tr>
<td>Visits to libraries Number per Capita</td>
<td>2004/2005</td>
<td>5579</td>
<td>3935</td>
<td>-</td>
</tr>
<tr>
<td>School pupil visits to museums and galleries</td>
<td>2004/2005</td>
<td>0</td>
<td>1107</td>
<td>-</td>
</tr>
<tr>
<td>Medial and care establishments Communal Establishments Count</td>
<td>April 2001</td>
<td>305</td>
<td>325</td>
<td>1871</td>
</tr>
</tbody>
</table>

Lincoln Sub-Region

Some parts of the city are experiencing multiple deprivation with 17 of 57 Super Output Areas in Lincoln featuring in the top 20% most deprived in England for multiple deprivation. The LPA has six super output areas defined as being in the top 10% in the country as defined by the index of multiple deprivation. They are all within the Lincoln built up area (Castle, Glebe, Abbey, Moorland, Birchwood West, and Birchwood.

Information Gaps

Data on access to the countryside.
### 12.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

#### Table 12.3 Plans, programmes and policies

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- European Regional Development Fund (ERDF) Objectives 1 and 2 (EU)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Preventing Social Exclusion, Social Exclusion Unit (ODPM, 2001)</td>
<td></td>
</tr>
<tr>
<td>- Sustainable Communities – Building for the Future (ODPM, 2003)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Plans and Programmes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Destination East Midlands. Regional Tourism Strategy for the East Midlands 2003-2010</td>
<td></td>
</tr>
</tbody>
</table>

The key messages identified from these other relevant plans and programmes and initiatives include:

- Tackle social deprivation at a local level.
- Improve services and encourage community involvement.
- Ensure minimum standards for everyone in health, education, income, employment and tackling crime.
- Tackle the housing mismatch between the north and south of the midlands.
- Encourage healthy lifestyles.

### 12.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of social capital in the East Midlands without the implementation of the Regional Plan is described in Table 12.4.

#### Table 12.4 Key social capital issues and their likely evolution without the Regional Plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pockets of deprivation: Parts of the region’s urban and semi-urban areas display evidence of higher levels of deprivation – the key areas being Nottingham and Leicester. Deprivation also exists in the region’s rural areas, but here the problem is ‘averaged out’ as pockets of deprivation usually sit in the same ward-geography with more prosperous households.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>The widening deprivation gap: Although the standard of living has been rising in the East Midlands as a whole, the most deprived areas are suffering more and more, there is a widening gap between the least and the most deprived areas.</td>
<td>Continuation of current trend.</td>
</tr>
<tr>
<td>Focusing on problem areas: Deprivation is most pronounced in areas such as the coalfields, where the</td>
<td>Continuation of current trend.</td>
</tr>
</tbody>
</table>
### Issue

Likely evolution without the Regional Plan

| job-gap issue is still relevant. Other areas such as the Peak District and Lincolnshire, which are dependent on industries that are undergoing restructuring processes (engineering, textiles, clothing etc), are likely to have a persistent skills gap. |

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### 12.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the draft Regional Plan included the Objective: To promote and support the development and growth of social capital across the region. The sub questions relating to this objective are set out below:

- a) Will it increase community empowerment?
- b) Will it maintain and enhance community facilities?
- c) Will it provide locations for community level activities and organisations?
- d) Will it help maintain and enhance the vitality of urban communities?
- e) Will it help maintain and enhance the vitality of rural communities?
- f) Will it bring about greater social cohesion?

### 12.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)

The SA of the draft plan stated that many policies in the East Midlands Regional Plan have the potential to positively affect social capital in the region, although few of the policies are likely to lead to significant positive effects.

*The Proposed Changes has strengthened the policies of the plan in relation to rural communities and rural vitality and through inclusion of wording on social infrastructure. The Strategy for the Lincolnshire Coastal Districts makes it more difficult for housing to achieve some social objectives; however, in order to achieve sustainable growth, this precautionary approach is needed.*

*There are no significant changes as a result of the changes made to the final plan.*

#### Cumulative effects

The policies in the East Midlands Regional Plan are cumulatively expected to lead to positive effects on social capital. Encouraging walking and cycling, providing green infrastructure, promoting development that is well designed and regenerating deprived areas is likely to significantly improve the vitality of urban areas and lead to positive effects on social cohesion.

#### Issues for the Review of the Regional Plan

No further recommendations.

#### Uncertainties/Information Gaps
There is a lack of information relating to community facilities and community empowerment in the East Midlands, which has led to a number of uncertainties in the appraisal.

12.7 PROPOSALS FOR MONITORING
As no significant negative effects on social capital have been identified in the Sustainability Appraisal, specific proposals for monitoring have not been included.
**13.0 SUSTAINABILITY APPRAISAL TOPIC: BIODIVERSITY**

### Objective 6: To increase biodiversity levels across the region

#### 13.1 INTRODUCTION

Biodiversity is:

*The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.'*

(Convention on Biological Diversity (1992), Art. 2)

In other words, it is the variety of life on earth at all levels, from genes to worldwide populations of the same species; from communities of species sharing the same small area of habitat to worldwide ecosystems. Biodiversity is a key component of the environment, it:

- Is a vital, integral part of the planet's life support system;
- Is the basis for evolution and adaptation to a rapidly changing environment;
- Is a key component of a functioning environment for future generations;
- Is essential to maintain clean water, fertile soil and clean air, thereby providing the basis for existence and indirect economic benefits;
- Can be managed and used for economic benefit, for instance to produce crops, medicines, building materials, fuel and tools;
- Has economic and social values e.g. in leisure and recreation or tourism;
- Has educational, aesthetic and spiritual value, and so enriches our quality of life;
- It determines the distinctive character or ‘feel’ to an area, be it a chalk downland, estuary, woodland or moor; and
- People value the existence of biodiversity and want it conserved.\(^{66}\)

The main threats to both local and global biodiversity are associated with human activities causing habitat loss/damage, loss of biodiversity, loss of protected species, disturbance to and pollution of ecosystems and risk to unprotected habitats. Many species-populations are being reduced and fragmented below viable sizes. Conserving biodiversity is a global, long-term challenge and requires global, long-term solutions that start at the local level.

\(^{66}\) after RSPB,1996.
Biodiversity depends fundamentally on a variety of ecological functions and processes. Many of the processes that reduce biodiversity – e.g. loss or isolation of habitats - operate at the ecosystem and landscape level. The Convention on Biological Diversity advocates an ‘ecosystem approach’ to assessment of impacts on biodiversity, helping to ensure the ecosystem processes that drive or support biodiversity are understood and that ecosystem health and viability can be maintained. For example maintenance of river water quality in riverine ecosystems. The landscape scale biodiversity should also be considered, e.g. migratory habitats, due to larger environmental changes, e.g. climate change. Habitat amount, quality and spatial organisation affects genetic and species diversity. Habitat diversity describes the number and variety of habitats available within the landscape: landscapes with a large number and range of habitats usually support higher levels of species diversity than landscapes with a more limited range of habitats, but this does not necessarily make them more important, this is dependent on species rarity. Landscapes with low habitat diversity can therefore still have a critical role in conserving biodiversity. Most species require a variety of habitats. The loss, fragmentation or decline in quality of a single habitat can therefore have a serious impact on the populations of a variety of species, even those not obviously associated with it.

Species diversity is the variety of species within a community, a habitat or an ecosystem: some habitats (e.g. chalk grassland) are inherently species-rich, whilst others (e.g. acid grassland) are relatively species-poor. As such, which species are present is important, not just how many there are. Genetic diversity is a measure of the variety of genes within a species or a population. Genetic diversity is important because it allows species to adapt to changing environmental circumstances: the poorer its genetic base, the more vulnerable a species is to extinction. Therefore, components of biodiversity, at each level, should be evaluated in terms of:

- Composition: what there is and how abundant it is;
- Structure: how biological units are organised in time and space; and
- Function: the role different biological units play in maintaining natural processes and dynamics.67.

### 13.2 CHARACTERISATION

The East Midlands has the poorest biodiversity of all the English regions68. The areas of highest biodiversity are within the Peak District and along the Lincolnshire Coast. The region’s key wildlife habitats, of which the East Midlands has a significant proportion of England’s total, include lowland

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67 CCW et al. (May 2004) ‘Strategic Environmental Assessment and Climate Change: Guidance for Practitioners’ [www.sea-info.net](http://www.sea-info.net)

wood pasture and parkland, lowland hay meadows, saltmarsh and mudflats\textsuperscript{69}. The region’s rivers support internationally important wetland habitats, and former industrial sites now represent some of the best sites for limestone grassland, dragonflies and ground-nesting birds\textsuperscript{70}.

Nationally important habitats of which the East Midlands has more than 10\% of the UK total include: lowland wood pasture and parkland (22.3\%), lowland hay meadows (12\%), saltmarsh (15.4\%) and mudflats (18.4\%). Nationally important species supported in the region include:

- Mammals – common seal, water vole;
- Birds – skylark, gadwall, golden plover;
- Amphibians – great crested newt;
- Fish – spined loach;
- Insects – marsh moth, bast bark beetle; and
- Plants – cornflower, sea lavender.

The region has seen a very significant decline in biodiversity\textsuperscript{69}, partly as a result of the heavy intensification of agriculture since the Second World War. This decline has been at a faster rate than almost anywhere else in Britain. This trend is particularly apparent in Leicestershire, Northamptonshire and Nottinghamshire where 70\% of scarce plant species have become extinct since 1970\textsuperscript{71}. Agricultural grassland has experienced a long-term reduction and lowland herb rich grassland has declined drastically. There have also been significant declines in numbers of farmland and woodland birds (e.g. wood warbler, redstart) and wetland birds (e.g. snipe).

All counties in the region have experienced major declines in species-rich grasslands and across the region wetlands have been drained and heathlands converted to agriculture or commercial forestry plantations. On average one plant species becomes extinct every year in each county in the region. Only small areas remain of many habitat types, with species often isolated in widely scattered remnants. The value of over half the region’s nationally important wildlife sites is still in decline. Between 1990 and 1998, there was a decrease of 11.4\% in the mountain, moor, heath and down broad habitat category\textsuperscript{72}.

There was a 20\% increase in the total river length of good chemical water quality between 1998 and 2002, and a 1.5\% increase in biological water quality between 1990 and 2002, although this was


\textsuperscript{70} Towards an Atlas of Biodiversity in the East Midlands (Environment Agency and Leicestershire County Council 2004)

\textsuperscript{71} East Midlands Integrated Toolkit – Natural Resources (level 1). http://www.emtoolkit.org.uk
starting from a much higher baseline.\textsuperscript{73} The region has been re-colonised by raptors (birds of prey) either following the disappearance of predators or the re-introduction of a species. There has been a significant expansion in the range of several species of aquatic insects associated with early successional habitats such as disused gravel pits (e.g. dragonflies, water bugs, water beetles). Reductions in air pollution have resulted in the return of Sulphur Dioxide sensitive lichens\textsuperscript{74}. There have also been increases in other habitat types including broadleaved, mixed and yew woodland\textsuperscript{73}. Freiston Shore Habitat Creation Project is the region’s largest example of single habitat creation to date. This resulted from a managed re-alignment of sea-defences in Lincolnshire, and created over 70ha of saltmarsh and 15ha of saline lagoon, a national priority habitat\textsuperscript{75}.

The region has a low level of statutory protection for nature conservation and has the lowest proportion of land area designated as Sites of Special Scientific Interest in England (61,575ha) (see Figure 13.1). In 2006, 31.5\% of the total area of SSSIs in the region was in a condition classified as ‘unfavourable declining’, ‘unfavourable, no change’ or ‘destroyed/part destroyed’\textsuperscript{76}. Outside of Derbyshire, less than 2\% of the region is classified as SSSI compared to a national average of 7\% indicating both a lower biodiversity value than in other regions and a lesser level of protection\textsuperscript{65}. The Regional Biodiversity Forum has identified ‘Biodiversity Conservation Areas’ and ‘Biodiversity Enhancement Areas’ (see Figure 13.2). Biodiversity Conservation Areas have greater ecological value due to a higher proportion of habitats and relatively closer proximity of habitat units compared with other areas of the East Midlands.

Biodiversity Enhancement Areas are those areas where the biodiversity resource is exceptionally poor or where there are regionally significant opportunities to reverse biodiversity losses through habitat creation initiatives on a landscape scale.

\textsuperscript{73} The State of the Countryside in the East Midlands (Countryside Agency 2005)
\textsuperscript{74} Biodiversity Data Needs for the East Midlands - Draft. (East Midlands Biodiversity Forum. Derek Lott, Jan 2005)
\textsuperscript{75} The State of the Countryside: East Midlands (Countryside Agency 2003)
\textsuperscript{76} SSSI Condition Summary (English Nature, August 2006)
Figure 13.1 Nature Conservation Designations

Figure 13.2 Biodiversity Conservation and Enhancement Areas

Additional information on the Sub-Regional Study Areas

Three Cities Sub-Region

In the 3-Cities sub region the only European designated site is the River Mease Special Area of Conservation which flows through Derbyshire and Leicestershire. Special Areas of Conservation are designated under the Habitats Directive and contribute to the European Union Natura 2000 network of protected areas. The River Mease is a watercourse of plain to montane levels supporting *Ranunculion fluitantis* and *Callitricho-Batrachion* and populations of freshwater white clawed crayfish *Austropotamobius pallipes* and otter *Lutra lutra*. It is designated because it is a good example of a riverine population of spined loach *Cobitis taenia*; and an example of bullhead *Cottus gobio* populations in the rivers of central England.

In the Three Cities sub region there are a number of Sites of Special Scientific Interest. These are some of the finest sites for wildlife and natural features in England. They support many characteristic rare and endangered species, habitats and natural features and are protected under Section 28 of the Wildlife and Countryside Act 1981 as amended. A 7.5km search around the three city centres and a 0.5km search around the sub regional centres in each county identified the following Sites of Special Scientific Interest.

**Derby**
- Kedleston Park SSSI
- Boulton Moor SSSI
- Morley Brick Pits SSSI
- Breadsall Railway Cutting SSSI

**Derbyshire**
- Carvers Rock SSSI near Swadlincote

**Leicester**
- Gipsy Lane Pit SSSI
- Bradgate Park and Cropston Reservoir SSSI
- Sheet Hedges Wood SSSI
- Narborough Bog SSSI
- Enderby Warren Quarry SSSI

**Leicestershire**
- Beacon Hill Hangingstone & Outwoods SSSI
• Barrow Gravel Pits SSSI
• Buddon Wood & Swithland Reservoir SSSI
• Cotes Grassland SSSI
• Loughborough Meadows SSSI all near Loughborough
• River Eye SSSI in Melton Mowbray
• Great Bowden Borrow Pit SSSI in Market Harborough
• Burbage Wood & Aston Firs SSSI in Hinckley
• Grace Dieu & High Sharpley SSSI
• Blackbrook Reservoir SSSI
• Bardon Hill SSSI
• Charnwood Lodge SSSI
• Coalville Meadows SSSI
• One Barrow Plantation SSSI
• Bardon Hill Quarry SSSI all near Coalville

Nottingham
• Willwell Cutting SSSI
• Wilford Claypits SSSI
• Robbinetts SSSI
• Sellers Wood SSSI
• Holme Pit SSSI
• Attenborough Gravel Pits SSSI
• Bulwell Wood SSSI
• Colwick Cutting SSSI

Nottinghamshire
• Robbinetts SSSI
• Kimberley Railway Cutting SSSI all near Ilkeston
• Sellers Wood SSSI
• Sledder Wood Meadows SSSI
• Kimberley Railway Cutting SSSI
• Linby Quarries SSSI
• Bulwell Wood SSSI all near Hucknall
Sites of Special Scientific Interest are only a representation of the best wildlife habitats in the Three Cities sub region. Many habitat types such as unimproved grassland and ancient woodland are protected by a network of non statutory sites designated at a county or unitary level. Local Nature Reserves are places with wildlife or geological features that are of special interest locally. County Wildlife Sites (or Sites of Importance for Nature Conservation) are noteworthy sites in terms of supporting important habitats or locally uncommon or rare species. See Table 13.1 for further details of other designated sites.

English Nature keeps an inventory of Ancient Woodlands. This is land which has had continuous cover of woodland since 1600; around Charnwood Forest in northwest Leicestershire and in Harborough district there is a concentration of ancient woodlands. The National Forest lies partially within the 3-Cities sub region and covers 200 square miles; including Charnwood Forest in northwest Leicestershire where there is a concentration of designated biodiversity sites. The National Forest is an area that is used for the creation of woodland and other wildlife habitats. In the future this area is expected to support many more wildlife species helping to redress the loss of habitats experienced in the area in the past. In addition to the county level Biodiversity Action Plans there is also one covering the National Forest area; its main aim is to increase woodland cover from 6% to 30% of the area.

Table 13.1 Designated sites for wildlife in the Three Cities Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicestershire</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
<th>East Midlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of NNR</td>
<td>2005</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>No. of LNR</td>
<td>2005</td>
<td>14</td>
<td>25</td>
<td>32</td>
<td>-</td>
</tr>
<tr>
<td>No. of SSSI</td>
<td>2005</td>
<td>91</td>
<td>67</td>
<td>87</td>
<td>-</td>
</tr>
<tr>
<td>% SSSI in Favourable Condition</td>
<td>2005</td>
<td>22.28</td>
<td>11.71</td>
<td>18.42</td>
<td>45.33</td>
</tr>
<tr>
<td>% SSSI in Unfavourable but Recovering Condition</td>
<td>2005</td>
<td>44.98</td>
<td>58.23</td>
<td>33.64</td>
<td>23.22</td>
</tr>
<tr>
<td>% SSSI in Unfavourable Condition</td>
<td>2005</td>
<td>24.22</td>
<td>24.78</td>
<td>29.56</td>
<td>11.08</td>
</tr>
<tr>
<td>% SSSI in Unfavourable and Declining Condition</td>
<td>2005</td>
<td>8.3</td>
<td>5.29</td>
<td>18.38</td>
<td>20.36</td>
</tr>
<tr>
<td>% SSSI Destroyed or Part Destroyed</td>
<td>2005</td>
<td>0.23</td>
<td>0</td>
<td>0</td>
<td>0.02</td>
</tr>
</tbody>
</table>
**Northern Sub-Region**

Special Areas of Conservation are designated under the Habitats Directive and contribute to the European Union Natura 2000 network of protected areas. Birklands and Bilhaugh is the most northerly site selected for old acidophilous oak woods and is notable for its rich invertebrate fauna, particularly spiders, and for a diverse fungal assemblage including *Grifoa suphurea* and *Fistulina hepatica*. Both native oak species, *Quercus petraea* and *Quercus robur*, are present, with a mixture of age-classes, so there is good potential for maintaining the structure and function of the woodland system and a continuity of dead-wood habitats. Recently felled woodland sites to the south and east of Mansfield urban area support internationally important numbers of Nightjar and Woodlark and although this area is not currently designated as a European site it is considered by English Nature to meet the criteria for designation as a Special Protection Area.

In the Northern sub region there are a number of Sites of Special Scientific Interest. A 500m search around the sub regional centres identified the following Sites of Special Scientific Interest.

**Chesterfield**
- Duckmanton Railway Cutting SSSI

**Mansfield - Ashfield**
- Teversal Pastures SSSI
- Strawberry Hill Heaths SSSI
- Rainworth Lakes SSSI
- Pleasley Vale Railway SSSI
- Sherwood Forest Golf Course SSSI
- Kirkby Grives SSSI
- Dovedale Wood SSSI
- Teversal - Pleasley Railway SSSI

**Newark**
None

**Worksop**
- Lindrick Golf Course SSSI
- Clumber Park SSSI
Local Nature Reserves are places with wildlife or geological features that are of special interest locally and which also give people special opportunities to study and learn about them or simply enjoy and have contact with nature. County Wildlife Sites (or Sites of Importance for Nature Conservation) are noteworthy sites in terms of supporting important habitats or locally uncommon or rare species. See Table 13.2 for further details of other designated sites.

English Nature keeps an inventory of Ancient Woodlands. This is land which has had continuous cover of woodland since 1600; there are areas of ancient woodland across the Northern sub region.

Greenwood Forest is a Community Forest in Nottinghamshire. It is becoming a rich mosaic of land uses and wildlife habitats set in 161 square miles stretching from Nottingham in the south to the countryside beyond Mansfield in the north. Sherwood Forest covers a swathe of land from Mansfield in the south to Worksop in the north; the vision for the forest is for its characteristic habitats (dry and wet heathland; acid grassland; native broadleaved woodland; pasture woodland; and wetlands) to cover a least 95% of their 1835 AD range. This habitat is to be sensitively managed through sustainable regimes that result in wildlife rich high quality landscapes that are valued by local residents.

### Table 13.2 Designated sites for wildlife in the Northern Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
<th>East Midlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of NNR</td>
<td>2006</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>No. of LNR</td>
<td>2006</td>
<td>26</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>No. of SSSI</td>
<td>2006</td>
<td>67</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>% SSSI in Favourable Condition</td>
<td>2006</td>
<td>11.71</td>
<td>18.42</td>
<td>45.33</td>
</tr>
<tr>
<td>% SSSI in Unfavourable but Recovering Condition</td>
<td>2006</td>
<td>58.23</td>
<td>33.64</td>
<td>23.22</td>
</tr>
<tr>
<td>% SSSI in Unfavourable Conditon</td>
<td>2006</td>
<td>24.78</td>
<td>29.56</td>
<td>11.08</td>
</tr>
<tr>
<td>% SSSI in Unfavourable and Declining Condition</td>
<td>2006</td>
<td>5.29</td>
<td>18.38</td>
<td>20.36</td>
</tr>
<tr>
<td>% SSSI Destroyed or Part Destroyed</td>
<td>2006</td>
<td>0</td>
<td>0</td>
<td>0.02</td>
</tr>
</tbody>
</table>

**Lincoln Sub-Region**

Lincoln is important for biodiversity and geology at a national, regional and local level. Designated sites for nature conservation include Sites of Special Scientific Interest, Regionally Important
Geological Sites, Sites of Nature Conservation Interest and Local Nature Reserves. However, the area of Local Nature Reserves in the City falls below the recommended standard set by English Nature.

Information Gaps
There is a lack of data and consistent reporting on biodiversity, particularly wildlife, in the region. More detail is needed on habitat distribution across the region, habitat connectivity/fragmentation and an assessment of overall habitat quality. The completion of the BRC network and supporting a regional hub will result in further information becoming available, as will further more detailed analysis linked to developing the Green Infrastructure network, as has been done for Northamptonshire as part of the analysis of Green Infrastructure requirements for River Nene Regional Park.

13.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

Table 13.3 Plans, programmes and policies

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Bern Convention on the Conservation of European Wildlife and Natural Habitats. EC. 1979.</td>
</tr>
<tr>
<td>• European Community Biodiversity Strategy. European Commission. 1998</td>
</tr>
<tr>
<td>• The Bonn Convention on the Conservation of Migratory Species of Wild Animals. 1983</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The UK Biodiversity Action Plan (BAP) (Presented to Parliament January 1994).</td>
</tr>
<tr>
<td>• Defra’s Public Service Agreement 2003-2006</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional &amp; Sub-regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Joint Character Areas – Countryside Agency and English Nature.</td>
</tr>
<tr>
<td><a href="http://www.defra.gov.uk/erdp/schemes/jca-mm/jca-map-em.htm">http://www.defra.gov.uk/erdp/schemes/jca-mm/jca-map-em.htm</a></td>
</tr>
<tr>
<td>• Climate Change and Biodiversity in the East Midlands (Middlemarch Environmental Ltd, 2006)</td>
</tr>
</tbody>
</table>

The key messages identified from these other relevant plans and programmes and initiatives include:
• Protect designated site of nature conservation, including international, national, regional, sub-regional and locally designated sites.

• Policies on nature conservation should contribute to the conservation of the abundance and diversity of wildlife and its habitats and that adverse effects on wildlife should be minimised.

• Tackle the challenge of halting and reversing the significant biodiversity decline that has occurred.

### 13.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of biodiversity in the East Midlands without the implementation of the East Midlands Regional Plan is described in Table 13.4.

**Table 13.4 Key biodiversity issues and their likely evolution without the Regional Plan**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of biodiversity: There is a high rate of biodiversity loss in the region, including the highest rate of plant extinction in England.</td>
<td>Continuation of current trend, although likely to be lessened as a result of changes to the CAP. Other strategies and initiatives such as the National Forest are also likely to enhance biodiversity levels.</td>
</tr>
<tr>
<td>Habitat loss and fragmentation: A significant percentage of habitat has been lost and what remains is often fragmented – restricting the range of the species.</td>
<td>Loss of habitats and species is expected to continue although it is likely that this will be slowed by existing International, national and regional plans and programmes.</td>
</tr>
<tr>
<td>Small number of protected habitats: The region has the smallest number of protected areas of all English regions.</td>
<td>Continuation of current trend with pressure increasing due to additional development.</td>
</tr>
<tr>
<td>Agricultural practices: Intensification of agriculture has exacerbated the decline in biodiversity.</td>
<td>It is likely that biodiversity will continue to decline, although this loss may be lessened as a result of changes to the CAP.</td>
</tr>
<tr>
<td>Development pressure: This is an issue, especially in the Milton Keynes South Midlands Growth Area.</td>
<td>Habitats are likely to become more fragmented as new development occurs.</td>
</tr>
<tr>
<td>Climate change and pollution: These issues will have a long-term effect on biodiversity.</td>
<td>The effects of climate change are likely to continue and increase, putting additional pressure on biodiversity.</td>
</tr>
</tbody>
</table>

### 13.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the draft Regional Plan included the Objective: To increase biodiversity levels across the region. The sub questions relating to this objective are set out below:

a) Will it help to protect and enhance internationally designated sites and species e.g. SPAs, SACs and Ramsar sites?

b) Will it help to protect and enhance other designated sites e.g. SSSIs, County Wildlife Sites, LNRs etc?

c) Will it allow biodiversity to adapt to the impacts of climate change?

d) Will it improve the natural environment in those areas where the levels of biodiversity are low?
e) Will it improve the connectivity of habitats in the region?
f) Will it improve the condition of areas of biodiversity value?

13.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)
The SA of the draft plan stated that although the Plan goes some way to protecting and enhancing biodiversity, there are concerns over the potential conflict between development, access improvements (e.g. the A628 in the Peak District National Park) and biodiversity. A number of significant positive effects are expected to arise from the strategy, mainly due to those policies which specifically aim to protect biodiversity. However, a small number of significant negative effects may arise. It is vital that Natura 2000 sites are not negatively affected, particularly as the degradation of the biodiversity resource is generally recognised to have been greater in the East Midlands than in any other English region. Further work in the form of an Appropriate Assessment of the Plan to investigate the potential conflict between housing and economic development and biodiversity in the region should be carried out.

The Proposed Changes has now been subject to an Appropriate Assessment and in response to this assessment, changes have been made to the Proposed Changes as they have been drafted. The following policies have been strengthened to recognise and mitigate the potential conflicts between development and Natura 2000 sites – policies on tourism (both generally and in the Peak Park), development in the Three Cities area, regional housing provision, waste management policy, low carbon energy generation policy and the regional freight strategy. A new air quality policy has also been added which is expected to help ensure that the effects of air pollution on internationally designated sites is recognised and mitigated. This will have positive effects for all sites.

The final plan text has been strengthened in relation to ensuring timely provision of appropriate additional infrastructure for water supply and wastewater treatment. The decrease in housing numbers decreases the risk that housing will impact upon valued resources. However, the reduction is small, therefore any improvement in the performance of the plan is minor.

Cumulative effects
Both positive and negative cumulative effects on biodiversity are expected to result from the implementation of the Plan. There are a number of strong policies that aim to protect and enhance biodiversity, with an emphasis on Natura 2000 sites included throughout the Plan (which has now been strengthened further). However, increased development will inevitable lead to increased pressure on biodiversity in the region. There is a significant amount of uncertainty associated with the

potential negative cumulative effects which should be reduced through the Appropriate Assessment process.

**Issues for the Review of the Regional Plan**

None identified.

**Uncertainties/Information Gaps**

None identified.

### 13.7 PROPOSALS FOR MONITORING

It is recommended that information on the indicators listed in Table 13.5 is collected in order to monitor the significant effects of implementing the Regional Plan policies on biodiversity.

#### Table 13.5 Proposals for monitoring biodiversity in the East Midlands

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps to protect and enhance internationally designated sites and species e.g. SPAs, SACs and Ramsar sites.</td>
<td>Condition of Natura 2000 sites</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Change in areas of biodiversity of International significance</td>
<td>Yes</td>
</tr>
<tr>
<td>To help protect and enhance other designated sites e.g. SSSIs, County Wildlife Sites, LNRs etc.</td>
<td>Condition of land classified as Sites of Special Scientific Interest</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Condition of other designated sites</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Change in areas of sub-regional significance for biodiversity</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Change in areas of local biodiversity importance</td>
<td>No</td>
</tr>
<tr>
<td>Improves the condition of areas of biodiversity value</td>
<td>Condition of Biodiversity Conservation Areas (as identified in the East Midlands Biodiversity Strategy)</td>
<td>No</td>
</tr>
</tbody>
</table>
14.0 SUSTAINABILITY APPRAISAL TOPIC: PROTECTION AND ENHANCEMENT OF NATURAL, CULTURAL, BUILT AND ARCHAEOLOGICAL ASSETS

Objective 7: To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the region

14.1 INTRODUCTION

Landscape character is defined as ‘a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse’\(^78\). Some landscapes are special because they have a particular amenity value, such as those designated as Areas of Outstanding Natural Beauty. Others may have an intrinsic value as good examples or the only remaining examples of a particular landscape type. Some landscapes are more sensitive to development whereas others have a greater capacity to accept development.

The concept of sense of place has been acknowledged as important since the Roman times. More recently, the Government’s Sustainable Communities Plan acknowledges the importance of sense of place, to which local distinctiveness is central, in creating communities where people want to live and work. Planning Policy Guidance Note 15: Planning and the Historic Environment outlines why our historic and built heritage is valuable:

\[\text{\textquoteleft}It is fundamental to the Government\'s policies for environmental stewardship that there should be effective protection for all aspects of the historic environment. The physical survivals of our past are to be valued and protected for their own sake, as a central part of our cultural heritage and our sense of national identity. They are an irreplaceable record which contributes, through formal education and in many other ways, to our understanding of both the present and the past. Their presence adds to the quality of our lives, by enhancing the familiar and cherished local scene and sustaining the sense of local distinctiveness which is so important an aspect of the character and appearance of our towns, villages and countryside. The historic environment is also of immense importance for leisure and recreation.\textquoteright}\]

Our built heritage and historic environment is protected in many ways including, international through UNESCO as World Heritage Sites; nationally by being listed and graded by English Heritage, the scheduling of ancient monuments and through local planning designations.

### 14.2 CHARACTERISATION

#### Landscape

Landscape includes both natural landscape features (hills, hedges, rivers and woodlands) as well as built landscapes such as settlements, farm buildings and transport corridors. The East Midlands landscape is both varied and retains a great deal of local distinctiveness, although the landscape has been affected by factors such as industrial development pressure and agricultural intensification.

The process of identifying the factors that give a locality its own sense of place and distinct character is termed ‘landscape characterisation’. The East Midlands contains 35 different Landscape Character Areas (including the National Park). It contains examples of many of the landscapes typical of the country as a whole, from the uplands of the Peak District to the marshes and coasts of Lincolnshire. Many of the finest landscapes and habitats are also recreational assets including the internationally recognised Sherwood Forest in Nottinghamshire and the Lincolnshire Coast. The East Midlands is particularly known for its fine stately homes and parks such as Clumber, Kedleston Hall, Hardwick Hall and Calke Abbey. It should also be noted that English Heritage are supporting County Councils carrying out Historic Landscape Characterisation which gives an overarching view of the entire historic landscape.

The region also contains the Nottingham-Derby Green Belt. Although strictly a planning, rather than a landscape or environmental designation, Green Belt designations aim, amongst other objectives, to check unrestricted urban sprawl, and prevent towns from coalescing, which can significantly affect landscape character in the urban fringe.

| **Table 14.1 Landscape and related designations in the East Midlands:** |
|---------------------------------|-----------------|-----------------|
| **National Parks**              | **Total number for East Midlands** | **Total number for England** |
| Area (thousand ha)              | 92              | 994             |
| Percentage of total area        | 6               | 7               |
| **Areas of Outstanding Natural Beauty** |                 |                 |
| Area (thousand ha)              | 52              | 2018            |

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79 East Midlands Environment Strategy EMRA 2003
80 The Regional Forestry Framework “Landscape Character and Quality, Space4trees” The Forestry Commission 2004
83 Region in Figures: East Midlands Office of National Statistics 2004
The region has one National Park, the Peak District, which contains the only original habitat in the East Midlands\(^7\) including upland grasslands, blanket bogs and heathlands. Activities such as lead mining have contributed to local distinctiveness by leaving behind distinctive historic landforms such as lead rakes. Medieval farming practices have left a legacy of nationally significant ridge and furrow in the region. The proportion of designated landscape in the East Midlands is the lowest of all of England’s regions\(^7\). The region also has one Area of Outstanding Natural Beauty, the Lincolnshire Wolds (see Figure 14.1). The East Midlands landscape is under pressure from development, agriculture and poor management and this has led to a reduction in heather, flower rich hay meadows, hedgerows, heathland and ancient semi natural woodland.

Schemes to counter the pressure on the East Midlands landscape are underway such as management plans and agri-environment measures. The creation of economically and environmentally sustainable woodlands is taking place in the National Forest and Greenwood Community Forest and areas of degraded landscape, such as former coal mining areas. These woodlands provide a framework for a range of land uses from recreation and tourism to residential and industrial development to aid regeneration.
Figure 14.1 National Landscape Designations

**Built Environment**

80% of people in the East Midlands live in towns and cities. The population is concentrated in the three main cities of Nottingham, Derby and Leicester. However, the region is also characterised by a higher than average proportion of people living in rural areas, with market towns and villages. The East Midlands will see a substantial amount of new development over the next 15 years, particularly in areas identified for growth or regeneration. Pressure for urban development has already fuelled the ‘brownfield/greenfield’ debate, but also has other effects, such as the loss of tranquility and ‘dark skies’ (skies unaffected by light pollution) as urban lifestyles impinge on the rural areas.

The East Midlands also contains important testimony to the industrial heritage of the region including the Derwent Valley Mills World Heritage Site and the remaining relics of the coal industry. The network of waterways is also an integral part of the region’s industrial past, linking historic buildings and structures with the natural environment. The region’s strategic river corridors (the Nene, Trent, Soar, Welland, Witham, Derwent and Dove and their tributaries), if managed correctly, have the potential to deliver economic, social and environmental benefits to the region. The East Midlands Strategic River Corridors Project aims to ‘bring a holistic approach to the management and enhancement of the natural, cultural and historic environment of the region’s strategic river corridors’.

The diverse character of the region’s built environment reflects the history of the development of its settlements. Many buildings use locally-distinctive materials and building styles. Throughout the 20th century, local distinctiveness has been increasingly eroded by the use of standardised designs and materials. The use of the car has led to significant suburban and, in the past, ribbon development often of little character distinctiveness. However, the region is making uneven progress towards protecting, enhancing and managing the diversity of cultural and archaeological assets, and still ranks below the national average.

Figure 14.2 shows the distribution of heritage features in the Region. The Region contains 1,521 Scheduled Ancient Monuments (SAMs) and 29,579 Listed Buildings. Table 14.2 shows the distribution of these across the region. The Buildings at Risk Register shows there are 120 Grade I and II* Buildings at Risk and a further 13 structural SAMs.

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84 East Midlands Regional Environment Strategy Parts 1 and 2, EMRA 2002/3
85 East Midlands Integrated Toolkit – Natural Resources (level 1) [http://www.emtoolkit.org.uk](http://www.emtoolkit.org.uk)
87 East Midlands State of the Region Report – A Summary of Progress in achieving our Sustainable Development Objectives, EMRA
Figure 14.2 Heritage Features

In 2005 Lincolnshire had the highest number of listed buildings in the region (6,936), followed by Northamptonshire (6,448), Derbyshire (5,569) and Leicestershire (3,915).

### Table 14.2 Grade II Listed Buildings at Risk, 2006-2007

<table>
<thead>
<tr>
<th>No of Listed Buildings at risk</th>
<th>Total Number of Listed Buildings</th>
<th>Percentage at risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derby 15</td>
<td>338</td>
<td>4.4</td>
</tr>
<tr>
<td>Derbyshire 179</td>
<td>4,570</td>
<td>3.9</td>
</tr>
<tr>
<td>Leicester 23</td>
<td>338</td>
<td>6.8</td>
</tr>
<tr>
<td>Leicestershire 186</td>
<td>3770</td>
<td>4.9</td>
</tr>
<tr>
<td>Lincolnshire 287</td>
<td>6244</td>
<td>5.4</td>
</tr>
<tr>
<td>Northamptonshire 32</td>
<td>4730</td>
<td>0.9</td>
</tr>
<tr>
<td>Nottingham 53</td>
<td>1401</td>
<td>3.8</td>
</tr>
<tr>
<td>Nottinghamshire 237</td>
<td>3443</td>
<td>6.9</td>
</tr>
<tr>
<td>Peak District 207</td>
<td>2850</td>
<td>7.2</td>
</tr>
<tr>
<td>Rutland -</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Figures are based on EMRA questionnaires and should be treated with caution. There is no established standard for Grade II Buildings at Risk.

Overall there has been a small, recent, downward trend of the proportion of Grade I and II buildings at risk 1999-2006. The region has a rich diversity of settlements such as Stamford, Lincoln, Louth, Nottingham and Leicester, which are outstanding in terms of urban design, but have suffered to varying degrees from a lack of integrated urban design and a shortage of quality architecture. The region also contains Boston, the second most important medieval port in the country, and Victorian seaside resorts.

There are just over 31,000km of road in the East Midlands, of which only 200km are motorways. North to south, the M1 motorway dominates the motorway network in the region, linking the main urban areas in the west of the region with London, Birmingham and South Yorkshire. Several junctions are in need of improvement. Although the region has seen an improvement in its road conditions, the East Midlands is well below the national average.

Severn Trent Water is the main East Midlands water supplier and is currently meeting Ofwat’s target for leakage. However, the number of pollution incidents is increasing and the water industry sector exposed 1768 pollution incidents in the region in 2006. Incidents were mainly from foul sewers and

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89 Heritage Counts: The State of the East Midlands Historic Environment (English Heritage, 2005)
90 Viewpoints on the Historic Environment of the East Midlands, EMRA 2002
91 OFWAT. Security of Supply, Leakage and the efficient use of water 2003-04, 2004
92 Environment Agency: Pollution Incidents 2006
combined sewer outflows, with the most frequent pollutant being crude sewage. Most of these were caused by sewer failure or overflow.

The region will need significant investment in environmental infrastructure, for example SUDS (Sustainable Drainage Systems) if the already stretched water resources are going to cope with the pressure for housing in the Milton Keynes/South Midlands Growth Area. EMRA has identified the provision of environmental infrastructure as a priority for action, in particular green infrastructure to ensure that development of the region’s built environment takes into account the sustainable use of environmental resources⁹³.

**Additional information on the Sub-Regional Study Areas**

**Three Cities Sub-Region**

The three cities fall within the following Countryside Agency countryside character areas:

**Derby**
- Derbyshire Peak Fringe & Lower Derwent
- Needwood and South Derbyshire Claylands
- Trent Valley Washlands
- Nottinghamshire Derbyshire and Yorkshire Coalfields

**Leicester**
- Leicestershire Vale

**Nottingham**
- Sherwood Trent and Belvoir Vales
- Nottinghamshire Derbyshire Yorkshire Coalfield

Green Infrastructure is a priority for the East Midlands; this is the creation and management of integrated networks of multi-functional green space to secure multiple public benefits. Benefits can include flood prevention; air quality amelioration; recreation; health improvements; biodiversity enhancements; economic development potential; and local distinctiveness. The National Forest lies partially within the 3-Cities sub region and covers 200 square miles; including Charnwood Forest in northwest Leicestershire. The National Forest embraces differing land uses providing a diverse setting for leisure, tourism, farm diversification and rural industries. The restoration of the National Forest

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⁹³ Regional Environmental Infrastructure Phase 1 Scoping Study for the East Midlands *EMRA 2005*
landscape is intertwined with the regeneration of the economy and the enrichment of lives and well being of its residents and growing number of visitors.

Greenwood Forest is a Community Forest in Nottinghamshire. It is becoming a rich mosaic of land uses and wildlife habitats set in 161 square miles stretching from Nottingham in the south to the countryside beyond Mansfield in the north. Greenbelts surround both the cities of Derby and Nottingham. Half of the perimeter of Derby is in Greenbelt. The Greenbelt area to the north of Derby also has Special Landscape Area designation. There is no Greenbelt constraint to south or west of Derby but a firm line for development has been held on the north and east for more than 20 years. 13 Green Wedges in the city are intended to separate suburban areas and create links to the countryside.

In Nottingham city itself there are small areas of Greenbelt linking to other locations outside of the city boundaries. On the northern edge of the city Nottingham City Golf Course provides a green break between Bulwell and Hucknall. Greenbelt around the Nottingham Racecourse and Colwick Country Park reflects the existing open space uses and the fact that much of the land is washland. Green belt to the west and east of Clifton also reflects washland constraints.

There is no Greenbelt surrounding Leicester however Green Wedges in the city are intended to separate suburban areas and create links to the countryside.

Derwent Valley Mills World Heritage Site consists of 24km of the lower Derwent Valley in Derbyshire stretching from Matlock Bath in the north to Derby city centre in the south. It includes a series of historic mill complexes; river weirs; and associated settlements and transport networks. It combines elements of a relict landscape in which the evolutionary process of industrialisation came to an end leaving significant distinguishing features visible in material form. Late 18th and 19th century industrial housing has survived even more than the mill structures; the factory villages were seen as exemplars demonstrating key components of community development.

In Derbyshire Kedleston Hall is a Grade I neo-classical mansion set in landscape gardens and park. The hall is set in open countryside to the north west of Derby and the extent of its setting has been defined in a study by the National Trust.

In Leicester can be found the Jewry Wall is a rare example of Roman walling which has survived for nearly 2000 years. The Jewry Wall is the second largest piece of surviving Roman building in England. Its two arched doorways formed the entrance to the Roman public bathhouse the remains of which are laid out in front of the Wall. In Leicester an Archaeological Alert Area has been designated.
for the historic core of the city including the prehistoric settlement; the later Roman civitas; and the medieval and post-medieval town and suburbs.

In and surrounding Derby can be found several Scheduled Monuments including Derby Racecourse Roman Vicus and Cemetery and Mackworth Medieval Settlement. Examples of Scheduled Monuments around Leicester include Leicester Castle; Kirby Muxloe Castle; Leicester Abbey; and Raw Dykes Roman Aqueduct. Scheduled Monuments around Nottingham include the Medieval City Walls; Lenton Priory; and Nottingham Castle. Sites and Monuments Records form the bulk of known archaeological sites in the 3-Cities sub region; however there is also potential for unknown sites to be discovered during development in any location. Many buildings in the Three Cities sub region use locally-distinctive materials and building styles. Local Authorities can designate Conservation Areas to provide enhanced development control in localities of special and distinctive character and to protect and enhance both buildings and the spaces between them. Table 14.3 shows cultural heritage data for the Three Cities sub region

Table 14.3 Cultural heritage data for the Three Cities sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Leicester</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Listed Buildings</td>
<td>370</td>
<td>3913</td>
<td>1441</td>
<td>4183</td>
<td>338</td>
<td>5532</td>
</tr>
<tr>
<td>Buildings at Risk</td>
<td>21</td>
<td>415</td>
<td>56</td>
<td>313</td>
<td>?</td>
<td>198</td>
</tr>
<tr>
<td>No sites and Monuments Records</td>
<td>1826</td>
<td>9200</td>
<td>?</td>
<td>9000</td>
<td>?</td>
<td>9500</td>
</tr>
</tbody>
</table>

Northern Sub-Region

The four sub regional centres within the Northern sub region fall within the following Countryside Agency countryside character areas:

Chesterfield
- Nottinghamshire Derbyshire Yorkshire Coalfield
- Yorkshire Southern Pennine Range
- Derbyshire Peak Fringe and Lower Derwent

Mansfield – Ashfield & Mansfield
- Southern Magnesian Limestone
The Northern Coalfields area contains a number of previously mining dependant communities. Surrounding these communities a legacy of environmental degradation has been left following colliery closures; there are significant tracts of derelict land in rural locations much of which is subject to contamination.

Green Infrastructure is a priority for the East Midlands; this is the creation and management of integrated networks of multi-functional green space to secure multiple public benefits. Benefits can include flood prevention; air quality amelioration; recreation; health improvements; biodiversity enhancements; economic development potential; and local distinctiveness. Greenwood Forest is a Community Forest in Nottinghamshire. It is becoming a rich mosaic of land uses and wildlife habitats set in 161 square miles stretching from Nottingham in the south to the countryside beyond Mansfield in the north. Sherwood Forest covers a swathe of land from Mansfield in the south to Worksop in the north. Sherwood sandstones lies just beneath the surface and this has had a major influence on the way the area has been used and settled since earliest times and consequently on its current appearance and the pattern of wildlife habitats. Newark and Sherwood District Council have designated a swathe of land as the Sherwood Forest Heritage Area due to its economic and historic significance with particular reference to the remnants of ancient woodland within the forest.

Green Belt associated with Sheffield surrounds north / west / south of Chesterfield and to the south of Mansfield – Ashfield is the Nottingham Green Belt. To the west of the Northern sub area is the Peak District National Park. The historic environment of the East Midlands is one of immense diversity including evidence of all periods of history and wealth of associations with great people. Each of the distinctive places within the historic environment is important to local people but some transcend their locality and are of greater significance.

Heritage resources in the Northern Sub Region include Scheduled Monuments; Listed Buildings; Conservation Areas; Registered Parks and Gardens; Registered Battlefields; hedgerows of historic importance; palaeoenvironmental deposits and non-designated features of local historical or architectural interest and value. These features include archaeological remains; buildings; historic open spaces; historic features; and the wider historic landscape. Heritage resources are non-renewable.
Creswell Crags is a limestone gorge honeycombed with caves and smaller fissures; stone tools and remains of animals found in the caves by archaeologists provide evidence of the last Ice Age. Creswell Crags lies within a limestone landscape of outstanding cultural significance. The gorge at Creswell is not an isolated site, many more gorges with caves and rock shelters are known in the area. This wider area has been designated as the Creswell Crags Heritage Landscape Area which has its own management plan; it is also a proposed World Heritage Site.

Hardwick Hall is a Grade I Elizabethan house. It is set on a hill in north east Derbyshire; and the extent of its setting has been defined in a study by the National Trust. Other historic houses and gardens include Newstead Abbey and Bestwood. Sites and Monuments Records form the bulk of known archaeological sites in the Northern sub region; however there is also potential for unknown sites to be discovered during development in any location.

Many buildings in the Northern sub region use locally-distinctive materials and building styles. Local Authorities can designate Conservation Areas to provide enhanced development control in localities of special and distinctive character and to protect and enhance both buildings and the spaces between them. In 1964 the Council for British Archaeology considered that Newark was one of only 51 towns in Great Britain so splendid and so precious that ultimate responsibility for them should be a national concern. Newark has a built environment of a nationally recognised quality due to the architecture; compactness of the medieval street scene; style of buildings that contribute to the impressive physical character of the town. Scheduled Monuments include Newark Castle and the Civil War Defences. During the Civil War Newark was a Royalist stronghold and many of the military earthworks that were built are some of the finest in existence.

Derbyshire County Council has identified the historic core of Chesterfield town centre as an area of particular archaeological interest where considerable significant archaeological evidence may survive. In Bolsover the historic core of the town has also been designated as an Area of Archaeological Interest.

The most prominent feature connected with the early history of Worksop known as the Gateway to the Dukeries was its Priory which is now listed on the English Heritage register of Buildings at Risk. The Dukeries is so known because it used to contain five ducal residences in proximity to one another including Clumber Park principal seat of the Dukes of Newcastle but now owned by the National Trust and Wellbeck Abbey principal seat of the Dukes of Portland.
Southwell is a small country town of outstanding architectural and historic interest situated in an attractive landscape setting with Southwell Minster at its heart. Table 14.4 shows cultural heritage data for the Northern sub region.

### Table 14.4 Cultural heritage data for the Northern sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Listed Buildings</td>
<td>?</td>
<td>4183</td>
<td>5632</td>
</tr>
<tr>
<td>Buildings at Risk</td>
<td>2006</td>
<td>313</td>
<td>198</td>
</tr>
<tr>
<td>No. Sites and Monuments Records</td>
<td>?</td>
<td>9000</td>
<td>9500</td>
</tr>
<tr>
<td>No. Scheduled Monuments</td>
<td>?</td>
<td>165</td>
<td>350</td>
</tr>
</tbody>
</table>

**Lincoln Sub-Region**

Lincoln lies at the junction of three of the Countryside Agency’s Character Areas: North Lincolnshire Edge with Coversands, Southern Lincolnshire Edge and Trent and Belvoir Vales. A prominent landscape feature of the area is the ‘Lincoln Edge, a limestone escarpment where the Cathedral stands highly visible from miles around, and long distance views can be obtained westwards towards the Trent Valley.

Lincoln has a long history, from prehistoric settlement and Roman military, to the Norman Castle and Cathedral. The city has a significant number of listed buildings and Scheduled Ancient Monuments, including 27 Roman Monuments. Lincoln’s rich historic and cultural heritage makes an immense contribution to the character of the city and Lincoln Policy Area.

**Information Gaps**

None identified.

### 14.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

**Table 14.5 Plans, programmes and policies**

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Planning Policy Statement 1: Creating Sustainable Communities (ODPM, 2004)</td>
</tr>
<tr>
<td>• The Forestry Commission Corporate Plan for England 2002-2004 (Forestry Commission 2002)</td>
</tr>
<tr>
<td>• Planning Policy Guidance 7 – Sustainable Development in Rural Areas (ODPM 2003)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• East Midlands Regional Environment Strategy (EMRA, 2002/3)</td>
</tr>
<tr>
<td>• Viewpoints on the Historic Environment of the East Midlands (EMRA, 2002)</td>
</tr>
</tbody>
</table>
The key messages identified from these other relevant plans and programmes and initiatives include:

- A high level of protection for the most valued landscape and environmental resources is needed.
- Woodlands across England need to be increased.
- Targets to remove buildings and SAMs from the ‘at risk register’ and enhancement projects.

### 14.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of natural, cultural and built environmental and archaeological assets in the East Midlands without the implementation of the East Midlands Regional Plan is described in Table 14.6.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban development pressure: Urban characteristics such as light, noise and traffic pollution are beginning to encroach on rural areas and the urban fringe due to development pressure.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Buildings at risk: The region has a number of buildings on the ‘at risk’ register.</td>
<td>Continuation of current downward trend likely, although position much more uncertain in relation to Grade II BARs.</td>
</tr>
<tr>
<td>Loss of local distinctiveness: The East Midlands is renowned for the diverse character of its built environment, due to the regional variations in the use of traditional materials. Such variation provides a sense of place which gives the area its character, but this diversity is being lost by the use of standardised designs and materials. The availability of materials such as building stone and of traditional construction skills.</td>
<td>Continuation of current trend, although design of buildings is being addressed.</td>
</tr>
<tr>
<td>Low standards of development: Across the region, many new developments have been of a low standard, having suffered from both lack of integrated urban design and a shortage of high quality architecture.</td>
<td>Continuation of current trend, although design of buildings is being addressed.</td>
</tr>
<tr>
<td>Maintaining the infrastructure of the region: The transport infrastructure of the East Midlands, especially the roads, are at risk from wear and tear and lack of repair. Also, the design capacity of the region’s roads is constantly being breached.</td>
<td>Continuation of current trends, possibly worsening as the population increases.</td>
</tr>
<tr>
<td>Pollution incidents from the water industry: The sewerage system in the East Midlands is responsible for 12% of the recorded pollution incidents dealt with by the Environment Agency. This has repercussions on the state of the environment and water quality.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Issue</td>
<td>Likely evolution without the Regional Plan</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Pressured landscapes: The Peak District and the Lincolnshire AONB are being threatened by development in the form of agricultural intensification, residential development, and recreation.</td>
<td>Current pressures likely to continue.</td>
</tr>
<tr>
<td>Renewable energy: The East Midlands may well be targeted for the development of bio energy and new energy crops. While the development of renewable energy is vital to prevent the further acceleration of global warming, these developments may have an impact on the landscape of the region.</td>
<td>Renewable energy development is expected to increase due to the high potential of the region. In the absence of the Regional Plan this may have detrimental effects on the landscape.</td>
</tr>
<tr>
<td>Mineral and aggregate extraction: The East Midlands region may be subject to further mineral and aggregate extraction, which may affect the tranquil areas and landscapes.</td>
<td>Continuation of current trends likely, with further extraction of minerals</td>
</tr>
<tr>
<td>Transport: Increasing traffic, road improvements and new transport infrastructure can introduce noise and light pollution into otherwise rural landscapes.</td>
<td>Continuation of current trends.</td>
</tr>
</tbody>
</table>

**14.5 SUSTAINABILITY APPRAISAL OBJECTIVES**

The SA Scoping Report for the draft Regional Plan included the Objective: To protect and enhance the rich diversity of the natural, cultural and built environmental and archaeological assets of the region. The sub questions relating to this objective are set out below:

a) Will it help to maintain or enhance local distinctiveness and diversity within the built environment?
b) Will it help to protect or enhance existing features of the historic built environment?
c) Will it help to protect from loss or damage other existing archaeological assets?
d) Will it protect and enhance the landscape quality and character?
e) Will it adversely affect designated landscapes?
f) Will it improve the natural environment in those areas where the environmental quality is poor?
g) Will it improve the appearance of built-up areas in the region’s cities, towns and villages?
h) Will it enhance and manage the region’s environmental infrastructure, taking into account climate change?
i) Will it enhance and manage the region’s green infrastructure, taking into account climate change?
j) Will it reduce the extent of the region defined as ‘tranquil’?

**14.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)**

The SA of the draft plan stated that a number of significant positive effects are expected to arise from the East Midlands Regional Plan on the natural, cultural, built and archaeological heritage of the East Midlands and the policies included to protect and enhance these assets are strong. However, significant effects are expected to arise from implementation of the Plan on the character of the region. There are a number of locations where large amount of development is planned. *It is recognised that there is social and economic need for growth. However,* increasing development
significantly is likely to result in changes to urban locations and market towns. However, as there is a strong design policy, which is likely to ensure that development is of a high quality. There is a large amount of uncertainty associated with whether the effects of the policies will be positive or negative, as this is highly dependant on individual’s subjective views.

The Proposed Changes have been strengthened in relation to maintaining the character of rural areas (see, for example policy 3). A number of areas which are sensitive in terms of cultural heritage are likely to see an increase in housing allocation in the Proposed Changes including Lincoln, Nottingham, Melton Mowbray, Market Harborough and Newark and the LDF Site Allocations process will be key in selecting sites that do not damage the character of the region. The recognition of the RSS Panel that the success of the sustainable transport measures in the RTS is uncertain may mean that policies that encourage walking, cycling and a reduction in private car are not as positive as they could be in delivering benefits – this could have knock on effects on the character of the region.

The decrease in housing numbers decreases the risk that housing will impact upon valued resources. However, the reduction is small, therefore any improvement in the performance of the plan is minor.

**Cumulative effects**

Implementation of the draft Regional Plan has the potential to result in both positive and negative cumulative effects on the region, and there are significant uncertainties associated with these effects. Increasing development throughout the region is likely to have significant cumulative effects on the region’s built character along with its landscape. The extent to which this effect is likely to be positive or negative will depend on the quality of development delivered.

**Issues for the Review of the Regional Plan**

None identified.

**Uncertainties/Information Gaps**

None identified.

### 14.7 PROPOSALS FOR MONITORING

It is recommended that information on the indicators listed in Table 14.7 is collected in order to monitor the significant effects of implementing the Regional Plan policies on natural, cultural and built environmental and archaeological assets.

**Table 14.7 Proposals for monitoring natural, cultural and built environmental and archaeological assets in the East Midlands**

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protects and enhances the landscape quality and character.</td>
<td>% of region covered by Landscape Character Assessment</td>
<td>yes</td>
</tr>
<tr>
<td></td>
<td>Improvements in the condition of non-designated landscapes</td>
<td>No</td>
</tr>
<tr>
<td>Adversely affects designated landscapes.</td>
<td>Change in areas of designated landscapes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Change in condition of designated landscapes</td>
<td>No</td>
</tr>
<tr>
<td>Enhances and manages the region’s environmental infrastructure, taking into account climate change.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduces the extent of the region defined as ‘tranquil’.</td>
<td>Reduction in areas defined as tranquil</td>
<td>No</td>
</tr>
</tbody>
</table>
15.0 SUSTAINABILITY APPRAISAL TOPIC: NATURAL RESOURCES

**Objective 8: To manage prudently the natural resources of the region, including water, air quality, soil and minerals**

15.1 INTRODUCTION

The UK Sustainable Development Strategy\(^4\) highlights that ‘our health and wellbeing are inextricably linked to the quality of our air, water, soils and biological resources. We also rely heavily on natural resources for economic development. Not only do we extract material from the environment for use in industry and to produce energy, but we also rely on functioning ecosystems ‘for nutrient cycling, atmospheric and climate regulation, and break down and mitigation of waste’. It is very important then, that for continued sustainable prosperity, the environmental limits of natural resources need to be understood and respected.

Our reliance on fossil fuels for producing energy is an example of unsustainable use of natural resources. Not only are the usable sources of fuel (coal, natural gas and oil) dwindling and becoming politically sensitive but their use is one of the main contributors to carbon dioxide emission; which are having a profound impact on our climate.

With consumer consumption increasing and likely population growth, pressures of global and local natural resources as well as demand for energy is likely to increase. The Government’s White Paper *Our Energy Future – Creating a Low Carbon Economy*\(^5\) sets out the policy-making framework for energy, with four main objectives:

- To put ourselves on a path to cut the UK’s carbon dioxide emissions – the main contributor to climate change – by some 60 per cent by about 2050, with real progress by 2020
- To maintain the reliability of energy supplies
- To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve our productivity, and
- To ensure that every home is adequately and affordable heated.


The cheapest and safest way of addressing all four of these objectives, the UK Sustainable Development Strategy\textsuperscript{96} suggests, is through energy efficiency. Renewable energy is also likely to play a significant role, however these schemes can also present their own resource issues.

15.2 CHARACTERISATION

Water Resources

Parts of the East Midlands are among the driest in England with annual rainfall totals in places less than 600mm on average. Surface water through the majority of the East Midlands is already fully committed to existing abstractions so no significant additional resource is reliably available - with the possible exception of the River Trent and the River Soar\textsuperscript{97}.

The largest use of water is for public supply. Public supply use is broken down into household use (53%), non-household use (27%) and leakage (20%).\textsuperscript{98} Industries and farmers both abstract, although farmers abstract for spray irrigation, mainly in summer months when the river flows are at their lowest and very little irrigation water is returned, so its potential impact on the water environment is heightened\textsuperscript{99}.

Water supplies in the East Midlands come from a range of sources including large reservoirs, rivers, boreholes and wells from underground reserves in aquifers. Abstraction from some aquifers has depleted available supplies, leading to low groundwater levels and adverse effects on associated habitats. To the northeast of the region, the licensed surface or groundwater abstractions exceed the sustainable limit, potentially affecting rivers and wetlands. Severn Trent Water estimates that climate change could result in a further reduction of water yields of the River Trent and the Derwent valley reservoir system\textsuperscript{100}. The East Midlands population is estimated to grow by about 400,000 by 2025, though while individually the additional households should be more water-efficient, they are likely to increase total demand for water. Taking the projected population growth and use together, increases of up to 40\% in household demand could occur by 2025. However, if sustainable water use patterns prevail, demand could fall by as much as 20\%. Intensive agricultural practices are widespread in the region and have damaged water quality in some rivers and aquifers. The Environment Agency monitored the quality of over 3500 km of watercourses in the East Midlands in 2003 and found that 95-97\% had good or fair biological and chemical quality. 74\% of the watercourses reached their resource quality objective, while 9\% failed significantly\textsuperscript{97}. The UK Sustainable Development

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\textsuperscript{96} UK Sustainable Development Strategy, Defra, (2005)
\textsuperscript{97} Water Resources Strategy for the East Midlands, Environment Agency 2002
\textsuperscript{99} East Midlands Regional Chapter, ERDP, DEFRA 2000
Strategy in the United Kingdom aims to safeguard freshwater resources and sets a target to increase River Quality Objective (RQO) compliance in England and Wales from 82 per cent in 1997 to at least 91 per cent in 2005.

**Water Quality**

There are a large number of sewage treatment works (STWs) in the East Midlands that are at risk of not having capacity to treat additional sewage from future housing growth. Table 8.1 below shows the STWs in the urban regions, and their level of risk of having insufficient capacity to cope with future housing growth.

**Table 15.1 Risk of lack of sewage treatment work capacity in the urban regions**

<table>
<thead>
<tr>
<th>Urban Regions</th>
<th>Number of Sewage treatment works</th>
<th>Total</th>
<th>High risk</th>
<th>Medium risk</th>
<th>Low risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Sub Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lincoln</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boston</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grantham</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gainsborough</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Mablethorpe</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Skegness</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Sub Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chesterfield</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mansfield</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worksop</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Newark</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three Cities Sub Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nottingham</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Derby</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leicester</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Hinkley</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Loughborough</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Market Harborough</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melton Mowbray</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The East Midlands has some of the best quality beaches in England and Wales. In 2003 all of the 38 sites at beaches measured by the Environment Agency complied with European bathing water standards. The East Midlands is already on track to meet Government targets of 97% of bathing waters meeting the mandatory standards and 50% meeting the guideline standards by 2007\(^\text{17}\).  

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\(^{100}\) East Midlands Regional Energy Strategy, EMRA 2003  
Soils
The region (outside of the Peak District) can be divided up into 11 different soil groupings.\textsuperscript{102} The dominant soil types in the region are clay loams and sandy loams. These soil types are very versatile in their cropping potential when drained, however, large areas of clay topsoil can result in management problems.\textsuperscript{103}

Derelict Land
Previously developed land (brownfield land) is defined as land that is or was occupied by a permanent structure (excluding agricultural or forestry buildings), and associated fixed surface infrastructure. The definition includes defence buildings and land used for mineral extraction and waste disposal\textsuperscript{104}.

In 2006, 56\% of the land that was available for development in the East Midlands was vacant or derelict land\textsuperscript{105}. In 2003 the East Midlands had 9.5\% of the total derelict land and buildings in England, which was the fifth highest figure\textsuperscript{106}. In the same year, the East Midlands had 6,240 ha of previously developed land (PDL) that was unused or may be available for redevelopment, 40\% of which was suitable for housing\textsuperscript{107}.

Table 15.2 Previously-Developed Land suitable for housing and dwellings by Government Office Region: England 2006\textsuperscript{104}

<table>
<thead>
<tr>
<th>Government Office Region</th>
<th>All PDL that is unused or may be available for redevelopment (ha)</th>
<th>Total area suitable for housing (ha)</th>
<th>Number of dwellings</th>
</tr>
</thead>
<tbody>
<tr>
<td>North West</td>
<td>11,060</td>
<td>3,560</td>
<td>154,800</td>
</tr>
<tr>
<td>South East</td>
<td>9,930</td>
<td>5,220</td>
<td>160,500</td>
</tr>
<tr>
<td>Yorkshire &amp; the Humber</td>
<td>8,580</td>
<td>2,610</td>
<td>111,600</td>
</tr>
<tr>
<td>East of England</td>
<td>7,190</td>
<td>4,400</td>
<td>117,400</td>
</tr>
<tr>
<td>South West</td>
<td>6,070</td>
<td>2,760</td>
<td>90,100</td>
</tr>
<tr>
<td>West Midlands</td>
<td>6,050</td>
<td>2,430</td>
<td>76,800</td>
</tr>
<tr>
<td>East Midlands</td>
<td>6,240</td>
<td>2,510</td>
<td>90,300</td>
</tr>
<tr>
<td>North East</td>
<td>3,970</td>
<td>1,340</td>
<td>42,600</td>
</tr>
<tr>
<td>London</td>
<td>3,640</td>
<td>1,910</td>
<td>130,000</td>
</tr>
<tr>
<td>England</td>
<td>62,730</td>
<td>26,750</td>
<td>974,000</td>
</tr>
</tbody>
</table>

In 2005/06, 67.8\% of housing occurred on previously developed land in the East Midlands compared to 70.9\% in 2006/07. Table 15.3 shows a breakdown of this figure.

\textsuperscript{104} Planning Policy Guidance Note 3: Housing (DCLG, 2000)
\textsuperscript{105} Previously-Developed Land that may be available for Development: England 2006 (June 2007)
\textsuperscript{106} Previously-Developed Land that may be available for Development in 2003 (ODPM, August 2004)
\textsuperscript{107} Previously-Developed Land that may be available for Development: England 2006 (June 2007)
Table 15.3 Housing development on previously developed land\textsuperscript{108}

<table>
<thead>
<tr>
<th>Housing completions on previously developed land</th>
<th>% on PDL 06/07</th>
<th>05/06 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Lincolnshire HMA</td>
<td>813</td>
<td>40.8</td>
</tr>
<tr>
<td>Coastal Lincolnshire HMA</td>
<td>532</td>
<td>51.0</td>
</tr>
<tr>
<td>Derby HMA</td>
<td>1,684</td>
<td>78.9</td>
</tr>
<tr>
<td>Leicester &amp; Leicestershire HMA</td>
<td>2,948</td>
<td>71.7</td>
</tr>
<tr>
<td>North Northamptonshire</td>
<td>1,468</td>
<td>62.0</td>
</tr>
<tr>
<td>Northern HMA</td>
<td>1,161</td>
<td>72.3</td>
</tr>
<tr>
<td>Nottingham Core HMA</td>
<td>2,893</td>
<td>94.8</td>
</tr>
<tr>
<td>Nottingham Outer HMA</td>
<td>1,325</td>
<td>78.0</td>
</tr>
<tr>
<td>Peak, Dales and Park HMA</td>
<td>540</td>
<td>58.9</td>
</tr>
<tr>
<td>Peterborough Partial HMA</td>
<td>813</td>
<td>53.4</td>
</tr>
<tr>
<td>West Northamptonshire HMA</td>
<td>2,034</td>
<td>83.6</td>
</tr>
<tr>
<td>East Midlands</td>
<td>16,211</td>
<td>70.9</td>
</tr>
</tbody>
</table>

In 2004/05 and 2005/6, Leicester, Derbyshire, Nottingham and the Peak District had high percentages of housing built on PDL or through conversions. For the Region as a whole, the percentage of housing on previously developed land in 2004/5 and 2005/06 exceeded the national target of 60%.

Derelict and contaminated land can be important in terms of biodiversity and regeneration and a deterrent for potential investors. There are a number of post-industrial habitats (previously developed land for buildings, industrial operations and quarries) across the region, most notably in Nottinghamshire, Derbyshire, Leicestershire coalfields, Peak District quarries and on the hinterland of settlements such as Corby. Since 1993, much of the region’s derelict land has been reclaimed for forestry. The number of post-industrial habitats is declining due to the re-use of brownfield sites\textsuperscript{109}.

The high number of spoil heap sites and derelict railway sites are evidence of the region’s former mining history. Mining is also a source of contamination. Redundant military sites in the east of the region reflect the closure of military bases\textsuperscript{110}.

\textbf{Agriculture}

Agriculture occupies nearly 80% of the land area in the East Midlands\textsuperscript{111}. Industries supporting agriculture, including food processing, storage and transport, are also strong in the region\textsuperscript{111} with agriculture and the food chain combined producing 17.5% of the region’s GDP\textsuperscript{111}. Agriculture in the region contributes approximately £1.5billion in GDP, 10% of total UK output. The East Midlands is the third highest region in terms of agricultural output of all the English regions\textsuperscript{111}. Agriculture and

\textsuperscript{109} Milton Keynes South Midlands SRS (June 2003)
\textsuperscript{110} Viewpoints on the East Midlands (EA, CA, EM Regional LGA, GO-EM, May 1999)

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horticulture employ 42,000 full, part-time and seasonal workers, or 2.3% of the workforce, which is the highest proportion of all English regions.

An increase in productivity on many farms has also resulted in significant differences in income between the most profitable producers and the rest\textsuperscript{111}. Very few farms are making sufficient profit to reinvest in their business\textsuperscript{112}. 20% of the region’s farms produce approximately 80% of the region’s total farm produce\textsuperscript{111}. Arable, especially cereal, production is the largest sub-sector with land use and yields being significantly above the national average\textsuperscript{111}. The region accounts for 32% of England’s total land area under vegetables and salads grown in the open and in Lincolnshire the outdoor flower bulb industry is of international significance\textsuperscript{111}. Livestock rearing is also a significant regional industry with the 2002 census indicating the region to have 523,000 cattle, over 1.3 million sheep, 9% of the national pig herd and 15% of UK poultry production as well as the second largest egg production of all English regions\textsuperscript{111}.

In terms of Agricultural Land Classification, approximately 80% of the East Midlands is classified as Grade 3 land, 10% is Grades 1 and 2 and the remaining 10% is Grades 4 and 5.\textsuperscript{113} Variations in agricultural land quality are shown in Figure 15.2. The majority of Grade I and II agricultural land is located in low-lying coastal areas. The lower grade agricultural land is concentrated in the uplands of the Peak District (see figure 8.3). Agricultural intensification has resulted in a serious decline in biodiversity in the region over the past 50 years. Diversification into industries such as tourism is highly likely to continue. A survey by The University of Nottingham in 2003 showed that 55% of sampled farm businesses in the East Midlands are involved in one or more diversified activities and 62% of full-time farm businesses are involved in diversified activities of some kind. The market for non-food crops such as bio-fuels is developing and there is also a trend away from the production of commodity goods and towards more ‘value added’ farm products\textsuperscript{111}.

\textsuperscript{112}East Midlands – Agricultural Baseline Study. A report prepared for Government Office for the East Midlands by the rural Business Research unit, University of Nottingham, 2003.

Figure 15.2 Agricultural Land Quality

**Natural Hazards - Flooding**

In addition to 105km of North Sea Coastline and the tidal reaches of the Lower Trent, Nene and Welland, the East Midlands includes much of the River Trent catchment, which includes two of the river’s major tributaries, the Derwent and Soar. Additionally, the Rivers Nene, Welland and Witham catchments lie almost entirely within the East Midlands region. The region also contains the headwaters of the River Rother.114

Approximately 17% of the region’s land area is at risk of flooding (see Figure 15.3). This affects over 350,000 people in 143,000 homes and a significant number of businesses.115 Although the standard of flood defences in the region is generally high, these defences do not reach the desired standards in every location in the Region.

**Air quality**

Within the East Midlands, air quality can be linked to two main sources of pollutants: transport and industry. Several important transport corridors (e.g. A1, M1, A14) run through the region with industry concentrated towards the north116. Transport is currently the most important source of pollution as nitrogen dioxide from traffic is the main reason for failing to meet air quality standards in the region117. Road traffic grew in the East Midlands by 22.7% between 1993 and 2002 with consequent detrimental effects on air quality96. Poor air quality in rural areas, in terms of nitrogen dioxide, carbon monoxide and sulphur dioxide is most frequently recorded at locations close to the urban industrial areas and the transport corridors118.

Particulate/dust problems are associated with some of the region’s mineral extraction and processing, ranging from limestone to aggregate for construction136. Generally, emissions from industry have improved over recent years and now appear relatively constant. However, all recording sites in the region saw higher average numbers of days of moderate or higher air pollution in 2003 due to the hot summer. These numbers dropped again in 2007119.

17 local authorities in the East Midlands have designated Air Quality Management Areas (AQMAs)5. Air passenger traffic is an important factor in the East Midlands. The most important emissions from aircraft engines are of nitrogen dioxide (NO₂) and particulates (PM10). On a national scale the

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116 East Midlands Regional Chapter, DEFRA 2000
118 A Long Term Policy Perspective for Sustainable Agriculture, DEFRA 2003
119 State of the Region Report Summary, EMRA 2007
contribution of air transport and associated activities to these impacts is small, but locally in the East Midlands their effect is significant due to the high density of air traffic\textsuperscript{120}. Overall growth in air passengers in the region since 1991 has been around 9\% a year, which is above the UK average\textsuperscript{119}.

\textsuperscript{120} The Future of Air Transport, Department of Transport 2003
Figure 15.3 Flood Risk

Table 15.4 Concentrations of four pollutants at four locations in the East Midlands taken in February 2004

<table>
<thead>
<tr>
<th>Site</th>
<th>Ozone (µgm-3)</th>
<th>Nitrogen dioxide (µgm-3)</th>
<th>Sulphur dioxide (µgm-3)</th>
<th>Carbon monoxide (mgm-3)</th>
<th>PM10 Particles (µgm-3 Grav Equiv)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottesford</td>
<td>46 (2 Low)</td>
<td>N/M</td>
<td>N/M</td>
<td>N/M</td>
<td>N/M</td>
</tr>
<tr>
<td>Ladybower</td>
<td>36 (2 Low)</td>
<td>46.6 (1 Low)</td>
<td>42.6 (1 Low)</td>
<td>N/M</td>
<td>N/M</td>
</tr>
<tr>
<td>Market Harborough</td>
<td>46 (2 Low)</td>
<td>49.3 (1 Low)</td>
<td>N/M</td>
<td>0.6 (1 Low)</td>
<td>N/M</td>
</tr>
<tr>
<td>Northampton</td>
<td>48 (2 Low)</td>
<td>52 (1 Low)</td>
<td>13 (1 Low)</td>
<td>0.5 (1 Low)</td>
<td>30 (2 Low)</td>
</tr>
</tbody>
</table>

2004 is the latest data found in the state of the region report
Air pollution is on a scale of 1 – 10 (low to high) N/M = not measured

Urban air quality in the East Midlands is better than the English average. In 2001 and 2002, Leicester experienced 20 days when air pollution was moderate or higher, compared with an English urban average of 23 days. The centre of Nottingham experienced 13 days, significantly below the average. In 2003, air pollution was moderate or higher than the national average on 24 days in Nottingham, 59 days in the centre of Leicester and 53 days at Ladybower, Derbyshire.

However, there is a lack of comprehensive data on air quality. It is not therefore possible to provide regional averages because there are too few recording sites in the regions. The quantity of ambient air quality data that is available for the region is extremely low – there are only values for the areas surrounding transport corridors in the East Midlands.

**Climate**

The East Midlands has a greater range of rates of precipitation and temperature than most regions in England. Between 1901 and 1998 annual mean temperatures over the centre of England including the East Midlands showed a warming trend of +0.6°C. Average precipitation increased (38%) for the month of December and decreased (38%) for the month of July.

In the East Midlands serious floods occurred in Northampton in 1998, in the winter of 2000, and a dry summer in 2003 saw water resources under strain. February 2004 started with a record night-time temperature of 11.2°C and a mean daytime temperature of 12.5°C. Earlier reported migration of birds such as swallows and house martins reflect the trend of drier warmer summers.

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121 Regional Quality of Life Counts, DEFRA 2004
122 Changing by Degrees: The potential Impacts of climate change in the East Midlands (East Midlands Sustainable Development Round Table, 2003)
The UK Climate Impacts Programme (UKCIP) predicts that by the 2020s the average annual temperature in the East Midlands will have increased by about 0.5 to 1.0°C\(^{123}\). UKCIP uses low and high emission scenarios to explore changes in average daily temperature over time. The region’s temperature is expected to increase by up to 3°C by the end of the 21st century under a high emissions scenario, and rainfall patterns are also predicted to change significantly.

**Figure 15.1 Predicted change in annual average daily temperature to 2080s.**\(^{124}\)

By the 2080s, cloud cover is likely to decrease by up to 15% in summer and daily wind speed to increase by 10% in the winter. Snowfall is predicted to decrease by 60-90% and sea level is predicted to rise by between 22 and 82cm. The sea level along the East Midlands coastline is already rising by between 1 and 2mm a year and storm events are becoming increasingly frequent.\(^9\)

80% of the region’s greenhouse gases result from energy sources. A major source of greenhouse gas emissions is the burning of fossil fuels, with power stations emitting 46% of the greenhouse gases in the East Midlands. Road transport (14%), domestic energy (14%), business and industrial energy use (7%) also all contribute. Remaining emissions are from agriculture/livestock, coalmines and gas transmission and landfill sites.

The UK reduced its greenhouse gas emissions by 6% between 1990-1996 and further reductions of 8% are expected to be achieved by between 2008-2012\(^{125}\). The East Midlands has implemented various initiatives to contribute to reductions mainly focused on improving energy efficiency, although it is not clear how much the East Midlands has contributed to the UK reduction.

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\(^{123}\) Climate Change: The UK Programme (DETR, 2004)

\(^{124}\) UKCIP02 Climate Change Scenarios (funded by Defra, produced by Tyndall and Hadley Centres for UK CIP)

\(^{125}\) Environmental Signals 2000; Environmental Assessment Report No. 6
The Regional Environment Strategy seeks the reduction of greenhouse gas emissions by 12.5% below 1990 levels over the same period 2008-2018 and a reduction of CO2 by 20% below 1990 level by 2010126.

Additional information on the Sub-Regional Study Areas

Three Cities Sub-Region
The major rivers in the 3-Cities sub region are the River Trent in Nottinghamshire; the River Derwent in Derbyshire; and the River Soar in Leicestershire.

Environment Agency analysis of the capacity in current sewage treatment works shows that a number could struggle to accommodate a significant increase in population. The works at high risk of not having additional capacity are distributed all around the sub region although there seems to be particular problems in Leicester and North Nottingham.

Unacceptable levels of pollution are concentrated along transport corridors such as the M1 and in urban areas. Poor air quality in already congested urban areas is exacerbating respiratory diseases and the generally poorer quality of life of local residents. Air Quality Management Areas declared in the 3-Cities sub region include:

Derbyshire
- Derby Inner and Outer Ring Road AQMA

Leicestershire
- Leicester city centre AQMA
- Four AQMA within Oadby
- Narborough Road South and Fosse Park AQMA
- M1 corridor between Thorpe Astley and Kirby Muxloe AQMA
- Loughborough AQMA
- Lutterworth AQMA

Nottinghamshire
- Sherwood Hospital A60 / Broadmarsh A6008 / Queens Medical Centre A52 AQMA
- West Bridgeford AQMA
- A52 AQMA

126 East Midlands Regional Environment Strategy (EMRA, 2003)
• Gedling AQMA
• Four AQMA associated with M1 in Broxtowe district

Northern Sub-Region
The major rivers in the Northern sub region are the River Rother; River Maun; River Meden; River Amber; River Trent; and River Ryton. The Environment Agency has identified the floodplain associated with these and other watercourses in the Northern sub region. In the East Midlands water supply comes from a range of sources and the two water companies serving the region have well integrated distribution networks. The area contains several large public supply reservoirs such as Rutland and groundwater is also an important resource; approximately 40% of the region is underlain by useable aquifers notably the Sherwood Sandstones; the Lower Magnesian Limestone; and Carboniferous limestone in the west.

Environment Agency analysis of the capacity in current sewage treatment works shows that a number could struggle to accommodate a significant increase in population. The works at high risk of not having additional capacity are distributed all around the sub region although there seems to be particular problems in North Nottingham and Mansfield.

Unacceptable levels of pollution are concentrated along transport corridors such as the M1 and in urban areas. Poor air quality in already congested urban areas is exacerbating respiratory diseases and the generally poorer quality of life of local residents. Air Quality Management Areas declared in the Northern sub region include an AQMA which has been declared in the vicinity of Junction 28 of the M1 motorway where the M1 carries vehicles north/south and the A38 runs east/west at South Normanton.

Lincoln Sub-Region
Climate change is likely to be a significant issue in the future:
• The region experiences seasonal water shortages, particularly in parts of Lincolnshire, and there is little potential for additional supplies from existing surface water resources – a situation which is likely to be exacerbated by climate change and additional development, unless measures are taken to use water more efficiently or develop new sources of supply.
• A significant part of the region is already at risk of flooding, including low-lying land in the Lincoln Policy Area. Although the level of flood defences means the most vulnerable areas are protected, the risk of flooding is likely to increase with climate change.
Overall water quality is generally good, although in parts of the region pollution from agriculture is an issue. The region experiences seasonal water shortages, particularly in parts of Lincolnshire, and there is little potential for additional supplies from existing surface water resources – a situation which is likely to be exacerbated by climate change and additional development, unless measures are taken to use water more efficiently or develop new sources of supply.

Large areas of lowlying land in the City Centre and to the south of the city are at risk from flooding. Although the level of flood defences means the most vulnerable areas are protected, the risk of flooding is likely to increase with climate change. Air quality for the Lincoln Policy Area as a whole is not considered to be an issue however in the City Centre, nitrogen dioxide levels are above the national objective and therefore an Air Quality Management Area has been declared.

**Information Gaps**

- Ambient air quality is generally not monitored and monitoring sites tend to be located adjoining major transport nodes.
- There are also some concerns about using data from the National Land Use Database (NLUD) as there may be disparities and inconsistencies in the recording and reporting of these figures by Local Authorities.

### 15.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

**Table 15.5 Plans, programmes and policies**

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Directive on the Combating of Air Pollution from Industrial Plants (84/360/EEC)</td>
</tr>
<tr>
<td>- Directive on the Limitation of Pollutants into the Atmosphere from Existing Large Combustion Plants (88/609/EEC)</td>
</tr>
<tr>
<td>- UN Framework Convention on Climate Change, (United Nations, 1992)</td>
</tr>
<tr>
<td>- Kyoto Protocol to the United Nations Framework Convention on Climate Change, (Intergovernmental Panel on Climate Change, 1997)</td>
</tr>
<tr>
<td>October 2000</td>
</tr>
<tr>
<td>- EU Common Agricultural Policy (CAP) 1960</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The Future of Air Transport (Department for Transport 2003)</td>
</tr>
<tr>
<td>- Climate Change: The UK Programme (DETR, 2004)</td>
</tr>
<tr>
<td>- Planning Policy Statement 23 Planning and Pollution Control. (ODPM, 2004)</td>
</tr>
<tr>
<td>- Directing the Flow - Priorities for future water policy (DEFRA, 2002)</td>
</tr>
<tr>
<td>- Public Service Agreement 2003-2006 (DEFRA, 2002)</td>
</tr>
</tbody>
</table>
Regional Plans and Programmes

- East Midlands Regional Environment Strategy (EMRA 2003)
- Nottingham Declaration to the National Conference on Climate Change (DEFRA, 2000)
- Climate Change and Biodiversity in the East Midlands (Middlemarch Environmental Ltd, 2006)
- East Midlands Regional Energy Strategy (EMRA, 2003)
- East Midlands Rural Priorities Framework (EMRA, 2005)
- Regional Delivery Plan for Sustainable Food and Farming (East Midlands Rural Affairs Forum, 2003)
- East Midlands Soil and Environmental Resource Review. Report for East Midlands Regional Assembly - Project ENV002/AH

The key messages identified from these other relevant plans and programmes and initiatives include:

- Protect human health from poor air quality.
- Clear targets to improve air quality in the region.
- Planning guidance should contribute to reducing greenhouse gas emissions.
- Ensure that sustainable communities adapt to the impacts of climate change.
- Safeguard freshwater resources and quality despite increased demand and climate change.
- Achieve more efficient water use.
- Maximise opportunities for the recycling of land, particularly on good transport routes.
- Encourage sustainable land management practices.

15.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The likely evolution of natural resources in the East Midlands without the implementation of the Regional Plan is described in Table 15.6.

Table 15.6 Key natural resource issues and their likely evolution without the Regional Plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate change: Global warming may have a significant impact on the air quality in the region. As air temperature rises, the level of pollution in</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Issue</td>
<td>Likely evolution without the Regional Plan</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>the air increases accordingly.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Transport: Emissions from pollutants from transport are the main cause of poor air quality in the region, while car use is increasing.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Industry: This is the second largest polluter in the region, as the East Midlands is one of the country’s main exporters of minerals and aggregates.</td>
<td>Continuation of current trend, although possibly slowing down as renewable energy schemes are implemented.</td>
</tr>
<tr>
<td>Climate change: Climate change is likely to cause reductions in water resources, problems with water quality due to declining summer flows, and increase flooding both from sea level rise and heavier storms. This is likely to have an impact on the region’s biodiversity and historical heritage, health and its economy</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Agricultural practices: Agricultural practices will be affected as summer droughts and soil moisture deficit could lead to increased demand for irrigation. This may also affect secondary agricultural industries in the region. Increased erosion from high sea levels and storms has caused damage to agricultural land.</td>
<td>Continuation of current trend, possibly increasing as the effects of climate change increase, although farm diversification schemes may improve resistance to climate change.</td>
</tr>
<tr>
<td>Greenhouse gas emissions: Energy consumption is the main contributing factor to climate change due to the level of greenhouse gas emissions.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Water shortages: The key issue regarding water resources in the East Midlands is water quantity. Relatively low rainfall levels in the East Midlands could create a significant shortfall in terms of supply and demand and population increases may place further pressure on the resources.</td>
<td>Worsening of current trend as development continues and climate change effects worsen, and without adequate water supply measures taken.</td>
</tr>
<tr>
<td>Climate change: Severn Trent Water estimate that climate change could result in a further reduction of yields of the River Trent and the Derwent valley system.</td>
<td>Worsening of current trend as development continues and climate change effects worsen, and without adequate water supply measures taken.</td>
</tr>
<tr>
<td>Inter-regional discrepancies: Parts of the East Midlands are among the driest in the country and there are limited natural and artificial facilities to store water in the region. Other regions may be less under pressure.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Water quality: Intensive agricultural practices in the area have damaged the water quality in some of the inland waterways. Restraints on water supply could further endanger water quality.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Locations of previously developed land: There is a large concentration of previously developed land across the region, which are different in character and can have important historic remains. For example Lincolnshire has a high proportion of former military bases and Nottinghamshire has a high level of mining extraction sites.</td>
<td>Although structural adjustments in the manufacturing and primary industries will still occur, the most significant of these should have taken place. Without the Regional Plan, the trend will continue but may have a lesser effect as areas further diversify into the service sector.</td>
</tr>
<tr>
<td>Biodiversity: Some derelict sites are important sites for nature conservation.</td>
<td>Derelict sites are likely to become more scarce as housing and employment development occurs.</td>
</tr>
<tr>
<td>Strong agricultural sector: The region represents a significant proportion of UK agricultural production.</td>
<td>Continuation of current trends. However, as demand for housing increases, it is likely to become increasingly difficult to protect agricultural resources.</td>
</tr>
<tr>
<td>Issue</td>
<td>Likely evolution without the Regional Plan</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Reinvestment problems: The majority of farmers cannot afford to reinvest in their business which threatens the future sustainability of the industry.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Supporting industries: These are highly valuable to the economy.</td>
<td>Supporting industries are likely to continue being of high value to the economy of the East Midlands.</td>
</tr>
<tr>
<td>CAP reforms: As subsidies become decoupled from production this may lead to major changes in agricultural practices</td>
<td>Biodiversity on agricultural land may increase due to CAP reforms.</td>
</tr>
<tr>
<td>Diversification: A future shift towards crop production for bio-fuels is likely.</td>
<td>Likely to occur.</td>
</tr>
<tr>
<td>Biodiversity decline: The East Midlands has the poorest biodiversity of all the regions due to agricultural intensification.</td>
<td>Continuation of current trend, although likely to be lessened as a result of changes to the CAP. Other strategies and initiatives such as the National Forest are also likely to enhance biodiversity levels.</td>
</tr>
<tr>
<td>Climate change: This will greatly affect the region’s agriculture – in terms of the type of crop grown and irrigation required.</td>
<td>Continuation of current trends, possibly increasing as climate change effects increase.</td>
</tr>
</tbody>
</table>

**15.5 SUSTAINABILITY APPRAISAL OBJECTIVES**

The SA Scoping Report for the draft Regional Plan included the Objective: *To manage prudently the natural resources of the region including water, air quality, soil and minerals.* The sub questions relating to this objective are:

**Water**

a) Will it reduce levels of pollution to water in the region?
b) Will it encourage water efficiency?
c) Will it be within the capacity of available water resources, taking into account climate change?
d) Does it allow for beneficial natural processes such as the flooding of farmland?
e) Will it help to achieve integrated catchment management in line with the requirements of the Water Framework Directive?

**Soils**

a) Will it reduce levels of pollution to soils in the region?
b) Will it make use of previously used/brown field land and buildings?
c) Will it avoid the loss of, and damage to, the best and most versatile agricultural land?
d) Will it avoid the sterilisation of mineral reserves?
e) Will it result in improved land management?

**Natural Hazards**

a) Will it reduce the effects of flooding, taking into account climate change?
b) Will it reduce the effects of subsidence, taking into account climate change?

**Air**

a) Will it reduce levels of pollution to air in the region?
15.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)

Water

The SA of the draft plan stated that there are concerns relating to the effects of delivering the East Midlands Regional Plan on water resources and water quality. Although the Plan contains a strong policy on the need to take water related issues into account at an early stage of the process of identifying land for development and aims to achieve a regional target of 25% efficiency in new development, there are still likely to be deficiencies in parts of the Region. Additionally, water quality may potentially be significantly and negatively affected by planned housing development. Additionally, Policy 33 specifies that priority areas for further study include Mansfield, Worksop and Newark. Further study may help eliminate some of the uncertainty associated with the negative effects identified. Policy – A regional approach to water resources and water quality, which requires that authorities ensure that STW capacity is sufficient to meet the needs of water quality may not be achievable, or may result in restrictions on development.

The increase in housing allocations through the Proposed Changes will only exacerbate the issues regarding water supply and sewerage treatment. Although it is recognised that development is needed for economic and social objectives the provision of water services need to be carefully planned. Further measures may be required and this will need to be dealt with in Water Cycle Studies produced to support LDFs. Other policies have been strengthened in terms of provision of SUDS.

The Final version of the plan and the SA has been informed by the Draft Severn Trent and Anglian Water, Water Resource Management Plans (WRMPs). These plans set out the measures that will be needed to ensure that water resource provision is adequate until the period to 2035. The plans put forward a number of measures including a new Lincoln Water Treatment Works, a new source works at the Grove WTW, Lincolnshire Fens WTW and duplication of a section of the Derwent Valley Aqueduct. A further issue that has been identified to require investigation in the final Severn Trent WRMP is ensuring that Newark is adequately linked to the rest of the water resources zone. In terms of planning for sewerage infrastructure, regional and local bodies will need to work together to ensure timely provision of appropriate additional infrastructure for water supply and wastewater treatment. A co-ordinated approach to plan making should be developed though a programme of water cycle and river cycle studies to address issues of water supply, water quality, wastewater treatment and flood risk in receiving watercourses relating to the development proposed in the RSS. As a result of recommendations made within the SA, Policy 32 has now been strengthened in its reference to Water Cycle Studies.
**Cumulative effects**

As long as the water companies address sewage treatment shortages and ensure that the final regional housing numbers are addressed within their WRMPs, then cumulative effects should not occur.

**Issues for the Review of the Regional Plan**

It is advisable that the water companies check that the final housing numbers in the RSS are reflected in the final WRMPs due to be published in 2009. LDF teams should commission Water Cycle Studies as early as possible to ensure that up to date information is available to guide housing allocations.

**Uncertainties/Information Gaps**

It is not clear how the issue of a lack of sewage treatment work and water resources capacity will be overcome in the region.

**Soil**

The SA of the draft plan stated that there is the potential that development outlined in the East Midlands Regional Plan will conflict with the protection of BMV land and mineral reserves. It is important that this potential conflict is assessed to ensure that such a conflict does not arise. The Plan could explicitly encourage the establishment of minerals consultation areas in Minerals Local Plans where mineral reserves are present to guard against sterilisation of mineral reserves.

*The Proposed Changes does not have significantly different effects on this objective as compared to the draft plan. The main change is that the design policy now includes an objective on making the best use of land, thus potentially protecting greenfield sites.*

*The decrease in housing numbers decreases the risk that housing will impact upon valued resources. However, the reduction is small, therefore any improvement in the performance of the plan is minor.*

**Cumulative effects**

Although minor positive cumulative effects on the use of previously developed land may arise from the implementation of the Plan, significant negative cumulative effects may potentially occur to avoiding loss or damage to BMV land. Development is planned in a large number of areas that contain mineral reserves, and in close proximity to BMV land, where it may encroach on such land and lead to losses. However, this issue will be dealt with through the Mineral LDF process and also if development does not directly conflict with mineral sites this could be positive as building materials will have less distance to travel.

**Issues for the Review of the Regional Plan**

None identified.
**Uncertainties/Information Gaps**

There is no current information available on land classified as Grade 3A. BMV agricultural land assessments have been based on Grades 1 and 2.

**Natural Hazards**

The SA of the draft plan stated that many of the policies in the East Midlands Regional Plan locate development in flood risk zones. Although the majority of these zones are protected by flood defences, these defences only reduce the risk of flooding, they do not eliminate the risk of flooding entirely. Only one policy, which refers directly to flood risk, is likely to result in significant positive effects, yet a large number are likely to result in significant negative effects.

*The impact of the plan on flooding has been improved through the reduction in housing allocation to flood prone areas such as Boston and East Lindsey. Other policies have also been strengthened in terms of flood management such as the design policy and the woodland policy which now states that woodland should contribute to flood alleviation.*

*There are no significant changes as a result of the changes made to the final plan.*

**Cumulative effects**

The level of development set out in the Plan and the locations of this development may not be sustainable in the long term. Locating development in areas of flood risk is likely to lead to cumulative significant negative effects on reducing the risk of flooding, and is likely to exacerbate it. However, reductions in allocations in more flood prone areas on the Lincolnshire coast has reduced the effect on flooding in the short term until better information is available.

**Issues for the Review of the Regional Plan**

None

**Uncertainties/Information Gaps**

There are uncertainties associated with the likely effects of the Regional Plan on subsidence. Strategic Flood Risk Assessments that are yet to be completed by Local Planning Authorities.

**Air**

The SA of the draft plan stated that the polices in the East Midlands Regional Plan are generally expected to result in a greater number of significant positive effects than significant negative effects on air pollution. There are a number of policies which directly address the need to improve energy efficiency, reduce the need to travel and promote green infrastructure, which is likely to positively
affect air quality. However, a number of the sub-regional policies may actually increase travel by car, particularly policies 51 and 52, negatively affecting air quality in the region.

*The Proposed Changes has made some changes to policy that will improve the performance of the plan in terms of air quality. A new policy on air quality has been added. Regeneration priorities are now expected to conform to the spatial strategy of the plan and the plan now has an air quality policy which should help to reduce the effects of development on air quality. However, the recognition of the RSS Panel that the success of the sustainable transport measures in the RTS is uncertain may mean that policies that encourage walking, cycling and a reduction in private car are not as positive as they could be in delivering air quality benefits. The schemes included in Appendix 6 have been amended so they are linked to the implementation of policy more clearly. However, the effects of this are uncertain until the RTS is reviewed.*

There are no significant changes as a result of the changes made to the final plan.

**Cumulative effects**

Cumulatively, policies in the Plan are expected to lead to both significant positive and significant negative effects on air quality in the East Midlands. The Plan encourages walking and cycling and the provision of public transport which are all likely to impact positively on air quality (although the delivery of sustainable transport measures is uncertain). This may lead to reductions in air quality.

**Issues for the Review of the Regional Plan**

None identified.

**Uncertainties/Information Gaps**

None identified.

**15.7 PROPOSALS FOR MONITORING**

It is recommended that information on the indicators listed in Table 15.7 below is collected in order to monitor the significant effects of implementing the Regional Plan policies on natural resources.

**Table 15.7 Proposals for monitoring natural resources in the East Midlands**

**Water**

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces levels of pollution to water in the region.</td>
<td>Ecological river quality</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Number of pollution incidents reported to the Environment Agency</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Chemical water quality</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>River Project Cover</td>
<td>Yes</td>
</tr>
<tr>
<td>Is within the capacity of available water</td>
<td>Planning permissions granted against Environment Agency advice</td>
<td>Yes</td>
</tr>
<tr>
<td>Effect that needs to be monitored</td>
<td>Indicators</td>
<td>Included in the Implementation Framework?</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>resources, taking into account climate change</td>
<td>Number of leakages reported to water companies</td>
<td>No</td>
</tr>
</tbody>
</table>

**Soil**

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoids the loss of, and damage to, the best and most versatile agricultural land</td>
<td>Change in area of BMV agricultural land</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Change in condition of BMV agricultural land</td>
<td>No</td>
</tr>
<tr>
<td>Avoids the sterilisation of mineral reserves</td>
<td>Areas of minerals sterilised by development</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Establishment of minerals consultation areas in Minerals Local Plans</td>
<td>No</td>
</tr>
</tbody>
</table>

**Natural Hazards**

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces the effects of flooding, taking into account climate change</td>
<td>Planning permissions granted contrary to Environment Agency advice on flood defence grounds</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Strategic Flood Risk Assessments completed</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Air**

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will it reduce levels of pollution to air in the region?</td>
<td>Number of Air Quality Management Areas in the region</td>
<td>No</td>
</tr>
</tbody>
</table>
16.0 SUSTAINABILITY APPRAISAL TOPIC: WASTE

Objective 9: To minimise waste and increase the reuse and recycling of waste materials

16.1 INTRODUCTION
Waste Strategy 2007\textsuperscript{127} sets out the national strategy to manage waste. It advocates movement up the waste hierarchy away from our dependence on landfill toward recovering energy from waste, recycling, reuse and reduction of all waste streams. It also sets out the targets for municipal waste as a result of the EU landfill directive:

- To recycle or compost at least 40\% of household waste by 2010.
- To recycle or compost at least 45\% of household waste by 2015.
- To recycle or compost at least 50\% of household waste by 2020.

The location and distribution of waste management facilities is also a key consideration for sustainable waste management. The distance that waste travels from where it was generated should be minimised and opportunities to utilise sustainable methods of transportation should be sought. There are a range of different types of waste management facilities, with slightly varying siting requirements. Planning Policy Statement 10: Planning for Waste Management\textsuperscript{128} sets out a range of locational considerations including proximity to sensitive receptors, transport and accessibility and historic and natural heritage.

16.2 CHARACTERISATION
The East Midlands produces over 25 million tonnes of waste per year\textsuperscript{129}. The region’s waste arisings are set to increase to a minimum of 27 million tonnes per annum by 2021, even if all the legislative targets which have been set for the reduction, recycling and recovery of wastes are met\textsuperscript{129}.

In 1999, the waste that was produced in the East Midlands could be broken down into 48\% Commercial and Industrial (C&I) waste, 38\% Construction and Demolition (C&D) waste and 14\% Municipal Solid Waste (MSW)\textsuperscript{130}.

In 2003, the breakdown of C&D waste produced was as follows:

\textsuperscript{129} East Midlands Regional Waste Strategy (EMRA, 2006)
\textsuperscript{130} East Midlands State of the Environment Report (EMRA 2004)
• An estimated 4.88 million tonnes of recycled soil and aggregate was produced in 2003 (approximately 11% of the total produced in England)\textsuperscript{131}

• Total arisings of C&D were estimated to be 9.88 million tonnes.

In 2003/04, approximately 20% of MSW was either recycled or composted\textsuperscript{129}. In 2004/5, 27 (out of 45) local authorities met or exceeded their targets for MSW recycling.\textsuperscript{132} Charnwood and Oadby and Wigston Districts were more than 10% below target.

In 2003, the East Midlands produced 268,000 tonnes of hazardous waste of which 49% was exported from the region for treatment. The majority of the exported hazardous waste went to Yorkshire and Humber (61%), although 72.7% of the total waste imported into the region also comes from Yorkshire and Humber. 51% of special/hazardous waste managed within the region was landfilled in the East Midlands. The Landfill Directive (99/31/EC) bans the co-disposal of hazardous waste with non-hazardous material from 2004, and requires the re-classification of landfills to receive hazardous, non-hazardous or inert wastes only. The Directive has major implications for the disposal of hazardous waste in East Midlands.

The food, drink and tobacco industry produces the most Commercial & Industrial (C&I) arisings\textsuperscript{129} excluding waste from power stations/mining. Nottinghamshire (including Nottingham City) produces the majority of C&I waste (approximately 40%, which includes power station waste). In 2003, C&I waste made up 39% of the controlled waste produced in the region\textsuperscript{133}.

In 2001, 88% of waste was land filled, 2% was incinerated and 10% was recovered (through recycling, composting or other forms of treatment)\textsuperscript{129}. It is estimated that the region has the capacity to treat or dispose of approximately 17.8 million tonnes, yet only approximately 10 years of landfill capacity remaining. Controlled\textsuperscript{134} waste arisings were estimated to be around 16.4 million tonnes in 2000/01, but are predicted to rise to 18.4 million tonnes in 2021. Agricultural waste constituted 20% of total controlled waste arisings in 2003.

There are currently 36 existing and planned landfill gas utilisation/energy recovery schemes in the region. The landfill gas resource will decline over time as the sites mature\textsuperscript{135}. There is a clear indication that an urgent alternative to landfill is required\textsuperscript{129}.

\textsuperscript{131} East Midlands Regional Spatial Strategy 2003/04 Annual Monitoring Report (EMRA, Jan 2005)
\textsuperscript{132} East Midlands Regional Waste Strategy (EMRA, 2006)
\textsuperscript{133} East Midlands Regional Waste Strategy (EMRA, 2006)
\textsuperscript{134} Waste controlled under the Waste Framework Directive.
The Regional Waste Strategy estimates that wastes will continue to increase on average:

- **MSW**: 3.6% until 2006 and then 1.7% from 2007 to 2015.
- **C&I**: 2% until 2006, then 1% growth from 2007 to 2015.
- **C&D**: 2% until 2006, then 1% growth from 2007 to 2015.

The national targets for reducing waste are included in the Table 16.1.

### Table 16.1 Waste Strategy 2007 Targets (DEFRA)

<table>
<thead>
<tr>
<th>Year</th>
<th>Recovery of MSW (%)</th>
<th>Recycling or composting of household waste (%)</th>
<th>Landfilled C&amp;I (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>53%</td>
<td>40%</td>
<td>85% of the amount landfilled in 1998.</td>
</tr>
<tr>
<td>2015</td>
<td>67%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>75%</td>
<td>50%</td>
<td></td>
</tr>
</tbody>
</table>

### Additional information on the Sub-Regional Study Areas

#### Three Cities Sub-Region

Table 16.2 shows waste data for the Three Cities sub region.

### Table 16.2 Waste data for the Three Cities sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Waste Recycled</td>
<td>2004-5</td>
<td>13.59</td>
<td>16.82</td>
<td>8.72</td>
<td>20.2</td>
<td>15.27</td>
<td>14.3</td>
</tr>
<tr>
<td>Household Waste Composted</td>
<td>2004-5</td>
<td>4.38</td>
<td>17.38</td>
<td>5.28</td>
<td>11.5</td>
<td>6.61</td>
<td>8.5</td>
</tr>
<tr>
<td>Household Waste Landfilled</td>
<td>2004-5</td>
<td>73.32</td>
<td>65.79</td>
<td>24.47</td>
<td>56.1</td>
<td>78.12</td>
<td>77.2</td>
</tr>
<tr>
<td>Waste Collected per Household</td>
<td>2004-5</td>
<td>443</td>
<td>568.7</td>
<td>492</td>
<td>568</td>
<td>515.5</td>
<td>504.5</td>
</tr>
<tr>
<td>Population served by Kerbside Collection</td>
<td>2004-5</td>
<td>93</td>
<td>-</td>
<td>92.9</td>
<td>-</td>
<td>100</td>
<td>-</td>
</tr>
</tbody>
</table>

within 1km of Recycling Centre (%) | | | | | | | | | | | 2004 - 2005 | 31.32 | - | 34.25 | - | 37.2 | - 

Northern Sub-Region

Table 16.3 shows waste data for the Northern sub region.

### Table 16.3 Waste data for the Northern sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household waste Recycled (%)</td>
<td>-</td>
<td>20.2</td>
<td>14.3</td>
</tr>
<tr>
<td>Household Waste Composted (%)</td>
<td>-</td>
<td>11.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Household Waste Landfilled (%)</td>
<td>-</td>
<td>56.1</td>
<td>77.2</td>
</tr>
<tr>
<td>Waste Collected per Household</td>
<td>-</td>
<td>568</td>
<td>504.5</td>
</tr>
<tr>
<td>Life expectancy of landfill sites licensed for biodegradable waste</td>
<td>2006</td>
<td>5.9</td>
<td>10.6</td>
</tr>
</tbody>
</table>

Lincoln Sub-Region

No further data was collected as part of the Lincoln sub regional strategy SA report.

**Information Gaps**

None identified.

16.3 **RELEVANT PLANS, PROGRAMMES AND POLICIES**

### Table 16.4 Plans, programmes and policies

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Landfill Directive (99/31/EC) (European Commission, 1999)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Plans and Programmes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• PPS 10 – Planning for Sustainable Waste Management (ODPM, 2005)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Waste Strategy for England and Wales (Defra, 2007)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Waste Not, Want Not, A Strategy for tackling the waste problem (Strategy Unit, 2002)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Plans and Programmes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• East Midlands Regional Waste Strategy (EMRA, 2006)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Regional Environment Strategy (Part 1 and 2) (EMRA, 2003)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The key message identified from other plans and programmes is the need to reduce waste arisings and increase the re-use, recycling and recovery of waste.

### 16.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of waste in the East Midlands without the implementation of the East Midlands RSS is described in Table 16.5.

**Table 16.5 Key waste issues and their likely evolution without the Regional Plan**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill: Urgent alternative options to landfill are required (landfill facilities will run out within the next 8 years(^1)).</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>C&amp;I Waste: This makes up nearly half of the controlled waste produced in the region, which is a significant problem in terms of disposal.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Additional Waste: The designation of the Milton Keynes/South Midlands Growth Area and increased housing generally in the region will further increase the amount of waste produced by the region.</td>
<td>Continuation of current trends, but likely to worsen.</td>
</tr>
</tbody>
</table>

### 16.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the Regional Spatial Strategy included the Objective: *To minimise waste and increase the re-use and recycling of waste materials.* The sub questions relating to this objective are set out below:

a) Will it encourage the safe disposal of waste?
b) Will it increase the reduction, reuse and recycling of waste?
c) Will it encourage the management of waste close to where the waste is generated?

### 16.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)

The SA of the draft plan stated that the key challenge for the region is to meet the target of zero growth in waste by 2016. East Midlands Regional Plan policy will be able to influence this to a certain extent e.g. through the design of development, but success will be dependent on a range of other measures, many of which are set out in the Regional Waste Strategy. The other major challenge will be for the planning system to ensure that sufficient numbers of recycling facilities can be constructed to meet future waste management demands and the diversion of waste from landfill. This will be highly dependent on a positive approach to planning at the Local Authority level and proper engagement with local communities and the waste industry.
The Proposed Changes has made the regional priorities for waste management much more regionally specific in that it sets out the pattern of waste management facilities that are needed. The design policy would benefit from an extension to cover all major development rather than just urban extensions requiring EIA.

The text of the final plan has strengthened the consideration of the types of facilities that may be acceptable to serve the Peak sub area. This makes it clearer what facilities Waste LDFs will need to plan for.

**CUMULATIVE EFFECTS**

Targets in the Plan and policies to encourage increased recycling infrastructure will help to move waste management up the waste hierarchy and the spatial pattern of waste management development that is included in the policy will be useful in guiding Local Authorities in their Waste LDFs. The policy – regional priorities for waste management also encourages new waste management infrastructure to be located in close proximity to existing or major new development.

**Issues for the Review of the Regional Plan**

The design policy would benefit from requiring all major development to achieve the highest viable level of building sustainability, rather than just urban extensions.

**Uncertainties and data gaps**

None identified.

**16.7 PROPOSALS FOR MONITORING**

As no significant negative effects on waste have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, due to the challenges of reducing waste and delivering increased waste recycling, recovery and composting facilities, we recommend ongoing monitoring of waste production and the proportion of waste being sent to landfill and being recycled.
Objective 10: To minimise energy usage and to develop the region’s renewable energy resource, reducing dependency on non-renewable resources

17.1 INTRODUCTION
The UK Sustainable Development Strategy\(^{136}\) highlights that ‘our health and wellbeing are inextricably linked to the quality of our air, water, soils and biological resources’. We also rely heavily on natural resources for economic development. Not only do we extract material from the environment for use in industry and to produce energy, but we also rely on functioning ecosystems ‘for nutrient cycling, atmospheric and climate regulation, and break down and mitigation of waste’. It is very important then, that for continued sustainable prosperity, the environmental limits of natural resources need to be understood and respected.

Our reliance on fossil fuels for producing energy is an example of unsustainable use of natural resources. Not only are the usable sources of fuel (coal, natural gas and oil) dwindling and becoming politically sensitive but their use is one of the main contributors to carbon dioxide emission; which are having a profound impact on our climate.

With consumer consumption increasing and likely population growth, pressures of global and local natural resources as well as demand for energy is likely to increase. The Government’s White Paper *Our Energy Future – Creating a Low Carbon Economy*\(^{137}\) sets out the policy-making framework for energy, with four main objectives:

- To put ourselves on a path to cut the UK’s carbon dioxide emissions – the main contributor to climate change – by some 60 per cent by about 2050, with real progress by 2020;
- To maintain the reliability of energy supplies;
- To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve our productivity; and
- To ensure that every home is adequately and affordable heated.


The cheapest and safest way of addressing all four of these objectives, the UK Sustainable Development Strategy\textsuperscript{138} suggests, is through energy efficiency. Renewable energy is also likely to play a significant role, however these schemes can also present their own resource issues.

\textbf{17.2 CHARACTERISATION}

\textit{Energy Generation}

In the East Midlands, the majority of energy is generated from fossil fuels, with the production of coal in Derbyshire, Leicestershire and Nottinghamshire amounting to 5.7 million tonnes in 1999\textsuperscript{139}. The region’s coal-fired power stations account for approximately 10-15\% of the UK’s total generating capacity. Renewable energy accounted for less than 100MW of installed capacity in 2004, approximately 2\% of the region’s energy consumption.\textsuperscript{140}

‘Towards a Regional Energy Strategy’ estimates final energy consumption in the region will increase by over 15\% by 2020\textsuperscript{141}.

The region is richly endowed in potential renewable energy resources – particularly offshore wind (which is now counted as a national resource). If all the accessible resources were to be built, almost half of the regional electricity consumption could be supplied by renewable energy\textsuperscript{142}. The East Midlands has the third lowest number of sites amongst all English regions generating electricity from renewable sources\textsuperscript{143}.

The region has a long history of harnessing wind for powering water pumps and mills. However, the East Midlands is one of the least windy parts of the country and there are few windfarms or large wind turbines within the region. There is only one project of significant scale in the region, site in Mablethorpe, Lincolnshire and combined with a smaller scheme at West Beacon Farm, these wind farms generate approximately 16 GWh/yr. However, three further substantial projects are under construction. These are Burton Wold Wind Farm, Gedney Marsh and Deeping St. Nicholas. These projects will generate an additional 126GWh/yr.\textsuperscript{144}

\textsuperscript{138} \textit{UK Sustainable Development Strategy}, Defra, (2005)
\textsuperscript{140} East Midlands Regional Targets and Scenarios for Renewable Energy. Research conducted for EMRA by Best Foot Forward, June 2006.
\textsuperscript{141} Towards a Regional Energy Strategy: A Sustainable Approach to Energy in the East Midlands, EMRA 2002/2003
\textsuperscript{142} Renewable Energy Assessments, DTI 2002
\textsuperscript{143} East Midlands State of the Region Report: Summary of the progress in achieving our Sustainable Development Objectives, EMRA 2004

\textbf{154}
No offshore wind turbines have been built off the coast of Lincolnshire, although one project, Lynn and Dowsing (5km offshore of Skegness), has been given consent and will give an energy output of 473 GWh/yr. Centric has consent for a further three wind power developments, with a combined potential capacity of 3,300 GWh/yr.

There are ten hydropower plants operating within the region, nine of which are in Derbyshire. The total capacity of the hydropower plants is nearly 3.04 MWe.

Very little new CHP has been installed in the East Midlands in recent years, mainly due to the widening gap between gas and electricity prices. There is only one energy from waste plant in the Region, located in Nottingham, burning a mixture of municipal solid waste and gas. The total capacity of this plant is 14.9MWe. There are four potential additional plants, two in Nottingham and two in Lincolnshire, with a total projected capacity of 35.5MWe. However, none of these schemes has submitted a planning application.

There have been several significant solar photovoltaic installations around the region since 2003. The largest of these installations is at Queen’s Park Sports Centre (101kWp) and on housing in Braunstone in Leicester (70 kWp). Also there is some biomass co-firing in the region’s power stations and local schemes (especially related to schools) for biomass-fuelled local heating schemes.

Many energy-related projects are planned or underway, particularly targeting energy efficiency and renewable energy. In some areas, particularly energy consumption, the East Midlands is ahead of many others in terms of the plans and targets it has in place.

The Plan may need to consider housing issues and energy efficiency within homes, from the point of view of delivering low carbon households and buildings. New housing stock in the region does not score well in terms of energy efficiency (11.6% of households in the East Midlands live in homes that are inefficient and expensive to heat, having a Standard Assessment Procedure (SPA) rating of 30 or below, compared with the regional average of 48.8). Average domestic consumption is 4,200 kWh/y, so the 1.9 million households in the East Midlands use around 8,000 GWh/y.

Energy Consumption

The quantity of energy consumed varies significantly throughout the region. Leicester, Nottingham, Derby and the High Peak Local Authority Areas have the highest total I&C energy consumption in the region. Per capita, Rutland, Corby, High Peak and the Derbyshire Dales LAs consume the greatest amount of energy.
**Greenhouse Gas Emissions**

Although the East Midlands region was one of the lowest emitters of total carbon dioxide emissions of all the English region’s in 2003, per head, the region was one of the highest emitters.\textsuperscript{145} I&C Electric (6,197,437 tonnes), domestic gas (5,834,537 tonnes), petrol cars (4,817,083) and I&C gas (4,275,785 tonnes) are the four highest sources of CO\textsubscript{2} emissions in the region.

CO\textsubscript{2} emissions from the region (total and per capita) follow the same patterns as energy consumption, with Leicester responsible for the highest total I&C emissions and Rutland for the highest total I&C emissions per capita. Of the five Housing Market Areas, the Three Cities sub area accounts for the highest total domestic and industrial CO\textsubscript{2} emissions by source, although this is likely to be largely due to the population concentrations in this HMA. Per capita, the Peak sub area is the highest emitter of CO\textsubscript{2} per capita.

Table 17.1 shows the order of East Midlands Authorities in terms of per capita greenhouse gas emissions. The list should be read from top to bottom, left to right, with Daventry having the highest emissions per capita and Oadby and Wigston the lowest.\textsuperscript{146}

**Table 17.1 Comparative per capita greenhouse gas emissions by District**

<table>
<thead>
<tr>
<th>Daventry</th>
<th>Kettering</th>
<th>East Northamptonshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Northamptonshire</td>
<td>Newark and Sherwood</td>
<td>High Peak</td>
</tr>
<tr>
<td>North West Leicestershire</td>
<td>West Lindsey</td>
<td>Mansfield</td>
</tr>
<tr>
<td>South Derbyshire</td>
<td>Broxtowe</td>
<td>Erewash</td>
</tr>
<tr>
<td>Bolsover</td>
<td>Boston</td>
<td>Northampton</td>
</tr>
<tr>
<td>Derbyshire Dales</td>
<td>Amber Valley</td>
<td>Charnwood</td>
</tr>
<tr>
<td>Rutland</td>
<td>South Kesteven</td>
<td>Corby</td>
</tr>
<tr>
<td>Harborough</td>
<td>Blaby</td>
<td>Gedling</td>
</tr>
<tr>
<td>Hinckley and Bosworth</td>
<td>Melton</td>
<td>Chesterfield</td>
</tr>
<tr>
<td>North East Derbyshire</td>
<td>Rushcliffe</td>
<td>Leicester</td>
</tr>
<tr>
<td>South Holland</td>
<td>North Kesteven</td>
<td>Lincoln</td>
</tr>
<tr>
<td>East Lindsey</td>
<td>Ashfield</td>
<td>Derby</td>
</tr>
<tr>
<td>Bassetlaw</td>
<td>Wellingborough</td>
<td>Oadby and Wigston</td>
</tr>
</tbody>
</table>


**Additional information on the Sub-Regional Study Areas**

**Three Cities Sub-Region**

Table 17.2 shows energy statistics for the Three Cities sub region.

**Table 17.2 Energy statistics for the Three Cities sub region**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy efficiency Average SAP rating of local authority dwellings - 5V63 (%)</td>
<td>2004</td>
<td>67</td>
<td>-</td>
<td>71</td>
<td>-</td>
<td>61</td>
<td>-</td>
</tr>
<tr>
<td>Household Waste – Heat, Power and other Energy Recovered (%)</td>
<td>2004</td>
<td>8.71</td>
<td>0.01</td>
<td>58.53</td>
<td>12.2</td>
<td>0</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Northern Sub-Region**

Table 17.3 shows energy statistics for the Northern sub region.

**Table 17.3 Energy statistics for the Northern sub region**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottingham</th>
<th>Derby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Waste – Heat, Power and other Energy Recovered (%)</td>
<td>2004</td>
<td>12.2</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Lincoln Sub-Region**

No further data was collected as part of the Lincoln sub regional strategy SA report.

**Information Gaps**

None identified.

**17.3 RELEVANT PLANS, PROGRAMMES AND POLICIES**

**Table 17.4 Plans, programmes and policies**

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
</table>
### National Plans and Programmes
- The Housing Act (ODPM, 2004) (20% energy efficiency target)
- Secure and Sustainable Buildings Act (ODPM, 2004)
- Sustainable Energy Act (DTI, 2003)
- Warm Homes and Energy Conservation Act (DTI, 2000)
- Climate Change: The UK Programme (Defra, 2006)
- Meeting the Energy Challenge: a white paper on energy (Defra, 2007)
- Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1 (DCLG, 2007)

### Regional Plans and Programmes
- East Midlands Regional Energy Strategy (EMRA, 2004)

The key messages identified from these other relevant plans and programmes and initiatives include:
- The need to reduce greenhouse gas emissions by focussing on renewable energy.
- Prudent use of natural resources.
- Encourage and accommodate renewable energy development.

### 17.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of waste in the East Midlands without the implementation of the Regional Plan is described in Table 17.5.

**Table 17.5 Key energy issues and their likely evolution without the Regional Plan**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of sites for renewable electricity generation: The number of sites generating electricity from renewable energy need to be increased if the region wants to expand its use of renewable sources.</td>
<td>The proportion of renewable energy generation is likely to increase in the region through both the addition of stand-alone renewable schemes and the integration of domestic schemes as part of new developments. The number of sites generating electricity from renewable energy is likely to increase.</td>
</tr>
<tr>
<td>Resistance to new energy developments: There may be resistance to the development and siting of new forms of renewable energy developments.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Reliance on coal-fired power: Reliance on coal-fired power may be at odds with the renewable energy objectives of the relevant plans and programmes.</td>
<td>Reliance likely to decrease as renewable energy schemes are promoted.</td>
</tr>
<tr>
<td>Energy consumption increases: Energy consumption in the area is predicted to increase by over 15% in the next 15 years, at the same time as CO₂ emissions are to be cut by 60% over the next 45 years. Increasing demand for energy may make the Climate Change UK Programme’s targets unachievable.</td>
<td>Likely to increase as a result of development in the region.</td>
</tr>
</tbody>
</table>
17.5 SUSTAINABILITY APPRAISAL OBJECTIVES
The SA Scoping Report for the draft Regional Plan included the Objective: To minimise energy usage and to develop the region’s renewable energy resource, reducing dependency on non-renewable resources. The sub questions relating to this objective are set out below:

a) Will it help to minimise energy usage and encourage energy efficiency?
b) Will it help to develop the region’s renewable energy resource, reducing the dependency on non-renewable resources?

17.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)
The SA of the draft plan stated that the draft Regional Plan is expected to lead to a large number of positive effects on energy reduction, efficiency and renewable energy in the region. Policies which improve design and aim to reduce travel by the private car are likely to result in significant positive effects on energy in the region. However, there are a number of policies in the Plan which are expected to result in increased car use, negatively affecting energy reduction. The probability of this potential effect has increased due to the uncertainties in delivery of the RTS. The design policy would benefit from an extension to cover all major development rather than just urban extensions requiring EIA.

The reduction in housing numbers may reduce the amount of energy required for housing over the plan period. However, the reduction in housing numbers is small, therefore any improvement in the performance of the plan is minor.

Cumulative effects
Cumulatively, the draft Regional Plan is expected to result in significant positive and negative effects on energy usage and efficiency. Although the promotion of better design and more sustainable forms of transport are likely to decrease energy usage and improve energy efficiency, the draft Regional Plan also sets out a transport infrastructure programme and promotes increased accessibility.

The draft Regional Plan is expected to have positive significant cumulative effects on renewable energy in the region. The Plan sets ambitious targets for renewable energy and requires that renewable energy technologies are incorporated into major developments.

Issues for the Review of the Regional Plan
The design policy would benefit from requiring all major development to achieve the highest viable level of building sustainability, rather than just urban extensions. It would also be stronger in sustainability terms if the policy included a requirement for major developments to secure 10% of
their energy from decentralised, renewable or low carbon sources (this is currently included in the supporting text but would be clearer if it was in policy).

**Uncertainties/Data Gaps**

None identified.

17.7 **PROPOSALS FOR MONITORING**

It is recommended that information on the indicators listed in Table 17.6 is collected in order to monitor the significant effects of implementing the Regional Plan policies on energy.

**Table 17.6: Proposals for monitoring energy in the East Midlands**

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps to minimise energy usage and encourage energy efficiency.</td>
<td>Domestic and Industrial/Commercial Energy Consumption</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>New development compliant with BREEAM / Code for Sustainable Home standards</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Number of local authorities including requirements for on site renewable energy generation and Code for Sustainable Homes and BREEAM requirements</td>
<td>Uncertain</td>
</tr>
<tr>
<td></td>
<td>Energy efficient construction</td>
<td>Yes</td>
</tr>
</tbody>
</table>
18.0 SUSTAINABILITY APPRAISAL TOPIC: TRANSPORT AND ACCESSIBILITY

Objective 11: To make efficient use of existing transport infrastructure, help reduce the need to travel by car, improve accessibility to jobs and services for all and to ensure that all journeys are undertaken by the most sustainable mode available

18.1 INTRODUCTION

Transport

‘The ability to travel offers all of us very real benefits and extending mobility is important in building an inclusive society. The transport system helps to underpin the international competitiveness of the economy. But mobility comes at a cost, whether financial, social or environmental. We need to ensure that we can benefit from mobility and access while minimising the impact on other people and the environment, now and in the future.’ (The Future for Transport, DfT 2004)

Access to services

Access to services describes the provision of necessary services, such as health care, education and greenspace, as well as the infrastructure required to allow people to use them. Providing access to services that meet the needs of existing and future communities is vital to developing sustainable communities with good social cohesion and provide equal opportunities for all; a key Government goal. In addition, providing good access to services help to maintain the vitality of city and town centers, maintaining critical thresholds of activity that is required to attract a range of other land uses. This can help maintain a rounded demographic distribution and contribute to community continuity. Increased activity and use of areas also helps to reduce crime.

18.2 CHARACTERISATION

Transport

As is the case nationally, pressure is growing on transport infrastructure as travel demand increases. The major north-south roads, such as the M1 and A1, are increasingly congested and poor east-west links, such as to and within Lincolnshire, remain a significant issue. The region has a number of key international linkages, most notably East Midlands Airport, the Eastern ports such as Boston (as well as links to the ports of Felixstowe, Immingham and Grimsby in adjacent regions) and the A14 and
West Coast Mainline Trans-European Transport Network (TEN) routes (see Figure 18.1). Congestion within the region’s urban areas is also a problem. Relevant transport targets are shown in Table 18.1.

The region is strongly influenced by the proximity of major urban conurbations in adjacent regions and inter-regional transport links including the M1/M6 and A50 corridors and the East Coast and Midland Mainlines. The 2007 opening of the Channel Tunnel Rail Link into St Pancras Station in London has given the region easier access to the European high speed rail network.

The region has a higher proportion of people commuting to work by car, van or minibus than any other region (77%)\textsuperscript{150}.

The region has the third highest level of journeys made to work by bicycle of all English regions (59 new cycle routes were opened in 2003/4) and a relatively high proportion of journeys to work are on foot. A high percentage (44\%) of school pupils walk to school, however, 31\% of school pupils travel to school by car.

The East Midlands experienced a higher average number of motor vehicle movements, on motorways in particular, when compared with the English average in 2003. Overall, travel by bus is in decline, but there are a number of examples of best practice that are resulting in passenger increases in parts of the region including Greater Nottingham and rural Lincolnshire. The region has the lowest level of rail use in the country because of the lack of a sizeable urban rail networks and a number of infrastructure ‘pinch points’. The Nottingham Express Transit light rail system has performed above expectations\textsuperscript{150}.

The region’s ports account for only a small proportion of UK sea-borne freight\textsuperscript{150}. East Midlands Airport has expanded to become the UK’s leading freight handling airport. Air travel, however, is one of the most unsustainable modes of transport. The proportion of water-borne freight in the region is currently very low, as is the case nationwide. Rail currently carries 10\% of land freight tonnage moving to, from, within or through the region\textsuperscript{151}.

\textsuperscript{147}Planning Policy Statement 1: Delivering Sustainable Development, ODPM, (2005)
\textsuperscript{150}East Midlands Regional Spatial Strategy Annual Monitoring Report 2006/07 (EMRA, 2008)
Table 18.1 Department for Transport Public Service Agreements Targets (2003)

<table>
<thead>
<tr>
<th>Department for Transport Public Service Agreement (PSA) 2003 Targets (relevant to transport planning in the RSS):</th>
<th>By 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure improvements to the accessibility, punctuality and reliability of local public transport.</td>
<td>Increase of use of more than 12% from 2000 levels</td>
</tr>
<tr>
<td>Reduce number of people killed or seriously injured (KSI) in road accidents.</td>
<td>Reduce 40% from 1994-98 average</td>
</tr>
<tr>
<td>Reduce number of children killed or seriously injured (KSI) in road accidents.</td>
<td>Reduce 50% from 1994-98 average</td>
</tr>
</tbody>
</table>
Figure 18.1 Transport Links

Access and accessibility in rural areas

The East Midlands is one of the more rural regions of England and the rural population has grown faster than in any other region in the last 10 years\(^{152}\). An influx of commuters to those parts of the region most accessible to London is making well-paid, mobile professionals increasingly influential in rural life\(^{152}\).

Inadequate public transport in rural areas leads to a heavy reliance on the car and limits choice for those without access to a private vehicle, mainly the elderly, younger, disabled and poorer members of rural society\(^{153}\). Women and young people can also be disadvantaged in terms of educational, employment and social opportunities. Road traffic levels are rising fastest in rural areas and road casualty rates are higher\(^{148}\).

84% of people in rural areas of the East Midlands own a car compared to 69% of people in urban areas. The poorest 10% of households are twice as likely to own a car if they live in a rural area\(^{153}\).

For further access information see Topic Paper 5: Social Capital.

Additional information on the Sub-Regional Study Areas

Three Cities Sub-Region

Table 18.2 shows the trunk roads in the sub region and their observed level of network stress.

Table 18.2 Trunk road network stress in the Three Cities Sub Region

<table>
<thead>
<tr>
<th>Road</th>
<th>Description and Function</th>
<th>Observed Stress 2005</th>
<th>Network Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Duel three lane carriageway with the exception of shire sections from J21 and J21A and from 123A to J24 that the 4 lane major north to south route from Leeds to London Part of the Trans European Road Network important link between the East Midlands and West Midlands strategic road works</td>
<td>90% to more than 100% stress</td>
<td></td>
</tr>
<tr>
<td>M69</td>
<td>Duel two land east to west link between M1 south of Rugby and A45 west of Coventry</td>
<td>0% to 90% stress</td>
<td></td>
</tr>
<tr>
<td>A38</td>
<td>South west to north east link between West Midlands and East Midlands Key route for freight movement</td>
<td>0% to 90% stress</td>
<td></td>
</tr>
<tr>
<td>A42</td>
<td>In combination with the M42 and A453 provides a south west to north east link between Birmingham and Nottingham Provides access to EMA</td>
<td>0% to 90% stress</td>
<td></td>
</tr>
<tr>
<td>A45</td>
<td>Provides for major south west to north east movements through the East Midlands linking the M1 and the A1</td>
<td>0% of 90% stress from A52 southwards More than 100% stress between A52 to A1</td>
<td></td>
</tr>
<tr>
<td>A50</td>
<td>Strategic east to west route located in the south of the Peak District National Park linking the M6 at J15 to the M1 at J24 / J24A Key strategic route for freight to and from EMA Key strategic route for major trip</td>
<td>0% to 90% stress</td>
<td></td>
</tr>
</tbody>
</table>

\(^{152}\) The State of the Countryside in the East Midlands, 2003

<table>
<thead>
<tr>
<th>attractions such as Alton Towers and EMA</th>
<th>0% to 90% stress east of A45 More than 100% stress west of A46</th>
</tr>
</thead>
<tbody>
<tr>
<td>A52  Provides as east to west route linking Derby and Nottingham to the A1</td>
<td>90% to more than 100% stress</td>
</tr>
<tr>
<td>A453 Part of the A42/M42/A453 south west to north east</td>
<td>90% to more than 100% stress</td>
</tr>
</tbody>
</table>

The passenger rail network in the 3-Cities sub region consists of the Midland main line running north to south and the east to west line from Birmingham to Peterborough and beyond. The Midland main line carries half hourly fast trains from Sheffield via Derby or from Nottingham to Leicester and London. Further half hourly semi-fast trains from Derby or Nottingham to London provide a frequent longer distance service from the main Leicestershire stations at Loughborough and Market Harborough that are also served by some of the fast trains. The main east to west train services are the hourly direct trains from Birmingham to Peterborough. The only light rail system operating in the East Midlands is the Nottingham tram or NET opened in 2004 and which currently consists of one line connecting Nottingham railway station with Hucknall and to near J26 of the M1. The tram has a number of park and ride sites along its route thus facilitating modal transfer for travellers and is proving successful in terms of patronage figures; subject to funding extensions are planned to Chilwell and Clifton. The following schemes have or will be given funding within the next three years under the Regional Funding Allocations:

- Derby Inner Ring Road Major Maintenance Scheme;
- Turning Point Nottingham;
- A612 Gedling Integrated Transport Scheme;
- A453 Widening from M1 J24 to A52 Nottingham;
- A6096 Ilkeston to Awsworth Link Road;
- Markham Vale (aka Markham Employment Growth Zone);
- Connecting Derby Phases 2 & 3
- Upperton Road Viaduct;
- A47 Earl Shilton Bypass;
- Hucknall Town Centre Improvements; and
- Nottingham Ring Road.

The following schemes even if approved will not be given funding until between 2009 and 2016 under the Regional Funding Allocations:

- A38 Derby Junctions;
- London Road Rail Bridge Derby;
- Loughborough Integrated Transport Scheme;
• A617 Glapwell Bypass & Shirebrook Link;
• Melton Mowbray Bypass;
• A6 Kibworth Bypass;
• Syston Eastern Bypass;
• Completion of Lutterworth Western Relief Road;
• Wymeswold Bypass; and
• Sharnford Bypass.

East Midlands Airport is situated in North West Leicestershire. EMA currently handles around 4.5 million passengers per annum with forecasts indicating that by 2030 it could attract up to 14 million passengers per annum. It is the second largest freight airport in the UK and by 2030 could be handling up to 2.5 million tones per annum.

**Northern Sub-Region**

Table 18.3 shows the trunk roads in the sub region and their observed level of network stress.

**Table 18.3 Trunk road network stress in the Northern Sub Region**

<table>
<thead>
<tr>
<th>Road</th>
<th>Description and Function</th>
<th>Observed Network Stress 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Dual three lane carriageway with the exception of short sections from J21 and J21A and from J23A to J24 that are 4 lane Major north to south route from Leeds to London Part of the Trans European Road Network Important link between the East Midlands and West Midlands strategic</td>
<td>90% to more than 100% stress</td>
</tr>
<tr>
<td>A1</td>
<td>Strategic route for long distance traffic movements through the East midlands from the East of England to Yorkshire and the Humber Major transport link for the movement of freight Pars of the Midlands to North East England Strategic Diversion System for Motorways and Trunk Roads providing an alternative route to the M1 Forms part of the designated heavy and high load grid Standard of the A1 is generally two land duel carriageway</td>
<td>0% to 90% stress</td>
</tr>
<tr>
<td>A38</td>
<td>South west to north east link between West Midlands and East Midlands Key route for freight movement</td>
<td>0% to 90% stress</td>
</tr>
<tr>
<td>A42</td>
<td>In combination with the M42 and A453 provides a south west to north east link between Birmingham and Nottingham Provides access to EMA</td>
<td>0% to 90% stress</td>
</tr>
<tr>
<td>A46</td>
<td>Provides for major south west to north east movements through the East Midlands linking the M1 and the A1 Majority of road is single carriageway including the Newark Relief Road and the length between Widmerpool and Newark</td>
<td>More than 100% stress between A52 to A1</td>
</tr>
</tbody>
</table>

The passenger rail network in the Northern sub region consists of the Midland main line running north to south via Chesterfield (services run by Midland Mainline; Virgin Cross Country; and Central Trains) and the East Coast mainline running north to south via Newark with services run by GNER
and Hull Trains. Central Trains operates local train services between Nottingham and Newark or Worksop and Northern Trains operate local train services from Sheffield to Worksop and Retford.

The following schemes have or if approved will be given funding within the next three years under the Regional Funding Allocations:

- A1 Peterborough to Blyth Grade Separated Junctions;
- Turning Point Nottingham;
- A612 Gedling Integrated Transport Scheme;
- A6096 Ilkeston to Awsworth Link Road;
- Markham Vale (aka Markham Employment Growth Zone);
- Mansfield Bus Station;
- Hucknall Town Centre Improvements; and
- Nottingham Ring Road.

The following schemes even if approved will not be given funding until between 2009 and 2016 under the Regional Funding Allocations:

- A46 Newark to Widmerpool Improvement (of critical importance to development in Newark);
- A38 Derby Junctions;
- Pleasley Bypass; and
- A617 Glapwell Bypass & Shirebrook Link.

**Lincoln Sub-Region**

Lincoln benefits from major road connections to the A1 via the A46 and A57 and to the M180 via the A15. These are mainly north-south routes and the eastern side of the city is poorly served by major road routes. Lincoln is not on the main rail network and services to London have to be accessed via a branch line to Peterborough or Newark.

In recognition of the importance of the role of transport supporting corporate initiatives at a local and regional level, the County Council and its partners, the District Councils of North Kesteven and West Lindsey and the City of Lincoln, recently undertook an 18 month Transport Study for the Lincoln area. The Study has resulted in the development of an integrated transport strategy that will be delivered through a variety of initiatives and funding sources over several future Local Transport Plan periods. Phase 1 of the process involved the identification of the existing and future problems and issues facing the transport network within the Lincoln area and the formulation of objectives outlining areas of improvement the study would seek to achieve. The main problems and issues that have been identified facing transport infrastructure within the Lincoln area can be summarised as:
• The city provides a focal point for the provision of a range of key corporate services (e.g. health, education and social services) for the greater Lincoln area and the County of Lincolnshire. Thus an effective transportation system plays an important role in maintaining and improving each service delivery area.
• Maintaining the recent economic growth and prosperity in and around the city, stimulated by key developments such as the new University of Lincoln and the recent upgrading of the A46 between the city and the A1 at Newark to dual carriageway.
• The pressure for future development as recognised in Regional Planning Guidance RPG8. This identifies Lincoln as one of five Principal Urban Areas in the East Midlands and recognises the need to significantly strengthen its role, including the need to develop the transport infrastructure and services.
• As a consequence of the levels of commuter and commercial travel demand for access to the city is high, particularly at peak times, with increasing congestion and pressures on non motorised user facilities and car parking provision.
• To support the tourism of Lincoln’s historic core, with the cathedral and castle, attracting visitors both nationally and internationally. Demand for access to the city is high, particularly at peak times, with increasing congestion and pressures on car parking provision.
• Although the western relief road takes some through traffic out of the city, some key routes to the east and south, most notably the A15, still pass significant volumes of traffic through the urban area creating a negative environment that affects quality of life issues such as severance and connectivity.
• The constraint to northsouth movements for all modes due to limited crossings of the eastwest barrier formed by the river / railway. This is particularly apparent on High Street and Brayford Wharf East where the rail barriers are closed for up to 15 minutes in the morning peak hour.
• Investigations by the City of Lincoln Council have identified parts of the city as having air quality issues brought about by emissions from road transport. Accordingly an Air Quality Management Area has been declared.
• Limited bus priority measures across the city, with bus operators experiencing increasing difficulty due to rising levels of congestion across the city. In addition, the city bus station falls well below the standards of that expected by public transport users today.
• Low levels of services on lines into Lincoln and consultation with the Strategic Rail Authority mean that rail has a very limited role in reducing congestion: a low priority has been given nationally for any investment locally in rail.

**Information Gaps**

None identified.
## 18.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

### Table 18.4 Plans, programmes and policies

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- White Paper European Transport Policy for 2010: Time to Decide (European Commission, 2001)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Planning Policy Guidance 13: Transport (DTLR) 2001</td>
</tr>
<tr>
<td>- Transport 2010, Meeting the Local Transport Challenge: The Ten Year Plan (DETR, 2000)</td>
</tr>
<tr>
<td>- The National Cycling Strategy (National Cycling Strategy Steering Group, 1996)</td>
</tr>
<tr>
<td>- Countryside and Rights of Way Act 2000</td>
</tr>
<tr>
<td>- Planning Policy Statement 7: Sustainable Development in Rural Areas (ODPM, 2004)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Draft Regional Freight Strategy, Moving Towards More Efficient Freight Services (EMRA, 2005)</td>
</tr>
</tbody>
</table>

The key messages identified from these other relevant plans and programmes and initiatives include:

- Support integration of modes of transport and integration of land uses with transport.
- Develop a more efficient and sustainable distribution network.
- Improve local public transport.
- Reduce the number of people killed and seriously injured on the roads.

### 18.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of transport and access in the East Midlands without the implementation of the East Midlands RSS is described in Table 18.5 below.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volume of traffic (including congestion hotspots):</strong> The region continues to see significant increases in motor vehicle traffic including heavy goods vehicles. Congestion is a problem on the major north-south routes.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td><strong>Poor rail network:</strong> The region’s rail infrastructure is currently poor, particularly along the east/west routes.</td>
<td>Current trends likely to continue.</td>
</tr>
</tbody>
</table>
### Issue

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural transport provision: The region is predominantly rural, especially in the east, with many settlements lacking in services and adequate public transport infrastructure. Poor east-west links further isolate communities in the more rural east of the region.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Airport provision: East Midlands Airport is of significant economic importance but also poses environmental concerns.</td>
<td>Continuation of current trends, but possibly increasing.</td>
</tr>
<tr>
<td>ICT and Broadband Access: Growth in internet access increases access to services, especially for rural residents. This may result in increases in road traffic due to the delivery of goods ordered online.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Rural characteristics: The East of the region is generally of a more rural nature with a dispersed settlement pattern whilst the west and south contain the majority of larger settlements. Issues of accessibility to rural areas are more pronounced across most parts of the east.</td>
<td>Continuation of current trend likely.</td>
</tr>
<tr>
<td>Growing population: The population in rural areas is growing fast with implications for land-use planning, service provision and the character of rural areas.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Ageing population: The region has an ageing population who are particularly vulnerable to poor service provision and especially poor public transport provision in rural areas.</td>
<td>Continuation of current trends.</td>
</tr>
<tr>
<td>Transport: There is a heavy reliance on the private motor vehicle in rural areas across the whole region and public transport provision is poor.</td>
<td>Continuation of current trends.</td>
</tr>
</tbody>
</table>

### 18.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the Regional Spatial Strategy included the Objective: To make efficient use of existing transport infrastructure, help reduce the need to travel by car, improve accessibility to jobs and services for all and to ensure that all journeys are undertaken by the most sustainable mode available. The sub questions relating to this objective are set out below:

a) Will it utilise and enhance the existing infrastructure?

b) Will it help to protect and enhance the vitality and viability of service centres?

c) Will it reduce the need to travel for those with the greatest barriers to travel?

d) Will it help to reduce the distances people have to travel on a regular basis for education, employment and services?

e) Will it reduce inequalities in access to education, employment and services?

f) Will it promote safe walking and cycling?

g) Will it promote safe, convenient, reliable and attractive public transport?

h) Will it reduce regional disparities in public transport provision?
1) Will it enable urban and rural users to gain equal access?
2) Will it reduce road congestion?
3) Will it help develop a transport network that minimises the impact on the environment?
4) Will it be robust enough to cope with the expected effects of climate change?
5) Will it improve east-west transport links?
6) Will it improve road conditions?
7) Will it encourage the transfer of freight from road to rail or water?
8) Will it encourage the use of locally sourced services and products in the economy?
9) Will it further increase demand for air travel?

18.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)

The SA of the draft plan stated that the plan would have mixed effects, with a strong policy framework against sustainability criteria in many cases. The detail behind the Plan set out in Appendix 6 (Transport Investment Priorities) in particular does not reflect policies which aim to reduce traffic growth and the use of the car. A total of 64 different schemes are listed, but only two of the committed schemes are public transport related. There is a significant range of road-based improvements either committed or likely to be progressed in the future. A further concern is the EMA expansion proposal. These road and air-based schemes are highly likely to have a continuing negative effect on the environment, despite policy safeguards in Plan.

The Proposed Changes has made some changes to policy that will improve the performance of the plan in terms of air quality. Regeneration priorities are now expected to conform to the spatial strategy of the plan and the plan now has an air quality policy which should help to reduce the effects of development on air quality. However, the recognition of the RSS Panel that the success of the sustainable transport measures in the RTS is uncertain may mean that policies that encourage walking, cycling and a reduction in private car are not as positive as they could be in delivering air quality benefits. The schemes included in Appendix 6 have been reduced and amended so they are linked to the implementation of policy more clearly. However, the effects of this are uncertain until the RTS is reviewed. The RSS panel found that there was uncertainty in terms of how the RTS is expected to deliver sustainable transport and an early review of the RTS is expected to start soon.

Public transport improvements should be pursued as a part of this review as a matter of urgency. The appraisal of the Proposed Changes also recommended that the next review of the RSS should consider alternative ways to regenerate peripheral areas rather than focusing on improved accessibility.

There are no significant changes as a result of the changes made to the final plan.

Cumulative Effects

Appraisal against the transport SA objective shows a mixed picture of cumulative effects and a number of uncertainties. Whilst policies for the Peaks and Northern Sub-areas may help to constrain traffic growth, the range of road-based transport improvements in Appendix 6 could encourage further
travel and continued use of the car. Some major road schemes such as the A46 improvements will help to reduce congestion over the lifetime of the Plan. However, unless more certainty is given to the implementation of measures to reduce traffic growth, congestion is likely to continue elsewhere and in the long term. Road improvements are highly likely to result in further environmental degradation, both as a result of road construction and continued traffic growth should measures to reduce car use not be enforced. There are uncertainties of delivery in relation to public transport schemes and the promotion of safe walking and cycling is highly dependent on bringing about behavioural change – an important area for implementation. The overall effects on the environment are likely to be negative unless more certainty can be given to implementing disincentives to car use and improvements to public transport.

**Issues for the Review of the Regional Plan**

In the light of the fact that the RTS is subject to an early review, there are no further recommendations.

**Uncertainties/Data Gaps**

None identified.

### 18.7 PROPOSALS FOR MONITORING

It is recommended that information on the indicators listed in Table 18.6 is collected in order to monitor the significant effects of implementing the RSS policies on transport and accessibility.

**Table 18.6 Proposals for monitoring transport and accessibility in the East Midlands**

<table>
<thead>
<tr>
<th>Effect that needs to be monitored</th>
<th>Indicators</th>
<th>Included in the Implementation Framework?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduces the need to travel for those with the greatest barriers to travel.</td>
<td>Proximity of housing development to services, facilities and employment.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Density of new housing</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>% of region’s new development in PUAs</td>
<td>Yes</td>
</tr>
<tr>
<td>Helps to reduce the distances people have to travel on a regular basis for education, employment and services.</td>
<td>Proximity of new housing development to education, services and employment.</td>
<td>No</td>
</tr>
<tr>
<td>Enables urban and rural users to gain equal access.</td>
<td>Relevant transport improvements in rural areas</td>
<td>Yes</td>
</tr>
<tr>
<td>Reduces road congestion.</td>
<td>Scale of congestion in urban areas and on inter-regional routes</td>
<td>Yes</td>
</tr>
<tr>
<td>Helps develop a transport network that minimises the impact on the environment.</td>
<td>Levels of traffic growth</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Journeys made by cycle</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Level of bus and light rail patronage</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Journeys made on foot</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Punctuality and reliability of services</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>New Public Transport Interchanges Developed</td>
<td>Yes</td>
</tr>
<tr>
<td>Effect that needs to be monitored</td>
<td>Indicators</td>
<td>Included in the Implementation Framework?</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>% of passengers accessing EMA by public transport</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Development served by public transport</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No. of bus passenger journeys per year in rural areas</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No. of bus passenger journeys per year in urban areas</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Carbon Dioxide emissions</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Number and length of new cycle routes provided</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Is robust enough to cope with the expected effects of climate change.</td>
<td>Planning permissions for transport infrastructure developments granted contrary to Environment Agency advice on flood defence grounds</td>
<td>Yes</td>
</tr>
<tr>
<td>Transport infrastructure damaged due to subsidence</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Encourages the use of locally sourced services and products in the economy.</td>
<td>Number passengers using EMA</td>
<td>No</td>
</tr>
<tr>
<td>Further increases demand for air travel.</td>
<td>Number passengers using airports in the region</td>
<td>No</td>
</tr>
</tbody>
</table>
19.0 SUSTAINABILITY APPRAISAL TOPIC: EMPLOYMENT OPPORTUNITIES

Objective 12: To create high quality employment opportunities

19.1 INTRODUCTION
Underpinning a healthy and prosperous economy is a rounded, flexible workforce with access to a range of employment opportunities. A diverse economy, one which is comprised of a range of sectors, is more robust and offers a greater level of reliance in times of economic slow-down. As has been seen at various times, communities that are reliant on limited employment sectors are vulnerable to wider market changes. A diverse economy also offers greater opportunities to support a range of services necessary to maintain a healthy community.

To function, a diverse economy requires a diverse workforce offering a range of both professional and vocational skills. The Skills White paper 'Skills: Getting on in business, getting on at work' recognises that developing a competitive skills base that balances the needs of employers with the aspiration of employees can ‘serve the twin goals of social justice and economic success’\textsuperscript{154}.

‘Skills are central to achieving our national goals of prosperity and fairness. They are an essential contributor to a successful, wealth creating economy. They help businesses become more productive and profitable. They help individuals achieve their ambitions for themselves, their families and their communities’\textsuperscript{155}.

19.2 CHARACTERISATION

Employment
The region has high economic activity rates that have consistently exceeded the UK average over the past ten years however data indicates that levels of activity in the region has started to slow\textsuperscript{156}. In May 2006, the regional average share of the working population who were economically active was 81.2%
compared to the national average of 78.9%. The regional employment rate was 75.8% in November 2007 compared to 74.7% nationally (which is above the UK, EU and OECD average).

However, in 2005/06 the region had the greatest difference between the highest and lowest employment rates of all English regions, with Mansfield faring the worst (65.8%), and South Northamptonshire having one of the highest employment rates in the country (91.1%)\(^{159}\). In 2004, sub regional variations are apparent for SSP areas (see below). Welland and Northamptonshire SSP areas had a higher than regional (77.3%) and national (77.7%) share of the working age population in employment.

Northamptonshire (90.3%) SSP area has higher than average economic activity rates for males, while Nottinghamshire county (81.6%) SSP area has the lowest rates in the region.

**Figure 19.1 Employment rate: working age population (2002/2003)**\(^{160}\)

<table>
<thead>
<tr>
<th>SSP</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welland</td>
<td>81.94</td>
</tr>
<tr>
<td>Northamptonia</td>
<td>81.07</td>
</tr>
<tr>
<td>Derbyshire</td>
<td>77.19</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>75.77</td>
</tr>
<tr>
<td>Leicestershire</td>
<td>75.64</td>
</tr>
<tr>
<td>North Derbyshire-North Nottinghamshire</td>
<td>79.66</td>
</tr>
<tr>
<td>Greater Nottingham</td>
<td>70.93</td>
</tr>
</tbody>
</table>

The regional unemployment rate was 5.1% in May 2006, in comparison to the national average of 5.3%. The region has consistently outperformed the UK since the last recession in 1991, with the rate falling from a peak of 9.1% in 1993 to under 5% by 2001.

Trends show that since 1997, ILO defined unemployment is down by a quarter and claimant unemployment, youth unemployment and long term unemployment are all down by a third\(^1\). Given the current economic slowdown, it is unlikely that unemployment will fall further in the region in the short-term\(^{161}\). A general observation is that the sub regional variations indicate higher levels of

\(^{157}\) Regional Intelligence Unit, East Midlands Observatory
\(^{158}\) EMRA, EMDA, Monthly Economic Monitor, December 2007
\(^{159}\) ONS, LFS Labour Market Statistics, 2005/06
\(^{160}\) Regional Intelligence Unit/East Midlands Observatory, 2005
\(^{161}\) DTZ Pieda, State of the Region Report, 2001
unemployment, approaching the EU average, towards the north of the region and in the major cities\textsuperscript{162}.

The highest ILO unemployment rate in 2002/2003 was in North Derbyshire-North Nottinghamshire (5.1%), the only SSP area to have an unemployment rate higher than the national average (4.9%). Greater Nottingham had the second highest rate at 4.4%, with Lincolnshire and Leicestershire both having rates of 4.2%. The Welland had the lowest ILO unemployment rate of the SSP areas at 2.8%.

The average benefit claim count in the region’s cities is over 3% higher than in mainly rural areas\textsuperscript{163} but there is concern that hidden unemployment is higher in rural areas such as Lincolnshire\textsuperscript{164}. Share of workforce in elementary and knowledge occupations: The region has a greater share of people in semi-skilled occupations and skilled manual work than the UK, but proportionately fewer people occupying professional and managerial positions. Lincolnshire SSP had the highest proportion of elementary occupations amongst the employed workforce (14.8%), compared to the national average of 12.4% and regional average of 14.3%, followed by North Derbyshire-North Nottinghamshire (14.5%).

The Welland (40.3%) Leicestershire (37.4%) and Greater Nottingham (35.9%) SSP areas had a high percentage in managerial, professional and technical occupations (knowledge workers), compared to 39.2% nationally and 34.8% regionally. North Derbyshire-North Nottinghamshire (31.2%) and Lincolnshire (31.6%) had the lowest proportion of knowledge workers\textsuperscript{165}.

\textit{Additional information on the Sub-Regional Study Areas}

\textbf{Three Cities Sub-Region}

The three cities in the sub region act as the major administrative, commercial and cultural centres for the East Midlands although they exhibit substantial pockets of deprivation. The 3 Cities sub region accounts for the largest proportion of the East Midlands’ population. However population growth has fallen below the regional average over the last decade with population decline in Nottingham and Leicester Cities. This has been offset to an extent by very strong growth in some of the outlying areas: for example the district of Harborough grew by 14% between 1994 and 2004. The 3-Cities sub region includes the largest local economies in the East Midlands. Estimates of GVA per head for Nottingham City are 32% above the UK average, the highest in the East Midlands, whilst GVA per head also exceeds the national average in both Leicester and Derby Cities. However, historic and forecast GVA

\textsuperscript{162} EMRA, Regional Overview, 2005
\textsuperscript{163} EMDA RES: 46
\textsuperscript{164} Centre for Labour Market Studies, Baseline Labour Market Information, 2002
\textsuperscript{165} Regional Intelligence Unit, East Midlands Observatory, Ranking Application, 2005
and employment growth rates are below the regional average suggesting that the sub-area is not maximizing its opportunities for growth. Labour market indicators for the sub region suggest significant challenges relating to acute deprivation in all three major conurbations. The 3-Cities sub region has the highest unemployment rate of the East Midland’s sub regions and both employment and economic activity rates are below the regional average. However the large student populations in the three cities contribute to lower economic activity rates. Earnings in the 3-Cities sub region are above the regional average but unlike the other sub regions in the East Midlands, the average for those working in the sub region is higher than the average for residents. This suggests that a significant proportion of higher paid individuals commute to the sub region from elsewhere. There are significant local variations, with residence based earnings in some of the affluent areas around the three cities considerably in excess of the regional average. The 3-Cities sub region accounts for the largest share of the East Midland's business population at 45% of the VAT registered business stock in the East Midlands at the end of 2004. However on indicators of enterprise activity the sub region compares less favourably with below average business registration rates. Table 19.1 shows employment data for the Three Cities sub region.

Table 19.1 Employment data for the Three Cities sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Rate – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>63.0</td>
<td>82.0</td>
<td>60.5</td>
<td>74.2</td>
<td>71.2</td>
<td>77.5</td>
</tr>
<tr>
<td>Self-employed Employment – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>8.9</td>
<td>12.6</td>
<td>9.4</td>
<td>10.3</td>
<td>7.2</td>
<td>12.3</td>
</tr>
<tr>
<td>Full-time Employment – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>78.5</td>
<td>71.9</td>
<td>74.8</td>
<td>74.5</td>
<td>75.5</td>
<td>74.0</td>
</tr>
<tr>
<td>Part-time Employment – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>21.4</td>
<td>28.1</td>
<td>25.0</td>
<td>25.0</td>
<td>24.5</td>
<td>26.0</td>
</tr>
<tr>
<td>Unemployed – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>10.9</td>
<td>3.4</td>
<td>7.6</td>
<td>4.3</td>
<td>6.9</td>
<td>4.5</td>
</tr>
<tr>
<td>Unemployment Claimants in Household (%)</td>
<td>2004</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>8</td>
<td>13</td>
<td>11</td>
</tr>
</tbody>
</table>

*Northern Sub-Region*

The Northern sub region includes the north of Nottinghamshire and north eastern Derbyshire both of which have been heavily affected by the decline of traditional manufacturing industries and coal mining. The Northern sub-area includes the sub regional centres of Chesterfield; Mansfield –
Ashfield; Worksop and Newark. It has close functional ties with the cities of Nottingham and Derby in the East Midlands and Sheffield in South Yorkshire. Sheffield has a significant impact on the sub region in terms of employment and provision of services.

The Northern sub region has experienced some of the lowest GVA and employment growth rates in recent years but is forecast to grow in line with the regional average over the next decade. This picture is not uniform across the sub region with areas to the north of the region close to Sheffield and Rotherham forecast to grow faster than the regional average whilst districts in the central coalfields area north of Nottingham are forecast to experience slower GVA growth rates and to continue to experience a contraction in the number of jobs.

In labour market terms parts of the sub region exhibit characteristics indicative of acute employment deprivation. Overall employment rates are significantly lower than the regional average but again local variations are large. Employment rates in the districts of Bolsover and Mansfield were around 5% below the districts of Bassetlaw and Newark and Sherwood. Estimates of hidden unemployment are also high in the sub region where relatively high level of incapacity benefit claimants suggest that health problems constitute a significant barrier to economic participation.

The average earnings of those who work in the sub region are considerably lower than the average earnings of residents of the sub region. This suggests that many higher paid workers commute to work elsewhere. Table 19.2 shows employment data for the Northern sub region.

### Table 19.2 Employment data for the Northern sub region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Nottinghamshire</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Rate – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>74.2</td>
<td>77.5</td>
</tr>
<tr>
<td>Self-employed Employment – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>10.3</td>
<td>12.3</td>
</tr>
<tr>
<td>Full-time Employment – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>74.6</td>
<td>74.0</td>
</tr>
<tr>
<td>Part-time Employment – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>25.0</td>
<td>26.0</td>
</tr>
<tr>
<td>Unemployed - Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>4.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Unemployed Claimants in Household (%)</td>
<td>2004</td>
<td>8</td>
<td>11</td>
</tr>
</tbody>
</table>

**Lincoln Sub-Region**

Lincoln has historically relied heavily on traditional manufacturing, which is still a major employer, leading to an over dependence on a few sectors. The city has seen an increased presence of service sector activity in recent years and this is reflected in the make up of employment in the city. There are
pockets of local growth across the County, including Greater Lincoln, which is expected to grow at rates around or above the regional average.

**Information Gaps**
None identified.

### 19.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

#### Table 19.3 Plans, programmes and policies

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• European Employment Strategy (EU, 1997)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• UK Employment Action Plan (DWP, 2002)</td>
</tr>
<tr>
<td>• DfES National Targets</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Framework for Regional Employment and Skills Action in the East Midlands (EMDA, 2001)</td>
</tr>
<tr>
<td>• Regional Economic Strategy for the East Midlands (EMDA, 2006)</td>
</tr>
</tbody>
</table>

The key messages identified from these other relevant plans, programmes and initiatives include the need to:

- Equip individuals with the skills they require to take advantage of the opportunities created by globalisation
- Support enterprise, therefore facilitating the creation of good quality, sustainable jobs
- Pursue economic inclusion by addressing barriers to labour market participation

### 19.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of transport and access in the East Midlands without the implementation of the East Midlands RSS is described in Table 19.4.

#### Table 19.4 Key employment issues and their likely evolution without the Spatial Plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the RSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-regional disparities: There are marked variations within the region with lower employment rates in the north of the region, especially in the coalfield areas, and higher rates in the south. Levels of employment are also low in Lincolnshire, with hidden unemployment a problem. There are concentrations of unemployment in the major cities.</td>
<td>Continuation of current trends are likely.</td>
</tr>
</tbody>
</table>
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### Issue

<table>
<thead>
<tr>
<th>Likely evolution without the RSS</th>
</tr>
</thead>
</table>

**Just under 40% of the population lives in towns and villages of less than 10,000, making the East Midlands one of the more rural regions in England. A higher proportion of elementary employment exists in rural areas, such as Lincolnshire, while having the lowest proportion of knowledge workers in employment. The region’s rural districts also have a significantly older age profile than urban districts.**

- 43.6% of the rural population are aged 45 or over, whereas in urban districts the figure is 38.6%.

**High employment:** The region overall has high employment rates and low unemployment rates.

Continuation of current trends.

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### 19.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the Regional Spatial Strategy included the Objective: *To create high quality employment opportunities.* The sub questions relating to this objective are set out below:

- a) Will it help to create new businesses?
- b) Will it help to diversify business in the region?
- c) Will it improve the quality of jobs in the region?
- d) Will it help to safeguard existing jobs?
- e) Will it reduce barriers preventing equal access to employment opportunities for disadvantaged groups?
- f) Will it sustain and promote employment in urban areas?
- g) Will it sustain and promote employment in rural areas?
- h) Will it help to create high skilled jobs in the region?
- i) Will it increase the average income of the region?

### 19.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)

The SA of the draft plan stated that policies are generally supportive of the objective to create high quality employment opportunities. It is difficult to judge the impact in terms of the quality of jobs but the policies should allow the structural changes in the economy that would allow the better quality jobs to be created. The largest impacts are likely to be in the three cities sub-region and to a lesser extent in the northern sub-region where the focus of housing development should support wider economic development and regeneration objectives. The policies also seek to accommodate, rather than restrict, growth in the southern region where substantial growth might be expected in the long term from the planned expansion of the MKSM area. The impact on rural areas is hard to assess -

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however, it is unlikely to adversely affect ‘deep rural’ areas, although specific economic policies will be required to ensure employment opportunities for these communities.

The Proposed Changes have slightly strengthened references to rural enterprise in policy 3. The uncertainty related to the performance of the RTS may have negative effects on the economy in the long term if traffic growth (and congestion) cannot be stabilised.

There are no significant changes as a result of the changes made to the final plan.

Cumulative effects
Appraisal against the employment SA objective shows that the Regional Plan is expected to result in positive cumulative effects. The Plan adopts a strategic approach to regional land allocation, promoting development (brownfield wherever possible) in urban areas and preservation in rural areas as green space is protected. Bespoke development plans for each Sub Region target residential and commercial development to priority areas that best serve the needs of the region as a whole. Enhanced environmental quality will encourage investors and therefore promote the creation of good quality employment opportunities.

Issues for the Review of the Regional Plan
None.

Uncertainties/Data Gaps
None identified.

19.7  PROPOSALS FOR MONITORING
As no significant negative effects on employment have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend continued monitoring of a range of indicators for employment and the economy, as set out in the Annual Monitoring Report.
Objective 13: To develop a strong culture of enterprise and innovation

20.1 INTRODUCTION
See Chapter 19: Employment Opportunities.

20.2 CHARACTERISATION

Skills
Around a quarter of adults living in the region have poor literacy and numeracy skills\textsuperscript{167}. Basic skills deficiencies are greatest in Leicester, Nottingham and Corby\textsuperscript{168}. Performance tables indicate that the region is slightly behind the national average for achievements at Key Stage 2 English (73% compared to 75%) and Maths (69% compared to 72%). In addition, the percentage average of 16 year olds gaining 5 A*-C GCSE/GNVQ qualifications is 40.6%, compared with the English average of 47%. Rutland, Lincolnshire and Derbyshire (of the nine county and unitary authority areas) fared better than the national average whilst Nottingham recorded one of the lowest levels in the country\textsuperscript{169}.

The position relative to other regions is reasonable. In 2001:

- 75% of 19 year olds had an NVQ Level 2 qualification or equivalent – this was higher than or equal to that of five other regions
- Over half (52%) the region’s 21 years were qualified to NVQ Level 3 – this was higher than or equal to that of four other regions

The region’s workforce does have an over-representation of lower qualified people – 18.6% of workers have no qualifications compared to 16.4% of workers nationally (although it is worth noting that the East Midlands region out-performs four other regions on this indicator).

\textsuperscript{167} Government Office East Midlands, EMDA, EMRA, East Midlands Regional Emphasis Document, 2003
\textsuperscript{168} Centre for Labour Market Studies, Baseline Labour Market Information, 2002
\textsuperscript{169} Regional Intelligence Unit, East Midlands Regional Observatory, data from 1999/2000,
Table 20.1 Highest qualification by region, 2006 (%)

<table>
<thead>
<tr>
<th>Region</th>
<th>Degree or equivalent</th>
<th>Higher education qualification(^a)</th>
<th>GCE A level or equivalent</th>
<th>GCSE grades A*-C or equivalent</th>
<th>Other qualifications</th>
<th>No qualifications</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>28</td>
<td>6.4</td>
<td>17.3</td>
<td>16.3</td>
<td>18.3</td>
<td>13.7</td>
<td>100</td>
</tr>
<tr>
<td>South East</td>
<td>20.8</td>
<td>8.9</td>
<td>24.3</td>
<td>23.7</td>
<td>12.3</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>England</td>
<td>18.9</td>
<td>7.8</td>
<td>23.1</td>
<td>23.4</td>
<td>13</td>
<td>13.8</td>
<td>100</td>
</tr>
<tr>
<td>South West</td>
<td>18.3</td>
<td>9.4</td>
<td>24.9</td>
<td>25.1</td>
<td>11.7</td>
<td>10.6</td>
<td>100</td>
</tr>
<tr>
<td>East</td>
<td>20.8</td>
<td>8.9</td>
<td>24.3</td>
<td>23.7</td>
<td>12.3</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>East Midlands</td>
<td>15.7</td>
<td>8.4</td>
<td>25.1</td>
<td>23.6</td>
<td>13.4</td>
<td>13.8</td>
<td>100</td>
</tr>
<tr>
<td>North West</td>
<td>16.6</td>
<td>7.9</td>
<td>24.2</td>
<td>25.6</td>
<td>10.1</td>
<td>15.6</td>
<td>100</td>
</tr>
<tr>
<td>Yorkshire &amp; Humber</td>
<td>15.1</td>
<td>7.1</td>
<td>24.8</td>
<td>24.0</td>
<td>13.3</td>
<td>15.7</td>
<td>100</td>
</tr>
<tr>
<td>West Midlands</td>
<td>15.4</td>
<td>7.5</td>
<td>22.9</td>
<td>24.8</td>
<td>11.4</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>North East</td>
<td>13.6</td>
<td>8.4</td>
<td>25.2</td>
<td>26.3</td>
<td>11.4</td>
<td>15.1</td>
<td>100</td>
</tr>
</tbody>
</table>
The NVQ Level 3+ attainment rate of 43.0% in rural districts is slightly ahead of the region’s urban areas, but was nonetheless second lowest for the rural areas of all English regions. The situation in relation to skills in the region is improving however, as between 1997 and 2003 the share of the workforce attaining NVQ Level 3+ increased from 35.1% to 38.7%. Similarly, the share of the workforce with NVQ Level 4+ increased from 18.2% in 1997 to 19.4% in 2001. Leicestershire had the highest share of the population with NVQ Level 4+ in 2001 (22.5%), followed by Derby City (21.4%).

Low levels of skills in the region have resulted in skills deficits and the existence of many hard-to-fill vacancies.

The region has a below average share of working age individuals with degrees or post-graduate qualifications; in 2001-02 the proportion of working age individuals with NVQ Level 4+ stood at 19.5%. The region is a net importer of HE students, but a net exporter of graduates, retaining 33.5% of its graduates in employment in 2002.

The average weekly wage in the East Midlands region in 2007 was £420.20 (£36.50 below the national average). Sub regional variations however are marked; the Welland (£22,300) and Northamptonshire (£21,400) SSP areas have above average total incomes, whilst the North Derbyshire-North Nottinghamshire (£17,500), Lincolnshire and North Nottingham (both at £18,300) areas all have below average total incomes.

**Innovation**

The region has important innovation assets, particularly the 5/5* rated departments in universities and large research-intensive firms, such as Astra Zeneca. Research infrastructure in the region is planned to increase due to developments in Higher Education Institutions (HEIs), science parks and strengthening of the regional clusters. For example:

- East Midlands Innovation Network at DeMontfort University’s Innovation Centre has attracted over £10m of (risk) capital in the first few months of operation
- R&D activities have been aligned to regional clusters

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171 Department for Education and Skills, from the Labour Force Survey, 2003
175 2001/2002 SSP level data, East Midlands Observatory Ranking Application, 2005
176 FRESA, East Midlands Fresa Targets Project, 2004
177 Regional Intelligence Unit, East Midlands Regional Observatory, 2005
• BioCity Nottingham Ltd opened in 2002 and now operates the UK’s largest bioscience/healthcare innovation centre
• Loughborough University, BAE SYSTEMS and EMDA are developing the Systems Engineering Innovation Centre (around £59m investment), to lift regional performance in engineering innovation\textsuperscript{179}

Spending on competitiveness has also risen from 0.4% of the RDA’s budget in 1999/00 to 5.6% in 2001/2. Business expenditure on R&D as a proportion of total regional GVA has also risen from 1.5% in 1998 to 1.7% in 2001, above UK average of 1.5% in 2001\textsuperscript{180}.

With 22.9\% of regional employment in the highest knowledge intensive (\textit{K1}\textsuperscript{181}) sectors, the East Midlands is below average nationally (30.4\%) - although the region still outperforms four other regions (see Figure 13.1). Conversely, 44.4\% are employed in the least knowledge intensive (\textit{K4}\textsuperscript{182}) sectors, compared to 31.4\% nationally.

\textbf{Figure 20.1 Employment in K1 Industries}\textsuperscript{183}

The region has some strong knowledge intensive sectors that have high productivity levels, such as transport equipment, and of all employment in the manufacturing sector, 9\% can be described as high-technology. The region is however under-represented in knowledge-intensive businesses among smaller and medium-sized firms. A large proportion of employment in the knowledge economy is provided by public sector activity.

\textsuperscript{178} DTZ Pieda, State of the Region Report, 2002  
\textsuperscript{179} UK Science Park Association, Networks, clusters and science parks – a regional dimension, 2005  
\textsuperscript{180} Regional Intelligence Unit, East Midlands Observatory, Ranking Application, 2005  
\textsuperscript{181} 40\% or more of workforce qualified to NVQ4 equivalent or higher; figs based on 2003 data  
\textsuperscript{182} Employing less than 15\% of the workforce educated to NVQ4 and above  
\textsuperscript{183} ONS, Labour Force Survey (Quarterly, Unadjusted) Spring 2003
However, employment in knowledge intensive services has increased at a steady rate with strong
growth in urban areas, a trend likely to increase with the focus on clusters. Several emerging clusters
are providing additional potential for innovation:\n
- The growing cluster of creative/cultural industries is largely ‘city-based’, but employment
  locations have also been expanding to rural areas:\n
- The food processing / technology sector, with diverse production and research activities, has firms
  mostly located along the M1 corridor; increases in employment within this sector have benefited
  Leicestershire in particular:\n
- High performance engineering represents a significant research driven sector.

In terms of the sub-regional share of employment in knowledge intensive sectors, Leicestershire,
Greater Nottingham and Northamptonshire had the greatest percentage share, whilst the Welland and
Lincolnshire SSP areas had the lowest.\n
The region is, on a range of measures, second only to London in the level of ICT usage. For example,
96% of businesses now have access to the internet, 88% have their own website, and 92% have
external email. Usage continues to increase. 41% of the region’s businesses now trade online, second
only to London, and 53% now purchase/place orders online. Broadband availability in some parts
of Lincolnshire however is low.\n
**Business formation**

In 2003, the region contained a stock of approximately 124,000 VAT registered businesses and, with
a registration rate of 42.8, had the third highest business registration rate per 10,000 adults (compared
to a national average of 39.9). Sub-regionally, the Welland (47) and Northamptonshire (42.8) SSP
areas had the highest rate of registrations, whilst Greater Nottingham had the lowest with 27.9
(although the area has a greater proportion of large employers than other SSP areas).\n
Since 2000, regionally there has been a 9% increase in new business registrations, higher than the
national average of 5.4%. However, sub regional variations exist; between 1994 and 2003
Northamptonshire saw the largest change in VAT registered stock (18.4%), while Lincolnshire saw
the lowest (1.4%).\n
---

184 DTI, Business Clusters in the UK – a First Assessment, 2001
185 DTZ Pieda, State of the Region Report, 2002
187 Regional Intelligence Unit, East Midlands Observatory, Ranking Application, 2005
188 DTI, Business in the Information Age: an International Benchmarking Study, 2004
189 Regional Intelligence Unit, East Midlands Observatory, Ranking Application, 2005
The New Business Start-Up Policy in the East Midlands report showed that 75% of all new employment between 1995 and 1999 was created through new business starts. Much of the employment in the region in 2010 will therefore be in businesses that did not exist in 2002. Around 1,200 of the businesses in the East Midlands are foreign-owned companies, employing around 80,000 people directly and indirectly. International trade accounts for 22% of GDP (compared to 26% nationally), yet relatively few companies export products and services. The region has been successful in attracting some large firms including Toyota to Burnaston.

The region has a lower survival rate for businesses than is seen nationally. Of businesses formed in 2000, 90% survived for 12 months (compared to 91.4% nationally). Survival to 36 months (for companies formed in 1998) was 61.2%, compared to 65.1% nationally. Business losses have been largely in the primary and the manufacturing sectors. In 2002 the Greater Nottingham (10.1%) and Leicestershire SSP areas (9.5%) had the highest business closure rates whilst the Welland (8.4%) area had the lowest. However, the Welland (9.2%) and Lincolnshire (8.8%) also had the lowest business formation rates, compared to the 2002 national average of 9.7%.

The average business size in the region is 10.99 employees, compared to a national average of 11.21 (in 2002). Employment in large companies between 1991 and 2002 grew 20.1%, compared to 23.2% national growth. Growth was highest in the Northamptonshire (27.6%) and Lincolnshire SSP areas (24.9%), and lowest in Derbyshire (-1.8%) and North Derbyshire-North Nottinghamshire (-20.5%).

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190 ONS, Nomis, VAT registrations, 2005
191 EMDA RES: 56
192 DTZ Pieda, State of the Region, 2002
193 Regional Intelligence Unit, East Midlands Observatory, Ranking Application, 2005

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188
With nearly 1%, the Greater Nottingham SSP area has the highest proportion of large firms, compared to the national average of 0.7%. Lincolnshire (0.6%) and North Derbyshire-North Nottinghamshire (0.6%) have fewer than the regional average (0.64%), but rank second and third for the share of businesses which are classified as micro businesses. Disparities exist in the net rate of business start-up within the region (with northern areas and coastal Lincolnshire showing a net decline) and in the proportions of small businesses. Leicester, together with Nottingham Unitary Authority having the greatest proportion of larger businesses. By contrast, Rutland, had the largest proportion of small businesses.

Additional information on the Sub-Regional Study Areas

Three Cities Sub-Region

Table 20.2 shows education and skills data for the Three Cities Sub Region.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time Students (%)</td>
<td>03/03 – 02/04</td>
<td>70.7</td>
<td>84.9</td>
<td>65.4</td>
<td>78.1</td>
<td>76.5</td>
<td>81.2</td>
</tr>
<tr>
<td>No Qualification (%)</td>
<td>03/03 – 02/04</td>
<td>29.3</td>
<td>15.1</td>
<td>34.5</td>
<td>22.5</td>
<td>23.5</td>
<td>18.8</td>
</tr>
<tr>
<td>Economically Inactive (%)</td>
<td>03/03 – 02/04</td>
<td>71.4</td>
<td>71.8</td>
<td>78.5</td>
<td>72.8</td>
<td>81.5</td>
<td>83.5</td>
</tr>
<tr>
<td>Economically Inactive who do not want a job (%)</td>
<td>03/03 – 02/04</td>
<td>23.0</td>
<td>24.7</td>
<td>27.3</td>
<td>27.9</td>
<td>27.9</td>
<td>22.4</td>
</tr>
<tr>
<td>Economically Active with NVQ 4 + Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>14.0</td>
<td>17.5</td>
<td>13.5</td>
<td>16.7</td>
<td>17.5</td>
<td>16.3</td>
</tr>
<tr>
<td>Economically Active with NVQ 3 – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>4.1</td>
<td>7.7</td>
<td>5.9</td>
<td>7.2</td>
<td>1.5</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Table 20.3 shows education and skills data for the Northern Sub Region.

### Northern Sub-Region

Table 20.3 Education and skills data for the Northern Sub Region

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>(%)</td>
<td></td>
<td>Leicester</td>
<td>Leicestershire</td>
<td>Nottingham</td>
<td>Nottinghamshire</td>
<td>Derby</td>
</tr>
<tr>
<td>Economically Active with NVQ 2 – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>12.1</td>
<td>16.5</td>
<td>14.5</td>
<td>16.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Economically Active with NVQ 1 – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>13.5</td>
<td>15.5</td>
<td>18.2</td>
<td>15.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Economically Active with other Qualifications – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>16.3</td>
<td>7.4</td>
<td>4.9</td>
<td>6.2</td>
<td>4.9</td>
</tr>
<tr>
<td>Economically Active with No Qualification – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>17.0</td>
<td>10.5</td>
<td>15.5</td>
<td>10.5</td>
<td>9.9</td>
</tr>
<tr>
<td>Job Related Training Received in last 13 weeks – Working Age (%)</td>
<td>03/03 – 02/04</td>
<td>15.4</td>
<td>23.8</td>
<td>19.1</td>
<td>25.4</td>
<td>25.1</td>
</tr>
</tbody>
</table>

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190
| Economically Active with NVQ1 – Working Age (%) | 03/03 – 02/04 | 15.2 | 18.8 |
| Economically Active with other Qualifications – Working Age (%) | 03/03 – 02/04 | 6.2 | 5.6 |
| Economically Active with No Qualifications – Working Age (%) | 03/03 – 02/04 | 10.5 | 13.0 |
| Job Related Training Received in last 13 weeks – Working Age (%) | 03/03 – 02/04 | 25.4 | 21.0 |
| Employees who are in skilled Trade Occupations (%) | 03/03 – 02/04 | 11.5 | 13.1 |

**Lincoln Sub-Region**

Lincoln suffers from young people leaving the city for High Education and high skilled jobs and struggles to retain graduates from the university due to a lack of availability in graduate positions.

**Information Gaps**

None identified.

### 20.3 RELEVANT PLANS, PROGRAMMES AND POLICIES

**Table 20.4 Plans, programmes and policies**

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Lisbon Strategy (EU, 2002)</td>
</tr>
<tr>
<td>• European Employment Strategy (EU, 1997)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• DfES National Targets</td>
</tr>
<tr>
<td>• The 1998 Competitiveness White Paper (DTI, 1998)</td>
</tr>
<tr>
<td>• DTI Manufacturing Service</td>
</tr>
<tr>
<td>• Social Enterprise, a Strategy for Success (DTI, 2002)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Framework for Regional Employment and Skills Action in the East Midlands (EMDA, 2001)</td>
</tr>
<tr>
<td>• The Business Birthrate Strategy for the East Midlands (EMRA, 2004)</td>
</tr>
<tr>
<td>• Objective 2 Action Plan (GOEM, 2003)</td>
</tr>
<tr>
<td>• Creating Enterprising Communities, Economic Inclusion Development Plan (EMDA, 2001)</td>
</tr>
<tr>
<td>• Regional Economic Strategy for the East Midlands (EMDA, 2006)</td>
</tr>
<tr>
<td>• East Midlands Fresa Targets Project (EMDA, 2004)</td>
</tr>
<tr>
<td>• Get On With Graduates scheme (EMDA, 2001)</td>
</tr>
<tr>
<td>• Innovation Steering Group (EMDA, 2001)</td>
</tr>
<tr>
<td>• EMDA/BT Broadband Partnership</td>
</tr>
<tr>
<td>• East Midlands Innovation Strategy (2007-2010), Innovation East Midlands (InnEM)</td>
</tr>
</tbody>
</table>
The key messages identified from these other relevant plans and programmes and initiatives include the need to:

- Upskill the workforce in order to raise productivity and improve competitiveness
- Support innovation and business expenditure in R&D
- Pursue sustainable environmental, social and economic renewal

20.4 LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME

The evolution of transport and access in the East Midlands without the implementation of the East Midlands RSS is described in Table 20.5 below.

Table 20.5 Key employment issues and their likely evolution without the Regional Plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the Regional Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills disparities: Skill levels are relatively low in both urban and rural parts of the East Midlands, although an urban-rural split exists within the region, attainment levels higher in rural districts. This is the case for all subjects at Key Stage 2 level and for the attainment rate at NVQ level 3 or 4 slightly (although still lower than the national average). While higher than the national average, the percentage of people aged 16-74 in rural districts with no qualifications is lower than urban areas in the region. Educational achievement is particularly poor in Leicester and Nottingham.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Low skills: Increasing skill levels is essential to the attraction of investment and viability of business in the region. Tackling basic skills and higher skills levels is important to enabling businesses in the region to remain competitive and to decrease the vulnerability of the workforce to increases in unemployment, or structural changes.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Knowledge economy: Progress towards targets for economically active adults with NVQ Levels 3 / 4, will encourage growth of more knowledge intensive sectors and meet gaps that exist in higher level employment. It will also contribute towards raising wage levels in the economy.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Higher value activities: The region needs to develop managerial and entrepreneurial talent across all business sectors to support innovation and its translation into higher value added activities. Future manufacturing decline will need to be compensated by higher value service sector activities.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Low skills/low pay: There is a large amount of employment in lower-skilled, lower-paid sectors in the region.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Rural businesses: Issues of poor access to broadband clearly hampers ICT usage and could still significantly hamper competitiveness of rural businesses in the region. Rural areas such as Lincolnshire, perform worst for employment in knowledge intensive sectors.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Issue</td>
<td>Likely evolution without the Regional Plan</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------------------------------------------------------------</td>
</tr>
<tr>
<td>New and small firms: The counties in the middle of the region (Rutland and Leicestershire) had the highest dependency on small firms in 2003, while the three cities have the lowest dependency on smaller employers.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Rural businesses: There are a higher number of VAT registrations (&amp; deregistrations) in rural areas within region than is the case with rural areas in other regions. While the region has a relatively buoyant rural economy in comparison to other regional rural areas, the rural economy comprises a higher incidence of small businesses and self-employment than in more urban areas.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Foreign investment: The region has a relatively small share of foreign owned firms; international trade accounts for 22% of GDP, compared to 26% nationally.</td>
<td>Continuation of current trends are likely.</td>
</tr>
<tr>
<td>Business survival: Levels of business survival are below national average, but there has been an above average increase in business stock. There are significant variations between the SSP areas in the change in VAT registered business stock (1994-03), from 18.4% in Northamptonshire SSP, to just 1.42% in Lincolnshire SSP.</td>
<td>Continuation of current trends are likely.</td>
</tr>
</tbody>
</table>

**20.5 SUSTAINABILITY APPRAISAL OBJECTIVES**

The SA Scoping Report for the Regional Spatial Strategy included the Objective: *To develop a strong culture of enterprise and innovation*. The sub questions relating to this objective are set out below:

- a) Will it improve equality of access to good quality learning and training opportunities for disadvantaged groups?
- b) Will it improve the quality of learning and training opportunities?
- c) Will it help to improve people's skills?
- d) Will it improve uptake of learning and training in urban areas?
- e) Will it improve uptake of learning and training in rural areas?
- f) Will it support links between business and academics?
- g) Will it support more sustainable business practices, including the environmental economy?

**20.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)**

The SA of the draft plan stated that policies are generally supportive of the objective to develop a strong culture of enterprise and innovation. The focus on the Three Cities sub-region which is the primary driver of research and development will support wider economic development investment. The focus will also improve access to learning and training.

Within the Proposed Changes, the Strategy for the Lincolnshire Coastal Districts makes it more difficult for the plan to achieve some economic objectives; however, in order to achieve sustainable growth, this precautionary approach is needed. The addition of a policy on regional priorities for the
The economy is positive in that it aims to improve the service sector, a growth sector in the region. The
new policy on strategic distribution will also help to provide land for these businesses.

There are no significant changes as a result of the changes made to the final plan.

**Cumulative effects**

The policy will help to create communities with a sense of place and will help communities retain and
attract higher skilled workers. The policy has significant cumulative effects in association with the
design policy and policies concerned with the protection of cultural assets.

**Issues for the Review of the Regional Plan**

None identified.

**Uncertainties/Data Gaps**

None identified.

**20.7 PROPOSALS FOR MONITORING**

As no significant negative effects on enterprise and innovation have been identified in the
Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend
continued monitoring of a range of indicators for employment and the economy, as set out in the
Annual Monitoring Report.
Objective 14: To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies

21.1 INTRODUCTION

Traditional economic success has been defined solely by growth in the economy, with economic policy focused on maximising Gross Domestic Product (GDP). Although GDP remains the cornerstone of economic policy, its inadequacies in interpreting the distribution of wealth and its use as a yardstick of success are increasingly under scrutiny. The development of the sustainability movement is however, inspiring a move towards a more sophisticated understanding of what it means to be economically prosperous; focusing not only on the quantity of economic growth but also quality.

“Real progress cannot be measured by money alone. We must ensure that economic growth contributes to our quality of life, rather than degrading it.”

(Tony Blair, Foreword to A Better Quality of Life 1999)

To maintain economic vitality, an economy that is healthy and sustainable, economic prosperity needs to foster employment opportunities for all, enabling people to meet their own basic needs and improve their quality of life. HM Treasury now defines its aims as to;

‘Raise the rate of sustainable growth and achieve rising prosperity and a better quality of life, with economic and employment opportunities for all’ ¹⁹⁵.

The Sustainable Development Commission highlights that this needs to be achieved whilst simultaneously ensuring that the natural systems, resources and diversity upon which we depend are maintained and enhanced for our benefit and for that of future generations ¹⁹⁶. The ‘compatibility of economic growth and sustainable development’ ¹⁹⁷ is at the core of the current development debate. The need to balance economic growth, productivity and competitiveness with our wider social responsibilities (whilst maintaining a healthy environment) is fundamental to being sustainable.

¹⁹⁷ ibid
21.2 CHARACTERISATION

**Gross Value Added (GVA)**

Total GVA in the region was £53bn in 2003, accounting for 6.5% of the UK’s total GVA of £953bn\(^{198}\). An average of 10% productivity growth has been achieved by the region between 1995 and 2001, compared to around 8% for England\(^{199}\). Derby (64%), Northamptonshire (47%) and South Nottinghamshire (46%) have seen the largest growths in GVA in this period. South and West Derbyshire (9%), Lincolnshire (16%) and Leicestershire and Rutland (16%) had the smallest increases. The three cities have all seen growth in GVA in line with and above the national average\(^{200}\).

Regional GVA per head in 2001 was £13,300, compared to a national average of £14,800. Sectoral contributions to GVA at a regional level differ significantly to those at the UK level. Manufacturing for example is 7.5 percentage points more important to regional output than to national output\(^{201}\).

Sub regional variations (at a NUTS level 3) in GVA per head are apparent. At £20,800 Nottingham has the highest GVA per head, followed by Derby, Leicester and Northamptonshire. All have GVAs between 7 and 10 per cent higher than the UK average\(^{202}\). East Derbyshire has the lowest GVA per head (£9,600), followed by South Nottinghamshire and Lincolnshire.

**Figure 21.1 GVA per head by NUTS level 3 area**\(^{203}\)

At an SSP area level, the differences between areas also show significant variations. At £15,800, the Northamptonshire SSP area has the highest level of productivity; this is the only SSP area to have a

\(^{198}\) ONS, Regional Gross Value Added, 2004  
\(^{199}\) Regional Intelligence Unit/ East Midlands Observatory, Benchmarking the Region against European Comparators, 2005  
\(^{200}\) DTZ Pieda, State of the Region Report, 2002  
\(^{201}\) ibid  
\(^{202}\) SBS data, as quoted by GOEM, for Regional Overview  
\(^{203}\) DTI, Business Competitiveness Indicators, 2004
higher GVA per head than the national average of £15,600. The Lincolnshire (£9,500) and North Derbyshire-North Nottinghamshire SSP areas (£9,700) had the lowest GVA per head\textsuperscript{204}.

The regional trend in GVA per head is expected to continue to grow at least at the national rate of growth. In 2003, the East Midlands had the largest growth in GVA per head at 6.3\%, compared to the UK total of 5.4\%. GVA figures show that the East Midlands is the one of the most productive regions outside the South East (including London) and the East of England.

**Sectoral Trends**

There are 1.8m employees in the East Midlands. The highest proportion of employees in the region are employed in the Distribution, Hotels and Restaurants sector (25.7\%), followed by Public Administration, Education and Health (24.8\%). These sectors are both expected to see an increase in employment over the next ten years.

The region currently has a higher than average proportion of the workforce employed in the manufacturing sector (18.3\% compared 12.6\% nationally). Manufacturing employment has been particularly significant in Nottinghamshire, Derbyshire and Leicestershire. The structural changes over the next decade will be characterised by a shift away from primary production and manufacturing, towards the service sector. Regional employment in the primary and manufacturing sectors is therefore expected to decline by 13,000 and 75,000 jobs respectively by 2010. Albeit small scale now, the primary sector, particularly the coal, quarrying and agriculture industries, has historically been important in the East Midlands.

The overall regional share of employment in the Banking, Finance and Insurance sectors is currently small (14.4\% compared to a national average of 20.4\%); it is the lowest nationally second only to the North East\textsuperscript{205}. This under-representation is particularly marked in the metropolitan Unitary Authorities (excepting Nottingham), and in the rural counties of Lincolnshire and Rutland where employment in the Banking, Finance and Insurance sectors accounts for less than 10\% cent of total employment\textsuperscript{10}.

\textsuperscript{204} Regional Intelligence Unit/East Midlands Observatory, Ranking Application, 2005
\textsuperscript{205} ONS, Annual Business Inquiry, Employee Analysis, 2003
Currently, the Northamptonshire, Leicestershire and Derbyshire areas have high proportions of their total workforce employed in the Banking, Finance and Insurance sector (see above). Greater than average growth is projected in the Financial and Business Services sectors between now and 2010\textsuperscript{206}. Growth is also expected in Professional and Other Services, Transport and Communications and Construction sectors over the next five years. While growing, the value of the service sector is seen as weak in some areas, hampering economic and employment growth, and failing to provide the support services that the existing industrial base requires to remain competitive\textsuperscript{207}. The region also has a lower than average proportion of business in the knowledge-driven sectors (24\% compared to 27.2\% nationally in 2002)\textsuperscript{4} although it has an important high value cluster in the aerospace industry. The Northamptonshire SSP area had a higher than national average proportion of the workforce in knowledge-driven sectors while Lincolnshire had the lowest proportion of firms, followed by North Derbyshire-North Nottinghamshire and Derbyshire SSP areas.

**Additional information on the Sub-Regional Study Areas**

**Three Cities Sub-Region**

Table 21.1 shows information on new business start ups in the Three Cities sub region.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Date</th>
<th>Leicester</th>
<th>Leicestershire</th>
<th>Nottingham</th>
<th>Nottinghamshire</th>
<th>Derby</th>
<th>Derbyshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of VAT</td>
<td>2004</td>
<td>840</td>
<td>2010</td>
<td>650</td>
<td>605</td>
<td>510</td>
<td>435</td>
</tr>
</tbody>
</table>

\textsuperscript{206} Centre for Labour Market Studies, Baseline Labour Market Information, 2002

\textsuperscript{207} DTZ Pieda, State of the Region Report, 2002
Table 21.2 shows information on new business start ups in the Northern sub region.

**Lincoln Sub-Region**

Lincoln has historically relied heavily on traditional manufacturing, which is still a major employer, leading to an over dependence on a few sectors. The city has seen an increased presence of service sector activity in recent years and this is reflected in the make up of employment in the city. There are pockets of local growth across the County, including Greater Lincoln, which is expected to grow at rates around or above the regional average.

**Information Gaps**

None identified.
21.3 **RELEVANT PLANS, PROGRAMMES AND POLICIES**

<table>
<thead>
<tr>
<th>International Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Lisbon Strategy (EU, 2002)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National Plans and Programmes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Regional Plans and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framework for Regional Employment and Skills Action in the East Midlands (EMDA 2001)</td>
</tr>
</tbody>
</table>

The key messages identified from these other relevant plans and programmes and initiatives include the need to:

- Upskill the workforce in order to raise productivity and improve competitiveness
- Support enterprise, therefore facilitating the creation of good quality, sustainable jobs
- Pursue sustainable environmental, social and economic renewal

21.4 **LIKELY EVOLUTION WITHOUT THE PLAN OR PROGRAMME**

The evolution of transport and access in the East Midlands without the implementation of the East Midlands RSS is described in Table 21.4 below.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Likely evolution without the plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural change: Western economies have been subject to long-term structural change for 30yrs, which has seen the decline in manufacturing industry and growth in service sector activities. In regions outside the South East and London, this structural change threatens to reduce growth in productivity, and result in lower average incomes. As a response, EU and national policies have recognised the importance of increasing value added from economic activity, through increasing knowledge intensity. This places entrepreneurship, innovation and skills development as central policy concerns.</td>
<td>Continuation of current trends likely.</td>
</tr>
<tr>
<td>High productivity sectors: The region has a particular concentration of some high productivity sectors, especially transport equipment, largely due to the automotives sector. The regionally significant food and drink sector also has high productivity levels.</td>
<td>Continuation of current trends likely.</td>
</tr>
<tr>
<td>Manufacturing/service sector balance: High proportion of the workforce in manufacturing, and a below average proportion in some services i.e. banking, finance and insurance, relative to the national average. Some areas</td>
<td>Continuation of current trends likely.</td>
</tr>
</tbody>
</table>
such as Northamptonshire and the three cities sub-region had a relatively high proportion of employment in manufacturing, but are also well represented in service sectors, such that they now have a lower proportion of employment in manufacturing than services. Employment in the primary industries is projected to decline.

Knowledge-based sector: The region has a lower than average proportion of business in the knowledge-driven sectors. Sectoral priorities at regional level are reflected in the defined clusters which will increase businesses in such sectors: High performance engineering; Clothing and textiles (design-led fast turn manufacturing and technical textiles); Food and Drink (food technology); Healthcare focusing on bioscience; Creative industries (particularly new media).

Intra-regional disparities: The region is performing relatively well on GVA per head of population, the trend increasing at a faster rate than nationally. Intra-regional disparities exist between the urban centres and rural fringes, ranging from GVA per head of £15,600 in Northamptonshire SSP to £9,500 in Lincolnshire and £9,800 in North Derbyshire-North Nottinghamshire. This is in part explained by the proximity of Northamptonshire to the South East economy.

The knowledge sector: It will be important for the region to proactively develop knowledge-intensive sectors, especially in services but also in higher value manufacturing. This will be particularly important if the region is to achieve its sustainable economic performance target of increasing the growth of GDP per capita from its present trend of 2.15 % to an average of 2.4 %. Continued trends likely.

21.5 SUSTAINABILITY APPRAISAL OBJECTIVES

The SA Scoping Report for the Regional Spatial Strategy included the Objective: To provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies. The sub questions relating to this objective are set out below:

a) Will it help to improve the physical and ICT infrastructure of the region?
b) Will it contribute towards regeneration initiatives or benefit areas suffering from deprivation?
c) Will it reduce income disparities in the region?
d) Will it provide land of a type which is required by businesses in the region?
e) Will it help regenerate urban economies?
f) Will it help regenerate rural economies?
g) Will it promote the use of information communication technologies?

21.6 EFFECT OF THE DRAFT PLAN, PROPOSED CHANGES (RED ITALIC) AND FINAL PLAN (GREEN ITALIC)
The SA of the draft plan stated that policies are generally supportive of the objective to provide the physical conditions for a modern economic structure, including infrastructure to support the use of new technologies. The main requirements are to ensure ease of access to labour and product markets, and facilitating the development of innovative companies. The expansion of the airport and improvements in the transport infrastructure will also contribute.

*In the Proposed Changes, policy 3 has been strengthened to include all economic activity and also now includes more information on rural enterprise. The new policy on regional priorities for the economy will be positive in helping to improve training and the skill base in the region.*

*There are no significant changes as a result of the changes made to the final plan.*

**Cumulative effects**

There are likely to be positive impacts on infrastructure and, through supporting development in PUAs, on regeneration. It is not clear that policies will promote use of ICT, other than by ensuring its general provision.

**Issues for the Review of the Regional Plan**

None identified.

**Uncertainties/Data Gaps**

None identified.

21.7 **PROPOSALS FOR MONITORING**

As no significant negative effects on modern economic structure have been identified in the Sustainability Appraisal, proposals for monitoring have not been included. However, we recommend continued monitoring of a range of indicators for employment and the economy, as set out in the Annual Monitoring Report.
22.0  SUMMARY AND CONCLUSIONS

The SA has appraised the effect of the plan as a whole but in particular has highlighted where the changes since the Examination in Public have made a difference to the sustainability of the plan. As well as highlighting (in the previous sections of this report) the effects of the plan on each of the sustainability criteria, Table 22.1 highlights the main changes that have occurred for each policy since the Examination in Public.

Table 22.1: Changes to the Regional Plan policies

<table>
<thead>
<tr>
<th>Policy</th>
<th>Effect of changes since Examination in Public on sustainability of the plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision and Regional Core Objectives</td>
<td>The objectives show a full coverage of the key environmental issues. The addition of the consideration of environmental resources and waste to the objectives ensures fuller coverage of the important sustainability issues.</td>
</tr>
<tr>
<td>Promoting Better Design</td>
<td>The policy criteria have been strengthened through inclusion of criteria on decentralised and low carbon energy, carbon sinks, urban heat island effects, SUDS, management of flood water and making the most efficient use of land. The requirement for all new (non-residential) development to be compliant with BREEAM standards has been removed from the policy in line with changes to national policy (that states that requirements for the Code for Sustainable Homes and BREEAM to be implemented through LDFs). The requirement for Lifetime Homes has also been removed as this is also now covered through national policy. As requirements are set out in other tiers of the planning system these removals do not weaken the plan in terms of sustainability The policy would be stronger in sustainability terms if it required all major development to achieve the highest viable level of building sustainability, rather than only urban extensions. It would also be stronger in sustainability terms if the policy included a requirement for major developments to secure 10% of their energy from decentralised, renewable or low carbon sources (this is currently included in the supporting text but would be clearer if it was in policy).</td>
</tr>
<tr>
<td>Concentrating Development in Urban Areas</td>
<td>The supporting text has been changed to make it clear that regeneration in its fullest holistic sense is part of the strategy and the policy has now been strengthened to reference rural vitality and other aspects of rural development. Positive effects from the policy also occur through the consideration of brownfield land. There is still a risk that the levels of development proposed will cause issues with water supply and sewage treatment (see text for Policy 13 below).</td>
</tr>
<tr>
<td>Development in the Eastern Sub-Area</td>
<td>The additional text on growth points will help ensure that the policy can deliver housing objectives.</td>
</tr>
<tr>
<td>Strategy for Lincolnshire Coastal Districts</td>
<td>This is a new policy. It is acknowledged that limiting housing in the three coastal districts to committed development will make it more difficult to maintain the vitality of service centres. However, the policy is positive in that it sets a framework to ensure that in the long term new development is planned in a sustainable manner.</td>
</tr>
<tr>
<td>Overcoming Peripherality in the Eastern Sub-Area</td>
<td>The main impact of the policy is likely to be on impacts related to road based travel. In the next review of the RSS, consideration should be given to alternative ways of regenerating peripheral areas, rather than focusing on improved accessibility (it is acknowledged that this would require a radical change of strategy at this stage).</td>
</tr>
<tr>
<td>Regeneration of the Northern Sub-Area</td>
<td>The additional text on the growth point at Newark will help ensure that the policy can deliver housing objectives. The inclusion of a new criterion relating to social infrastructure is positive.</td>
</tr>
<tr>
<td>Development in the Peak Sub-Area</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Policy</td>
<td>Effect of changes since Examination in Public on sustainability of the plan</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Development Outside the Peak District National Park</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Managing Tourism and Visitors in the Peak Sub-Area</td>
<td>The policy has been strengthened to state that Local Authorities and other bodies should encourage and promote tourism opportunities that could ease pressures on the Park itself, providing this would not increase pressure on areas of biodiversity interest. Further opportunities have been taken within the policy to improve public transport, walking and cycling links to reduce the use of the private car.</td>
</tr>
<tr>
<td>Development in the Southern Sub-Area</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Development in the Three Cities Sub-Area</td>
<td>The policy has been strengthened to make it clear that development will seek to facilitate a balance in the provision of jobs and homes within urban areas to reduce the need to travel by car.</td>
</tr>
<tr>
<td>Regional Housing Provision</td>
<td>The short term effect on flooding has been reduced through the reduction in allocations to the Lincolnshire Coastal Districts. The allocation for Lincoln has increased by 67% thus increasing the risk of effects on Lincoln’s cultural heritage. Maintaining cultural distinctiveness will be highly dependent on effective delivery. Affordability issues in the Peak Park have been better addressed through the increase in affordable housing allocations. Housing provision especially has the potential to have negative effects on the Nene Valley cSPA. However, the AA makes a number of recommendations for changes to policy to deal with this issue. The housing numbers overall have been reduced between the Proposed Changes and the final plan by 1% (or 4000 houses). The decrease in housing numbers reduces the risk that housing will impact upon valued resources. However, the reduction is small, therefore any improvement in the performance of the plan is minor.</td>
</tr>
<tr>
<td>Regional Priorities for Affordable Housing</td>
<td>The affordable housing targets are largely in line with anticipated affordable housing needs and have not substantially changed in terms of % from the Draft Regional Plan.</td>
</tr>
<tr>
<td>Affordable Rural Housing</td>
<td>This is a new policy. The policy should be positive in sustainability terms as it aims to create rural communities whilst maintaining the distinctive character of rural areas.</td>
</tr>
<tr>
<td>Regional Priorities for Provision for Gypsies and Travellers</td>
<td>The pitch provision has increased from the draft plan providing a social benefit.</td>
</tr>
<tr>
<td>Regional Priorities for Managing the Release of Land for Housing</td>
<td>The SA did not highlight any significant issues with this policy. However, safeguards have been added to the supporting text of the policy to ensure that infrastructure should be in place that would avoid pressures and discharges to the environment that would potentially harm designated sites of international nature conservation importance.</td>
</tr>
<tr>
<td>Regional Priorities for the Economy</td>
<td>This is a new policy. This policy has the potential to improve social cohesion and promote community empowerment through development of the region’s economic competitiveness and by raising the skill levels. However, better references could be made to natural resources and pollution - reference could be made to innovative sustainable or low carbon businesses.</td>
</tr>
<tr>
<td>Regional Priority Areas for Regeneration</td>
<td>The implementation of the policy has now been strengthened by the reference to LDFs and concerted action. The policy has also been strengthened through the addition of a clause that regeneration should conform to the locational strategy of the plan. This means that the policy is likely to have a positive effect on air quality and climate change because of the focused strategy of the plan.</td>
</tr>
<tr>
<td>Regional Priorities for Employment Land</td>
<td>This is a new policy. It is mainly positive but the policy does not specifically require the allocation of sites at sustainable locations.</td>
</tr>
<tr>
<td>Strategic Distribution</td>
<td>This is a new policy. It is expected to have positive implications for the economy, transport, congestion and air quality. The addition of a clause on environmental impact and European nature conservation sites is positive.</td>
</tr>
<tr>
<td>Regional Priorities for Town Centres and Retail Development</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Regional Priorities for Casino Development</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Regional Priorities for Rural Diversification</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Regional Priorities for ICT</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Protecting and Enhancing the Region’s Natural and Cultural Heritage</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Policy</td>
<td>Effect of changes since Examination in Public on sustainability of the plan</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Regional Priorities for the Historic Environment</td>
<td>The policy has been strengthened in regard to having regard to potential impacts on biodiversity when developing sites of historic interest.</td>
</tr>
<tr>
<td>Regional Priorities for Environmental and Green Infrastructure</td>
<td>The policy has been strengthened in its consideration of recreational pressures on sensitive sites, especially those designated under the European Habitats Directive.</td>
</tr>
<tr>
<td>Priorities for Enhancing the Region’s Biodiversity</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Regional Priorities for Managing and Increasing Woodland Cover</td>
<td>The policy has been strengthened in its approach to landscape character, climate change, water and flooding thus ensuring that new woodlands help to achieve other sustainability objectives.</td>
</tr>
<tr>
<td>Priorities for the Management and Enhancement of the Region’s Landscape</td>
<td>The policy has been strengthened in that it now recognises the value of tranquility and dark skies.</td>
</tr>
<tr>
<td>A Regional Approach to Water Resources and Water Quality</td>
<td>The policy has been improved in relation to the integrity of European conservation sites. The SA of the Proposed Changes states that the policy was expected to have significant negative effects on water resources and water quality in the East Midlands. However, the Final version of the plan and the SA has had the benefit of the Draft Severn Trent and Anglian Water, Water Resource Management Plans (WRMPs). These set out the measures that will be needed to ensure that water resource provision is adequate until the period to 2035. The plans put forward a number of measures including a new Lincoln Water Treatment Works, a new source works at the Grove WTW, Lincolnshire Fens WTW and duplication of a section of the Derwent Valley Aqueduct. If these measures are carried forward in the final versions of the WRMPs then water supply should be adequate. In terms of planning for sewerage infrastructure, regional and local bodies will need to work together to ensure timely provision of appropriate additional infrastructure for water supply and wastewater treatment. A co-ordinated approach to plan making should be development through a programme of water cycle and river cycle studies to address issues of water supply, water quality, wastewater treatment and flood risk in receiving watercourses relating to the development proposed in the RSS. Policy 32 has now been strengthened in its reference to Water Cycle Studies.</td>
</tr>
<tr>
<td>Regional Priorities for Strategic River Corridors</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Priorities for the Management of the Lincolnshire Coast</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>A Regional Approach to Managing Flood Risk</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Regional Priorities for Minerals</td>
<td>The policy has been strengthened in it now outlines the need to protect habitats from the potential adverse impacts of mineral extraction. Additionally, if habitats must be lost as a result of extraction, mitigation in the form of the creation of new habitats elsewhere will now be required.</td>
</tr>
<tr>
<td>Regional Priorities for Waste Management</td>
<td>The policy has now been strengthened in that it sets out the pattern of waste management facilities that will be needed thus ensuring that the most sustainable network of facilities for each sub area can be developed. This will be important if waste targets are to be achieved. The policy has also been strengthened in terms of safeguarding European nature conservation sites.</td>
</tr>
<tr>
<td>Regional Priorities for Energy Reduction and Efficiency</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Regional Priorities for Low Carbon Energy Generation</td>
<td>The consideration of nature conservation objectives and national energy targets has been strengthened.</td>
</tr>
<tr>
<td>Regional Priorities for Culture, Sport and Recreation</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Regional Priorities for Tourism</td>
<td>The potential conflicts between biodiversity and recreation are now detailed in the supporting text to the policy. The policy has also been strengthened in respect of the fact that new facilities should be within walking and cycling distance of the destinations they serve.</td>
</tr>
<tr>
<td>Regional Transport Objectives</td>
<td>The objectives now more explicitly refer to carbon reduction.</td>
</tr>
</tbody>
</table>
Policy | Effect of changes since Examination in Public on sustainability of the plan
--- | ---
Sub Area Transport Objectives | The objectives have been strengthened in relation to planning for public transport, walking and cycling.
Regional Approach to Traffic Growth Reduction | The policy has now changed from a zero growth target to a reduction in traffic growth (without a target). The original SA stated that the current rate of traffic growth was a barrier to reaching CO2 emission targets and we would agree that this is the case. However, in the absence of robust evidence (as recognised by the Panel Report) it is not possible to state in the SA what the magnitude of the change to carbon emissions is likely to be due to the changes in the target. However, the policy is still likely to be positive in reducing traffic.
A Regional Approach to Behavioural Change | The SA did not highlight any significant issues with this policy.
Regional Priorities for Parking Levies and Road User Charging | The SA did not highlight any significant issues with this policy.
Regional Car Parking Standards | The SA did not highlight any significant issues with this policy.
A Regional Approach to Improving Public Transport Accessibility | The SA did not highlight any significant issues with this policy.
Regional Heavy Rail Priorities | The SA did not highlight any significant issues with this policy.
Regional Priorities for Bus and Light Rail Services | The SA did not highlight any significant issues with this policy.
Regional Priorities for Integrating Public Transport | The SA did not highlight any significant issues with this policy.
Regional Trunk Road Priorities | The SA did not highlight any significant issues with this policy.
Regional Major Highway Priorities | The SA did not highlight any significant issues with this policy.
Implementation of a Regional Freight Strategy | The SA did not highlight any significant issues with this policy.
Regional Priorities for Air Transport | The SA did not highlight any significant issues with this policy.
Regional Priorities for Implementation, Monitoring and Review | The SA did not highlight any significant issues with this policy.
PART 2 POLICIES
Three Cities Sub Regional Strategy | The SA did not highlight any significant issues with this policy.
Definition of Principal Urban Area | The policy has been changed to require a review of all the land surrounding the Nottingham HMA. This will enable land to be analysed against all sustainability criteria – not just the green belt criteria.
Sub Regional Priorities for Green Belt Areas | The SA did not highlight any significant issues with this policy.
Housing Provision | See comments on Policy 14
Employment Land | The SA did not highlight any significant issues with this policy.
Green Infrastructure & the National Forest | The SA did not highlight any significant issues with this policy.
Northern Sub Regional Strategy | The SA did not highlight any significant issues with this policy.
Sub Regional Development Priorities | The SA did not highlight any significant issues with this policy.
Supporting the Roles of Town and Village Centres | Sutton in Ashfield and Retford have been added to the policy as Sub-Regional Retail and Service Centres and other Retail and Service Centres respectively.
Sub Regional Employment Regeneration Priorities | The SA did not highlight any significant issues with this policy.
Enhancing Green Infrastructure through Development | The SA did not highlight any significant issues with this policy.
Sherwood Forest Regional Park | The SA did not highlight any significant issues with this policy.
Lincoln Sub Regional Strategy |
<table>
<thead>
<tr>
<th>Policy</th>
<th>Effect of changes since Examination in Public on sustainability of the plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spatial priorities</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Site selection</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Protection of Lincoln’s urban fringe</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Housing provision</td>
<td>See comments on Policy 14</td>
</tr>
<tr>
<td>Employment density</td>
<td>References to the Western Growth Corridor, North East Quadrant and South East Quadrant have been removed in light of the Panel’s comments. This SA is not a site specific appraisal so this change makes no difference to the results of the appraisal.</td>
</tr>
<tr>
<td>Tourism, culture and education</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Deprivation and exclusion</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Flood risk and water resources</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Sub regional country park</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Lincoln cathedral</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
<tr>
<td>Sub regional transport priorities</td>
<td>The SA did not highlight any significant issues with this policy.</td>
</tr>
</tbody>
</table>

On the whole the appraisal found that the changes made in the Proposed Changes and final version of the plan made the plan a stronger one in terms of sustainability. Some of the key changes that strengthen the plan are:

- Fuller coverage of environmental issues in the vision and objectives of the plan and in many of the policies;
- Better protection of Natura 2000 sites through additions to various policies and through the addition of a specific air quality policy;
- Fuller consideration of the effects of climate change including in the design policy and in the treatment of the Lincolnshire Coastal Districts;
- Better treatment of social objectives, for example the addition of a criteria on social infrastructure to the Northern Sub –Area policy, the inclusion of a policy on rural affordable housing and an increase in pitch provision for gypsies and travellers;
- Further strengthening of policies on the economy, for example the new policy on Regional Priorities for the Economy and the addition of a clause to the regeneration policies that regeneration should conform to the locational strategy of the plan; and
- Sub regional issues - A stronger policy on identification of land surrounding Nottingham and the removal of named growth quadrants for Lincoln leaving more discretion at the local level.

Therefore, there are still some areas of uncertainty or areas of the plan where the risks of potential negative sustainability issues remain (especially if action is not taken at other levels within the planning hierarchy). These are:

- The design policy has been significantly changed and in some areas weakened. The policy would be stronger in sustainability terms if it required all major development to achieve the highest viable level of building sustainability, rather than only urban extensions. It would also be stronger in sustainability terms if the policy included a requirement for major developments
to secure 10% of their energy from decentralised, renewable or low carbon sources (this is currently included in the supporting text but would be clearer if it was in policy);

- The RSS panel recognised that there was uncertainty regarding the deliverability of sustainable transport measures. An early review of the RTS is to begin shortly. It will be important for this review to prioritise public and other sustainable transport measures; and
- The focus of the plan in terms of regenerating peripheral areas is through improving accessibility. In the next review of the RSS, consideration should be given to alternative ways of regenerating peripheral areas that are more sustainable.