

Sustainability Appraisal and SEA of North Hertfordshire Local Plan Preferred Options

Appendix 5: Sustainability Appraisal of Growth Options (2012)

November 2014

Overview and document history

This appraisal was undertaken by North Hertfordshire District Council in February 2012 to inform decision making on housing target options. It was slightly updated to reflect consultation comments. It is published here, as background information on the options development process.

Sustainability Appraisal of Growth Options

Introduction

The sustainability of housing developments is largely dependent on where the specific sites are located, how they relate to other land uses and the manner in which they are implemented. This appraisal is designed to be a high level assessment, which considers the strategic issues rather than those relating to specific sites. The appraisal has assumed that increased investment in housing will be accompanied by investment in employment, supporting infrastructure including public transport, retail and other commercial development as set out in the main consultation document. To make this a meaningful assessment local knowledge of the likely implications of the options has been used to minimise the number of “unknown” effects, as at this stage many issues could be considered unknown. The consideration of other policies in the plan and mitigation has largely been ignored for this exercise to assess the true impacts of the housing figures.

The sustainability appraisal framework is the same as was used previously for the appraisal of the Core Strategy Issues and Options (2005) and Preferred Options (2007) and Land Allocations consultations Issues and Options (2008) and Additional Suggested Sites (2009) and the scoring methodology is summarised in the key below.

The matrices consider the different housing options generated in *Defining the housing requirement* (NHDC, May 2011), which identifies a number of options that could be pursued for a housing target for the period 2011-2031.

- Option A: East of England Plan (15,800)
- Option B: Normal migration (14,500)
- Option C: Stevenage growth (13,000)
- Option D: Continuing trends since 2001 including Great Ashby (11,000)
- Option E: Continuing trends excluding Great Ashby (7,600)
- Option F: Delivering affordable housing (7,000)
- Option G: Natural change (5,400)
- Option H: Brownfield only (2,500)

Table 1 below summarises the scores for each of the 8 housing options and brings them together to be able to compare and contrast and identify similarities and trends.

Table 1: Summary of appraisal scores for the various options

	A	B	C	D	E	F	G	H
SA Objective: Will the policy...	Score							
<i>Economic Activity</i>								
1. Achieve sustainable levels of prosperity and economic growth?	2	2	0	2	2	2	0	-2
<i>Land use and development patterns</i>								
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-2	-2	-2	-2	-2	-1	-1	2
2b. Provide access to green spaces?	-2	-2	-2	-2	-2	-2	-1	2
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	2	2	2	2	1	2	1	1
<i>Environmental protection</i>								
3a. Protect and enhance biodiversity?	-2	-2	-2	-2	-1	-1	-1	1
3b. Protect and enhance landscapes?	-2	-2	-2	-2	-1	-1	-1	1
3c. Conserve and, where appropriate, enhance the historic environment?	-2	-2	-2	-1	-1	-1	-1	-1
3d. Reduce pollution from any source?	-2	-2	-2	-2	-2	-2	-2	-2
<i>Climate change</i>								
4a. Reduce greenhouse gas emissions?	-2	-2	-2	-2	-1	-1	-1	-1

Key of Scoring	
2	Significant Positive Effect
1	Positive Effect
0	Neutral Effect
-1	Negative Effect
-2	Significant Negative Effect
?	Unknown Effect

4b. Improve the district's ability to adapt to climate change?	-2	-2	-2	-2	-1	-1	-1	-1
<i>A just society</i>								
5a. Share benefits of prosperity fairly?	2	2	2	2	1	2	1	1
5b. Provide access to services and facilities for all?	2	2	2	2	2	2	1	1
5c. Promote community cohesion?	2	2	2	2	2	2	1	1
5d. Increase access to decent and affordable housing?	-1	-1	-1	1	2	2	0	-2
5e. Reduce crime rates and fear of crime?	1	1	1	1	1	1	1	1
5f. Improve conditions and services that engender good health and reduce health inequalities?	-2	-2	-2	-2	-1	-1	0	0
5g. Increase participation in education and life-long learning?	1	1	1	1	1	1	0	0
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	2	2	2	2	1	1	0	0
<i>Resource use and waste</i>								
6a. Use natural resources efficiently?	-2	-2	-2	-2	-1	-1	-1	-1
6b. Reduce waste?	-2	-2	-1	-1	-1	-1	-1	-1
<i>Town centres</i>								
7. Promote sustainable urban living?	2	2	2	2	1	1	1	2

There are certain trends which can be drawn out from this summary table. Notably, the higher targets (to the left of the table) tend to have a more negative impact on those objectives relating to environmental protection, but a more positive impact upon those objectives relating to economic considerations. Conversely, the lower targets (to the right of the table) tend to have a more positive impact on environmental considerations and neutral or negative impacts on economic criteria.

Two of the objectives show particularly interesting patterns across the options – objective 1 on economic growth and objective 5d on affordable housing. Objective 1 scores negatively for option H as it fails to meet the district's natural change level of growth and would in effect mean planning for contraction of the population, which is highly unlikely to deliver economic growth. Option G does meet the district's natural change level and is likely to mean that growth is distributed evenly across the district – yet by effectively meeting only the current population's growth needs is unlikely to deliver economic growth. The higher growth levels tend to score more highly with respect to this option, but obviously the location and concentration of employment growth would have a key impact on the scores. Option C only delivers growth in relation to Stevenage and so fails to meet the natural growth in other areas of the district.

Objective 5d on affordable housing is also interesting for showing a peaked pattern. Clearly the lower options will fail to deliver sufficient affordable housing. However, the higher options, whilst delivering numerically higher levels of affordable housing, have also been scored negatively. This is because growth levels well in excess of the current population's natural change level are likely to actually build up additional needs for affordable housing in future. North Hertfordshire is not a closed housing market, therefore high levels of supply are unlikely to have a significant effect on the cost of open market housing. Instead, high levels of growth would increase the population of the district without making a significant change to the cost of housing, such that the amount of affordable housing needed in future – notably for the children of those who move into the new housing – would be significantly greater than under the lower options. There is therefore a peak in the profile of the affordable housing around Option F and E.

Objective 3d on reduction of pollution scores a significant negative (-2) for all options. This is largely the result of the impact of housing growth on the Royston Sewage Treatment Works. The works are currently operating close to capacity and so even the brownfield only option is likely to mean that upgrades will be required to ensure that increased effluent does not reduce the water quality of the receiving water course. Anglian Water have stated that the upgrades are technically feasible but could be carbon intensive and costly. Not allowing Royston to develop in the future is not considered to be a reasonable alternative. And as it has been agreed that upgrades can be provided within the plan period this issue will be overcome through agreement with the Environment Agency and Anglian Water. An evidence base document regarding the Royston Sewage Treatment Works is being undertaken to inform the Infrastructure Delivery Plan and help inform a strategy for development in this area. Implementation of SuDs will be important in this area.

Although all but one of the Options (Option H) show a negative impact on Criteria 3a Biodiversity, this approach has adopted the precautionary principle. The Core Strategy Policy on Biodiversity identifies that all new developments make a positive contribution to the biodiversity of the district, therefore in reality there will be no net loss to biodiversity in the district. The same applies to Access to Green spaces (criteria 2b). Although all but one option show a negative assessment, green space standards, Planning obligations and CIL will ensure positive outcomes of new development. New development is a potential delivery mechanism for green infrastructure and some of its benefits (which include amenity, climate change mitigation and adaptation, water and pollution management and biodiversity enhancement).

Scores also to show a negative score for Climate Change (criterion 4b)

The detailed matrices for each option follow.

Option A: former East of England Plan (15,800)

SA Objective: Will the policy...	Score	Justification for assessment including short medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	2	The provision of new housing is likely to have a positive impact on affordability, particularly if it includes significant amounts of affordable housing. Concentrating more of the development around Stevenage will have a positive contribution to the economy of this town. This option would also contribute to North Herts economy as well as Stevenage's. However, this will depend on the location and size of green field and green belt developments in the rest of North Herts.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-2	This option will clearly involve major development on greenfield sites. The impact is likely to be higher the greater the extent the development, particularly if it is north, west and north-east of Stevenage and within North Herts. Development to the north-east of Stevenage would require a link road, which would increase the impact in relation to this objective.
2b. Provide access to green spaces?	-2	This depends on the location. The areas in the district adjacent to Stevenage currently provide a significant green space resource. Green space would be provided within the development, but access to the countryside will be further away for existing residents. In addition, greenfield developments on the edge of settlements will also have a similar impact. Some may not be of sufficient size to provide green spaces within them.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	2	The Stevenage urban extensions and other significant green belt developments will provide an opportunity to include community facilities for the new population and potentially new public transport infrastructure that could serve the new neighbourhoods and access to the towns. Concentrating the rest of the development within or around the towns will also contribute positively. Additional employment is proposed within the Stevenage and North Herts. However, it is still likely that a significant proportion of new residents will work outside the town and travel by car.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	-2	The exact impact depends on location. By its very nature development on greenfield sites is likely to have an impact. There are areas west of Stevenage that are high in biodiversity such as the Knebworth Woods SSSI. To the north-east of Stevenage there is a large proportion of wildlife sites and woodland. Mitigation would be required to avoid any significant impacts. There are limited access points for the link road to exit at north-east Stevenage, which would have an impact on terms of biodiversity.
3b. Protect and enhance landscapes?	-2	The precise impact of the greenfield development will depend on its location. Extensions to Stevenage are likely to have significant landscape impacts. However, the extent of the development would need to be planned in such a way as to limit development into the Langley Valley to the west, Forster Country/Chesfield to the north and Western Park to the north east.
3c. Conserve and, where appropriate, enhance the historic environment?	-2	The precise impact of the development will depend on its location. There are no significant historic buildings within the west Stevenage development, a few to the north including an ancient monument. There are listed buildings within the north eastern area. In this instance there would need to be careful thought regarding the layout as not to significantly impact on the listed buildings. Limiting the extent of the development to the north east would offer a greater ability to mitigate the impact on the listed buildings in this location.
3d. Reduce pollution from any source?	-2	New development will inevitably involve increased light, air and noise pollution from traffic. In particular extensions to Stevenage would result in a significant loss of tranquillity in the area. Pollution of groundwater is also an issue as the District is on a major chalk aquifer with high groundwater vulnerability. There would need to be appropriate mitigation such as SUDs, drainage and water efficiency. There will be opportunities to remediate contaminated land for development within the towns. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		

4a. Reduce greenhouse gas emissions?	-2	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. However, development around Stevenage would create opportunities for people to use locally created facilities close to where they live to help with reducing the impact of this. This could also be achieved for a large green belt development elsewhere. In addition, locating brownfield development close to services will also help to reduce the overall impact.
4b. Improve the district's ability to adapt to climate change?	-2	Partly depends on design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure. Appropriate mitigation measures such as energy efficiency, water consumption restrictions, SUDs etc need to be considered. There will be the opportunity for CHP for larger developments.
<i>A just society</i>		
5a. Share benefits of prosperity fairly?	2	Development could contribute to regeneration of the towns, Stevenage in particular. and any town where there is a greater contribution of development.
5b. Provide access to services and facilities for all?	2	Urban extensions could give the opportunity to provide accessible community facilities and access to public transport.
5c. Promote community cohesion?	2	Depends on whether community facilities and support are provided in the new extensions.
5d. Increase access to decent and affordable housing?	-1	The provision of large amounts of new housing is likely to have a positive impact on affordability, particularly if it includes significant amounts of affordable housing. This option could provide more affordable housing closer to where some North Herts residents already live. However, by significantly exceeding the natural change level of growth may actually lead to increased needs for affordable housing in future.
5e. Reduce crime rates and fear of crime?	1	Depends on design of new developments. Regenerating brownfield areas will have a positive contribution.
5f. Improve conditions and services that engender good health and reduce health inequalities?	-2	A large urban extension is likely to result in additional noise pollution and loss of tranquillity in amenity areas. Particularly during construction. There may be a need for noise attenuation in some areas.
5g. Increase participation in education and life-long learning?	1	Would give the opportunity to include the facilities within the development.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	2	Focusing development on existing towns should support the viability of town centres and services provided there. Urban extensions to Stevenage would give the opportunity to include facilities within the developments.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-2	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There is an issue with the ability of the sewage system to cope with development around Stevenage.
6b. Reduce waste?	-2	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting. More houses will result in more waste.
<i>Town centres</i>		
7. Promote sustainable urban living?	2	The size development around Stevenage offers additional facilities such as shops, schools and community centres to be built to promote sustainable living. Public transport measures will also need to be a priority to promote accessibility to the town centres. If greenfield sites elsewhere are dispersed then this objective would be less likely to be achieved. Brownfield development will also encourage people to use existing facilities within the towns.

Significant positive effects	Significant negative effects
<ul style="list-style-type: none"> Will achieve sustainable levels of growth and prosperity, split between settlements Potential for new infrastructure and community 	<ul style="list-style-type: none"> Would require major greenfield and greenbelt land Development of green space would decrease access for existing residents

<p>facilities</p> <ul style="list-style-type: none"> • Could provide more sustainable patterns of development but likely to relate to Stevenage • Likely to provide economic prosperity to towns and Stevenage • Levels of development associated with this option could provide increased access to services • Could aid regeneration of Stevenage • Could provide accessible locations for public transport • Could mean creation of community facilities • Likely to mean additional cultural and leisure facilities • Development in and around centres is likely to mean increased vitality of the centres • Scale of development likely to mean creation of new neighbourhoods providing sustainable living 	<ul style="list-style-type: none"> • Scale of development could mean negative impact on biodiversity • Very likely to mean negative impact on landscapes, Stevenage is surrounded by high quality landscape • There are listed buildings around Stevenage that could be negatively effected by this level of growth • increased light, air and noise pollution from traffic • Would require upgrade of Royston Sewage Treatment Works • Increased greenhouse gases from increased car movements • Increase pressure on water supply • Large urban extensions likely to result in a loss of tranquillity and amenity • Large scale growth is likely to put additional pressure on natural resources and infrastructure • New growth will produce additional waste that will need to be managed
<p>Other key positive effects</p>	<p>Other key negative effects</p>
<ul style="list-style-type: none"> • Significantly exceeds natural growth and affordable housing targets 	<ul style="list-style-type: none"> •

Option B: Normal migration (14,500)

SA Objective: Will the policy...	Score	Justification for assessment including short medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	2	The provision of new housing is likely to have a positive impact on affordability, particularly if it includes significant amounts of affordable housing. Concentrating more of the development around Stevenage will have a positive contribution to the economy of this town. This approach would also contribute more positively with the green belt sites in North Herts too.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-2	This option will clearly involve major development on greenfield sites. The impact is likely to be higher the greater the extent the development. There would be impacts around Stevenage but also in relation to the additional green belt sites within the rest of the district. Development to the north east of Stevenage would result in the need for a link road, which would increase the impact in relation to this objective.
2b. Provide access to green spaces?	-2	This depends on the location. The areas in the district adjacent to Stevenage currently provide a significant green space resource. Green space would be provided within the development, but access to the countryside will be further away for existing residents. In addition, greenfield developments on the edge of settlements will also have a similar impact. Some may not be of sufficient size to provide green spaces within them. The size of some of the green belt sites may be large enough to provide green spaces within them.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	2	The Stevenage urban extensions and larger green belt sites elsewhere will provide an opportunity to include community facilities for the new population and potentially new public transport infrastructure that could serve the new neighbourhoods. Concentrating the rest of the development within or around the towns will also contribute positively. Additional employment is proposed within the Stevenage and North Herts. Still likely that a significant proportion of new residents will work outside the town and travel by car.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	-2	The exact impact depends on location. However, by its very nature development on greenfield sites is likely to have an impact. There are areas west of Stevenage that are high in biodiversity such as the Knebworth Woods SSSI. There are significant areas of wildlife sites and woodland to the north east of Stevenage, the link road required is likely to have an unavoidable impact on biodiversity. Mitigation would be required to avoid any significant impacts.
3b. Protect and enhance landscapes?	-2	The precise impact of the greenfield development will depend on the location of development. Extensions to Stevenage are likely to have significant landscape impacts. However, the extent of the development would need to be planned in such a way as to limit development into the Langley Valley to the west and Forster Country/Chesfield and Weston Park. Green belt development elsewhere could be located in a way as to avoid more significant landscape.
3c. Conserve and, where appropriate, enhance the historic environment?	-2	The precise impact of the development will depend on its location. There are no significant historic buildings within the west Stevenage development, a few to the north including an ancient monument. There are listed buildings within the north eastern area. In this instance there would need to be careful thought regarding the layout as not to significantly impact on the listed buildings.
3d. Reduce pollution from any source?	-2	New development will inevitably involve increased light, air and noise pollution from traffic. In particular extensions to Stevenage would result in a significant loss of tranquillity in the area. Pollution of groundwater is also an issue as the District is on a major chalk aquifer with high groundwater vulnerability. There would need to be appropriate mitigation such as SUDs, drainage and water efficiency. There will be opportunities to remediate contaminated land for development within the towns. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		
4a. Reduce greenhouse gas emissions?	-2	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. However, development around Stevenage would create opportunities for people to use locally created facilities close to where they live to help with reducing the impact of this. In addition, locating brownfield development close to services will also help to reduce the overall impact. The impact in relation to the additional green belt sites will depend on their size and location.
4b. Improve the district's ability to adapt to climate change?	-2	Partly depends on design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure. Appropriate mitigation measures such as energy efficiency, water consumption restrictions, SUDs etc need to be considered. There will be the opportunity for CHP for larger developments.
<i>A just society</i>		

5a. Share benefits of prosperity fairly?	2	Development could contribute to regeneration of the towns, Stevenage in particular and any town where there is a greater contribution of development. The choice of where to locate the rest of the green belt development could have an impact on this objective.
5b. Provide access to services and facilities for all?	2	Urban extensions could give the opportunity to provide accessible community facilities and access to public transport.
5c. Promote community cohesion?	2	Depends on whether community facilities and support are provided in the new extensions.
5d. Increase access to decent and affordable housing?	-1	The provision of large amounts of new housing is likely to have a positive impact on affordability, particularly if it includes significant amounts of affordable housing. This option could be more beneficial to some North Herts residents if there are more larger developments close to where they already live. However, by significantly exceeding the natural change level of growth may actually lead to increased needs for affordable housing in future.
5e. Reduce crime rates and fear of crime?	1	Depends on design of new developments. Regenerating brownfield areas will have a positive contribution.
5f. Improve conditions and services that engender good health and reduce health inequalities?	-2	A large urban extension is likely to result in additional noise pollution and loss of tranquillity in amenity areas. Particularly during construction. There may be a need for noise attenuation in some areas. There may be an impact in other areas if the development is to spread out elsewhere in addition to around Stevenage, thus having an impact on more local residents. This will depend on location.
5g. Increase participation in education and life-long learning?	1	Would give the opportunity to include the facilities within the development.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	2	Focusing development on existing towns should support the viability of town centres and services provided there. Urban extensions to Stevenage would give the opportunity to include facilities within the development. This could also be achieved if some of the green belt sites are of a significant size to support additional facilities.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-2	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There is an issue with the ability of the sewage system to cope with development around Stevenage.
6b. Reduce waste?	-2	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting. More houses will result in more waste.
<i>Town centres</i>		
7. Promote sustainable urban living?	2	The size development around Stevenage offers additional facilities such as shops, schools and community centres to be built to promote sustainable living. Public transport measures will also need to be a priority to promote accessibility to the town centres. This could also be achieved in larger green belt developments elsewhere that are big enough to provide additional facilities. Brownfield development will also encourage people to use existing facilities within the towns.

Key positive effects	Key negative effects
<ul style="list-style-type: none"> Will achieve sustainable levels of growth and prosperity split between settlements Potential for new infrastructure and community facilities Could provide more sustainable patterns of development but likely to relate to Stevenage Likely to provide economic prosperity to towns and Stevenage Levels of development associated with this option could provide increased access to services Could aid regeneration of Stevenage 	<ul style="list-style-type: none"> Would require major greenfield and greenbelt land Development of green space would decrease access for existing residents Scale of development could mean negative impact on biodiversity Very likely to mean negative impact on landscapes, Stevenage is surrounded by high quality landscape There are listed buildings around Stevenage that could be negatively effected by this level of growth increased light, air and noise pollution from traffic Would require upgrade of Royston Sewage

<ul style="list-style-type: none"> • Could provide accessible locations for public transport • Could mean creation of community facilities • Likely to mean additional cultural and leisure facilities • Development in and around centres will mean increased vitality of the centres • Scale of development likely to mean creation of new neighbourhoods providing sustainable living 	<p>Treatment Works</p> <ul style="list-style-type: none"> • Increased greenhouse gases from increased car movements • Increase pressure on water supply • Large urban extensions likely to result in a loss of tranquillity and amenity • Large scale growth is likely to put additional pressure on natural resources and infrastructure • New growth will produce additional waste that will need to be managed
<p>Other key positive effects</p>	<p>Other key negative effects</p>
<ul style="list-style-type: none"> • Significantly exceeds natural growth and affordable housing targets 	<ul style="list-style-type: none"> •

Option C: Stevenage growth (13,000)

SA Objective: Will the policy...	Score	Justification for assessment including short medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	0	This option would deliver growth in relation to Stevenage, but would fail to meet the district's natural change level elsewhere. As such, the growth would be delivered in a very unequal fashion, with the population and economies of the North Hertfordshire towns and villages declining, whilst Stevenage would face both the benefits and burdens of massive and rapid housing growth.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-2	This option will clearly involve major development on greenfield sites. The impact is likely to be higher the greater the extent the development, particularly if it is north, west and north east of Stevenage. Development to the north east of Stevenage would result in the need for a link road, which would increase the impact in relation to this objective.
2b. Provide access to green spaces?	-2	This depends on the location. The areas in the district adjacent to Stevenage currently provide a significant green space resource. Green space would be provided within the development, but access to the countryside will be further away for existing residents. In addition, greenfield developments on the edge of settlements will also have a similar impact. Some may not be of sufficient size to provide green spaces within them.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	2	The Stevenage urban extensions will provide an opportunity to include community facilities for the new population and potentially new public transport infrastructure that could serve the new neighbourhoods and access to the town. Concentrating the rest of the development within or around the towns will also contribute positively. Additional employment is proposed within the Stevenage and North Herts. However, it is still likely that a significant proportion of new residents will work outside the town and travel by car.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	-2	The exact impact depends on location, However, by its very nature development on greenfield sites is likely to have an impact. There are areas west of Stevenage that are high in biodiversity such as the Knebworth Woods SSSI. To north east of Stevenage there is a large proportion of wildlife sites and woodland. The link road required is likely to have unavoidable impacts in relation to biodiversity due to limited access points. Mitigation would be required to avoid any significant impacts.
3b. Protect and enhance landscapes?	-2	The precise impact of the greenfield development will depend on the location of development. Extensions to Stevenage are likely to have significant landscape impacts. However, the extent of the development would need to be planned in such a way as to limit development into the Langley Valley to the west, Forster Country/Chesfield to the north and Western Park to the north east.
3c. Conserve and, where appropriate, enhance the historic environment?	-2	The precise impact of the development will depend on its location. There are no significant historic buildings within the west Stevenage development and some archaeological sites, a few listed buildings to the north including an ancient monument. There are listed buildings within the north eastern area. In this instance there would need to be careful thought regarding the layout as not to significantly impact on the listed buildings.
3d. Reduce pollution from any source?	-2	New development will inevitably involve increased light, air and noise pollution from traffic. In particular extensions to Stevenage would result in a significant loss of tranquillity in the area. Pollution of groundwater is also an issue as the District is on a major chalk aquifer with high groundwater vulnerability. There would need to be appropriate mitigation such as SUDs, drainage and water efficiency. There will be opportunities to remediate contaminated land for development within the towns. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		
4a. Reduce greenhouse gas emissions?	-2	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. However, development around Stevenage would create opportunities for people to use locally created facilities close to where they live to help with reducing the impact of this. In addition, locating brownfield development close to services will also help to reduce the overall impact.
4b. Improve the district's ability to adapt to climate change?	-2	Partly depends on design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure. Appropriate mitigation measures such as energy efficiency, water consumption restrictions, SUDs etc need to be considered. There will be the opportunity for CHP for larger developments.

<i>A just society</i>		
5a. Share benefits of prosperity fairly?	2	Development is likely to contribute to regeneration of the towns, Stevenage in particular.
5b. Provide access to services and facilities for all?	2	Urban extensions could give the opportunity to provide accessible community facilities and access to public transport.
5c. Promote community cohesion?	2	Depends on whether community facilities and support are provided in the new extensions.
5d. Increase access to decent and affordable housing?	-1	This option focuses development on Stevenage to the detriment of North Hertfordshire. Whilst a good number of affordable homes may be delivered, there is no evidence as to why Stevenage require that many affordable homes, whilst the North Herts towns and villages would fail to meet their needs.
5e. Reduce crime rates and fear of crime?	1	Depends on design of new developments. Regenerating brownfield areas will have a positive contribution.
5f. Improve conditions and services that engender good health and reduce health inequalities?	-2	A large urban extension is likely to result in additional noise pollution and loss of tranquillity in amenity areas. Particularly during construction. There may be a need for noise attenuation in some areas.
5g. Increase participation in education and life-long learning?	1	Would give the opportunity to include the facilities within the development.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	2	Focusing development on existing towns should support the viability of town centres and services provided there. Urban extensions to Stevenage would give the opportunity to include facilities within the development.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-2	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There is an issue with the ability of the sewage system to cope with development around Stevenage.
6b. Reduce waste?	-1	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting.
<i>Town centres</i>		
7. Promote sustainable urban living?	2	The size development around Stevenage offers additional facilities such as shops, schools and community centres to be built to promote sustainable living. Public transport measures will also need to be a priority to promote accessibility to the town centres. If greenfield sites elsewhere are dispersed then this objective would be less likely to be achieved. Brownfield development will also encourage people to use existing facilities within the towns.

Significant positive effects	Significant negative effects
<ul style="list-style-type: none"> • Potential for new infrastructure and community facilities • Could provide more sustainable patterns of development but likely to relate to Stevenage • Likely to provide economic prosperity to Stevenage • Levels of development associated with this option could provide increased access to services • Could aid regeneration of Stevenage • Could provide accessible locations for public transport 	<ul style="list-style-type: none"> • Would require major greenfield and greenbelt land • Development of greenspace would decrease access for existing residents • Scale of development could mean negative impact on biodiversity • Very likely to mean negative impact on landscapes, Stevenage is surrounded by high quality landscape • There are listed buildings around Stevenage that could be negatively effected by this level of growth • increased light, air and noise pollution from traffic • Would require upgrade of Royston Sewage

<ul style="list-style-type: none"> • Could mean creation of community facilities • Likely to mean additional cultural and leisure facilities • Development in and around centres will mean increased vitality of the centres • Scale of development likely to mean creation of new neighbourhoods providing sustainable living 	<p>Treatment Works</p> <ul style="list-style-type: none"> • Increased greenhouse gases from increased car movements • Increase pressure on water supply • Large urban extensions likely to result in a loss of tranquillity and amenity • Large scale growth is likely to put additional pressure on natural resources and infrastructure
<p>Other key positive effects</p>	<p>Other key negative effects</p>
<ul style="list-style-type: none"> • Significantly exceeds natural growth and affordable housing targets 	<ul style="list-style-type: none"> • Does nothing to help meet the needs for housing and other developments in the districts other towns and villages

Option D: Continuing trends since 2001 including Great Ashby (11,000)

SA Objective: Will the policy...	Score	Justification for assessment including short, medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	2	The provision of new housing is likely to have a positive impact on affordability, particularly if it includes significant amounts of affordable housing. Concentrating some of the development around Stevenage may have a positive contribution to the economy of this town. This approach would contribute more to Stevenage's economy rather than North Herts.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-2	This option will clearly involve major development on greenfield sites. The impact is likely to be higher the greater extent the development goes west of Stevenage. There will also be an impact developing to the north of Stevenage and elsewhere in North Herts.
2b. Provide access to green spaces?	-2	This depends on the location. The areas in the district adjacent to Stevenage currently provide a significant green space resource for existing residents. Green space would be provided within the development, but access to the countryside will be will be further away for existing residents. In addition, green field and green belt development on the edge of settlements will also have a similar impact. Some may not be of sufficient size to provide green spaces within them.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	2	The Stevenage urban extensions will provide an opportunity to include community facilities for the new population and potentially new public transport infrastructure that could serve the new neighbourhoods and access to the town. Concentrating the rest of the development within or around the towns will also contribute positively. The extent to which further green belt development would be sustainable would depend on its location and size. However, the numbers proposed are likely to result in small sites. Additional employment is proposed within the Stevenage and North Herts. However, it is still likely that a significant proportion of new residents will work outside the town and travel by car.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	-2	By their very nature development on greenfield sites are likely to have an impact. The exact impact depends on location, however this is likely to be increased due to the extent of additional development on green fields. There are areas west of Stevenage that are high in biodiversity such as the SSSI. Mitigation would be required to avoid any significant impacts. There will be an additional impact to the area north of Stevenage, although less sensitive than other areas around Stevenage.
3b. Protect and enhance landscapes?	-2	The precise impact of the greenfield development will depend on the location of development. Extensions to Stevenage are likely to have significant landscape impacts. However, the extent of the development would need to planned in such a way as to limit development into the Langley Valley to the west and Forster Country/Chesfield to the north.
3c. Conserve and, where appropriate, enhance the historic environment?	-1	The precise impact of the development will depend on its location. There are no significant historic buildings within the west Stevenage development, although there are archaeological sites, there are some historic buildings to the north and an ancient monument.
3d. Reduce pollution from any source?	-2	New development will inevitably involve increased light, air and noise pollution from traffic. In particular extensions to Stevenage would result in significant loss of tranquillity in the area. Pollution of groundwater is also an issue as the District is on a major chalk aquifer with high groundwater vulnerability. Measures such as water efficiency and SUDs will be important. There will be opportunities to remediate contaminated land for development within the towns. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		
4a. Reduce greenhouse gas emissions?	-2	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. However, development around Stevenage would create opportunities for people to use locally created facilities close to where they live to help with reducing the impact of this. In addition, locating brownfield development close to

		services will also help to reduce the overall impact. The impact in relation to the additional green belt site will depend on their size and location.
4b. Improve the district's ability to adapt to climate change?	-2	Partly depends on design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure. Measures such as water efficiency and SUDs will be important. There will be the opportunity for CHP for larger developments.
<i>A just society</i>		
5a. Share benefits of prosperity fairly?	2	Development could contribute to regeneration of the towns, Stevenage in particular and any town where there is a greater contribution of development.
5b. Provide access to services and facilities for all?	2	Urban extensions could give the opportunity to provide accessible community facilities and access to public transport. For the additional green belt sites elsewhere this will depend on their size and location.
5c. Promote community cohesion?	2	Depends on whether community facilities and support are provided in the new extensions. For the additional green belt sites this will depend on their size and location.
5d. Increase access to decent and affordable housing?	1	The provision of large amounts of new housing is likely to have a positive impact on affordability, particularly if it includes significant amounts of affordable housing. This option could be less beneficial to some North Herts residents if there are less larger developments close to where they already live. However, by significantly exceeding the natural change level of growth may actually lead to increased needs for affordable housing in future.
5e. Reduce crime rates and fear of crime?	1	Depends on design of new developments. Regenerating brownfield areas will have a positive contribution.
5f. Improve conditions and services that engender good health and reduce health inequalities?	-2	A large urban extension is likely to result in additional noise pollution and loss of tranquillity in amenity areas. Particularly during construction. There may be a need for noise attenuation in some areas. There may be an impact in other areas if the development is to spread out elsewhere in addition to around Stevenage, thus having an impact on more local residents. This will depend on location. North Stevenage now also comes into the equation.
5g. Increase participation in education and life-long learning?	1	Would give the opportunity to include the facilities within the development.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	2	Focusing development on existing towns should support the viability of town centres and services provided there. Urban extensions to Stevenage would give the opportunity to include facilities within the development.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-2	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There is an issue with the ability of the sewage system to cope with development around Stevenage.
6b. Reduce waste?	-1	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting.
<i>Town centres</i>		
7. Promote sustainable urban living?	2	The size of development around Stevenage offers additional facilities such as shops, schools and community centres to be built to promote sustainable living. Public transport measures will also need to be a priority to promote accessibility to the town centres. If greenfield sites elsewhere are dispersed then this objective would be less likely to be achieved. Brownfield development will also encourage people to use existing facilities within the towns.

Significant positive effects	Significant negative effects
<ul style="list-style-type: none"> • Will achieve sustainable levels of growth and prosperity split between settlements and should improve affordability • Potential for new infrastructure and community facilities • Could provide more sustainable patterns of development but likely to relate to Stevenage • Likely to share economic prosperity between settlements • Levels of development associated with this option could provide increased access to services • Could aid regeneration of Stevenage • Could provide accessible locations for public transport • Could mean creation of community facilities • Likely to mean additional cultural and leisure facilities • Development in and around centres could mean improved vitality and viability • Scale of development likely to mean creation of new neighbourhoods providing sustainable living 	<ul style="list-style-type: none"> • Would require major greenfield and greenbelt land • Development of greenspace would decrease access for existing residents • Scale of development could mean negative impact on biodiversity • Very likely to mean negative impact on landscapes • Increased light, air and noise pollution from traffic • Would require upgrade of Royston Sewage Treatment Works • Increased greenhouse gases from increased car movements • Increase pressure on water supply • Large urban extensions are likely to result in a loss of tranquillity and amenity • Large scale growth is likely to put additional pressure on natural resources and infrastructure
Other key positive effects	Other key negative effects
<ul style="list-style-type: none"> • Significantly exceeds natural growth and affordable housing target 	<ul style="list-style-type: none"> •

Option E Continuing trends excluding Great Ashby (7,600)

SA Objective: Will the policy...	Score	Justification for assessment including short medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	2	This option exceeds the natural change level and therefore encourages growth. It is also likely to spread growth around all the towns and villages, allowing each settlement the opportunity to benefit from growth.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-2	This option will involve development on greenfield sites around Stevenage and other greenfield and green belt sites within the rest of the district.
2b. Provide access to green spaces?	-2	Depends on location. The areas in the district adjacent to Stevenage currently provide a significant green space resource. Green space could be provided within the development, but access to the countryside will be further away for existing residents. In addition, some green belt development of the edge of settlements will also have a similar impact. Smaller green belt developments may not be of a sufficient size to provide green spaces within them.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	1	This level of housing will require growth around Stevenage which will provide an opportunity to include community facilities for the new population and potentially new public transport infrastructure that could serve the new neighbourhoods and access to the town. Concentrating the rest of the development within or around the towns will also contribute positively. Additional employment is proposed within the district and Stevenage, however it is still likely that a significant proportion of new residents will work outside the town and travel by car. There is also a potential for more development to be dispersed around the district.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	-1	The exact impact depends on location. However, by its very nature development on greenfield sites is likely to have an impact. There are areas west of Stevenage that are high in biodiversity such as the Knebworth Woods SSSI. Appropriate mitigation would be required to avoid any significant impacts. The impact in the short term could be minimised by developing on the brownfield sites first.
3b. Protect and enhance landscapes?	-1	The precise impact of the greenfield development will depend on the location of development. An extension to Stevenage is likely to have a significant landscape impact which has a high recreational and amenity value. However, the extent of the development would need to be planned in such a way as to limit development into the Langley Valley.
3c. Conserve and, where appropriate, enhance the historic environment?	-1	The precise impact of the development will depend on its location. There are no significant historic buildings within the west Stevenage development, although there are some archaeological finds.
3d. Reduce pollution from any source?	-2	New development will inevitably involve increased light and air and noise pollution from traffic. In particular an extension Stevenage would result in a loss of tranquillity in the area. Pollution of groundwater is also an issue as the District is on a major chalk aquifer with high groundwater vulnerability. There would need to be appropriate mitigation measures to limit any impacts. There will be opportunities to remediate contaminated land for development within the towns. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		
4a. Reduce greenhouse gas emissions?	-1	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. However, development west of Stevenage would create opportunities for people to use locally created facilities close to where they live to help with reducing the impact of this. In addition, locating brownfield development close to services will also help to reduce the overall impact. The impact of additional green belt and greenfield sites will depend on their location.
4b. Improve the district's ability to adapt to climate change?	-1	Partly depends on design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure, as described below. There would need to be appropriate mitigations measures such as SUDS, drainage and reducing water use.

<i>A just society</i>		
5a. Share benefits of prosperity fairly?	1	Development could contribute to regeneration of the towns, Stevenage in particular.
5b. Provide access to services and facilities for all?	2	Urban extensions could give the opportunity to provide accessible community facilities and access to public transport.
5c. Promote community cohesion?	2	Depends on whether community facilities and support are provided in the new extension. These could also be provided on other sites if they are of a sufficient size.
5d. Increase access to decent and affordable housing?	2	The provision of large amounts of new housing is likely to have a positive impact on affordability, particularly if it includes significant amounts of affordable housing. The provision of further development within the rest of the district will provide North Herts residents with the opportunity to have an affordable home in their preferred location, close to the communities in which they already live.
5e. Reduce crime rates and fear of crime?	1	Depends on the design of new developments. For those brownfield developments that contribute to regenerating a disused or derelict site the impact will be positive.
5f. Improve conditions and services that engender good health and reduce health inequalities?	-1	A large urban extension is likely to result in additional noise pollution and loss of tranquillity in amenity areas. Particularly during construction. There may be a need for noise attenuation in some areas. There may be an impact in other areas if the development is spread out elsewhere in addition to around Stevenage. As a result there will be an impact on more people in different locations.
5g. Increase participation in education and life-long learning?	1	Would give the opportunity to include the facilities within the development.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	1	Focusing development on existing towns should support the viability of town centres and services provided there. Would give the opportunity to include the facilities within the development.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-1	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There is an issue with the ability of the sewage system to cope with development around Stevenage.
6b. Reduce waste?	-1	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting.
<i>Town centres</i>		
7. Promote sustainable urban living?	1	The size of west Stevenage offers additional facilities such as shops, schools and community centres to be built to promote sustainable living. Public transport measures will also need to be a priority to promote accessibility to the town centres. Brownfield development will also encourage people to use existing facilities within the towns. However, some of the additional green belt development may be not of a scale to create new facilities and be at a distance from the town centres.

Key positive effects	Key negative effects
<ul style="list-style-type: none"> • Will achieve sustainable levels of growth and prosperity split between settlements • Potential for new infrastructure and community facilities • Likely to share economic prosperity between settlements • Levels of development associated with this option could provide increased access to services 	<ul style="list-style-type: none"> • Would require major greenfield and greenbelt land • Could mean development of greenspace and decrease access to existing residents • Would require upgrade of Royston Sewage Treatment Works

<ul style="list-style-type: none">• Meets natural growth and affordable housing targets	
Other key positive effects	Other key negative effects
<ul style="list-style-type: none">•	<ul style="list-style-type: none">•

Option F: Delivering affordable housing (7,000)

SA Objective: Will the policy...	Score	Justification for assessment including short medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	2	The provision of new housing is likely to have a positive impact on affordability, especially as this option is drafted explicitly to deliver the level of affordable housing sought in the Housing Strategy. This level and distribution of housing in this options is likely to result in all the North Herts towns and Stevenage receiving some of the growth.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-1	If there is a priority to develop on brownfield sites first, the impact in the short term would be positive. Issues in relation to phasing could be looked at. This option will clearly involve major development on greenfield sites.
2b. Provide access to green spaces?	-2	Depends on location. The areas in the district adjacent to Stevenage currently provide a significant green space resource for existing residents. Green space could be provided within the development, but access to the countryside will be will be further away for existing residents.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	2	This level of housing is likely to require growth around Stevenage which will provide an opportunity to include community facilities for the new population and potentially new public transport infrastructure that could serve the new neighbourhoods and access to the town. Additional employment is proposed within Stevenage, however it is still likely that a significant proportion of new residents will work outside the town and travel by car.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	-1	The exact impact depends on location. However, by its very nature development on greenfield sites is likely to have an impact. Appropriate mitigation would be required to avoid any significant impacts. Mitigation measures would need to avoid fragmentation and provide habitat linkages. The extent of impacts could be avoided in the short term by developing on brownfield sites first.
3b. Protect and enhance landscapes?	-1	The precise impact of the greenfield development will depend on its location. An extension to north Stevenage is likely to have a significant landscape impact which has a high recreational and amenity value.
3c. Conserve and, where appropriate, enhance the historic environment?	-1	The precise impact of the development will depend on its location.
3d. Reduce pollution from any source?	-2	New development will inevitably involve increased light and air and noise pollution from traffic. In particular an extension Stevenage could result in significant loss of tranquillity in the area. Pollution of groundwater is also an issue as the District is on a major chalk aquifer with high groundwater vulnerability. However, appropriate drainage measures including SUDS would be required to mitigate against this. There will be opportunities to remediate contaminated land. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		
4a. Reduce greenhouse gas emissions?	-1	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. However, the provision of facilities within the west Stevenage development may contribute to reducing the impact of this.
4b. Improve the district's ability to adapt to climate change?	-1	Partly depends on design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure, as described below. Development north of Stevenage could provide opportunities for CHP as there would be a critical mass to support this.
<i>A just society</i>		
5a. Share benefits of prosperity fairly?	2	Locating some development in each town gives the opportunities for the benefits and impacts of development to be equitably distributed.
5b. Provide access to services and facilities for all?	2	Urban extensions could give the opportunity to provide accessible community facilities and access to public transport. Development within and around the towns would ensure new residents are located close to main facilities. However, the development of new infrastructure would be more limited than in an urban extension, particularly in relation to the numbers proposed.

5c. Promote community cohesion?	2	This will be positive if new community facilities and support are provided in the new extension. These would need to be carried out in a timely manner. The opportunity to provide additional facilities for smaller sites may be more limited, the extent of community cohesion will depend on where these are located in relation to existing facilities.
5d. Increase access to decent and affordable housing?	2	This option has been derived to meet the identified needs for affordable housing, and also exceeds the natural change rate of growth for the district, without exceeding it by so much as to cause problems in future.
5e. Reduce crime rates and fear of crime?	1	Depends on the design of new developments. For those brownfield developments that contribute to regenerating a disused or derelict site the impact will be positive.
5f. Improve conditions and services that engender good health and reduce health inequalities?	-1	A large urban extension is likely to result in additional noise pollution and loss of tranquillity in amenity areas. Particularly during construction. There may be a need for noise attenuation in some areas.
5g. Increase participation in education and life-long learning?	1	Development north of Stevenage could give the opportunity to include these facilities.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	1	Development north of Stevenage could give the opportunity to include these facilities within the development.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-1	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There is an issue with the ability of the sewage system to cope with development around Stevenage.
6b. Reduce waste?	-1	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting.
<i>Town centres</i>		
7. Promote sustainable urban living?	1	The size of north Stevenage offers the opportunity for additional facilities such as shops, schools and community centres to be built to promote sustainable living. Public transport measures will also need to be a priority to promote accessibility to the town centres. Brownfield development will also encourage people to use existing facilities within the towns which will have a positive impact straight away.

Significant positive effects	Significant negative effects
<ul style="list-style-type: none"> Will achieve sustainable levels of growth and prosperity split between settlements Potential for new infrastructure and community facilities Likely to share economic prosperity between settlements Levels of development associated with this option could provide increased access to services Meets natural growth and affordable housing targets 	<ul style="list-style-type: none"> Could mean development of greenspace and decrease access to existing residents Would require upgrade of Royston Sewage Treatment Works
Other key positive effects	Other key negative effects
<ul style="list-style-type: none"> Minimises development of Greenfield land 	<ul style="list-style-type: none">

Option G: Natural change (5,400 dwellings)

SA Objective: Will the policy...	Score	Justification for assessment including short medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	0	This option does meet the district's natural change level of additional housing, but does not commit to growth beyond this level.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	-1	Although it gives priority to brownfield sites in the town, this option will also involve development on greenfield and green belt sites. If there is a priority to develop on brownfield sites first, the impact in the short term would be positive. Issues in relation to phasing could be looked at. The environmental and amenity value will need to be looked at in more detail when choosing particular sites. This has already taken place in the SA/SEA for a majority of sites within the Land Allocations DPD.
2b. Provide access to green spaces?	-1	Depends on the location of sites and whether green space is provided within the development. There is a potential for access to some green spaces to be restricted without appropriate mitigation measures. Developing on the edges of towns may result in increasing the time travelled by existing residents to access the countryside, which by many is seen as a valuable element of green space.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	1	Focusing on existing towns may reduce the need to travel, as local services will be more accessible, and new residents will be able to use existing public transport, particularly the trains from Hitchin and Letchworth. However, 60% of residents currently drive a car or van to work, with an average journey of 15 miles to work and 14 miles for leisure, so this indicates that the majority of people are not working or using leisure facilities in their local town. Many of the greenfield and green belt sites are located within or relatively close to the settlements.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	-1	As discussed above, this option will involve greenfield development around towns and possibly villages which has the potential to have a negative impact. The exact impacts would depend on the location of the development. Mitigation measures would need to avoid fragmentation and provide habitat linkages. The impact could be limited in the short term by developing on brownfield land first.
3b. Protect and enhance landscapes?	-1	The precise impact of the greenfield development will depend on the location of development.
3c. Conserve and, where appropriate, enhance the historic environment?	-1	This will depend on the specific location of development. Focusing development within the built up areas may have an impact on the historic environment in relation to listed buildings and conservation areas. However, the extent to which will be controlled by specific policies to limit impacts.
3d. Reduce pollution from any source?	-2	New development could involve an increase in light, air and noise pollution from traffic. Pollution of groundwater could be an issue as the district is on a major chalk aquifer with high groundwater vulnerability. However, appropriate drainage measures including SUDS would be required to mitigate against this. This option does offer the opportunity to remediate existing contaminated land sites in the four towns. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		
4a. Reduce greenhouse gas emissions?	-1	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. The extent to which will be limited by containing development within or close to towns.

4b. Improve the district's ability to adapt to climate change?	-1	Partly depends on the design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure, as described below.
<i>A just society</i>		
5a. Share benefits of prosperity fairly?	1	Development within the towns could contribute to regeneration in some areas. Development in rural areas could help sustain or enhance infrastructure in these locations.
5b. Provide access to services and facilities for all?	1	Depends on location of new development and whether it is accessible by public transport and whether it is close to existing facilities. Development in rural areas could help sustain or enhance infrastructure in these locations.
5c. Promote community cohesion?	1	Focusing development in or close to existing settlements should retain community cohesion, provided community facilities are provided for to serve the existing and new population.
5d. Increase access to decent and affordable housing?	0	This option, whilst it meets the natural change rate of growth, is unlikely to deliver sufficient affordable housing to meet ongoing needs.
5e. Reduce crime rates and fear of crime?	1	Depends on the design of new developments. For those brownfield developments that contribute to regenerating a disused or derelict site the impact will be positive.
5f. Improve conditions and services that engender good health and reduce health inequalities?	0	New dwellings have the potential to result in increased noise if located close to existing residential areas. However, in many places the significance of which will be limited and only limited to the short term during construction. This will depend on the location of developments.
5g. Increase participation in education and life-long learning?	0	No direct impact.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	0	No direct impact.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-1	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There are possible sewage capacity issues at Baldock and Letchworth.
6b. Reduce waste?	-1	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting.
<i>Town centres</i>		
7. Promote sustainable urban living?	1	Focusing development on existing towns should support the viability of town centres and services provided there. Public transport measures will also need to be a priority to promote accessibility to the town centres. However, there could be some sites that may be at a distance from services.

Significant positive effects	Significant negative effects
	<ul style="list-style-type: none"> • Would require upgrade of Royston Sewage Treatment Works

Other key positive effects	Other key negative effects
<ul style="list-style-type: none">• Amount of Greenfield development needed reduced (compared to options A-F)• Provides enough homes to deal with changes in districts current population	<ul style="list-style-type: none">• Does not deliver enough affordable housing• Still needs some Greenfield development• Does little to contribute to growth and prosperity

Option H: Brownfield (2,500 dwellings)

SA Objective: Will the policy...	Score	Justification for assessment including short medium and long term issues and recommendations for mitigation / improvement
<i>Economic Activity</i>		
1. Achieve sustainable levels of prosperity and economic growth?	-2	This option fails to meet even the natural change level of need for the district (5,400). As such, this option is effectively planning for economic contraction – diametrically opposed to this objective.
<i>Land use and development patterns</i>		
2a. Minimise the development of greenfield land and other land with high environmental and amenity value?	2	This option would avoid the need to develop on greenfield land, the green belt and for the most part avoid significant areas of high environmental and amenity value.
2b. Provide access to green spaces?	2	Brownfield sites would not involve the development of open spaces as it would not meet the definition of previously developed land. Access to existing green spaces would need to be considered at the design and development control phases. Sites of a sufficient size would need to provide green spaces, required by specific DPD policies.
2c. Deliver more sustainable location patterns and reduce the use of motor vehicles?	1	Focusing most of the development within existing towns may reduce the need to travel, as local services will be more accessible, and new residents will be able to use existing public transport, particularly the trains from Hitchin and Letchworth. However, 60% of residents currently drive a car or van to work, with an average journey of 15 miles to work and 14 miles for leisure, so this indicates that the majority of people are not working or using leisure facilities in their local town. Locating developments in the villages is likely to increase the need to travel, as there are currently few services and jobs in the villages, and it is unclear whether the new developments would be large enough to provide the new services and jobs needed. However, it is possible that the development could result in the size of the village increasing to a scale where it may be able to support additional services and public transport provision. This objective is dependent on the location and size of developments.
<i>Environmental protection</i>		
3a. Protect and enhance biodiversity?	1	In general brownfield sites are likely to have significantly less impact on biodiversity than greenfield development. There may be an impact on habitats and species in some areas where vegetation is present. Equally there may be some areas where new habitat is created as a result of development. This will be dependent on the location of development.
3b. Protect and enhance landscapes?	1	Brownfield development is unlikely to have any significant impacts on landscapes.
3c. Conserve and, where appropriate, enhance the historic environment?	-1	This will depend on the specific location of development. Focusing development within the built up areas may have an impact on the historic environment in relation to listed buildings and conservation areas. However, the extent to which will be controlled by specific policies to limit impacts.
3d. Reduce pollution from any source?	-2	New development could involve an increased in light, air and noise pollution from traffic. Pollution of groundwater could be an issue as the district is on a major chalk aquifer with high groundwater vulnerability. However, appropriate drainage measures including SUDS would be required to mitigate against this. Additional growth in and around Royston will require upgrades of the Sewage Treatment Works to prevent receiving watercourses dropping below Water Framework Directive requirements. The upgrades provide the mitigation to the issue and will be required in the short to medium term, however they are likely to be carbon intensive and could be costly.
<i>Climate change</i>		
4a. Reduce greenhouse gas emissions?	-1	As discussed above, new development is likely to result in increased car journeys, and add to greenhouse gas emissions. However, development on brownfield only is likely to limit the extent of this.
4b. Improve the district's ability to adapt to climate change?	-1	This partly depends on design and location of developments. However, the District has amongst the lowest rainfall (125mm/y) in the UK, and the new developments will increase the pressure on the water supply infrastructure. Measures to limit the consumption of what is recommended. There is unlikely to be a critical mass of dwellings to promote CHP schemes. The ability for SUDS on the smaller sites may be limited.
<i>A just society</i>		
5a. Share benefits of prosperity fairly?	1	Development within the towns could contribute to regeneration in some areas.
5b. Provide access to services and facilities for all?	1	Development in villages should support rural services, although this requires brownfield sites to be present in villages.
5c. Promote community cohesion?	1	Focusing development in existing settlements should retain community cohesion, on the condition that community facilities are provided for the increased population to ensure that they are not a drain on existing infrastructure.

5d. Increase access to decent and affordable housing?	-2	This option fails to provide even sufficient homes to meet the district's natural change. Therefore, needs for affordable housing will go unmet. Further, the reliance on brownfield sites means that the yield of affordable housing is likely to be lower.
5e. Reduce crime rates and fear of crime?	1	Depends on the design of new developments. For those brownfield developments that contribute to regenerating disused or derelict sites the impact will be positive.
5f. Improve conditions and services that engender good health and reduce health inequalities?	0	New dwellings have the potential to result in increased noise if located close to existing residential areas. However, in many places the significance of which will be limited and only limited to the short term during construction. This will depend on the location of developments.
5g. Increase participation in education and life-long learning?	0	No direct impact.
5h. Maintain and improve culture, leisure and recreational activities that are available to all?	0	No direct impact.
<i>Resource use and waste</i>		
6a. Use natural resources efficiently?	-1	All developments will use natural resources, the greater the extent of development the more natural resources will be used. However, it will be important to have measures to limit the impact such as SUDs, drainage, sewage infrastructure, sustainable construction and building methods etc. This will be dependent on other policies within the plan. There are possible sewage capacity issues at Baldock and Letchworth.
6b. Reduce waste?	-1	New households will clearly produce additional waste. Exact impact depends on arrangements for recycling and composting, which should include sustainable methods during construction and beyond.
<i>Town centres</i>		
7. Promote sustainable urban living?	2	Focusing development on existing towns should support the viability of town centres and services provided there.

Significant positive effects	Significant negative effects
<ul style="list-style-type: none"> • Avoids development on any greenfield / greenbelt locations • Would not involve development of open spaces • Focus's development on existing towns 	<ul style="list-style-type: none"> • Fails to meet natural growth of the district • Fails to meet affordable housing requirement for the district • Would require upgrade of Royston Sewage Treatment Works
Other key positive effects	Other key negative effects
<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • May lead to a decline of district's town centres and businesses