## Sustainability Appraisal Report for the Central Lincolnshire Local Plan Proposed Submission Draft (March 2022)

Appendix 3: SA of High Level Spatial Growth Options (June 2021)



## **High Level Spatial Growth Options (June 2021)**

**Option 1: Urban focus:** This option focuses growth in the main urban areas (Lincoln, Gainsborough and Sleaford) and would see growth aligned to the settlement hierarchy – the larger the settlement, the more growth it would receive.

**Option 1: Small site focus:** This option would spread development across a greater number of sites across a larger number and range of locations. It would focus growth to more, smaller sites in more settlements, including small villages.

**Option 3: Transport/ infrastructure corridor focus:** This option would focus development around transport corridors (the main aerial roads, railway network where there are stations within proximity, locations well-served by bus routes and locations with active travel opportunities) which link settlements to the main centres of Lincoln, Gainsborough and Sleaford.

**Option 4: Creation of new settlement/s:** This option would see the creation of one or more new settlements within the countryside, or potentially at a specific currently small settlement/s where significant growth would be focused. This option does not assume all growth would be accommodated in this way. It is assumed a minimum of 500 dwellings would be needed for the creation of a new settlement.

**Option 5: Balanced combination of Options 1 to 3:** This option would incorporate elements of Option 1, Option 2 and Option 3 to find a balanced approach for distributing growth. Within the Lincoln Strategy Area there would be a focus on the Lincoln urban area and the retention of the Sustainable Urban Extensions. Beyond this there would also be growth focussed around the area in smaller settlements, particularly focused in settlements along the transport corridors and in settlements with a good range of facilities and services available either within the village or nearby. This would see all settlements in the hierarchy down to small villages being considered for some allocations.

SA Objectives	Policy Options					
	Option 1	Option 2	Option 3	Option 4	Option 5	
Social	-	•	•	•	•	
1. Housing.	++/-	+/-	++/-	+/-	++	
	This option would	Unlike Option 1, this	This option would	This option would	This option would	
	focus most growth in	option would reduce	focus growth along	deliver a large	focus growth on	
	and around the main	the focus on a limited	transport corridors	amount of growth in	locations where the	
	urban areas	number of locations of	which link	focused locations	greatest populations	
	(Lincoln, Sleaford	growth, spreading	settlements with the	with a good level of	are located,	
	and Gainsborough)	growth across a larger	main urban centres	supporting	therefore delivering	
	within Central	number and range of	of Lincoln,	infrastructure and	housing where the	
	Lincolnshire.	locations, including	Gainsborough and	employment. Whilst	greatest need is	
	Elsewhere, there would be a	small villages.	Sleaford.	uncertain at this level of appraisal, it is	arising.	
	prioritisation of the	This would see growth	Focusing growth on	likely that a new	This option would	
	Market Towns	in a wider range of rural	these locations,	settlement/s would	also deliver housing	
	(Market Rasen and	settlements, allowing	where the greatest	be delivered on	across a large	
	Caistor) and to a	the housing needs of	populations are,	greenfield land, with	number and range	
	lesser extent the	these villages to be	would deliver	a positive effect on	of locations across	
	larger villages in the	met. This option may	housing where the	viability and in turn,	Central Lincolnshire,	
	area.	provide far greater	greatest need is	the provision of	including small	
		variety of sites to	arising.	affordable housing.	villages. This option	
	Focusing growth on	ensure market delivery		_	may provide far	
	these locations,	and to give more	There is a risk under	However, this option	greater variety of	
	where the greatest	smaller and medium	this option that the	is unlikely to meet	sites to ensure	
	populations are,	developers	needs of settlements	housing need in full,	market delivery and	
	would deliver	opportunities to secure	outside of the	as it would divert	to give more smaller	
	housing where the	sites to build.	transport corridors	development away	and medium	
	greatest need is		would not be met.	from the main urban	developers	
	arising.	Development may		areas and	opportunities to	
		come forward more	Mixed major positive	elsewhere. There is	secure sites to build.	
	There is a risk under	quickly than the other	minor negative	also likely to be a		
	this option that the	options, due to the	effects are	long lead in time for	Major positive	
	needs of medium	shorter lead in times	predicted.	the delivery of	effects are therefore	
	and smaller villages	associated with smaller		housing on site.	likely.	
	would be unmet.	scale development.				
				Mixed minor positive		
	Mixed major positive	May be less likely to		minor negative		
	minor negative	deliver affordable		effects are likely.		

SA Objectives		Policy Options						
OA OBJOSTIVOS	Option 1	Option 2	Option 3	Option 4	Option 5			
	effects are predicted.	housing of a range of housing types because of the smaller scale of schemes and viability. May not deliver housing where the greatest need is arising.		•	•			
		Mixed minor positive minor negative effects are likely.						
2. Health and Wellbeing.	+/-	-/	+/-	+/++	++/-			
	Concentrating growth on the Lincoln Strategy Area and main towns would locate most of the growth in areas with good access to health, sport and recreation facilities and in locations where more facilities will be accessible by walking and cycling, potentially increasing the active travel potential and	Focusing growth on smaller sites in more settlements including smaller villages would disperse growth to locations where access to healthcare, sport and recreation facilities is limited.  The ability to secure developer contributions for healthcare services and open space, or deliver new open space on site, is likely to be limited with a focus on	Focusing growth along transport and infrastructure corridors which link settlements to the main towns could help ensure good access to health, sport and recreation facilities for new residents.  Focusing growth on new settlements along transport corridors has the potential to support	This policy option would deliver infrastructure such as healthcare, sport and recreation facilities and green infrastructure as part of the creation of the new community/ies. This could contribute to healthy lifestyles of not only the new residents, but existing residents in the surrounding area.	This option would locate most of the growth in areas with good access to health, sport and recreation facilities and in locations where more facilities will be accessible by walking and cycling, potentially increasing the active travel potential and its accompanying health benefits.			
	its accompanying health benefits.  An urban focus and therefore a greater density of	small sites. There is a risk existing health services could become overwhelmed.  Furthermore, it is likely	the extension and enhancement of the Green Infrastructure network, which could be utilised for active travel and its	opportunities to plan the settlement to promote active travel from the outset.  Full range of positive	new settlements along transport corridors has the potential to support the extension and enhancement of the			
	development, may	that residents would		impacts unlikely to	Green Infrastructure			

OA Objectives	Policy Options						
SA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5		
	result in a loss of open space, with a negative impact on residents' physical and mental health and wellbeing. However, development may bring opportunities to deliver new green space where there are exiting deficiencies.  This option risks placing increased pressure on existing health services already close to capacity.  Mixed minor positive minor negative effects are predicted.	need to drive to access jobs and a full range of facilities and amenities, resulting in less active travel.	accompanying health benefits.  However, under this option, there is a risk the proximity of new housing to the main roads could have detrimental impacts on health as a result of reduced air quality and noise associated with road traffic.	be realised until later in the plan period, hence mixed minor positive/major positive effects.	network, which could be utilised for active travel and its accompanying health benefits.  Focusing growth on smaller sites in more settlements including smaller villages would disperse growth to locations where access to healthcare, sport and recreation facilities is limited.  Mixed major positive minor negative impacts are expected.		
3. Social Equality and Community.	++/-	+/-	+/-	+/-	++		
o. Social Equality and Community.	This option would direct most growth to the main urban areas where there are greatest levels of deprivation and where most opportunities for regeneration exist. This would help to	This option would direct more growth away from the main urban areas where highest levels of deprivation exist and where most regeneration opportunities exist, resulting in minor negative effects.	This option could help to focus investment on these transport corridors and therefore improving accessibility to the main urban settlements and hence employment,	This option would direct more growth away from the main urban areas where highest levels of deprivation exist and where most regeneration opportunities exist. However, it would	This option would direct most growth to the main urban areas where there are greatest levels of deprivation and where most opportunities for regeneration exist. However, it would		

	Policy Options						
SA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5		
	support existing community facilities and support the delivery of new facilities. Residents would have good access to services and facilities, which would improve equalities, given the greater accessibility by non-car modes.  However, this option may not help to address deprivation in rural areas and focusing growth on fewer locations could put more pressure on local services and facilities, therefore limiting accessibility to local people.  As such, mixed major positive minor	However, there are also pockets of deprivation and regeneration opportunities in more rural areas and so this option is also likely to have some positive effects by helping to support the vitality and viability of smaller settlements. More dispersed development may mean it is more difficult for residents to access employment, services and facilities, particularly if public transport links are poor, disadvantaging those who cannot drive and who are less mobile.  As such, mixed minor positive and minor negative effects are expected.	services and facilities, for those who are less mobile and who cannot drive.  However, focusing too much growth on these corridors could result in other areas being starved of development with negative impacts on supporting existing community facilities and delivery of new facilities.  As such, mixed minor positive and minor negative effects are expected.	also offer the opportunity to create inclusive neighbourhoods and avoid the creation or exacerbation of deprivation in new settlements. There would be an opportunity to delivery new community facilities, such as school, local centres and green spaces as part of a large-scale new settlement, which would act as a focal point for community life, although this will take time to establish.  Mixed minor positive minor negative effects are therefore likely.	also ensure some growth in the rural areas where there are also pockets of deprivation and regeneration opportunities. It may help to focus investment on transport corridors and therefore improve accessibility to the main urban settlements and hence employment, services and facilities, for those who are less mobile and who cannot drive.  Overall major positive effects are likely.		
	negative effects are expected.						
Environmental							
4. Biodiversity and Green	-/+?	-/?	-/+?	-/+?	-/+?		
Infrastructure.	This policy focuses development at the Lincoln Strategy	This option is likely to result in increased pressure to build on	Under this option, development may take place on	This option is likely to result in a loss of large areas of	This policy focuses development within the Lincoln Strategy		
	Area and Main Towns, which would	rural greenfield sites, resulting in negative	greenfield land, which could impact	greenfield land, which could impact	Area Main Towns and Market Towns,		

SA Objectives			Policy Options		
OA OBJECTIVES	Option 1	Option 2	Option 3	Option 4	Option 5
	concentration may result in the loss of open spaces which could be valuable to wildlife.		•		
	There may be opportunity through new development to deliver new green infrastructure.				
	The effects of this option on this SA objective are currently uncertain as they will depend on the location, design and layout of				
	specific proposals, which is not yet known.				
5. Landscape and Townscape.	-/+?	-/?	-/+?	/+?	-/+?
	There are limited development opportunities within the existing urban areas, and so this option would require developments at the edge of the large	This policy option would disperse more growth to the villages which could lead to negative impacts on the open countryside and landscape surrounding these settlements, as	A focus on transport corridors could risk coalescence between settlements along such corridors and the urbanisation of the countryside, if not carefully	This option could have some negative, potentially major negative, effects if a new settlement was to be located on greenfield land or in a prominent rural	Concentrating growth in the main urban areas could have a positive effect on protecting the landscape and settlement character of the villages.
	settlements. This continuous building outwards of the large settlements could have an	well as on settlement character.  The effects of this option on this SA	planned.  The effects of this option on this SA objective are	location.  Given the scale of development in this policy option there	Growth may bring opportunities to enhance the townscape of urban areas through

Policy Options						
Option 3	Option 4	Option 5				
<b>-/</b> ?	-/?	-/?				
Focusing growth along transport and infrastructure corridors which link settlements to the main towns could lead to negative impacts on heritage assets and their settings within these areas.  More dispersed growth could direct development away from Lincoln, Gainsborough and Sleaford and therefore reduce the impact on heritage assets and their setting in these areas.  However, the exact effects on this SA objective are uncertain as they will depend on location, design and layout of specific proposals, which is not yet known.	A new settlement under this policy option could direct development away from Lincoln, Gainsborough and Sleaford and therefore reduce the impact on heritage assets and their setting in these areas. However, there remains a risk of impact on sites and features of archaeological interest, and development in more rural locations may contain or be in proximity to historic assets with more extensive settings.  There is the potential for selecting a site based on minimising adverse impacts on heritage assets and their settings.  However, the exact effects on this SA objective are uncertain as they will depend on location,	Concentrating growth on the Lincoln Strategy Area and main towns could adversely impact on heritage assets and their settings in these settlements. However, some development would still come forward in smaller settlements and rural areas under this policy and there may be heritage assets that could be affected by development in these areas. Dispersing growth more widely could provide greater opportunity to select sites that avoid significant negative effects on heritage assets and their settings.  However, the exact effects on this SA objective are uncertain as they will depend on location, design and				
	Option 3  -/?  Focusing growth along transport and infrastructure corridors which link settlements to the main towns could lead to negative impacts on heritage assets and their settings within these areas.  More dispersed growth could direct development away from Lincoln, Gainsborough and Sleaford and therefore reduce the impact on heritage assets and their setting in these areas.  However, the exact effects on this SA objective are uncertain as they will depend on location, design and layout of specific proposals, which is	Focusing growth along transport and infrastructure corridors which link settlements to the main towns could lead to negative impacts on heritage assets and their settings within these areas.  More dispersed growth could direct development away from Lincoln, Gainsborough and Sleaford and therefore reduce the impact on heritage assets and their setting in these areas.  However, the exact effects on this SA objective are uncertain as they will will expend on location, design and layout of specific proposals, which is not yet known.  A new settlement under this policy option could direct development away from Lincoln, Gainsborough and Sleaford and therefore reduce the impact on heritage assets and their setting in these areas. However, there remains a risk of impact on sites and features of archaeological interest, and development in more rural locations may contain or be in proximity to historic assets with more extensive settings.  There is the potential for selecting a site based on minimising adverse impacts on heritage assets and their settings.  However, the exact effects on this SA objective are uncertain as they will				

SA Objectives	Policy Options						
	Option 1	Option 2	Option 3	Option 4	Option 5		
				specific proposals, which is not yet known.	proposals, which is not yet known.		
7. Natural Resources - Water.	-/?	-/?	-/?	-/?	-/?		
	Central Lincolnshire lies within an area identified by the Environment Agency as an area of serious water stress where drought is a cause for concern. Therefore, water resources are under substantial pressure, which will be exacerbated by new development.	Central Lincolnshire Central Lincolnshire lies within an area identified by the Environment Agency as an area of serious water stress where drought is a cause for concern. Therefore, water resources are under substantial pressure, which will be exacerbated by new development.	Central Lincolnshire lies within an area identified by the Environment Agency as an area of serious water stress where drought is a cause for concern. Therefore, water resources are under substantial pressure, which will be exacerbated by new development.	Central Lincolnshire lies within an area identified by the Environment Agency as an area of serious water stress where drought is a cause for concern. Therefore, water resources are under substantial pressure, which will be exacerbated by new development.	Central Lincolnshire lies within an area identified by the Environment Agency as an area of serious water stress where drought is a cause for concern. Therefore, water resources are under substantial pressure, which will be exacerbated by new development.		
	The Water Resources Management Plan (WRMP) 2019 sets out how Anglian Water seeks to maintain a sustainable balance between water supply and demand from 2020 to 2045. Anglian Water's Water Resource Management Plan identifies that the Central Lincolnshire area is in surplus overall, taking into	The Water Resources Management Plan (WRMP) 2019 sets out how Anglian Water seeks to maintain a sustainable balance between water supply and demand from 2020 to 2045. Anglian Water's Water Resource Management Plan identifies that the Central Lincolnshire area is in surplus overall, taking into account planned growth and population projections.	The Water Resources Management Plan (WRMP) 2019 sets out how Anglian Water seeks to maintain a sustainable balance between water supply and demand from 2020 to 2045. Anglian Water's Water Resource Management Plan identifies that the Central Lincolnshire area is in surplus overall, taking into	The Water Resources Management Plan (WRMP) 2019 sets out how Anglian Water seeks to maintain a sustainable balance between water supply and demand from 2020 to 2045. Anglian Water's Water Resource Management Plan identifies that the Central Lincolnshire area is in surplus overall, taking into	The Water Resources Management Plan (WRMP) 2019 sets out how Anglian Water seeks to maintain a sustainable balance between water supply and demand from 2020 to 2045. Anglian Water's Water Resource Management Plan identifies that the Central Lincolnshire area is in surplus overall, taking into		

SA Objectives	Policy Options						
3A Objectives	Option 1	Option 2	Option 3	Option 4	Option 5		
	account planned growth and population projections.	There are uncertainties at this level of appraisal, as the exact location of development	account planned growth and population projections.	account planned growth and population projections.	account planned growth and population projections.		
	There are uncertainties at this level of appraisal, as the exact location of development is not known.	is not known.  Overall, minor negative uncertain effects are predicted.	There are uncertainties at this level of appraisal, as the exact location of development is not known.	There are uncertainties at this level of appraisal, as the exact location of development is not known.	There are uncertainties at this level of appraisal, as the exact location of development is not known.		
	Overall, minor negative uncertain effects are predicted.		Overall, minor negative uncertain effects are predicted.	Overall, minor negative uncertain effects are predicted.	Overall, minor negative uncertain effects are predicted.		
8. Pollution	A focus on the urban areas, the most populate settlements in the plan area, has the potential to exacerbate existing congestion problems and increase traffic related emissions, with a cumulative negative impact on air quality. Lincoln has a designated Air Quality Management Area (AQMA) which exceeds statutory nitrogen oxide levels.	Under this option, dispersal of growth to more settlements, more people would be located away from the urban areas, potentially reducing the air pollution in these areas.  However, it would also be expected to result in more journeys being made by private car, as fewer facilities are located within walking and cycling distance and there is less public transport available.	This option would focus growth within key transport corridors linking settlements to the main urban areas. This may reduce the use of private vehicles to access employment, services and facilities, and help to minimise poor air quality in the urban areas, particularly Lincoln, which has an AQMA.  However, an increase in residents	++/-? Under this option, provision of a new settlement/s, more people would be located away from current urban areas, potentially reducing the local air pollution in these areas.  The provision of substantial infrastructure, employment and services would also reduce journeys being made by private car as facilities are located within walking and	-/+?  More development would be located in and around the existing built areas, potentially increasing the vehicle movements and negatively impacting on local air quality.  Conversely a focus on the urban areas would offer enhanced opportunities to travel by non-private car modes for more journeys, which may		

SA Objectives	Policy Options					
SA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5	
	This option may offer enhanced opportunities to travel by non-private car modes for more journeys, which may have a positive impact on air quality.  There are a number of uncertainties at this level of appraisal. For example, it is not known the rate at which emissions from private vehicles will change over the course of the plan as a result of technological improvements.  Overall, mixed minor	This option could also result in an adverse change to the character of night time lighting conditions in rural areas.  Overall, mixed minor positive minor negative uncertain effects are predicted.	in some of the smaller settlements within the transport corridors could lead to over capacity of some services and facilities if infrastructure does not keep pace with growth, leading to people travelling further afield, by car.	cycling distance of this growth and there is opportunity to deliver public transport.  However, this option could result in large scale and permanent adverse changes to the character of night time lighting conditions in rural areas.  The effects are uncertain as they would depend on the location of a new settlement/s.  Overall, mixed major positive major negative uncertain	have a positive impact on air quality.  By allowing for a wider distribution of development across the plan area, this option has the potential to distribute new development amongst a wider range of settlements and sites of differing scales, leading to greater dispersal of road traffic, and reducing the cumulative impact on air quality in any one location.  However, growth in the rural areas is likely to result in	
	positive minor negative uncertain effects are predicted.			effects are expected.	increased traffic, which could create local air quality issues.	
9. Natural Resources - Land Use	++/?	/?	/+?	/?	++/?	
and Soils.	This option would seek to maximise new development on brownfield land and regenerate areas within Lincoln, Gainsborough and	This option would focus growth on smaller sites in more settlements including smaller villages. This could lead to negative impacts on minimising	A focus on transport corridors may include development within Lincoln, Gainsborough and Sleaford and hence opportunities to	This option is expected to locate growth at one or more rural locations, (although depending on possible locations identified, a new	Focusing growth to the main urban areas will help to maximise provision of housing on previously developed land	
	Sleaford which may	the loss high grade		settlement could	through prioritising	

SA Objectives	Policy Options						
OA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5		
	contain vacant and derelict land and buildings. This would not result in the loss of high-quality agricultural land and would help to remediate contaminated land and soils.  However, urban extensions would result in the loss of greenfield land on the edge of the urban settlements. These impacts would be permanent and irreversible.  As such, mixed major positive major negative effects are predicted. The effect is uncertain as it will depend on the location, design, sale and layout of development.	agricultural land to development, as the expansion of these settlements is likely to be on greenfield land due to limited availability of brownfield land within the existing built footprint.  Mixed major negative uncertain effects are expected. The effect is uncertain as it will depend on the location, design, sale and layout of development.	utilise brownfield land.  However, there would also be expansion of existing villages on greenfield land which could be high quality agricultural land. These impacts would be permanent and irreversible.  Mixed major negative minor positive uncertain effects are expected. The effect is uncertain as it will depend on the location, design, sale and layout of development.	utilise a previously developed site).  Given the scale that would be needed for such a development it is highly likely that it would include agricultural land. This could lead to negative impacts on reducing the loss of high-grade agricultural land to development. These impacts would be permanent and irreversible; hence a major negative effect is predicted.  This major negative effect is predicted.  This major negative effect could be reduced by prioritising lower quality agricultural land or a brownfield site through site selection.  Mixed major negative uncertain impacts are likely. The effect is uncertain as the exact location of a new settlement/s is unknown.	urban regeneration. This could include the remediation of contaminated land and bring vacant and derelict sites back into use.  Growth in smaller settlements could lead to negative impacts on minimising the loss high grade agricultural land to development, as the expansion of these settlements is likely to be on greenfield land. These impacts would be permanent and irreversible.  Mixed major positive major negative effects are predicted. The effect is uncertain as it will depend on the location, design, sale and layout of development.		
10. Waste.	?	?	?	?	?		

SA Objectives		Policy Options				
SA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5	
	This policy option in itself would not be expected to have any direct effects on the waste objective. Indirect effects would be better assessed on a site basis, where the location and design of proposals is known. The spatial location of development could affect the sterilisation of minerals resources. The effects at this level of appraisal are therefore uncertain.	This policy option in itself would not be expected to have any direct effects on the waste objective. Indirect effects would be better assessed on a site basis, where the location and design of proposals is known. The spatial location of development could affect the sterilisation of minerals resources. The effects at this level of appraisal are therefore uncertain.	This policy option in itself would not be expected to have any direct effects on the waste objective. Indirect effects would be better assessed on a site basis, where the location and design of proposals is known. The spatial location of development could affect the sterilisation of minerals resources. The effects at this level of appraisal are therefore uncertain.	This policy option in itself would not be expected to have any direct effects on the waste objective. Indirect effects would be better assessed on a site basis, where the location and design of proposals is known. The spatial location of development could affect the sterilisation of minerals resources. The effects at this level of appraisal are therefore uncertain.	The strategic approach to growth is unlikely to influence the generation of waste. Effects on this objective are better assessed on a site basis, where the location, design and layout of proposals is known. This policy option in itself would not be expected to have any direct effects on the waste objective.	
11. Climate Change Effects and	++/-?	/?	-/+?	/+?	++/-?	
Energy.	This option is expected to have a positive impact on this objective by reducing the need to travel by private car, as development will be in close proximity to employment, services and facilities and therefore residents should be able to utilise sustainable travel methods including walking,	This policy option would spread development across rural parts of Central Lincolnshire and as such would require more and longer journeys to be undertaken by private car to access services, facilities and employment, thereby leading to increased transport emissions.	This option would see growth focussed along key transport corridors with good access to railway stations, bus routes and active travel opportunities. This may reduce the use of private vehicles to access employment, services and facilities.  Depending on the level of growth	This policy option would allow a sustainable pattern of growth by colocating substantial new infrastructure alongside a substantial amount of new housing. This would reduce the need for many journeys to be made by car, instead focusing on public transport and active travel modes,	This option should reduce the need to travel by private car, as development will be in close proximity to employment, services and facilities and therefore residents should be able to utilise sustainable travel methods including walking, cycling and public transport.	

SA Objectives	Policy Options					
SA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5	
	cycling and public transport. This will help to minimise greenhouse gas emissions arising from transport.  Depending on the level of growth delivered, there may be increased pressure in local services and facilities. This could lead to residents travelling by car to access services and facilities further afield and hence increased emissions from transport.  Overall, mixed major positive, minor negative uncertain effects are expected.	These effects could potentially be lessened by significant investment in infrastructure and public transport, but it is not clear if this would be feasible.  Major negative uncertain effects are therefore predicted.	delivered, there may be increased pressure in local services and facilities. This could lead to residents travelling by car to access services and facilities further afield and hence increased emissions from transport.  Mixed minor positive minor negative uncertain effects are predicted.	thereby reducing transport emissions. Due to scale, there is also the potential for a new settlement/s to incorporate low carbon and energy efficient design.  However, this policy option would also require all of this new infrastructure to be built which would embody substantial amounts of carbon.  These negative effects could be mitigated by requiring energy efficient homes to be delivered and by locating the new settlement at a location where there are some existing facilities.	Where development takes place in rural areas, residents would require more and longer journeys to be undertaken by private car to access services, facilities and employment, thereby leading to increased transport emissions.  Mixed major positive minor negative uncertain effects are likely.	
				Mixed major positive minor negative uncertain effects are expected.		
12. Climate Change Adaptation	-/+?	-/?	-/+?	-/+?	-/+?	
and Flood Risk.	This option focuses growth on the main	This option would see a dispersal of growth	A focus on transport corridors may	Under this option, any new settlement/s	This option focuses growth on the main	

	Policy Options					
SA Objectives	_	. <u>-</u>		. <u>-</u>		
	Option 1	Option 2	Option 3	Option 4	Option 5	
	(Lincoln,	and range of locations,	within Lincoln,	on greenfield land.	(Lincoln,	
	Gainsborough and	including small villages.	Gainsborough and	Therefore, the	Gainsborough and	
	Sleaford). All three		Sleaford. All three	settlement would	Sleaford) and	
	contain several	Flood Risk Zones 2 and	contain several	increase the risk of	transport corridors.	
	areas that fall within	3 correspond with the	areas that fall within	surface water run-off	All three urban	
	Flood Zones 2 and	main rivers and their	Flood Zones 2 and	through the increase	areas contain	
	3. Therefore some	tributaries, therefore	<ol><li>Therefore some</li></ol>	of impermeable	several areas that	
	of this growth may	there are a number of	of this growth may	surfaces.	fall within Flood	
	need to be	areas of Flood Zones 2	need to be		Zones 2 and 3.	
	accommodated	and 3 across Central	accommodated	There is the potential	Therefore some of	
	within areas at risk	Lincolnshire.	within areas at risk	with this option to	this growth may	
	of flooding.		of flooding.	select a site within	need to be	
		It is likely that	_	Flood Zone 1 and	accommodated	
	This option may	development within the	Growth in smaller	therefore at low risk	within areas at risk	
	reduce the need to	villages will be on	settlements may	of flooding.	of flooding.	
	use greenfield land	greenfield land on the	utilise greenfield			
	to accommodate	edge of settlements,	land which would	There would be	Growth in smaller	
	growth, thereby	which would increase	increase the risk of	opportunities to	settlements may	
	reducing the amount	the risk of flooding in	flooding in the area	incorporate	utilise greenfield	
	of impermeable	the area through the	through the increase	SuDS/integrated	land which would	
	surfaces and risk of	increase of	of impermeable	water management	increase the risk of	
	flooding through	impermeable surfaces.	surfaces.	and new green	flooding in the area	
	new development.			infrastructure to	through the increase	
	Large developments	Green infrastructure	Large developments	provide community	of impermeable	
	on the edge of the	and SuDS could build	on the edge of the	resilience to climate	surfaces.	
	urban areas could	climate resilience in the	urban areas could	change.		
	provide additional	area, but opportunities	provide additional		Large developments	
	green infrastructure	may be reduced with a	green infrastructure	The impacts are	on the edge of the	
	which could help	reliance in small sites.	which could help	uncertain as they are	urban areas could	
	provide community		provide community	dependent on the	provide additional	
	resilience to climate	The impacts are	resilience to climate	exact location of	green infrastructure	
	change.	uncertain as they are	change.	development.	which could help	
		dependent on the exact	=		provide community	
	The impacts are	location of	The impacts are		resilience to climate	
	uncertain as they	development.	uncertain as they		change.	
	are dependent on		are dependent on			
	the exact location of		the exact location of		The impacts are	
	development.		development.		uncertain as they	

SA Objectives	Policy Options					
	Option 1	Option 2	Option 3	Option 4	Option 5	
					are dependent on the exact location of development.	
13. Transport and Accessibility.	++	/+	++	+/-	++/-	
	A focus on the urban areas, the most populate settlements in the plan area, is an opportunity to utilise the existing transport network and infrastructure, including rail links, to reduce reliance on the private car and to reduce length of journeys made.  There are likely to be greater opportunities for targeted investment in existing roads and public transport, increasing the availability of services with a reduction in the need to travel by car, and potential for new pedestrian and cycling infrastructure.  However, an urban focus could place	This policy option would focus more development on rural parts of Central Lincolnshire. Whilst this could support existing services and facilities, it could also place additional pressure in them, as they may not have capacity to accommodate the additional growth.  It is expected residents would require more and longer journeys to be undertaken by private car to access employment and a full range of services and facilities.  These effects could potentially be lessened by significant investment in infrastructure and public transport, but it is not clear if this would be feasible.	This option would focus growth within along key transport corridors linking settlements to the main urban areas. Residents would therefore have good access to employment, services and facilities, due to proximity to railway stations, bus routes and active travel modes.  Development may help to ensure the viability of existing services and facilities, but it could also place additional pressure in them, as they may not have capacity to accommodate the additional growth. Therefore, it will be important that growth is supported by appropriate	This option would allow a sustainable pattern of growth by co-locating substantial new infrastructure alongside a substantial amount of new housing. This would reduce the need for many journeys to be made by car, instead focusing on public transport and active travel modes.  However, this option would require expensive infrastructure which would undoubtedly result in a reduction in investment in existing transport infrastructure, potentially to the detriment of a larger population. In the short to medium term, locating new development away	This option would locate most development in and near to the main urban areas where there is a good level of existing infrastructure present and so would increase opportunities to travel by public transport and active travel modes. This option would also offer the greatest potential to invest in public transport and active transport infrastructure.  Development may help to ensure the viability of existing services and facilities, but it could also place additional pressure in them, as they may not have capacity to accommodate the additional growth.	
	increased pressure		infrastructure.	from established	additional growth	

Option 2 Overall, major no minor positive et are predicted.  de en, s slitty are, ant
minor positive et are predicted.  ne n, s litty are, nt
are
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d This option would locate more development aw from the main uness areas where employment opportunities an training and lear facilities exist, results and training and

Policy Options					
Option 3 Option 4	Option 3	Option 5			
on site which would be a positive effect on supporting jobs growth. The majority of these jobs are expected to come forward towards the end of the plan period and beyond.  Overall, mixed minor positive minor negative effects are likely.  Overall, mixed minor positive minor negative effects are likely.	around the main urban locations.  This option would ensure good accessibility to employment training and learning facilities, as it is likely that more sustainable methods of transport like walking and cycling would be used.  However, a focus on the existing main centres of employment risks limiting employment opportunities available in the wider Central Lincolnshire area.  As such, mixed major positive minor negative effects are expected.	smaller settlements where there is some, smaller scale employment, broadly aligning the population growth to the employment opportunities.  This option would ensure good accessibility to employment, training and learning facilities across Central Lincolnshire.			
+/- +/-		++			
ort corridors locate more settlements development away from the main urban	Growth in key transport corridors linking settlements to the main urban	This option would locate most growth in the locations with greatest access to most jobs aligning			
ort o set mai	transport of linking set	corridors locate more development away from the main urban			

ption 3 Option 4  owth in the swith opportunities exist reducing the accessibility to jobs for the population and reducing the	Option 5 the population with employment opportunities. It would allow a
owth in the employment opportunities exist reducing the access to aligning ulation with employment opportunities exist reducing the accessibility to jobs for the population	employment opportunities.
ready supply of local labour force for new businesses.  However, focused growth in one or more rural areas would have some positive impacts on the rural economy in some areas, as there would be a larger population seeking to use services in these areas. It could also deliver new retail and employment centres on site, to complement existing ones as part of the strategy. However, the positive impacts of these are unlikely to be felt until later in the plan period and beyond, until the new settlement is fully occupied.	focus for investment in industry in the main urban locations. It would also locate lesser growth in smaller settlements where there is some, smaller scale employment, broadly aligning the population growth to the employment opportunities.  Focusing growth at the main urban areas would support the viability and vitality of town centres and local shopping areas.  Overall, major positive effects are predicted.
The second secon	businesses.  However, focused growth in one or more rural areas would have some positive impacts on the rural economy in some areas, as there would be a larger population seeking to use services in these areas. It could also deliver new retail and employment centres on site, to complement existing ones as part of the strategy. However, the positive impacts of these are unlikely to be felt until later in the plan period and beyond, until the new settlement is fully

SA Objectives	Policy Options						
SA Objectives	Option 1	Option 2	Option 4	Option 5			
			Option 3	negative effects are likely.	•		
Conclusion and Recommendations:				t against the SA objectives ore likely to be the least su			
	Option 5 is expected to deliver positive benefits in relation to a number of the SA objectives, with major positive impacts predicted against SA1 Housing, SA14 Employment and SA15 Local Economy. This option would ensure good accessibility to employment, training and learning facilities and support both urban and rural economies across Central Lincolnshire. Major positive effects are also likely against SA3 Social Equality and Community. This option would direct most growth to the main urban areas where there are greatest levels of deprivation and where most opportunities for regeneration exist. However, it would also ensure some growth in the rural areas where there are also pockets of deprivation and regeneration opportunities. It may help to focus investment on transport corridors and therefore improve accessibility to the main urban settlements and hence employment, services and facilities, for those who are less mobile and who cannot drive.  Further major positive benefits as part of mixed effects are expected for SA2 Health and Wellbeing, SA9 Natural Resources – Land Use and Soils, SA11 Climate Change effects and Energy and. SA13 Transport and Accessibility.						
	including against SA13 settlements in the plan reliance on the private minor negative effects	B Transport and Accessible area, will utilise the existing car and reduce length of SA1 Housing, SA3 Social	ity, as focusing growt ng transport network ourneys made. Howe I Equality and Comm	ith a number of major posit h on the urban areas, the n and infrastructure, including ever, there are a number if runity, SA11 Climate Chang which risks neglecting the r	nost populate g rail links, reduce mixed major positive/ e Effects and Energy,		
	objectives, mixed with Transport and Access it is expected residents employment and a full	minor positive and/or unc bility, as this option would s would require more and range of services and fac ate more development aw	ertain effects. This op focus more developn longer journeys to be lities. It is also the lea	ative effects across a numb tion is the least sustainable nent on rural parts of Centr undertaken by private car t ast sustainable option in ter an areas where employmen	in terms of SA13 al Lincolnshire, where o access ms of employment		
	to the scale of develop	ment proposed and starti	ng a new settlement f	result in a number of major rom scratch. There is likely dverse landscape impacts (	to be a permanent		

SA Objectives	Policy Options						
CA Objectives	Option 1	Option 2	Option 3	Option 4	Option 5		
	Townscape) and significant new infrastructure requirements, which would embody substantial amounts of carbon (SA11 Climate Change Effects and Energy). Mixed minor positive major positive benefits are predicted in relation SA2 Health and Wellbeing, as this option would deliver infrastructure such as healthcare, sport and recreation facilities and green infrastructure as part of the creation of a new community. It would also offer opportunities to p the settlement to promote active travel from the outset, encouraging physical activity.  Option 3, transport/ infrastructure corridor focus performs very similar to Option 1, with similar outcomes expected SA1 Housing, SA2 Health and Wellbeing, SA4 Biodiversity and Green Infrastructure, SA6 Built and Historic Environment, SA7 Natural Resources – Water, SA8 Pollution, SA 10 Waste, SA12 Climate Change Adaptation at Flood Risk, SA13 Transport and Accessibility and, SA14 Employment.  Recommended Mitigation Measures:  When selecting sites for allocation, care should be taken to avoid the most sensitive areas in term of for biodiversity, landscape character and heritage assets.  Site selection should apply a sequential approach in relation to flood risk.  When selecting sites for allocation, prioritise brownfield land and agricultural land of lower grade.  Site selection should consider accessibility to key services and facilities.						