

7.0 Appraisal of the Options

Approach

- 7.1 Analysis of the options within the study drew from a number of sources to ensure that the appraisal of options considered a broad range of inputs that NLP could rely upon as sound evidence base. This was made up of:
- Stakeholder meetings which provided insight on the specific types of impacts that needed consideration for certain options within broad locations;
 - Drawing on emerging analysis from respective studies undertaken by AWM and the Highways Agency in respect of the RSS Phase 2 where its impacts on economic development and sustainable transport objectives have been considered;
 - Technical and planning appraisals undertaken by NLP, drawing on published information and data.
- 7.2 In general terms, the appraisal draws upon this information and this is used to make a series of judgements. Reiterating points made earlier in this document, the emphasis of this Study is to identify the key impacts and risks that might represent fundamental barriers to delivery of further housing growth that could not be mitigated, assuming that the RSS set a housing allocation for a local authority and the local planning authority acted in a reasonable way and applied the appropriate planning principles in line with RSS and Government Planning Policy guidance.
- 7.3 It is not the purpose of this study to provide a detailed analysis of every impact or risk associated with housing growth in broad locations. The omission of a specific impact or risk associated with development in a particular local authority area does not mean that an impact or risk might not exist – rather, it indicates that the evidence was not available to demonstrate that it is a fundamental barrier to additional development.
- 7.4 In this section, the headline outputs from the appraisal are described, subject to the parameters described above.

Impacts

- 7.5 Types of issues covered by the appraisal included:
- Transport – does the option cause major transport impacts that could not be reasonably mitigated which mean it would not be possible to accommodate the additional growth?
 - Community and Social Infrastructure – are there problems with the capacity or provision of community and social infrastructure on such a scale that additional growth could not be accommodated?
 - Hydrology – are there water supply and treatment impacts or problems with flooding that mean no further development could be accommodated?
 - Landscape and Ecology– would additional growth have landscape impacts (e.g. on landscape quality, coalescence, or ecological sites) that mean further development could not be achieved?
 - Housing Market – would additional growth have detrimental impacts on the housing market?
 - Economy – would additional growth help or hinder the achievement of economic growth in the location?

7.6 The outputs of this appraisal for each of the Broad Locations is set out in Appendix 3.

Delivery Risks

7.7 Types of risk issues (which were assessed in terms of risk impact and probability) covered by the appraisal include:

- Infrastructure Provision – are there significant barriers to deliver of necessary infrastructure that mean it would not be possible to mitigate impacts and accommodate further growth?
- Transport Infrastructure – are there likely reasons for considering that any necessary transport improvements could or would not be delivered?
- Market Delivery – is there a significant risk that the market would not be able to deliver additional housing numbers if the land was made available?
- Planning – are there specific planning reasons that would act as a major barrier to delivery of housing, assuming the RSS made provision for housing numbers in that area?
- Public Sector Delivery – are there actions for the public sector to undertake in order to support delivery (through funding or intervention) which are at risk?

7.8 The outputs of this appraisal for each of the Broad Locations is set out in Appendix 3.

Sustainability Appraisal

7.9 The Sustainability Appraisal considers the Options against the range of questions identified in the original SA of the RSS Preferred Option Policy CF3. These questions are applied to the Options as net additions, on the basis that this Study is to identify whether the original conclusion of the SA would change as a result of the additional housing provision. The results of the SA are summarised below but addressed in more detail in Volumes 4 and 5.

7.10 The Appropriate Assessment in terms of the Habitat Regulations adopts an approach consistent with the HRA for the original RSS Preferred Option, albeit recognising that it has a different status - informing Government Office evidence to RSS - rather than supporting the Secretary of State's role as planning authority. The outputs of this are included in Volumes 6 and 7

Policy Appraisal

7.11 The appraisal against policy focuses on the RSS Objectives (reflected in the Phase 2 Revision alongside those in Phase 1 Revision relating to the Black Country), coupled with Government Objectives for housing set out in PPS3 and the Green Paper. The issues associated with the appraisal against policy, particularly the RSS Objectives are considered in more detail in Section 8.0.

Approach to Assessment

7.12 Applying the objectives to the analysis of housing options and identification of potential approaches to providing additional housing raises various methodological issues which provide the context in which the results should be interpreted.

7.13 First, assessing the impact(s) that the options for net additional housing will have on the RSS objectives and principles, over and above the impacts of the Preferred Option, is made in isolation from any equivalent exercise undertaken for the Preferred Option itself, but does draw on the background evidence. NLP is not aware of an existing appraisal for the Preferred Option itself to use as a benchmark for this exercise.

- 7.14 Secondly, the Options need to be assessed in the context of being net additions to the existing housing provision in RSS Phase 2 Revision Preferred Option. In this context, although some of the options are clearly significant, the scale of increase in housing numbers based on the NHPAU supply range would be between +3 and +22%. Even the Option with all additional growth outside the MUAs would shift the ratio of MUA: non-MUA housing growth by just 5 percentage points.
- 7.15 Thirdly, a number of the objectives could potentially be considered as competing and there is no weight attributed to each objective, which means it is not possible to measure the overall scale of impact of each option on the RSS 'basket' of Objectives as a whole.

Outputs of the Appraisal

- 7.16 The results are summarised at a very high level in Table 7.1. The summary of the SA process is in line with the appraisal approach in that document:

++	Strongly positive implications	-	Overall likely to be negative
+	Overall likely to be positive	--	Strongly negative implications
∅	No effect, neutral, mixed	O	Not relevant
?	Unclear or not known		

- 7.17 The summary of the HRA process in line with the appraisal approach in that document.

Options	Impacts and Risks		Sustainability Appraisal ⁵		Policy Appraisal		
	Impacts	Delivery Risks			RSS	Housing Policy	
1: Increased MUA Supply	Limited material impacts	Key risk is around deliverability of increased build rates in some MUAs	Sustainable Production & Consumption	-	Humber Estuary cSAC/ RAMSAR	Would largely align with the existing Objectives of RSS except little if any benefit for rural renaissance and in some areas housing supply would arguably not meet needs. Lack of housing could undermine economic modernisation objectives.	In general terms, if additional housing was assumed to be needed to meet needs (ie if need was greater than planned for by RSS Preferred Option at a point approximately mid way in the NHPAU supply range) then this option may not be considered positively as it would underprovide and have a limited additional impact on affordability.
			Climate Change & Energy	--?	River Dee and Bala Lake SAC Humber Flats, Marshes and Coast (Phase 2) SPA Severn Estuary SPA		
			Natural Resource Protection and Environmental Enhancement	∅(+)	Fens pool SAC Severn Estuary SAC West Midlands Mosses SAC		
			Sustainable Communities	∅(+)			
2: Eco Town Locations	Series of localised impacts of the Eco Town locations, although not identified as fundamental barriers (does not imply no impacts)	Risks around public transport provision to serve developments satisfactorily.	Sustainable Production & Consumption	-	Humber Estuary cSAC / RAMSAR	Although the 'eco towns' are opposed by many, they are arguably de-minimis in terms of their impact on the overall RSS objectives.	In general terms, if additional housing was assumed to be needed to meet needs (ie if need was greater than planned for by RSS Preferred Option at a point approximately mid way in the NHPAU supply range) then this option may not be considered positively as it would underprovide and have a limited additional impact on affordability.
			Climate Change & Energy	-?	River Dee and Bala Lake SAC River Mease SAC		
			Natural Resource Protection and Environmental Enhancement	-?	Humber Flats, Marshes and Coast (Phase 2) SPA Severn Estuary SPA		
			Sustainable Communities	+			

⁵ The SA of the nine initial options appraises the cumulative effects of those options, and the numbers set out in policy CF3 of the WMRSS preferred option, on the Sustainable Development Objectives of the West Midlands (as set out in the West Midlands RSDf (WMRSDf) January 2008). The objectives relate to the four areas identified in "Securing Our Future: UK Sustainable Development Strategy" (March 2005, Defra).

Options	Impacts and Risks		Sustainability Appraisal	HRA	Policy Appraisal		
	Impacts	Delivery Risks			RSS	Housing Policy	
3: South and Eastern Focus with Rural Provision	A number of potential localised impacts, including on hydrology and transport issues. Aligns more strongly on supporting economic growth.	Public transport and other infrastructure investment will be a risk in a number of locations.	Sustainable Production & Consumption	-	Brown Moss SAC Downton Gorge SAC Humber Estuary cSAC / RAMSAR River Clunn SAC River Usk SAC The Stiperstones and the Hollies SAC Wye Valley and Forest of Dean Bats sites SAC Wye Valley Woodlands SAC Humber Flats, Marshes and Coast (Phase 2) SPA Severn Estuary SPA Fens and Wixhall SAC	Some would argue that it departs from the MUA focus, but the overall change in split between MUA:non-MUA is small. Would support objectives for economic diversification and modernising economy.	In general terms, if additional housing was assumed to be required to meet needs (ie if need was greater than planned for by RSS Preferred Option and at the mid-point of the NHPAU Supply Range) then the options would be assessed positively against Housing Policy on the basis that provision could be made to translate additional numbers to sustainable developments on the ground. The benefits to housing policy relate to overall supply and impact on affordability.
			Climate Change & Energy	--?			
			Natural Resource Protection and Environmental Enhancement	-?			
			Sustainable Communities	+			

Options	Impacts and Risks		Sustainability Appraisal	HRA		Policy Appraisal	
	Impacts	Delivery Risks				RSS	Housing Policy
4: New Settlements	New Settlements will have a number of, in some cases, significant impacts for specific localities which may or may not be capable of mitigation but may allow focussed delivery of infrastructure.	Market delivery is a major challenge for significant new settlements. Private sector unlikely to have capacity to deliver without major public sector support. Also, scale of development may result in construction beyond 2026 (this may be a benefit).	Sustainable Production & Consumption	-	Humber Estuary cSAC / RAMSAR	Arguably departs from the spirit of the RSS by introducing the concept of new settlements. But precise impacts on individual objectives are more difficult to ascertain.	In general terms, if additional housing was assumed to be needed to meet needs (ie if need was greater than planned for by RSS Preferred Option and at the mid-point of the NHPAU Supply Range) then the options would be assessed positively against Housing Policy on the basis that provision could be made to translate additional numbers to sustainable developments on the ground. The benefits to housing policy relate to overall supply and impact on affordability.
			Climate Change & Energy	-?	Humber Flats, Marshes and Coast (Phase 2) SPA Severn Estuary SPA River Mease SAC		
			Natural Resource Protection and Environmental Enhancement	-	Severn Estuary SAC West Midlands Mosses SAC Fens Pool SAC		
			Sustainable Communities	+			

Options	Impacts and Risks		Sustainability Appraisal	HRA		Policy Appraisal	
	Impacts	Delivery Risks				RSS	Housing Policy
5: MUA Supply Focus	Impacts focused around those associated with urban area development, including adding to congestion in already congested areas.	Key challenge is how far it will be possible to increase build rates in some of the MUAs even further. Considered a major risk.	Sustainable Production & Consumption	-	Humber Estuary cSAC RAMSAR	Additional growth within the MUAs would largely align with the RSS objectives, although there are question marks on its deliverability and hence impact. There are question marks over how well this option would support the objective of economic modernisation or allowing towns and cities to meet their development needs.	In general terms, if additional housing was assumed to be required to meet needs (ie if need was greater than planned for by RSS Preferred Option and at the mid-point of the NHPAU Supply Range) then the options would be assessed positively against Housing Policy on the basis that provision could be made to translate additional numbers to sustainable developments on the ground. The benefits to housing policy relate to overall supply and impact on affordability, albeit the significant delivery risks mean this option might not meet need.
			Climate Change & Energy	-?	River Dee and Bala Lake SAC Humber Flats, Marshes and Coast (Phase 2) SPA Peak District Moors (South Pennine Moors Phase 1) SPA Severn Estuary SPA South Pennine Moors Phase 2 SPA		
			Natural Resource Protection and Environmental Enhancement	Ø(+)	Severn Estuary SAC South Pennine Moors SAC West Midlands Mosses SAC		
			Sustainable Communities	+	Fens Pool SAC Pasturefields Salt Marsh SAC Peak District Dales SAC		

Options	Impacts and Risks		Sustainability Appraisal	HRA		Policy Appraisal	
	Impacts	Delivery Risks		RSS	Housing Policy		
6. Northern Urban Focus with Rural Revision	There are a number of generic impacts (e.g. on transport and hydrology) that have local manifestations. The key potential impact is the risk of impact on market fragility (in North Staffordshire) and if phasing and mix of release of additional sites is not properly controlled.	The delivery risks associated with this option flow from the greater emphasis of growth in less vibrant locations (economically and in market terms).	Sustainable Production & Consumption	-	Cannock Chase SAC Cannock Extension Canal SAC	This option may not align with objectives in that not all additional development is in Settlements of Significant Development or the MUAs and may not support economic diversification and modernisation in terms of the south east of the region, where the high technology corridor is identified as a key motor of growth.	In general terms, if additional housing was assumed to be needed to meet needs (ie if need was greater than planned for by RSS Preferred Option and at the mid-point of the NHPAU Supply Range) then the options would be assessed positively against Housing Policy on the basis that provision could be made to translate additional numbers to sustainable developments on the ground. The benefits to housing policy relate to overall supply and impact on affordability albeit this is not focussed in areas of most acute need.
			Climate Change & Energy	-?	Fens Pool SAC Pasturefields Salt Marsh SAC West Midlands Mosses SAC River Dee and Bala Lake SAC Peak District Dales SAC Peak District Moors (South Pennine Moors Phase 1) SPA		
			Natural Resource Protection and Environmental Enhancement	-	South Pennine Moors Phase 2 SPA		
			Sustainable Communities	+	Humber Estuary cSAC RAMSAR River Usk SAC South Pennine Moors SAC The Stiperstones and the Hollies SAC Humber Flats, Marshes and Coast (Phase 2) SPA Severn Estuary SPA Midlands Meres and Mosses Phase 1 and 2 Ramsar Fens and Wixhall SAC		

Options	Impacts and Risks		Sustainability Appraisal	HRA		Policy Appraisal		
	Impacts	Delivery Risks		RSS	Housing Policy			
7. Distributed Urban Growth	As with Option 6 there are a number of generic impacts, but none appear to be incapable of being mitigated. In particular traffic modelling of this option shows limited material impact from the RSS Preferred Option in terms of overall trips and journey lengths.	There are some specific water resource, transport, market and other risks linked to individual locations, but none are not capable of being mitigated. This option spreads the market delivery risks.	Sustainable Production & Consumption	-	Pasturefields Salt Marsh SAC Severn Estuary SAC	-	The more distributed form of development may support the objective of helping towns and cities meeting their own development needs.	In general terms, if additional housing was assumed to be needed to meet needs (ie if need was greater than planned for by RSS Preferred Option and at the mid-point of the NHPAU Supply Range) then the options would be assessed positively against Housing Policy on the basis that provision could be made to translate additional numbers to sustainable developments on the ground.
			Climate Change & Energy	-?	South Pennine Moors SAC West Midlands Mosses SAC Cannock Chase SAC Cannock Chase extension canal SAC Fens Pool SAC Peak District Dales SAC			
			Natural Resource Protection and Environmental Enhancement	-	Humber Estuary cSAC RAMSAR River Dee and Bala Lake SAC Humber Flats, Marshes and Coast (Phase 2) SPA	-		
			Sustainable Communities	+	Peak District Moors (South Pennine Moors Phase I) SPA Severn Estuary SPA South Pennine Moors Phase 2 SPA Midlands Meres and Mosses Phase I Ramsar			

Options	Impacts and Risks		Sustainability Appraisal	HRA	Policy Appraisal		
	Impacts	Delivery Risks			RSS	Housing Policy	
8. Major Urban Growth and New Settlements	With an increased scale of development, the generic impacts (e.g. for landscape, hydrology, transport, market) are increased but except in some locations are not identified as major fundamental barriers to growth that cannot be mitigated appropriately. The New settlement component of this option might have unacceptable impacts if situated in a particular way.	The delivery risks for this option flow from the need in many cases for new and enhanced infrastructure provision and the priority attached to funding this. However, the key risks are around deliverability, with doubts on the prospects for such rates of growth in some locations and the capacity of the private sector to deliver the New Settlement without major public sector investment.	Sustainable Production & Consumption	-	Cannock Chase SAC Cannock Chase extension canal SAC Fens Pool SAC Pasturefields Salt Marsh SAC Peak District Dales SAC Peak District Moors (South Pennine Moors Phase I) SPA South Pennine Moors Phase 2 SPA Severn Estuary SAC Severn Estuary SPA South Pennine Moors SAC West Midlands Mosses SAC	The new settlement element of this option does not sit within the objectives of RSS but may not, subject to location, actually harm the outcomes being targeted. Additional growth in and away from the MUAs could be argued to achieve a balance of growth and allow towns and cities to meet their own development needs and support economic modernisation. If the need for housing is assumed to be less than the levels assumed in this option could pose a risk of 'over-supply' and impacts on fragile markets.	In general terms, if additional housing was assumed to be needed to meet needs (ie if need was greater than planned for by RSS Preferred Option and at the mid-point of the NHPAU Supply Range) then the options would be assessed positively against Housing Policy on the basis that provision could be made to translate additional numbers to sustainable developments on the ground. Arguably, provision at the top of the range could result in over-provision if need was only at the mid-point.
			Climate Change & Energy	--?			
			Natural Resource Protection and Environmental Enhancement	--?			
Sustainable Communities	++?	Midlands Meres and Mosses Phase I and 2 Ramsar					

Options	Impacts and Risks		Sustainability Appraisal	HRA	Policy Appraisal		
	Impacts	Delivery Risks			RSS	Housing Policy	
9. Major Urban Extensions and Rural Provision	The impacts of this option are similar to Option 8. This option has been run through the HA transport model and it demonstrates limited change in overall trip levels and journey lengths from the RSS Preferred Option, although clearly there are potential local impacts that would need to be investigated further and appropriate mitigation identified.	Key delivery risks flow from market capacity issues and the challenges of funding for some individual infrastructure items.	Sustainable Production & Consumption	-	Brown Moss SAC Downton Gorge SAC Peak District Dales SAC Fens and Wixhall SAC Humber Estuary cSAC RAMSAR Humber Flats, Marshes and Coast (Phase 2) SPA River Clunn SAC River Usk SAC The Stiperstones and the Hollies SAC Wye Valley and Forest of Dean Bats sites SAC Wye Valley Woodlands SAC Midlands Meres and Mosses Phase 1 and 2 Ramsar	This option which considers growth in a range of different locations gives rise to impacts in a number of locations but the evidence for a major clash with RSS objectives is limited, unless the need for housing is assumed to be less than the levels assumed in this option, with the risk of 'over-supply' and impacts on fragile markets.	In general terms, if additional housing was assumed to be needed to meet needs (ie if need was greater than planned for by RSS Preferred Option and at the mid-point of the NHPAU Supply Range) then the options would be assessed positively against Housing Policy on the basis that provision could be made to translate additional numbers to sustainable developments on the ground. Arguably, provision at the top of the range could result in over-provision.
			Climate Change & Energy	--?			
			Natural Resource Protection and Environmental Enhancement	--?			

Options	Impacts and Risks		Sustainability Appraisal	HRA	Policy Appraisal	
	Impacts	Delivery Risks			RSS	Housing Policy
			Sustainable Communities	+++? River Dee and Bala Lake SAC River Wye SAC Peak District Moors (South Pennine Moors Phase I) SPA South Pennine Moors Phase 2 SPA SPA Severn Estuary SAC South Pennine Moors SAC Severn Estuary SPA West Midlands Mosses SAC		

Table 7.1: Summary of Appraisals

Source: NLP

- 7.18 In using the outputs of the option appraisal to translate these overall impacts and conclusions to potential ways forward for the region, it is necessary to look at what the options mean for the local authorities and core strategy areas that will ultimately be the basis for allocating housing requirements in RSS.
- 7.19 Table 7.2 below summarises the outputs of the appraisal in terms of each of the options and how they translate across to the local authority/core strategy areas. For the purposes of the assessment, the allocation of numbers across from the broad locations (with numbers as identified above and in Appendix 3) is indicative and assumes the maximum distribution of a broad location into a particular area where a broad location straddles local authority boundaries. Hence the 'double counting' of numbers for each option set out below will add up to more than the total for the option.

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Birmingham	50,600	1	5,000	<p>Birmingham is a location with significant levels of household growth which the RSS Preferred Option does not fully meet, although it does stretch the level of housing provision beyond what the City has achieved even during the 'apartment boom' The City has ambitions for further growth, and the Core Strategy Issues and Options report actively considers the potential for increasing supply by up to 15,000 units, including potentially with urban extension(s) that might necessitate amendment to the Green Belt. There is a possibility that growth up to 10,000 could necessitate a review of the Green Belt if suitable and available sites cannot be identified to meet the housing trajectory necessary.</p> <p>There are a number of complex transport issues but these do not represent fundamental barriers to growth, particularly at the low-middle levels of increase, and the urban area is an accessible and sustainable location. Existing highways have significant congestion issues with some programmed works to mitigate. There is also limited peak capacity on cross Birmingham rail lines in particular from south into New Street. The modelling of transport impacts confirms that there is no significantly greater impact than RSS Phase 2 Revision Preferred Option, or present situation for scenarios involving growth in Options 7 and 9. Impacts will depend on local distribution of growth and changes in commuting flows into Birmingham. Large additional housing sites close to the SRN may give rise to significant localised issues.</p> <p>As with RSS Phase 2 Preferred Option, there are potentially significant risks from surface water flooding but these can be mitigated. Improvements in waste water infrastructure will similarly be required. The highest growth levels may give rise to a need for further water supply to meet peak demand.</p>	<p>There are a number of infrastructure challenges, but these do not appear to be fundamental barriers to additional housing growth. These include:</p> <p>Delivering necessary public transport capacity and maintaining bus services</p> <p>The need to consider rail capacity in combination with growth to the south west of Birmingham.</p> <p>The limited scope for mitigation by junction improvements on some parts of SRN.</p> <p>Delivering the necessary waste water infrastructure and ensuring increased water supply requirements arising from higher growth scenarios</p>	<p>Key delivery risks, particularly at the middle to upper end of the increases, include:</p> <p>The potential that some sites could give rise to significant localised issues on SRN which may be difficult to mitigate/ could not be fully funded by development, particularly in more marginal locations.</p> <p>Potentially high cost/technical limitations to provide waste water treatment that can achieve necessary capacity/ water quality in some locations.</p> <p>Possibility of issues arising with some options for increasing water supply to serve higher growth scenarios, although extent of risk/impact on delivering supply within timescales unknown.</p> <p>There are market risks that increased build rates (particularly in the middle-to-upper ranges) cannot be achieved given the degree to which past rates (which are well below those proposed by RSS Preferred Option) were reliant on the thriving apartments market. New delivery vehicles, funding, and the appropriate suitable and available sites would need to be identified, but even so, the level of increase at the upper end is likely to be incapable of being delivered. .</p>	<p>Location of housing sites would need to consider infrastructure availability, funding and delivery at LDF stage in conjunction with providers/regulators.</p> <p>Annual SHLAA work will need to ensure that appropriate and available sites are brought forward to ensure the overall number of units can be delivered.</p> <p>Conclusion: Scenarios for future growth should consider up to 10,000 additional units on the basis that this will represent a delivery stretch for the market which it is unlikely to exceed.</p>
		3	Up to 20,000				
		5	18,500				
		6	3,750				
		7	Up to 14,100				
		8	Up to 15,000				
9	Up to 20,000						

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Black Country	61,200	1	5,500	Although there are significant regeneration ambitions for the Black Country and potentially additional physical capacity for growth, there is not an underlying 'need' for further development in terms of underlying CLG Projections, past build rates, or affordability.	Key challenges for infrastructure would include delivery of integrated public transport within Black Country and maintaining bus services in the long term. In addition, delivering the necessary waste water infrastructure in context of required water quality standards/consents and within the required timescales, although not considered a major barrier.. Ensuring sufficient water supply in Severn WRZ and at peak times in South Staffs WRZ is also an issue.	The major and potentially overwhelming delivery risk, which exist at almost every level of additional growth, is around the market deliverability of growth. The existing RSS already requires build rates to increase by over 1,100 per annum from the average of the past five years and for this to take place in a downturn and without the buoyant apartments market. On top of this, there are some delivery risks associated with transport, water, etc that may not be incapable of being overcome, albeit the development values needed to fund infrastructure may not be sufficient to address without public sector resources. .	Location of housing sites would need to consider infrastructure availability and impacts at LDF stage in conjunction with providers/regulators. Phasing of additional growth would need to address delivery risks/funding for regeneration. Conclusion: The Black Country has major challenges in meeting the requirements of the RSS Preferred Option. Scenarios for future growth should not include additional provision as there is little if any prospect of that increase being delivered.
		5	22,000				
		6	Up to 13,750	The Black Country is a sustainable location in general terms, albeit subject to a number of transportation constraints outlined in more detail in the Appendices. There are risks from surface water flooding which will need to be mitigated. Alongside improvements in waste water infrastructure that will be required, although these are not considered insurmountable. There will also be a need to ensure sufficient green infrastructure. The HRA flags up the possibility that growth to the Black Country could potentially have impacts on Cannock Chase The key impacts are potentially market ones, and the impact further growth could have on the focus of the land use strategy, and, potentially, on rejuvenation of fragile markets, although there is limited actual evidence.			
		7	Up to 10,360				
		8	Up to 5,000				
		9	Up to 5,000				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Solihull	7,600	3	Up to 10,000	There are underlying needs for additional growth in this location based on CLG Projections, past build rates, and affordability (indeed, it is the highest affordability ratio of any of the MUA authorities). Development in this district could also support the growth agenda for the MUAs.	<p>One of the key challenges would be how to deliver growth, at higher levels, that would not significantly impact on SRN. Mitigation would be needed and larger scale development might provide the basis for funding it.</p> <p>The delivery of a suitable and frequent rail link to serve a new settlement that would mitigate the serious potential impact in a key gateway location on the SRN.</p> <p>There would be a need to deliver the necessary waste water infrastructure in context of required water quality standards/ consents and within the required timescales. There are no reasons why this could not be delivered.</p>	<p>The prospect for a stronger market in Solihull and higher values than might be achieved in some MUAs means that there is greater prospect that market delivery risks and the necessary funding of infrastructure (such as around transport and water quality) can be delivered.</p> <p>The principal risk is likely to be associated with that of a new settlement, which carries higher 'place making' requirements of developers., and would need to be overcome through appropriate public sector support and new delivery vehicles.</p>	<p>Location of housing sites would need to consider infrastructure availability, funding and delivery at LDF stage in conjunction with providers/regulators.</p> <p>Need for new delivery vehicles if new settlement option pursued which would necessitate the right financing and governance solutions to be put in place. Phasing would also need to be considered.</p> <p>Conclusion: Growth scenarios should consider potential for different levels of growth between 5,000 and 13,000, including a new settlement to reflect the choices available.</p>
		4	c15,000	<p>There are undoubted sensitivities associated with additional growth in terms of the need for Green Belt amendments to accommodate further development, likely under any scale of growth, and there are also major transport issues to resolve (becoming more locally significant at 5,000 units or more) but, equally, there are not considered to be impacts that are incapable of being mitigated, avoided or compensated through local planning.</p> <p>Specific impacts could include:</p> <p>Potential for significant traffic impacts on SRN (J4 and J6 of M42) depending on location of development. Congestion currently an issue but not significantly worsened in addition to RSS Phase 2 Revision Preferred Option. Good bus services into Birmingham. Issues with rail capacity on one route, but can be mitigated by train lengthening. Need for continued improvements to public transport to support additional growth.</p>			
		7	Up to 2,500				
		8	Up to 5,000				
		9	Up to 10,000	<p>In relation to a potential new settlement, there is a potentially substantial impact that could be a major issue if it impacted adversely on M42 j6 – a key regional gateway. Excellent public transport alternatives would be necessary to support a new settlement</p> <p>At a local level there would be a need for consideration of landscape and ecological impacts and necessary mitigation. The risk from surface water flooding is a potentially significant but can be mitigated.</p>			

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth
				NLP Conclusions			
Shropshire	25,700	3, 6, 9	1,900	<p>Additional growth in the rural areas of Shopshire would address the rural affordability issues previously identified, with the current RSS Phase 2 Revision Preferred Option making provision for less than CLG Projections indicate might be needed.</p> <p>There are not considered to be major barriers or impacts. There are unlikely to be significant traffic/ public transport issues although the need for local impacts and public transport accessibility would need to be considered through the LDF process. There is also the potential need for investment in waste water infrastructure for both RSS Phase 2 Revision Preferred Option and additional levels of growth. Additional development in parts of County in Severn WRZ may result in additional pressure on water supply as would be the case for the RSS Phase 2 Revision Preferred Option, which should be able to be mitigated. There are also flooding issues particularly significant in Shrewsbury and along Severn which will require development to be located so to avoid areas of high flood risk. This can be addressed at the local level.</p>	<p>There will be a challenge, not an overwhelming one, of delivering adequate public transport to serve additional growth in this area, including increased capacity on rail line to Birmingham and potentially a new Shrewsbury Parkway station</p> <p>There will also be a need to deliver waste water infrastructure in context of required water quality standards/ consents although this would depend on location.</p>	<p>There are no major delivery risks, and delivery of a new station (the most difficult piece of infrastructure) is unlikely to be a pre-requisite for development.</p>	<p>Location of housing sites would need to consider infrastructure availability, funding and delivery at LDF stage in conjunction with providers/regulators.</p> <p>Conclusion: Scenarios for growth should include additional rural provision in line with levels set out in the options.</p>

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Telford and Wrekin	26,500	6, 9	10,000	<p>Telford as one of the original New Towns has underlying potential for additional development within the settlement boundary and on land owned by EP. Further growth could support further investment in the town’s retail and other services, and regeneration. Lower levels of growth could be accommodated without giving rise to major impacts.</p> <p>There are potential impacts, including those associated with transport for higher levels of growth. There is limited capacity on rail links to Birmingham/Black Country, and there are high levels of car use and lack of accessibility to some services by public transport. There is limited local congestion and a likely need for enhancement of local public transport infrastructure and capacity on rail line to Birmingham/Black Country to deter car based commuting increases in traffic on M54. There are no reasons to believe that these improvements cannot be delivered or that transport impacts represent a fundamental barrier to additional growth. There are specific issues around surface water flooding, water abstraction, and investment in waste water infrastructure (which apply to the RSS Phase 2 Revision Preferred Option as well as additional growth). None of these are fundamental barriers to growth provided appropriate investment is made.</p>	<p>There are timing/costs associated with increased capacity on rail line, although given phasing issues these are unlikely to represent a fundamental barrier.</p> <p>Equally, providing/ maintaining adequate water supply in a sustainable way that does not impact on protected habitats will be a requirement, but not one that cannot be delivered.</p> <p>Delivering waste water infrastructure in context of required water quality standards/ consents will need to be addressed although this would depend on location and can be addressed through the LDF.</p>	<p>There are potential land and market capacity issues (particularly towards the upper end of the scale of growth given the degree to which additional growth would be a step change from past years), but there are no in-principle barriers to delivery of additional housing growth, particularly if measures are put in place for new delivery vehicles, potentially harnessing the value of public sector assets. This is because there is likely to be land that is less constrained by lower values and higher costs compared with some other locations, and benefits from more significant public sector stake in its success through EP/HCA.</p> <p>Development of waste water treatment capacity (funding/consents) could be an issue that will require further consideration at LDF stage rather than act as a barrier to higher provision through the RSS. .</p>	<p>Location of housing sites would need to consider infrastructure availability, funding and delivery at LDF stage in conjunction with providers/ regulators.</p> <p>New delivery and funding vehicles could potential mitigate the infrastructure and market delivery risks.</p> <p>Conclusion: the growth scenarios should include the choice of making significant additional growth in Telford up to the higher level tested in the options. Equally, one growth scenario should exclude it to recognise the potential market risks.</p>
		7	3,000				
		8	5,000				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Cannock Chase	5,800	6, 8, 9	Up to 5,000	Although there is an underlying case for additional growth to address localised housing need issues, there is potential for unacceptable impacts on Cannock Chase, and significant impact on SRN south of Cannock, if increased traffic. Although good connections to Birmingham/Walsall there is currently limited capacity and high utilisation.	Ensuring that development does not impact on SRN in an unacceptable way.	The key delivery risk flows from the potential that local planning would be unable to identify a suitable site for additional growth, given unacceptable ecological impacts on Cannock Chase (a major barrier)	Conclusion: Should be excluded from growth scenarios due to constraints identified.
		7	Up to 2,5000				
East Staffordshire	12,900	6, 8, 9	5,000	<p>Additional physical capacity is identified in Burton-upon-Trent SSD and additional growth could be associated with supporting regeneration and economic development activity aligned to the Growth Point.</p> <p>There are issues of congestion within the urban area, particularly on the A38 and there is a stronger relationship to the East Midlands than Birmingham in terms of commuting flows, capacity issues on which can be addressed through train lengthening. There is limited station parking capacity. These are issues that would need to be addressed but are unlikely to be incapable of being addressed. Indeed, additional growth may provide the opportunity to fund infrastructure.</p> <p>Large areas of Burton-upon-Trent are at high risk of fluvial flooding. Although defended, flood risk represents an issue that would need to be considered in the location of additional growth, and is not a fundamental barrier.</p>	<p>Key infrastructure challenges would include ensuring that development locations would not worsen flood risk. There is no reason to believe this cannot be achieved.</p> <p>Public transport provision needs to be sufficient to discourage car based commuting impacting on A38 – there are no reasons to believe that this cannot be addressed.</p>	<p>Higher rates of growth could trigger market capacity issues, although this may be capable of mitigation through identification of appropriate sites for development.</p> <p>Transport and flooding infrastructure issues will need to be overcome. Additional development may provide an opportunity to support funding of provision.</p>	<p>Not identified as one of the region’s strongest market areas, so viability and phasing issues need to be carefully considered, particularly given higher rates of growth.</p> <p>Conclusion: Should be included in some growth scenarios but not in all, and at different rates up to 5,000, given uncertainty on market provision.</p>

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth
				NLP Conclusions			
Lichfield	8,000	2	6,000	<p>There is an underlying market potential to increase build rates in Lichfield as evidenced by the developer-led support for the Curborough Eco Town bid, and a high affordability ratio, although this may not be matched by demand as evidenced in the CLG Projections. The Curborough Eco Town bid has been withdrawn, although the location remains one of the shortlisted areas and there are intentions for pushing forward a development in its location. The appraisal of options indicates some potential transportation issues that might make it inappropriate, including acute highway congestion/capacity issues on the A38. Although there may be solutions to overcome these transportation issues, there is insufficient evidence on how these might do so at the current time. Higher levels of growth (beyond 6,000) might support higher infrastructure provision, but this may not be sufficient to overcome barriers.</p>	<p>Very substantial investment would be needed to resolve highway capacity issues on A38 and to deliver effective public transport alternatives beyond existing services.</p>	<p>There is a significant risk that development, even at higher levels could not fund mitigation of transport issues. These may not carry through as a strategic fundamental barrier for any further growth in Lichfield if alternative approaches were adopted, although based on what was appraised under the nine options, the conclusion is that this barrier rules out additional provision.</p>	<p>Significant upfront transport infrastructure investment would be required</p> <p>Conclusion: Additional growth should not be included in Growth Scenarios for reasons identified.</p>
		4	c15,000				
		8	c9,000				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
North Staffordshire	17,100	1	1,750	<p>There is identified additional capacity, and scope to increase growth to reflect underlying demand and the potential link to economic development objectives, particularly in Newcastle under Lyme (linked to Keele University), aligned to wider regeneration across the MUA. There are market risks associated with deliverability if the additional growth is assumed to be all on urban brownfield sites, and market displacement impacts in terms of fragile markets given the specific low demand issues identified for neighbourhoods in the HMR area (particularly if growth is too focused on greenfield sites). However, it appears likely that these can be addressed through phasing, site selection and ensuring the mix of new housing complements the offer in those locations as part of the wider regeneration of the MUA. The issue of low demand/fragile markets is considered further in Section 8.0</p> <p>There are potential transport issues to overcome at all levels of growth but these are unlikely to be a major barrier to further growth. The principal commuting flows are between Stoke and Newcastle but there is no direct rail connection. Local accessibility is reliant on bus services, which are reasonable although services reflect polycentric nature of area. There is significant highway congestion on A500/A50 notwithstanding recent improvements although the HA modelling did not highlight significant additional issues flowing from further growth. There is the potential for significant localised impacts on SRN, particularly currently congested junctions, depending on the location of development. There are also improvements in waste water infrastructure required for both the RSS Phase 2 Revision Preferred Option and additional growth – there is no reason why these cannot be delivered.</p> <p>There may be a requirement to review the Green Belt to accommodate an urban extension to Newcastle under Lyme, but this depends on site availability.</p>	<p>Infrastructure challenges include delivering good levels of public transport accessibility (albeit that rail is unlikely to play a major role) and limiting impacts on SRN. There is no reason to assume that these infrastructure challenges are either incapable of being overcome or fundamental barriers to delivery of additional housing.</p> <p>There is also a requirement to deliver waste water infrastructure in context of required water quality standards/ consents. This is not identified as a major barrier.</p>	<p>There are market delivery risks, given the potential weakening in the market, and there will be a need for public sector investment to underpin regeneration-led development. However, other sites may be capable of coming forward and there is reasonable confidence that the scale of growth in all of the options is capable of delivery subject to suitable and available sites being identified through SHLAAs and with the right phasing.</p>	<p>There is a need for careful release of land with appropriate phasing to ensure additional supply does not undermine fragile markets.</p> <p>Consideration of the potential impact on the SRN and potential for public transport accessibility would be needed in the allocation of sites through the LDF process.</p> <p>Timely delivery of waste water treatment capacity may be necessary to support development.</p> <p>Conclusion: indications that additional growth can be accommodated with the right phasing approach which means it should be included in all growth scenarios at the upper end of the options tested.</p>
		5	6,000				
		6	6,250				
		7	4,200				
		8, 9	5,000				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
South Staffordshire	3,500	6	Up to 15,000	<p>An underlying need for additional housing growth could be argued based on the CLG Projections and the higher affordability ratio, although the close link with the Black Country, with which it is contiguous, means much of this 'need' would arguably need to be absorbed to fulfil the higher housing numbers for the Black Country being proposed by the Phase 2 Preferred Option.</p> <p>Options for South Staffordshire take account of both growth around Cannock and to the Black Country. Additional growth to Cannock is likely to be constrained for reasons given above in Cannock Chase's assessment.</p> <p>In terms of extensions to the Black Country of any scale, there could be market fragility issues for local neighbourhoods if siting, phasing and mix was not properly considered. In theory, if it proved impossible to secure suitable and available sites (established through a market tested SHLAA process) within the Black Country to deliver the housing numbers in the RSS Preferred Option it might even necessitate growth in across the boundary in South Staffordshire. This might mean the urban extensions set out in Options 6-9 might be needed, albeit in order to deliver the RSS Phase 2 Revision, rather than any increase (although this is not something proposed in this Study). Urban extensions might require amendments to the Green Belt.</p> <p>There is limited public transport infrastructure to the west although more provision including proposals to the north. There is potential for increased car based commuting into Black Country/ Birmingham.</p> <p>Depending on location of development, a number of treatment works have been identified by EA as potentially requiring improvements to increase capacity. Investment in water treatment may be necessary for additional growth. This is unlikely to be a major barrier. Need for care in the location of development to avoid/limit ecological impacts, including Cannock Chase. The district is partly within the Severn WRZ where there is a need for additional water supply. Additional growth would place greater pressure on the need to bring forward additional supply.</p>	<p>Key infrastructure challenges include delivering adequate public transport to serve additional growth in this area, and ensuring/ planning for adequate water supply within Severn WRZ. These are not considered fundamental barriers however.</p>	<p>There are potential market delivery risks associated with the Black Country in some locations.</p>	<p>Need for careful phasing of additional growth to mitigate demand issues.</p> <p>Timing of provision of additional supply in Severn WRZ is dependant on timescale and funding of measures to deliver.</p> <p>Location of housing areas would need to consider infrastructure availability, funding and phasing of delivery at LDF stage in conjunction with providers/regulators</p> <p>Conclusion: Lack of evidence in support of additional growth given wider issues of Black Country and of possible relationship with Cannock mean should not be included in future growth scenarios.</p>
		7	Up to 5,000				
		8, 9	Up to 10,000				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Stafford	10,100	7	3,000	<p>As an SSD, there is potential scope for additional growth in Stafford, although it is already making provision for greater levels of household growth than CLG Projections (although it does have higher ratio of affordability).</p> <p>Release of further development could have a market impact on North Staffordshire if there was insufficient attention to local siting, phasing, market positioning and mix. In particular, development to the north of the town could pose increased risk, but these are issues that can be addressed through the LDF process. There is some potential for transport impacts on the SRN (M6 j13 & j14) depending on the location of development but these have the potential to be mitigated and there is reasonable public transport accessibility.</p> <p>There are issues around water supply in the Staffordshire and East Shropshire WRZ based mainly on abstraction and ecological issues may limit future abstraction although uncertain at present. These and other local impacts of development can be mitigated and addressed at the local level.</p>	<p>The key implementation challenge for infrastructure flows from securing sufficient development funding to mitigate highway impacts, and reduce the risk of too much reliance on car based commuting.</p> <p>Additional/ alternative water supply may be needed, but no evidence this is a fundamental barrier.</p>	<p>There are no major market delivery risks identified.</p> <p>Development funding of any transport infrastructure works will be necessary, but there is no evidence this will not be possible on the right sites..</p>	<p>No major issues identified. The phasing of development may need to await market recovery to fund infrastructure.</p> <p>Location of housing areas would need to consider infrastructure availability, funding and phasing of delivery at LDF stage in conjunction with providers/regulators.</p> <p>Conclusion: growth of different scales up to 3,000 should be included in some Growth Scenarios to reflect broad policy spatial choices available.</p>

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions								
Rugby	10,800	3, 9	5,000	<p>Rugby is capable of accommodating additional growth and is identified as SSD. There are potential highway and public transport capacity infrastructure works/investment required, and traffic impacts could be significant if public transport alternatives are not provided.</p> <p>Flooding (a range of types) a potential issue within/around Rugby that could be exacerbated by additional development and will require mitigation.</p>	<p>Enhancement to public transport alternatives including rail will be required. Additional rail capacity can be provided but not an increase in frequency. Impact may depend on location of development.</p> <p>May require significant hydrology investment but not identified as a fundamental barrier to development.</p>	<p>No evidence that infrastructure required cannot be delivered although rates of delivery will require market capacity increase. The additional development, if of sufficient scale, may provide a mechanism for supporting further investments in transportation and hydrology infrastructure.</p>	<p>No identified phasing or implementation constraints, although phasing of development may need to await market recovery to fund infrastructure.</p> <p>Timing of provision of water supply in this WRZ may need to be considered in terms of the phasing/delivery of this additional growth.</p> <p>Conclusion: Should be included in growth scenarios at both levels identified in the options to reflect choices and market capacity issues.</p>								
		7	3,000					Stratford-on-Avon	5,600	2	4,500	<p>Stratford is an area with significant affordability issues (a ratio of 8.59), an 'under-provision' against projections. There is a strong market and ability to deliver. The Middle Quinton Eco Town was shortlisted in May 2008. High level analysis indicates that as a location it may have major transport issues to resolve, but if these are capable of being resolved either through the Eco Town or some other form of development, it could address the underlying need and scope for additional development to address affordability.</p> <p>Development will require range of infrastructure, but key is transport mitigation (guided rail/bus link) and alternatives to Eco Town might present alternatives more capable of being served if Eco Town bid not</p>	<p>Substantial investment in public transport infrastructure would be necessary to deliver a sustainable new settlement proposal. Current indications are that such a challenge may be capable of being met. There</p>	<p>The funding of the necessary infrastructure is the key identified risk. This is not considered to be a fundamental barrier, and may be capable of being overcome and/or mitigated through local planning.</p>	<p>Implementation challenges flow principally from transport infrastructure. Timing of delivery would need to reflect realistic timescales for implementation of this investment. Delivery of supply in Severn WRZ may have impact on timescales for</p>
Stratford-on-Avon	5,600	2	4,500	<p>Stratford is an area with significant affordability issues (a ratio of 8.59), an 'under-provision' against projections. There is a strong market and ability to deliver. The Middle Quinton Eco Town was shortlisted in May 2008. High level analysis indicates that as a location it may have major transport issues to resolve, but if these are capable of being resolved either through the Eco Town or some other form of development, it could address the underlying need and scope for additional development to address affordability.</p> <p>Development will require range of infrastructure, but key is transport mitigation (guided rail/bus link) and alternatives to Eco Town might present alternatives more capable of being served if Eco Town bid not</p>	<p>Substantial investment in public transport infrastructure would be necessary to deliver a sustainable new settlement proposal. Current indications are that such a challenge may be capable of being met. There</p>	<p>The funding of the necessary infrastructure is the key identified risk. This is not considered to be a fundamental barrier, and may be capable of being overcome and/or mitigated through local planning.</p>	<p>Implementation challenges flow principally from transport infrastructure. Timing of delivery would need to reflect realistic timescales for implementation of this investment. Delivery of supply in Severn WRZ may have impact on timescales for</p>								
		3, 9	Up to 5,000 (Redditc h)												
		4	c10,000												
		7	Up to 3,000 (Redditc h)												

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
		8	6,000	<p>taken forward. Similarly, a larger new settlement proposal might be capable of supporting more significant infrastructure investment. Larger social infrastructure may present timing issues as with any new settlement. Water supply may be an issue but no reason to assume it cannot be overcome. If the Eco Town option is not one that it is appropriate to pursue for site or scheme-specific reasons, there may be alternatives within the district capable of addressing the underlying need and there is no evidence of why such growth could not be delivered.</p> <p>Other options (3, 7, 9) include Stratford as an authority contiguous with growth focused on Redditch. The issues associated with this are included in Appendix 3. It is likely that growth around Redditch can be accommodated in Bromsgrove, although if there are local site-specific issues there may be no barrier to achieving some or all of this in Stratford.</p> <p>There could be scope to review the Green Belt and identify additional land to add to Green Belt to ensure the long term boundaries around Stratford.</p>	may be other locations within the district where growth can be achieved with less of a challenge.		<p>implementation of additional growth.</p> <p>Conclusion: Eco Town proposal and underlying housing need mean it should be included in growth scenarios up to a level equivalent to the current shortlisted Eco Town bid.</p>
Warwick	10,800	3, 9	10,000	Warwick is an area with significant growth pressures, including affordability, an 'under-provision' against CLG projections, and with the RSS Phase 2 Preferred Option proposing 200 units per annum less than the market has delivered on average over the past five years. It is in a high technology corridor and identified as a key focal point for economic	Infrastructure challenges which are considered to be capable of being overcome include:	Almost doubling the RSS requirement (under Option 3) or even more (with a new settlement)	Phasing of development would need to realistically respond to market capacity and
		4	15,000				
		7	2,500				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
		8	22,000	<p>growth.</p> <p>The options consider a range of approaches, and Options 4 and 8 considered new settlements in the district. The options for urban extensions to the town considered between 2,500 and 10,000 additional units</p> <p>At the lowest level, the differential with RSS Preferred Option in terms of local impacts is likely to be minimal, although even at the 10,000 level, there is no evidence that there are either significant strategic transport impacts on the SRN (that would not already be the case for the RSS Phase 2 Preferred Option) or local impacts cannot be mitigated. Indeed, higher levels of additional growth may support further investment. Although traffic impacts could be significant if there was no enhancement to public transport alternatives including rail, it is considered that additional rail capacity can be provided but not an increase in frequency. The impact may depend on location of development.</p> <p>Flooding (range of types) an issue and could be exacerbated by additional development although it is assumed that SUDS/other mitigation could be adopted for all developments. There are issues with water treatment capacity and updated infrastructure may be required to accommodate future growth, and there is no reason to assume it cannot be.</p> <p>There could be a review of the Green Belt to amend boundaries to accommodate growth and consider the potential to extent it around Warwick to establish and protect its long term settlement boundaries in line with PPG2.</p>	<p>Ensuring sufficient water supply in Severn WRZ for RSS Phase 2 Preferred Option and additional growth.</p> <p>Delivering adequate public transport to serve additional growth and deter predominantly car-based commuting.</p>	<p>could have major market delivery risks. However, the underlying market in the region is likely to be at its strongest in Warwick, and this means the risks are less acute. There are, as with any location, infrastructure risks. However, increased levels of development and scope for larger urban extensions may provide the basis for enhanced infrastructure provision.</p>	<p>infrastructure planning.</p> <p>Timing of provision of water supply in this WRZ may need to be considered in terms of the phasing/delivery of this additional growth.</p> <p>Conclusion: Level of need a strong market and potential to align with economic development mean should be included in Growth Scenarios with different scales to reflect choice of one or two major urban extensions.</p>

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Bromsgrove	2,100	3, 9	6,670	<p>Combination of proposals in options for Birmingham South and Redditch, alongside underlying significant 'under-provision' of RSS Phase 2 against CLG Projections (-5,900), past build rates (-329 pa), and major affordability ratio (9.7) indicate potential and need for further development. A review of the Green Belt would be necessary to accommodate growth.</p> <p>Both Redditch and urban extensions to the Metropolitan area provide opportunities for using existing public transport infrastructure, alongside potential investment to upgrade.</p> <p>Good radial rail routes into Birmingham, but these lines have high utilisation and limited capacity approaching central stations, albeit that improvements are programmed. A need to consider the combined effect on rail provision to the south west in conjunction with development in urban area of Birmingham has been identified. In terms of the highway network, congestion on routes into Birmingham is currently significant. Whilst modelling demonstrated that growth would not give rise to significantly different impacts in comparison with RSS Phase 2 Revision Preferred Option, there is the potential for significant localised impacts depending on the location of development within the area. It has been suggested that impacts on the SRN would be most severe if development outside motorway box with potential impacts on motorway junctions that are currently at or close to capacity. Although these are important issues, there are potential mitigation measures and are not considered fundamental barriers to further housing growth, particularly at the lower levels.</p> <p>Area partly within Severn WRZ where there are water supply issues that will need to be addressed. Potential need for additional water treatment capacity depending on specific location.</p>	<p>There is a need to consider with providers the potential for combined impacts in south-west rail corridor. Depending on location, development outside the motorway box could lead to significant traffic impacts on SRN that may require significant funding from development.</p> <p>There are challenges around ensuring sufficient water supply in Severn WRZ for both RSS Phase 2 Preferred Option and any additional growth.</p>	<p>Over-doubling the RSS requirement could present market capacity issues, and Redditch was not identified as strong market focus if growth was located in that part of the Borough.</p> <p>Investment in infrastructure needed, and risk of non-delivery could hinder development but not considered a major issue, although market delivery could be an issue for higher output.</p>	<p>Phasing would need to be dictated by timescales for transportation (e.g. train lengthening) and water supply/treatment improvements where necessary to support development, this might mean phasing to 2012+ Location of housing areas would need to consider infrastructure availability, funding and phasing of delivery at LDF stage in conjunction with providers/regulators</p> <p>Conclusion: Should be included in Options to reflect potential and opportunities for growth to Metropolitan area (c. 5,000 units) and Redditch (2,500 units)</p>
		7	3,500				
		8	5,000				
		9	5,000				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Redditch	6,600	3, 9	1,670	<p>Redditch is an SSD, and additional housing growth could support this role and its centre. Assessing its scope for growth draws on the impacts and issues identified in WYG Study. In general terms, cross boundary issues make it difficult to consider Redditch in isolation, and further peripheral growth to the town could stretch into contiguous districts (including Bromsgrove and Stratford), given land availability.</p> <p>Potential impacts of growth with a rail route into Birmingham, but high utilisation and limited capacity, although improvements are programmed. A need to consider the combined effect on rail provision to the south west in conjunction with development in urban area of Birmingham has been identified. Potential impacts on SRN particularly motorway junctions that are currently at or close to capacity.</p> <p>Area partly within Severn WRZ where there are water supply issues that will need to be addressed. Potential need for additional water treatment capacity depending on specific location.</p>	<p>Need to consider with rail providers the potential for combined impacts in south-west rail corridor.</p> <p>Depending on location, development could lead to significant traffic impacts on SRN that may require significant funding from development.</p> <p>Ensuring sufficient water supply in Severn WRZ for RSS Phase 2 Preferred Option and additional growth.</p>	<p>Not identified as a strong market area, relative to some other areas south of the metropolitan conurbation.</p>	<p>Location of housing areas would need to consider infrastructure availability, funding and phasing of delivery at LDF stage in conjunction with providers/regulators. Administrative boundary issues to resolve.</p> <p>Timing of provision of increased water supply to this WRZ may need to be considered in terms of the phasing/delivery of this additional growth.</p> <p>Conclusion: Not included in Growth Scenarios – but growth may be accommodated over boundary in Bromsgrove.</p>
		7	1,000				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
South Worcester-shire	24,500	2	1,500	<p>Affordability issues provide the basis for additional housing in the Joint Core Strategy across three districts, which provides mechanisms for identifying how additional rural housing provision and growth focused around city of Worcester can be accommodated as set out by the various options. In addition, Wychavon would accommodate c.1,500 units of the 6,000 unit eco town location at Middle Quinton (or more if it was larger, as in some options) if it proceeded. Analysis of options reveals that there are no reasons why growth cannot be accommodated beyond hydrology (water extraction) issues associated with the Wye Valley which equally apply to the RSS Phase 2 Preferred Option and should be capable of being resolved.</p> <p>Traffic impacts could be significant at higher end of growth options if no attractive rail alternative with good bus links, particularly in more rural areas. Current congestion issues within and to south of city centre (A4440). Issues for M5 (j6 & 7). Additional rail capacity from Worcester can be provided but not an increase in frequency. Impact would depend on location of development in terms of preference for rail/car trips for commuting. Flooding from the Severn, Avon and Teme potentially an issue and will require mitigation but no reason to assume this cannot be provided.</p> <p>Within Severn WRZ where water supply issues currently exist and further infrastructure/measures needed increase supply. Potential need for investment in water treatment depending on location, but this can be addressed, potentially through additional development.</p> <p>Potential for new settlement (in Options 4 and 8) to give rise to significant traffic impacts unless frequent public transport alternative could be provided. This would require improved local bus services and increased rail service and frequency. There may be particular concern in relation to M5 (J4) although this would be less for a smaller scale of development.</p> <p>Issues associated with the Eco Town location at Middle Quinton, considered as part of the assessment of Stratford on Avon.</p> <p>There may be an opportunity to review the Green Belt or extend its boundaries around Worcester.</p>	<p>Larger scale of development in vicinity of station may support business case, but a risk that it will not go ahead.</p> <p>Cost of highway works in relation to scale of development may need to be considered in relation to location of development and its impact.</p> <p>Ensuring sufficient water supply in Severn WRZ for RSS Phase 2 Preferred Option and additional growth.</p> <p>No major barriers to rail delivery associated with new settlement providing that development funding of station improvements and timing of investment in capacity of railway.</p>	<p>Potential market capacity issues in Worcester itself for highest levels of additional provision (incl new settlement options), but for combination of rural provision, eco town component in Wychavon, and extension to Worcester (e.g. combining 2 and 3/9) is not identified as major challenge, given underlying levels of demand and developer confirmation that it is a strong market.</p>	<p>Phasing would need to respond to timescales for infrastructure provision where needed to support development.</p> <p>Timing of provision of increased water supply to this WRZ may need to be considered in terms of the phasing/delivery of this additional growth.</p> <p>Timescales/phasing/ costs relating to infrastructure delivery for new settlement</p> <p>Conclusion: Should be included in Growth Scenarios at a level to reflect choice of level of growth to Worcester, (2,500) plus the Eco Town location, (1,500) and rural provision (1,500).</p>
		3, 9	6,280				
		4	c.23,000 (NS)				
		6	640				
		7	3,000				
		8	c.12,000 (NS)				

Location (Core Strategy Area)	Phase 2 Revision Preferred Option	Option	Nos. of Additional Units	Key Issues and Impacts	Key Infrastructure Challenges	Key Delivery Risks	Phasing and other Implementation Implications for additional growth NLP Conclusions
Wyre Forest	3,400	3, 6, 9	640	Additional rural provision to address affordability. No major impacts of note arising from the assessment. Within Severn WRZ where water supply issues currently exist and further infrastructure/measures would be needed increase supply.	Ensuring sufficient water supply in Severn WRZ for RSS Phase 2 Preferred Option and additional growth.	No major market development risks	None of note Conclusion: Scenarios for growth should include additional rural provision at the level shown in the options.
Herefordshire	16,600	3, 6, 9	1,200	Additional rural provision to address affordability. Potential for local traffic impacts depending on location of development. Local issues with Hereford due to single river crossing point. Additional growth unlikely to give rise to significant issues provided that sites selected through LDF process to minimise impacts/ maximise public transport accessibility Currently no water supply issues, although Welsh water has indicated that although growth could be accommodated, distribution could have an impact depending on which WRZ and levels (small amounts can lead to tipping) this needs to be considered at LDF level. Ecological impacts could be an issue in vicinity of River Wye, but can be mitigated or avoided.	Consideration of local issues in conjunction with infrastructure providers/ key consultees through LDF process	No major market development risks	None of note. Conclusion: Scenarios for growth should include additional rural provision at the level shown in the options.

Table 7.2: Appraisal of Options/Broad Locations mapped to Local Authority / Core Strategy Areas

Source: NLP

7.20 The key issues of impact and risk that have arisen through the testing process are:

1. Whilst not a fundamental barriers, **flooding and flood** risk issues will need to be considered in the specific location of development;
2. Severn Trent has commented that there may be risks surrounding securing the necessary funding from OFWAT and delivery associated with bringing forward additional **water supply** in the AMP5 funding cycle. The Environment Agency has also identified the need for investment to balance water supply and demand, particularly in Severn Water Resources Zone;
3. **Landscape and ecology impacts** will potentially flow from additional development. The HRA identifies where there are potential impacts on European sites. In general terms, the types of impact are shared with the RSS Phase 2 Revision Preferred Option and are not new impacts. There is no reason to assume that that appropriate avoidance, mitigation or compensation cannot be put in place to address these impacts at the local planning stage. There is potential for **positive and negative impacts on the natural and built environment**, the character of the urban fringe and character of existing settlements. Any negative effects will need to be mitigated, through high quality design and other methods;
4. A number of options would necessitate **Green Belt** to be reviewed. The RSS Objectives and PPG2 provide a framework for these considerations, including the need to provide sustainable development opportunities, and any review of Green Belt will need to take account of both the need to release land and the opportunities to make additional provision;
5. In **transport** terms, there is a desire among policy makers to see sustainable growth patterns achieved through growth in the MUAs. However, this does not translate to a conclusion that it is not possible to provide transport solutions to development outside the MUAs. Transport modelling indicates that the total number and length of journeys differs little between the RSS Preferred Option and the Options generated through this Study. Additional growth will give rise to localised impacts and require action, including infrastructure improvements to mitigate those impacts. The transport implications of some growth options are potentially more significant and the phasing of planned growth in some locations may be dependent on the timing of infrastructure improvements;
6. Adverse effects on **air quality** are projected to increase as a result of the direct and indirect effects of additional medium to high level housing growth (and potentially as a result of lower level of growth). Applications of the AQMA management plans across the region along with policies to address air quality effects in locations such as Cannock Chase may be required to mitigate the effect of development in locations of particular sensitivity;
7. In the context of assessing the impact of additional housing growth on **community and social infrastructure**, whilst no evidence was presented to define the detail of the impact, further work would need to be undertaken at the local level to ascertain where there are likely to be key barriers to delivery and how to overcome them. At this stage, there is no evidence that this is not capable of being mitigated with the right funding platform;
8. The scale of development proposed in the MUAs, (and particularly Black Country and North Staffordshire) is likely to require **significant place-making investment** and remodelling of the urban area. It is unlikely that the private sector can be expected to deliver this above the current RSS Phase 2 Revision Preferred Option without public sector assistance;
9. In economic terms, where options seek to maximise housing growth in areas of strongest **economic** potential, for example in the South East, its overall impact is therefore strongly positive. For the rural areas, the more modest scale of housing will have economic effects;
10. The significant **market impacts and risks** flow from:
 - The identified risk, already present in the RSS Preferred Option, that it simply will not be possible to deliver the increased levels of new building within the MUAs without releasing greenfield sites, notwithstanding identified land capacity. This is not just a product of the economic downturn – it reflects a longer term market concern;

-
- The risk, in locations in and adjacent to areas with fragile markets (partly flowing from falling population and lower values) that additional supply could harm the vitality and have displacement impacts for both population and developers. At the current time, there appears limited evidence that this cannot be avoided or mitigated through careful control of phasing and mix of development, so that new development complements and adds value to the housing mix in those areas. There is limited evidence that market fragility impacts will exist in other locations which would not otherwise be managed;
 - The limits that the private sector believes it has to deliver the major place shaping work involved in major regeneration and, in particular, major New Settlement proposals without significant public sector support. Without dedicated funding and delivery vehicle support, it is difficult to envisage it being possible to bring forward the larger new settlement proposals – although those of the scale indicated by the shortlisted Eco Town locations appear to be less of a risk in that regard;
11. There are **planning and public sector risks**, again focused on the New Settlement proposals, and more generally. In the case of the latter, these focus upon the ability of the public sector to adequately service the levels of growth being sought in terms of planning, coordination, and managing funding;
 12. Making additional **rural provision** appears to be capable of being delivered, subject to a reasonable scale as indicated by the options or indeed slightly higher, without giving rise to major impacts or risk of non-delivery. Clearly there are specific planning challenges to address, but these are not fundamental barriers to growth;
- 7.21 The impacts identified above suggest that the types of impacts and risks that have been considered throughout the process in isolation and then in tandem with each other also need to be considered thematically in order to ascertain the overall picture emerging from the additional levels of growth, particularly as they relate to the RSS Objectives. The outputs from this are set out in Section 8.0.