

## 6.0 Sustainability Appraisal of Housing Scenarios

- 6.1 The following schedule (Table 6.1) sets out the overall findings and conclusions of the Sustainability Appraisal of the housing scenarios, with reference, in turn, to each of the 33 objectives of the Regional Sustainable Development Framework. As with the SA (2007) a commentary is provided on the key issues and implications arising from the assessment of the effect of the scenario in cumulation with the effect of the housing figures identified in Policy CF3 of the Phase 2 Preferred Option.
- 6.2 As the effect is shown as a cumulative effect with the Phase 2 Preferred Option in place, certain conclusions are necessarily reached notwithstanding the actual effect of each scenario in isolation. Thus, if the effect of the housing growth identified in Policy CF3 is that it is likely to have strongly negative implications ('--'), and the effect of the scenario over and above this effect is negligible, then the only conclusion that can be reached is that the Phase 2 Preferred Option PLUS the relevant scenario is also likely to have strongly negative implications ('--'). This approach has been adopted as it is a base assumption of the appraisal that the full extent of the housing growth identified in the Phase 2 Preferred Option is taken forward as currently identified. The specific effect of each scenario in isolation is therefore of limited relevance in identifying the effects of this plus the additional growth identified by each scenario.
- 6.3 Where SA (2007) assumed the effect on Policy CF3 was not relevant, it has been assumed that this therefore is consistent with the current assessment. However, comment has been made where necessary or appropriate.
- 6.4 To ensure consistency with the SA (2007), the analysis will adopt the same key to present the findings of the appraisal of the housing options in respect of the effect/implications of each option on whether it will promote the achievement of each issue in the SA framework as follows: -

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

- 6.5 Consistent with the SA, three additional columns are then included in respect of the housing options being assessed to illustrate if it is possible to do so whether the effect is considered to be: -
- Direct or indirect (✓ for direct effects, ✗ for indirect effects)
  - Permanent or temporary (✓ for permanent effects, ✗ for temporary effects)
  - Significant ('H' for high significance, 'M' for medium, 'L' for low)

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
1.1	<b>Use natural resources such as water and minerals efficiently, including by incorporating efficiency measures into new land use and developments, redevelopment and refurbishment?</b>	blank							See below
	Promote the balance of water supply and demand?	--	--	--	--	✓	*	H	Initial EA analysis of supply demand balance of water supply within water resources zones ('WRZ') for growth at the upper end of the NHPAU range indicated that Severn WRZ would experience the most significant issues and that earlier delivery than is currently anticipated of measures to deliver increased water supply within the region (particularly in the east where much of the growth is identified in all scenarios) would be required. Subject to further analysis of effects in the light of new Water Plans (AMP5) being prepared by the water companies, investment would be likely to be required to address effects on supply demand balance for new residential development. The new Water Plans (AMP5) affecting Birmingham, Solihull, Telford, North and South Staffordshire, Stafford, Rugby, Stratford on Avon, Warwick, Bromsgrove, Redditch, South Worcestershire and Wyre Forest have not taken account of additional growth considered in this appraisal so effects are unknown at this stage. Most of these areas are included within the Severn WRZ. Scenarios 2 and 3 include development within Stafford where additional/alternative water supply may be required to accommodate growth. Providing additional water in Birmingham and Telford whilst protecting ecological resources will need to be addressed – particularly in relation to nitrate release into water sources. Additional waste water infrastructure to achieve necessary water quality standards/consents will need to be brought forward for most urban areas within the east of the region. SUDS and water efficiency measures also need to be addressed to minimise effects (RSS policy SR3). As SA (2007) assumed strongly negative effects, additional growth can only have the same result in the context of the SA of the additional growth unless

<sup>1</sup> Appraisal of Policy CF3: Level and distribution of new housing development (pp.C51-C75)

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
								issues identified above are addressed and the new Water Plans (AMP5) are reviewed to address the effect. Failure to take account of this additional growth could lead to further delays in delivery of necessary water infrastructure. The key difference between medium and high level growth is likely to be the time at which the infrastructure may be required. Developing in accordance with WMRSS Policy QE9 is key	
	Reduce the use of primary aggregates?	?	?	?	?	×	✓	?	Using SA (2007) calculations for amount consumed by additional housing (2006 to 2026), the two medium growth scenarios would consume circa 2.4mt and the high growth scenario would consume circa 4.2mt over that in Preferred Option (consumption of 22.8mt). Not possible to determine likely quantum as effect of Code for Sustainable Homes and requirements from infrastructure construction is unknown.
1.2	<b>Promote and support the development of new high value and low impact technologies, especially resource-efficient technologies and environmental technology initiatives?</b>		○	○	○	N/A	N/A	N/A	Not directly relevant. However the incorporation of sustainable construction and new technologies in new homes has the potential to mitigate the adverse effects identified elsewhere in this appraisal.
	Promote the development of technologies to address climate change, e.g. new energy generators using renewable sources, more efficient industrial technology and processes to minimise or mitigate for the impacts of climate change?	○	○	○	○	N/A	N/A	N/A	
	Secure improvements to communication infrastructure?	○	○	○	○	N/A	N/A	N/A	
1.3	<b>Promote and ensure high standards of sustainable resource efficient design, construction and maintenance of buildings, both new build and existing stock, where possible exceeding the requirements of the building regulations?</b>	○	○	○	○	N/A	N/A	N/A	Not directly relevant. However the incorporation of sustainable construction and new technologies in new homes has the potential to mitigate the adverse effects identified elsewhere in this appraisal.

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No	Will the Option...		1	2	3				
	Ensure the adoption of sustainable design and construction practices in all buildings?		O	O	O	N/A	N/A	N/A	
1.4	<b>Increase use of public transport, cycling and walking as a proportion of total travel in order to reduce road traffic congestion, pollution and accidents, and improve health through increased physical activity?</b>	?							See below
	Promote more sustainable transport patterns in areas suffering from congestion?								It is an assumption that delivery of additional growth will be achieved in accordance with planning policies which seek to promote sustainable transport patterns (e.g. WMRSS policies T1-5). It is also important to note that the housing growth and distribution is only one issue which could affect the use of sustainable transport – albeit it could be concluded that if development is concentrated in existing urban areas (where a choice of modes of sustainable transport are available) then it could be assumed that the increased choice of modes of transport could have a positive effect on travel patterns and choices - policies in chapter 9 on 'Transport and Accessibility' will have a major influence, for example. However, in general terms, the more concentrated development is around urban areas (where distances required to travel between uses and availability of alternative modes are already in place) will lead to more sustainable transport patterns being promoted. This needs to be balanced with the fact that urban areas are often also the focuses for congestion. For this appraisal, the issue to be addressed is whether the location/extent of the growth provides a critical mass to deliver improvements (where required) or whether it is likely to lead to a worsening of congestion (particularly in the east of the region where the problems are the most acute). Some initial analysis was carried out on behalf of the Highways Agency to address the effect of the Phase 2 Preferred Option and the medium/high level initial options (NB this was completed after the publication of the SA (2007). This concluded that there was actually little difference in terms of effect between the Preferred Option in isolation and the Preferred Option in cumulation with the medium/high level growth options. It

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No	Will the Option...		1	2	3				
									must therefore be assumed that congestion is unlikely to substantially worsen if the growth is provided over and above the Phase 2 Preferred Option. There are, however, public transport routes (particularly into the Birmingham conurbation) which are already suffering from limited capacity that may need to be addressed in the delivery of growth to ensure that sustainable transport patterns can be promoted. Example routes are those from Shrewsbury to Birmingham (affected by all three scenarios), from Telford to Birmingham (affected by scenarios 2 and 3) and also between Stoke and Newcastle, from/to Rugby, from/to Warwick and from/to Redditch (limited alternatives to private car/lack of capacity). Birmingham itself (affected by all three scenarios) is in a sustainable location and has good opportunities for use of modes other than the private car but also suffers from significant congestion issues. If the Ecotown at Middle Quinton is brought forward (all scenarios) as an option for additional growth in Stratford on Avon/Wychavon, investment in alternative modes would be likely to be required as it is not currently in a location benefiting from existing public transport opportunities. Requirement for improvements would need to be identified via LDFs/Local Transport Plans to reflect local congestion/public transport issues.
	Promote a shift of freight from road to rail?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	N/A	N/A	N/A	Not relevant
	Improve the quality of transport infrastructure?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	N/A	N/A	N/A	Not directly relevant. However if the critical mass of new development gives rise to improvements to the quality of transport infrastructure it has the potential to mitigate the adverse effects identified elsewhere in this appraisal.
	Make best use of existing airport capacity?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	N/A	N/A	N/A	Not relevant
1.5	<b>Ensure development is primarily focused in the major urban areas and makes efficient use of existing physical infrastructure and reduces need to travel, especially by private car?</b>	blank							See below

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No	Will the Option...		1	2	3				
	Focus development in the major urban areas?	?	Ø(-)	Ø(-)	Ø(-)	✓	✓	H	The assumptions on how the growth could be accommodated assume that most of the local authority areas could accommodate it within the urban area or as urban extensions. Scenario 1 also includes a new settlement which would probably be located outside of the major urban area but its location would need to be identified via the LDF process. Based on the information available at this time, it must be assumed that a mix of development within and outside urban areas is likely to be required to accommodate the growth leading to mixed effects in respect of this question. Precise effects would need to be assessed via the LDF processes of local authorities.
	Reduce the number and length of journeys made by car?	?				✓	✓	H	Many of the same conclusions to question 1.4 are relevant. Assumptions must be made that policies to promote sustainable transport generally and also to key landuses (e.g. via Policy RSS policy PA1) will be carried through in the development of residential and other uses within the West Midlands. Policies to promote the primacy of Birmingham within the region will naturally lead to an increased likelihood of an increase in the number and length of journeys within the region if development is outside of the Birmingham MUA. Scenario 1 seeks to provide new housing in the area of economic growth where there is obvious potential for reducing the length of journeys (particularly for commuters). However this will depend on a sufficient critical mass of development being provided to bring forward necessary investment or in other public sector investment in new or improved sustainable transport modes between these key uses. Development in North Staffordshire (Scenarios 2 and 3) will require development of alternative modes of transport between Stoke and Newcastle.
	Reduce the need to travel?								
	Promote alternative, more sustainable modes of transport to the car (including walking and cycling) through location of housing, employment sites, services and facilities, and appropriate infrastructure for sustainable modes of transport?								
1.6	<b>Encourage and enable waste minimisation, reuse, recycling and recovery to divert resources away from waste stream, including the use of recycled materials where possible?</b>	blank							See below

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No	Will the Option...		1	2	3				
	Reduce waste arisings?	-	-	-	-	✓	x	M	SA (2007) found that housing in the Phase 2 Preferred Option would result in 15.7% more waste being produced by 2026. Based on the numbers in three scenarios, and the calculation assumptions in the SA (2007), it can be assumed that the medium growth scenarios (1 and 2) in cumulation with the Phase 2 Preferred Option growth would give rise to circa 58K tonnes (17.7% increase in waste by 2026) and the high growth scenario (3) would give rise to circa 101K tonnes (19.3% increase in waste by 2026) in cumulation with the Phase 2 Preferred Option. Consideration of effects at a more local level would need to be addressed by local authorities. The development of the Middle Quinton Ecotown could lead to reductions in waste generated in Stratford on Avon and Wychavon as a result of the strict recycling requirements for Ecotowns. The updated baseline data indicated that the region has a good record in waste recovery generally with the highest national rate. A continuation of this trend will assist in minimising waste arisings as far as is possible from the additional growth
	Ensure that sustainable waste management can be carried out in the region?	○	○	○	○	N/A	N/A	N/A	Not directly relevant. However the incorporation of sustainable waste management in respect of new homes has the potential to mitigate the adverse effects identified elsewhere in this appraisal.
	Enable communities to take responsibility for their own waste and meet their own needs (self-sufficiency)?	○	○	○	○	N/A	N/A	N/A	
1.7	<b>Encourage local sourcing of food, goods and materials?</b>	○	○	○	○	N/A	N/A	N/A	Not relevant
1.8	<b>Reward efficient resource use and encourage development as an alternative and renewable resource in order to reduce dependence on fossil fuels?</b>	blank							See appraisal findings under Objectives 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.9, 2.1, 2.2, 2.3, 3.4, 4.5
1.9	<b>Encourage corporate social and environmental responsibility, with regional organisations and agencies leading by</b>	○	○	○	○	N/A	N/A	N/A	Not relevant

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No	Will the Option...		1	2	3				
	<b>example?</b>								
	Encourage sustainable procurement?		○	○	○	N/A	N/A	N/A	Not relevant
1.10	<b>Encourage and support a culture of enterprise and innovation, including social enterprise?</b>	○	○	○	○	N/A	N/A	N/A	Not relevant
1.11	<b>Achieve a strong, stable and sustainable economy and prosperity for the benefit of all the Region's inhabitants?</b>	-	?	?	?	*	*	?	The SA (2007) concluded that whilst at a regional level the Phase 2 Preferred Option housing growth is close to that required to support economic growth, at a district level the housing will not meet projected demand and support the economic growth. Work is now underway to assess in detail whether the Regional Economic Strategy (published after the SA 2007 completed/Preferred Option published) now achieves alignment of economic growth with housing growth in the Preferred Option. This data could affect the conclusion made in the SA (2007) and therefore also the conclusions on the additional housing growth included within the scenarios. Some conclusions that can be made are that, for example, Scenarios 1 and 3 (and to a lesser extent Scenario 2) provides the bulk of the additional housing growth in the south east of the region and this could assist in supporting economic growth – this could lead to the overall conclusion being that Scenario 1 has a '+' effect on strengthening and stabilising the economy for the region. However until it is clear whether the effect of Preferred Option should actually be '+' or '-' (following receipt of data of the analysis identified above), analysis of the effect over and above the Phase 2 Preferred Option can only be identified as unclear at this time
	Narrow the GVA gap between the best and worst performing parts of the Region?	?	-	+	-(∅)	*	✓	?	Growth in the medium and upper levels of the NHPAU supply range may result in a narrowing of the GVA gap between different parts of the region as it is considered that this quantum of development provides the necessary critical mass to have an effect on this indicator. However this is reliant on a critical mass being provided in the worse performing areas (e.g. the north-east of the region) and particularly where a more concentrated form of development is identified. Scenario 1, which provides most of the growth

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No	Will the Option...		1	2	3				
									in the south-eastern or best performing corner of the region, could be expected to result in the gap actually widening (e.g. between the south-east and north-east of the region).
	Support efficient, competitive, diverse and supportive business, commercial, industrial, retail, tourism and leisure sectors?	O	O	O	O	N/A	N/A	N/A	Not relevant
2.1	<b>Reduce overall energy use through increased energy efficiency?</b>	O	O	O	O	N/A	N/A	N/A	Not directly relevant. However the incorporation of sustainable construction and new technologies in new homes has the potential to mitigate the adverse effects identified elsewhere in this appraisal.
	Raise energy efficiency to current Building Regulations standard in refurbishments for Decent Homes Standard?		O	O	O	N/A	N/A	N/A	
2.2	<b>Increase the proportion of energy generated from renewable and low carbon sources, including by micro generation, CHP, district heating and in transportation?</b>	O	O	O	O	N/A	N/A	N/A	Not directly relevant. However the incorporation of sustainable construction and new technologies in new homes has the potential to mitigate the adverse effects identified elsewhere in this appraisal.
	Promote energy generation from CHP and community heating?		O	O	O	N/A	N/A	N/A	
2.3	<b>Minimise the region's contribution to the causes of climate change by reducing emissions of greenhouse gases from transport, domestic, commercial and industrial sources?</b>	--	--?	--?	--?	✓	✓	H	The SA (2007) concluded that the climate change implications of the growth identified in the Phase 2 Preferred Option were likely to be significantly negative unless policies on energy generation, efficiency, alternative modes of transportation, etc were effective. The SA (2007) also recommended that Policy SR1 should establish a regional target on CO <sub>2</sub> emissions to further reinforce this effectiveness (recommendation rejected by Regional Planning Body (RPB)). On this basis, it must be assumed that higher growth would be likely to generate greater effects on climate change. However, the update to the baseline carried out as part of this appraisal has provided an indication that emissions for the UK are generally decreasing; this provides some weight to the argument that policies could be proving effective. A continuation of this downward trend within the West Midlands may therefore lead to a conclusion that the higher growth will
	Reduce the Region's contribution to climate change?		--?	--?	--?	✓	✓	H	

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No	Will the Option...		1	2	3				
									actually have a lesser effect on climate change than is identified here at this time. However, a real commitment to ensuring a continuation or strengthening of policy objectives, and delivery at a local level, is required to ensure effectiveness in terms of effect on emissions being generated. Due to the nature of the data that is available on climate change it is not possible to identify whether the distribution identified by the three scenarios will lead to a different conclusion for each of the scenarios.
2.4	<b>Implement a managed response to the unavoidable impacts of climate change, ensuring that the design and planning process takes into account predicted changes in the Regions climate?</b>	O	O	O	O	N/A	N/A	N/A	Not directly relevant. However the incorporation of sustainable construction and new technologies in new homes has the potential to mitigate the adverse effects identified elsewhere in this appraisal.
	Promote sustainable urban drainage systems?		O	O	O	N/A	N/A	N/A	
	Promote the adoption of climate change adaptation and climate proofing principles in planning and design?		O	O	O	N/A	N/A	N/A	
2.5	<b>Ensure land use and development that takes into account predicted changes in the region's climate including flood risk?</b>	?	?	?	?	✓	✓	H	Owing to the high level nature of the distribution of housing identified by the three scenarios it is not possible to ensure that specific locations identified for development take account of flood risk. It is clear from RFRA that there are greater issues in relation to flooding and flood risks in some locations (e.g. along the Severn Valley including settlements such as Shrewsbury, also in Solihull, in Rugby, in and around Warwick, Worcester and in Burton on Trent), which would need to be effectively mitigated. However it is also clear that there is a general risk of flooding throughout the region. In addition, whilst additional information is available at this time than was available at the time of preparation of the SA (2007), full coverage of SFRAs is not yet available and the RFRA is at insufficient detail to provide detailed analysis of flood risk for each scenario. Further analysis would need to be made at such time that full SFRA coverage is available. Some general comments can be made. Indications are that Burton on Trent (Scenarios 2 and 3), Worcester (scenarios 1
	Prevent all inappropriate development in areas of flood risk?								

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No	Will the Option...		1	2	3				
									and 3), Warwick (all scenarios) and Rugby (all scenarios) have greater issues than other parts of the region in terms of levels of fluvial flood risk, although this does not mean growth cannot occur in these locations, subject to potential mitigation. Existing policy in PPS25 remains in place advising that development in Flood Zones 2/3 should be avoided and development should not increase flood risk elsewhere (paras 8.42 to 8.44 of the Phase 2 Preferred Option refers to PPG25 and may require review in respect of PPS25). It must also be assumed that water efficiency measures and the use of SUDS and other measures to attenuate run-off would be incorporated wherever feasible.
3.1	<b>Value, protect, enhance and restore the Region's environmental assets, including (i) the natural environment (ii) the built environment (iii) the historic environment and (iv) landscape?</b>	-?							See sub questions below
	Value, enhance and protect the Region's natural environmental assets (e.g. Green Belt, parks and open space, AONBs, etc)?	-?	-?	-?	-?	✓	✓	M?	The additional growth could result in the reuse of PDL in MUAs of up to 85% and up to 60% in non MUAs. To achieve this, increased densities on central sites over and above that assumed in the Regional Housing Land Availability Study (i.e. 41 dwellings per hectare) would need to be assumed. Where development is not limited to MUAs could have implications for the local natural/historic environmental assets/the countryside. As the scenarios identify that the bulk of the growth could occur within urban areas or as urban extensions, it is not possible at this stage to closely analyse the precise effects on specific assets within the region. This will need to be assessed via the LDF process for individual authorities. However, a broad conclusion can be reached from Table 5.5 which considers the split between MUA/non MUA growth brought forward as a result of the three scenarios. In cumulation with the preferred option, the general 46%:54% split (MUA/non MUA) is maintained. When each scenario is considered in isolation, whilst scenario 1 leads to a similar split, scenario 2 leads to a 39%:61% split and scenario 3 to a 29%:71% split. Based on the assumption above that where more development is identified in non-MUA areas then a more significantly negative effect on assets is

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No	Will the Option...		1	2	3				
								likely then it must be assumed that notably scenario 3 is likely to have a greater effect on this indicator than the Phase 2 Preferred Option in isolation and also scenarios 2 and 3. Development at Cannock considered to be particularly sensitive during consideration of the nine initial options has been excluded from the three scenarios to reduce the effects on the European sites in this authority area. Notwithstanding the conclusion identified in this appraisal, detailed analysis will need to be carried out via the LDF process as specific sites are identified.	
	Value, enhance and protect the Region's historic environmental assets (e.g. World Heritage Sites, archaeological remains, historic buildings, parks and gardens, and landscapes, and conservation areas, battlefields and other architectural and historically important features and areas and their settings)?		-?	-?	-?	✓	✓	M? There are a number of locations where there are sensitive features of local heritage/townscape which may be threatened by the increased development pressure from additional growth. The SA (2007) identifies Worcester as a sensitive location (amongst other locations) and this appraisal indicates that, dependent on sites identified via the LDF process, sensitive features may also be affected by scenarios 1 and 3. Hereford and Shrewsbury were also found to be sensitive locations and might be affected by additional housing growth through allocations in the LDF (although the scenarios assume that provision in Herefordshire and Shropshire will be in the rural areas). In addition, growth in and around Warwick identified in all three scenarios has the potential to impact on the historic character of the town unless suitable mitigation through design quality is achieved. All three scenarios indicate the potential for growth to be accommodated via urban extensions (albeit this will be dependent on the identification of site through the LDF process of individual authorities). Generally, urban extensions have the potential to affect landscapes in the urban fringe either negatively through urbanising natural or open areas of value or could also have a positive effect through the improvement of poor quality areas in this fringe zone. Smaller villages currently beyond those urban areas and which may be affected by proposals for extensions identified via LDFs are likely to suffer from a loss of character form large scale urban extensions (if these come forward). Scenarios 2 and 3 will need to have regard to the Iron Bridge World Heritage Site near Telford that will need to be protected through avoidance/mitigation of potential effects via	

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No	Will the Option...		1	2	3				
								quality of design	
	Promote heritage led regeneration?	O	O	O	O	N/A	N/A	N/A	Not relevant
	Promote the repair and reuse of historic buildings?	O	O	O	O	N/A	N/A	N/A	Not relevant
	Enhance the amenity value of the countryside, meeting the recreational and leisure needs of communities?	O	O	O	O	N/A	N/A	N/A	Not directly relevant
	Protect, enhance and manage the character and appearance of the region's landscapes and townscapes, maintaining and strengthening local distinctiveness and sense of place?	- ?	- ?	- ?	- ?	x	✓	M	RSS policies QE3-6 seek to protect the character of existing towns. Additional growth of a high quality, particularly in locations of diverging landscape character (i.e. as noted in the updated baseline this mainly occurs in the east of the region where the majority of the additional growth put forward by the scenarios is identified), may allow enhancement of existing landscape and settlement character. However, comparative large scale increases in settlement sizes (e.g. if through the LDF process local authorities seek to take forward urban extensions over growth within existing urban areas) or where a new settlement is proposed (e.g. scenario 1 - Solihull) are likely to have a more damaging effect than small scale incremental increases. As the nature and form of such development will come forward via the LDF process, it is likely that a similar effect to that identified in the SA (2007) could be concluded. Given the scale of growth envisaged by Scenario 3, a general conclusion could be reached that there is an increased likelihood of larger scale extensions than for scenarios 1 and 2 and therefore a potentially more significant effect.
3.2	<b>Value, maintain, restore and re-create regional biodiversity?</b>	?							See sub questions below
	Value, enhance and protect the Region's designated sites, including sites designated by geodiversity?		?	?	?(-)	✓	✓	L	Any proposed housing development could impact on biodiversity through development on previously undeveloped land, increases in use and disturbance to habitats, and

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No	Will the Option...		1	2	3				
	Value, enhance and protect the Region's priority habitats and species and promote the delivery of regional biodiversity targets?		?	?	?(-)	*	✓	M	additional pollution (for example, water and air). Some locations affected by options have higher potential for locations with sensitive biodiversity/European sites although the iterative process of SA/HRA of the nine initial options have removed the option of additional growth in areas of particular sensitivity (e.g. notably Cannock). The majority of the environmental designations are in the rural west but there are also a number of environmental designations in the east where much of the additional growth identified by the scenarios is located. This could have a potentially significant effect on biodiversity depending on the design and site specific issues. These cannot be identified at this stage as specific growth sites will need to come forward via the LDF process. However it could be concluded that the highest level of growth could have a potentially negative effect. Localised mitigation, protection of sites of designated biodiversity value and ensuring compliance with relevant guidance and standards will be key on a site by site basis to ensure that effects on biodiversity are minimised/sites are enhanced.
	Support development that incorporates improvements to wildlife habitats?	O	O	O	O	N/A	N/A	N/A	Not directly relevant – detailed proposals would need to have regard to this objective in accordance with PPS9
3.3	<b>Minimise air, water, soil, light and noise pollution levels and create good quality air, water and soils?</b>	blank							See sub questions below
	Promote more sustainable transport patterns in areas of low air quality?								There are no specific policies within the WMRSS to seek to address the effects of transportation or development activities on air quality. However a number of local authorities have declared AQMAs and, through the management plans prepared as a result of these designations, targets for reducing or limiting adverse effects on air quality through activities are brought forward. It is for local authorities to identify AQMAs and, as shown in the baseline update, a number have already identified or extended areas, with a particular focus on the effects of nitrogen dioxide which remains a key issue for the region throughout the life of the
	Address air quality impacts arising from specific development activities?	?	-	-	--	*	✓	?	

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
								WMRSS. The AQMAs also assist in identifying more local areas where air quality may be of a low quality which is not picked up by the NETCEN <sup>2</sup> modelling of key atmospheric pollutants which was contained in the SA (2007) and remains relevant to this appraisal. The SA (2007) identified that the areas of lowest air quality are generally within the urban areas and also along the main road transportation corridors (notably the M5, M6 and M42 motorway corridors). The authorities located within these areas have already declared AQMAs (some of these have been extended since the SA (2007) was published. The majority of the growth identified in the scenarios is focused on those areas identified as being of low quality/with AQMAs in place. Whilst this results in a negative conclusion generally in respect of this indicator, much will arise from the identification of individual sites through the LDF process (this will allow a more detailed consideration of the subtleties of local topography, traffic movement and individual landuses) and also will allow a more detailed consideration of the effectiveness of individual AQMAs which is outside the scope of this appraisal	
	Protect and enhance the quality of watercourses in the Region?	-?	-?	-?	--?	x	x	M	Information has been secured from the Environment Agency and from water companies indicating that nutrient enrichment as a result of sewerage flows remains one of most significant issues in protecting/enhancing quality of watercourses in region. It is of particular significance in areas such as Birmingham, Solihull, Telford and Stoke on Trent/Newcastle where growth is envisaged in most of the scenarios being appraised. Investment (potentially significant) is required in respect of additional housing to upgrade water treatment works in Region. This does apply more generally to the Phase 2 Preferred Option in isolation as well as the additional growth but the timescales for delivery differ (i.e. depending on phasing and speed of development it could occur sooner or later in the RSS period). There are excessive cost/long timescales to deliver such infrastructure and it is unknown whether the critical mass of development proposed by the options would bring forward such infrastructure – and what timelag will take place in bringing it forward. Also unknown

<sup>2</sup> NETCEN is an operating division of AEAT Environment, a consultancy who provide environmental advisory services to the UK Government

RSDf Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
								risk of changes to consent regime for discharge - unknown whether such changes can be accommodated. Generally, increased development, particularly in areas already subject to the effects of nutrient enrichment could be expected to have adverse effect on water quality/ability to accommodate increased flows. The key issues are the timing of funding to resolve these issues and also the planning consent risks associated with supply enhancement required to mitigate adverse effects.	
	Reduce the quantity of contaminated land in the Region?	+	+(Ø)	+(Ø)	+(Ø)	✓	✓	M/H	No target set for development on PDL, however if, in the identification of sites through the LDF process, that local authorities identify the majority of the additional growth in existing MUAs and larger settlements then there will be a greater potential for redevelopment of contaminated land. As all of the scenarios are not definitive in whether local authorities should look at urban growth over urban extensions it is not possible to draw clear conclusions on whether, therefore, the scenarios will lead to a similarly positive effect on reduction in the quantity of contaminated land or not. Where large scale urban extensions are brought forward, these are less likely to achieve a significant increase in development on previously developed contaminated land, however, specific development of industrial sites in the countryside e.g. new settlements would assist in reducing the quantity of contaminated land in the region. This would need to be addressed through individual LDFs. Much will also depend on the phasing of development, particularly in times of economic decline, as developers may be more liable to develop 'easier' non-contaminated sites over contaminated sites in the region.
	Prevent noise and light pollution?	-	-	-	--	x	✓	M	Scenarios which include new development within the open countryside (e.g. the new settlement in Solihull in Scenario 1, or the urban extensions that could be brought forward by local authorities as part of the LDF processes) would be likely to have significant effects on noise and light pollution. There is also the potential for small albeit limited effects in rural areas from all the scenarios in respect of proposed growth in the rural areas which is of an existing less densely developed character. It is assumed that the principles of, for example,

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
									QE6 of the WMRSS will be brought forward to ensure light and noise pollution are considered and enforced in respect of individual sites for additional growth. However it could be generally considered that the additional growth will have a generally negative effect on noise and light within the region due to increased urbanisation. Therefore, given that Scenario 3 would constitute the highest level of growth through urban extensions it is likely to have a more negative impact on noise and light pollution than Scenarios 1 and 2.
3.4	<b>Encourage land use and development that optimises the use of previously developed land and buildings?</b>	+	+?	+?	∅	✓	✓	H	No target has been set for development on PDL, however, if phasing policies and additional growth brought forward via individual LDFs leads to a focus on existing MUAs/larger settlements then there is greater potential for the development of PDL. Development of urban extensions is less likely to achieve a significant increase in development on PDL; however, specific development of industrial sites in the countryside could have a positive effect on reuse of land. As all of the scenarios are not definitive in whether local authorities should look at urban growth over urban extensions it is not possible to draw clear conclusions on the overall effect on encouraging the reuse of PDL albeit it is assumed that existing planning policies which seek to promote brownfield over Greenfield development are in place and would be likely to have a generally positive effect. For the high growth scenario (3), it is assumed that the effect may be more mixed as the increased development pressure from the additional growth may result in a need to develop both brown and Greenfield sites. Phasing is key as developers may prefer development on 'easier' greenfield sites before developing potentially contaminated PDL. Stronger policies may be required.
3.5	<b>Encourage land use and development that creates and sustains well designed high quality built environments that incorporate green space, encourage biodiversity and promote local distinctiveness and sense of place?</b>	0		0		N/A	N/A	N/A	Not directly relevant. However high design quality for new residential schemes has the potential to mitigate the adverse effects identified elsewhere in this appraisal.

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
	Require good urban design to create attractive, high quality environments where people will choose to live, work and invest?								
	Increase access to good quality green space (e.g. increase the number of people in towns and cities with accessible greenspace within 300m of their homes)?		O	O	O	*	✓	L	Not directly relevant but growth in areas of existing low levels of greenspace could be used to generate additional accessible greenspace from the redevelopment of previously developed land
	Protect existing and encourage the development of new biodiversity assets in developments?		O	O	O	N/A	N/A	N/A	Not relevant
3.6	<b>Encourage local stewardship of local environments, for example by promoting best practice in agricultural management or enabling communities to improve their neighbourhoods?</b>	O	O	O	O	N/A	N/A	N/A	Not relevant
3.7	<b>Promote environmental justice, recognising that deprived areas and disadvantaged communities are more likely to be affected by environmental damage and degradation?</b>	O	O	O	O	✓	✓	L	Not directly relevant but growth in areas of existing low levels of greenspace could be used to generate additional accessible greenspace from the redevelopment of previously developed
	Specifically improve environmental quality in deprived communities?		O	O	O	N/A	N/A	N/A	Not relevant
4.1	<b>Enable communities to influence the decisions that affect their neighbourhoods and quality of life?</b>	O	O	O	O	N/A	N/A	N/A	Not relevant
	Promote the use of community based planning tools?	O	O	O	O	N/A	N/A	N/A	Not relevant
4.2	<b>Ensure easy and equitable access to services, facilities and opportunities, including jobs and learning, and that people are not disadvantaged with regard to</b>	?							See below

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
	<b>ethnicity, gender, age, disability, faith, sexuality, background or location?</b>								
	Ensure that existing services and opportunities are retained and, where possible, developed?	O	O	O	O	*	✓	L	Indications from the baseline review of the closure of existing services, notably in rural areas. Housing growth in these areas could therefore lead to a pressure on declining services and a need to re-provide through investment. However, the Taylor Report <sup>3</sup> published in 2008 which reviewed the rural economy and affordable housing indicates that growth could reinvigorate declining services and could lead to a positive effect on the trends identified in the baseline analysis
	Promote compact, mixed use developments with good accessibility to local facilities and services that reduce the need to travel?	O	O	O	O	N/A	N/A	N/A	Not directly relevant. However, the promotion of compact mixed use developments with good accessibility to local facilities could assist in mitigating the effects of other matters identified within this appraisal e.g. for sites poorly related to public transport
4.3	<b>Address poverty and disadvantage, taking into account the particular difficulties of those facing multiple disadvantage?</b>	?	?	?	?	?	?	?	As for the SA (2007), it is unclear what effect the additional housing growth would have on poverty and disadvantage. There has been no change in respect of the location of the poorest communities from that considered within the SA (2007) and additional housing growth is identified in these areas for all of the scenarios. New housing development may assist in pump priming investment in failing areas but the nature and level of the effect is not possible to quantify at this stage.
	Ensure the provision of employment land in or accessible to the most deprived communities in the region?	O	O	O	O	N/A	N/A	N/A	Not relevant
4.4	<b>Improve health and reduce health inequalities by encouraging and enabling healthy active lifestyles and protecting health, as well as providing equitable access</b>	O	O	O	O	N/A	N/A	N/A	Not relevant

<sup>3</sup> Living Working Countryside: The Taylor Review of Rural Economy and Affordable Housing, 23 July 2008, Department for Communities and Local Government

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
	<b>to health services?</b>								
	Diminish inequalities in mortality, health and wellbeing across the Region?		○	○	○	N/A	N/A	N/A	Not relevant
	Ensure that infrastructure for healthcare is provided to meet projected future demand and need?		○	○	○	N/A	N/A	N/A	Not directly relevant. However, ensuring infrastructure for healthcare is in place to meet projected demand could assist in mitigating the effects of other matters identified within this appraisal e.g. for sites poorly related to public transport
	Promote healthy lifestyles and opportunities for exercise (e.g. through environmental infrastructure and design)?		○	○	○	N/A	N/A	N/A	Not relevant
	Promote opportunities to participate in sport?		○	○	○	N/A	N/A	N/A	Not relevant
4.5	<b>Provide decent and affordable housing for all, of the right quantity, type, tenure and affordability to meet local needs, in clean, safe and pleasant local environments?</b>								
	Deliver genuine 'pathways to housing choice'?	-	+	+	++	✓	✓	H	The SA (2007) concludes that Policy CF3 aims to provide the right mix of housing in the right places to support housing market renewal, to address affordability and to deliver mixed communities but that the figures identified in the Phase 2 Preferred Option do not seem to meet local needs where these are identified. The analysis identified assesses the distribution of housing at a district level against district level need and against those figures identified in Kate Barker's Review of Housing Supply. The levels of housing growth identified by the three proposed scenarios relates to those figures identified by the NHPAU; an organisation set up following the Barker Review to provide independent advice to the Government about the housing supply range needed to impact on affordability. On the basis that it must be assumed that the numbers identified by the NHPAU in respect of the West Midlands will have a positive effect on the provision of decent and affordable housing; it therefore follows that, at a regional level, the numbers proposed by the NHPAU and addressed by this Appraisal will address local needs. For the higher growth scenario (3), the number of additional housing units proposed at a regional level could be expected to have a very positive effect on overall housing need at a regional level. How site specific development addresses issues of housing needs at a local

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
								authority level will need to be assessed as part of the preparation of individual LDFs. New development as a result of Scenarios in 2 and 3 in the declining areas of the north-east as well as regeneration in the deprived areas of central Birmingham may assist in providing a greater choice of housing for the population.	
	Increase the supply of affordable housing?	-	+	+	++	✓	✓	H	As above, in the absence of information to the contrary it must be assumed that, regionally, the additional housing growth identified by the NHPAU will have a positive effect on the provision of affordable housing, particularly when reinforced by policies to ensure that new housing provides a proportion of new affordable units to meet local needs.
	Reduce the percentage of unfit/non-decent homes?	?	?	?	?	*	✓	?	Whilst some information is available on the distribution of unfit/non-decent homes, it not possible to identify whether additional housing will have any effect on the levels of unfit/non-decent housing within the region's stock. It could be assumed that policies to make best use of available land, particularly in urban areas within the region, could have a potentially positive effect e.g. in areas suffering from high levels of unfit homes such as North Staffs or Birmingham but this would need to be reviewed at a local level via LDFs. Phasing policies could be important to try and tackle the issue of reducing the levels of unfit homes ahead of developing other sites within the region
	Encourage housing development which makes more efficient use of land (between 30 and 50 dwellings per hectare net)?	0	0	0	0	✓	✓	H	It is an assumption that all of the scenarios would seek to provide housing within the densities identified within planning policy guidance (i.e. between 30 and 50 dwellings per hectare net) but this would need to be reviewed by local authorities as part of their LDF process and also in the determination of individual planning applications. It is possible that, particularly for the higher housing scenario (3) that pockets of development may occur above 50 dwellings per hectare, particularly in more urban areas such as Birmingham.
	Seek greater intensity of development at places with good public transport accessibility (such as	?	∅	+	∅	✓	✓	H	As identified earlier in this appraisal, it has been assumed that the additional growth will be achieved by promoting it

RSDf Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
	city, town, district and local centres or around major nodes along good quality public transport corridors)?		(+)		(+)				where residents have a choice of mode of transport in accordance with planning policies which seek to promote sustainable transport patterns (e.g. WMRSS policies T1-5) in bringing forward development. It could be assumed that to accord with policy that this would be the most appropriate place for higher density accommodation. However this will depend on the location and specific site details identified by local authorities through their LDF processes and the application of policies at a local level to seek to deliver higher densities in locations where there is a choice of modes of transport.
	Promote the renovation and reuse of existing building stock, rather than the construction of new houses, where appropriate?	○	○	○	○	?	?	?	Not directly relevant. However, at a local level, promoting the renovation and reuse of existing building stock rather than the construction of new houses could have a positive effect on the overall objective of ensuring the best possible use is made of available land and also in promoting sustainable communities; particularly in areas suffering from physical deprivation.
	Ensure the adoption of sustainable design and construction practices in housing?	○	○	○	○	N/A	N/A	N/A	Not directly relevant. However, ensuring the adoption of sustainable design and construction practices in housing could assist in mitigating the effects of other matters identified within this appraisal
4.6	<b>Reduce crime, fear of crime and antisocial behaviour?</b>	○	○	○	○	N/A	N/A	N/A	Not relevant
	Promote the reduction of crime rates?		○	○	○	N/A	N/A	N/A	Not relevant
	Encourage the adoption of principles to 'design out' crime in housing and employment sites?		○	○	○	N/A	N/A	N/A	Not directly relevant. However, ensuring the adoption of principles to design out crime in housing sites could assist in mitigating the effects of other matters identified within this appraisal
4.7	<b>Improve opportunities to participate in the diverse cultural, sport and recreational opportunities the West Midlands can offer locally and in the wider region?</b>	○	○	○	○	N/A	N/A	N/A	Not relevant

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
	Ensure that facilities and locations for cultural activities are protected and provided?		○	○	○	N/A	N/A	N/A	Not directly relevant. However, ensuring that facilities and locations for cultural activities are protected and provided could assist in mitigating the effects of other matters identified within this appraisal
	Protect and create high quality or value recreational spaces and avoid erosion of recreational function?		○	○	○	N/A	N/A	N/A	Not directly relevant. However, the protection and creation of high quality or value recreational spaces could assist in mitigating the effects of other matters identified within this appraisal
4.8	<b>Encourage physical development with a better balance of jobs, housing, social and cultural services and amenities within each part of the Region in order to meet local needs locally and encourage stable and sustainable communities?</b>	?							See below. As identified in the SA (2007) this is an extremely complex issue that requires consideration of a number of key issues in the creation of sustainable communities.
	Focus retail and office development in town centres?	○	○	○	○	N/A	N/A	N/A	Not relevant
	Link housing development and employment opportunities?	○	+	+	+	✓	✓	M	It is not possible to identify whether individual housing and employment sites will be linked within the region although there is evidence that this balance has not been effectively and consistently addressed previously in the West Midlands. Policies to address this balance may assist in the delivery of additional housing growth but would need to be addressed at a local level through the LDF process. Although the SA (2007) concluded that this question is not relevant to policy CF3, work being undertaken for Advantage West Midlands <sup>4</sup> indicates that the shortage of housing provision in some parts of the region may risk harming the economic position and that additional housing provision could assist in unlocking labour market barriers, suggesting that all scenarios could have a positive impact. Scenarios 1 and 3, and Scenario 2 to a lesser extent aim to specifically target additional housing in the south east of the region which has had particularly issues

<sup>4</sup> Draft Housing and Economy Study, Ove Arup and Partners for Advantage West Midlands, Executive Summary, September 2008

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
									in relation to achieving an appropriate balance.
	Reverse the pattern of people migrating from metropolitan areas to rural parts of the Region?	--	--	--	--	✓	✓	H	The SA (2007) concludes that the Phase 2 Preferred Option will not reverse the trend of out migration from the metropolitan areas because housing provision would not meet locally generated need in a number of districts and particularly MUAs, and there is an over provision of dwellings to districts outside the MUAs, which would support continued out migration. Whilst the logic applied in to determining that this would be a strongly negative impact is open to question, for consistency this impact is used as the starting point for the appraisal of the impact of the three scenarios (notwithstanding that all three scenarios make additional provision in Birmingham and Solihull, which were identified by SA (2007) as having particularly acute shortfalls. The SA (2007) recommended that Policy CF4 should promote a more radical approach to phasing and ensure that a much greater proportion of housing is delivered in MUAs in the first ten years of the WMRSS. In any event, it had been determined by the RPB that this was not required as it was considered that policies already took this into account. On this basis, it is considered that this appraisal can only conclude a similar effect to that identified in the SA (2007)
4.9	<b>Ensure that the Region's workforce is equipped with the skills to access high quality employment opportunities suited to the changing needs of the Regional economy, whilst recognising the value and contribution of unpaid work?</b>	○	○	○	○	N/A	N/A	N/A	Not relevant
	Reduce inequalities in employment rates across the Region?	○	○	○	○	N/A	N/A	N/A	Not relevant
	Promote investment in future prosperity, including ongoing investment and engagement in learning and skills development?	○	○	○	○	N/A	N/A	N/A	Not relevant

RSDF Appraisal Questions		SA 2007 <sup>1</sup>	Scenario			Direct/ Indirect	Permanent/ Temporary	Significance	Commentary
No	Will the Option...		1	2	3				
4.10	<b>Promote investment in future prosperity, including ongoing investment and engagement in learning and skills development?</b>	blank				N/A	N/A	N/A	Not relevant
	Ensure an appropriate supply of employment sites within the region to support sustainable economic development?	-	-?	-?	-?	x	✓	M	It could be argued that the need to deliver increased housing could lead to 'competition' for sites for either housing or economic development. This could result in employment sites being redeveloped for housing purposes. Much of this pressure will need to be resolved via LDFs on a site by site basis. Economic policies will need to address delivery of employment sites within the region.
	Encourage investment to develop deprived areas and focusing resources in areas of greatest need?	O	O	O	O	N/A	N/A	N/A	Not relevant
	Ensure that education and skills infrastructure meets projected future demand and need?					x	✓	L	Not directly relevant. However, ensuring that education and skills infrastructure meets projected future demand and need could assist in mitigating the effects of other matters identified within this appraisal
	Reduce inequalities in education and skills across the Region?		O	O	O	N/A	N/A	N/A	Not relevant

Table 6.1 – Appraisal of the effect of the Housing Scenarios 1, 2 and 3 on Sustainable Development  
Source: NLP