

7.0 Issues, Cumulative Effects & Recommendations

- 7.1 This section seeks to draw together the conclusions and issues identified in Section 6.0 to assess the overall contribution of the proposed scenarios for the delivery of additional housing growth to the key principles of sustainable development. It also seeks to identify any key effects requiring mitigation and then provides a recommendation for taking these issues forward in respect of the evidence to the Phase 2 Preferred Option.
- 7.2 The issues are all set against the background and conclusions of the SA (2007); the effects of each option are identified in cumulation with the effects identified for Policy CF3 of the Phase 2 Preferred Option in the SA (2007); and the mitigation and recommendations are set against the context of those mitigation measures and recommendations identified in the SA (2007). This will assist in identifying the additional effects that are generated by each Option should a decision be taken by the Panel to bring forward additional housing growth in the West Midlands.

Key Issues in Respect of the Housing Scenarios

- 7.3 The effects of the three scenarios for the delivery of additional growth have been drawn together under the four priorities for immediate action in relation of sustainable development that were identified in 'Securing the Future' (2005) (see Section 2.0 of this SA).
- 7.4 To allow comparison with the SA (2007), the assumed summary of the effects on sustainable development of Policy CF3 of the Phase 2 Preferred Option has been identified as follows:-

Sustainable Production & Consumption	-
Climate Change & Energy	--
Natural Resource Protection and Environmental Enhancement	Ø(+)
Sustainable Communities	-

- 7.5 Analysis of all options is taken using this as the base position. Thus, if the effect of the growth identified under Policy CF3 of the Phase 2 Preferred Option is negative ('-'), and the additional effect of Scenario 1 is negligible, then the effect identified will also be negative ('-'). However, if the additional effect of adding the growth is more significantly negative – then it may be that the effect is significantly negative ('--').
- 7.6 A brief review of the overall effect of each scenario is set out below against the four priorities for immediate action. This is followed by a summary of key issues that are of relevance to the conclusions that have been made.

Scenario 1: Focusing Growth in the South East of the region

Sustainable Production & Consumption	-
Climate Change & Energy	--?
Natural Resource Protection and Environmental Enhancement	-?
Sustainable Communities	+

- 7.7 The effect of focusing the additional housing growth in the South East of the region on sustainable production and consumption is negligible in the context of the growth already provided in the Phase 2 Preferred Option. The effect on climate change and energy is considered to be significantly negative in a similar way to the Phase 2 Preferred Option, although there is evidence to suggest

the effect could be less significant than has been identified. Scenario 1 is also likely to have a more negative effect on natural resource protection and environmental enhancement than the Phase 2 Preferred Option (although this will depend largely on local conditions in identifying sites); whilst the effect of Scenario 1 on the creation of sustainable communities is considered to be positive in comparison to the negative effect identified in the Phase 2 Preferred Option.

Scenario 2: Spreading Growth

Sustainable Production & Consumption	-
Climate Change & Energy	--?
Natural Resource Protection and Environmental Enhancement	-?
Sustainable Communities	+

7.8 The effect of spreading medium range additional housing growth throughout the region on sustainable production and consumption is negligible in the context of the growth already provided in the Phase 2 Preferred Option. The effect on climate change and energy is considered to be significantly negative in a similar way to the Phase 2 Preferred Option, although there is evidence to suggest the effect could be less significant than has been identified. Scenario 2 is also likely to have a more negative effect on natural resource protection and environmental enhancement than the Phase 2 Preferred Option (although this will depend largely on local conditions in identifying sites); whilst the effect of Scenario 2 on the creation of sustainable communities is considered to be positive in comparison to the negative effect identified in the Phase 2 Preferred Option.

Scenario 3: Maximising Growth

Sustainable Production & Consumption	-
Climate Change & Energy	--?
Natural Resource Protection and Environmental Enhancement	--?
Sustainable Communities	++?

7.9 The effect of providing high levels of additional housing growth throughout the region on sustainable production and consumption is negligible in the context of the growth already provided in the Phase 2 Preferred Option. The effect on climate change and energy is considered to be significantly negative in a similar way to the Phase 2 Preferred Option, although there is evidence to suggest the effect could be less significant than has been identified. The effects of higher levels of growth on natural resource protection and environmental enhancement and on sustainable communities than that identified in the Phase 2 Preferred Option is generally considered to be more significant than the medium levels of growth included in Scenarios 1 and 2. Therefore, it is considered that the effect on natural resource protection and environmental enhancement is potentially significantly negative (although this will depend largely on local conditions in identifying sites); whilst the effect of Scenario 3 on the creation of sustainable communities is considered to be significantly positive in comparison to the negative effect identified in the Phase 2 Preferred Option.

General Matters

7.10 There are a number of key issues which need to be drawn out of this summary in respect of the three potential growth scenarios for the delivery of additional housing and as follows: -

1. The significance of the effect for many of the indicators depends to a large extent on site specific or local issues that can only be analysed in detail by local authorities via the preparation of LDFs or through the determination of planning applications. Each scenario

identifies options (e.g. urban growth or urban extension) in the delivery of the additional housing. In allocating sites for growth, local issues and sensitivities and the requirements of policy guidance and standards will assist in minimising effects. These will need to be reviewed as they arise.

2. There is a generally elevated risk of flooding across the region, and some areas under particular threat (e.g. Warwick, Rugby, Worcester, Solihull). The level of risk cannot be quantified at this stage with accuracy as there is an incomplete coverage of SFRAs and it is recommended that this issue is reviewed once this work is complete. However it is reasonable to assume that the requirements of guidance and notably PPS25 will ensure that sites identified for housing do not give rise to additional flood risk issues.
3. Adverse effects on air quality are projected to increase as a result of the direct and indirect effects of the additional housing growth. It is anticipated that, generally, air quality issues would be worse with the higher growth scenario 3 than scenarios 1 and 2. As with above, it is not possible to predict exact levels and locations where effects will be the most significant as this will depend on local topography and conditions and also sites for the additional growth are ultimately allocated via LDFs. However, the obligation on local authorities to identify AQMAs in areas at risk has led to an increased number of areas being identified at it could be assumed that the plans required in these areas are likely to reduce significant adverse effects in these areas. This will need to be monitored at a local level.
4. Much of the area identified in all of the scenarios are located within the Severn WRZ where the EA have identified that investment and additional infrastructure will be required to balance out water supply and demand. Draft plans issued by the water companies in 2008 have not taken account of the additional growth identified and therefore it is not possible to identify at which point this investment would be required in the event that each scenario is taken forward into the WMRSS and also what form the new infrastructure will need to take. The take up of water efficiency measures in this area will also have an impact on this conclusion. It is understood that additional data may be available for consideration by the Panel. Similar issues in respect of nutrient enrichment of the water supply are particularly acute in certain areas included (e.g. Birmingham) and investment will be likely to be required in waste water treatment capacity. Timing for requiring this investment is unknown and will need to be assessed.
5. All of the locations identified for growth have the potential to give rise to significant local traffic issues; particularly where the additional housing growth is located in areas which currently have insufficient/poor accessibility to public transport (e.g. areas to the east of Birmingham, Rugby, Worcester, connections between Stoke on Trent and Newcastle under Lyme). This may require investment in new/additional public transport/improvements to capacity or improvement to the local highways network. This seems capable of being dealt with through LDF and associated Local Transport Plans or via the planning process in considering planning applications. A key issue will be whether sufficient critical mass of development is secured for the medium growth scenarios 1 and 2 to secure the necessary investment and how much will be available from the public sector to supplement improvements if required.
6. The effect of all three scenarios on climate change is anticipated to be significant although there is some evidence of a general reduction in greenhouse gases across the UK which may be representative of the applications of policies to reduce emissions.
7. There are a number of issues identified within the SA in respect of the creation of sustainable communities which are not relevant to a consideration of the implications of increased housing growth under Policy CF3. However, the provision of some of the 'social and community' infrastructure identified (e.g. hospitals, schools, cultural facilities) would contribute positively to this indicator. Again, how such provision relates to specific sites and proposals will need to be assessed via the planning process or via individual LDFs. Volume 1 does, however, indicate that there is no evidence to suggest that this infrastructure cannot accommodate growth with the exception of, potentially, Warwick. The delivery of the additional growth could be expected to have a positive effect on the provision of affordable housing.
8. Scenario 1 differs from Scenarios 2 and 3 in that it focuses growth in the South East where it could make a strong contribution to supporting economic growth. However, it could result in a widening of the gap between this area and the more poorly performing areas to the north and some of the most remote rural communities. Scenarios 2 and 3 may result in this gap

being narrowed although the ability of the market and availability of funding to deliver growth in the more poorly performing areas of the North East (and also deprived communities in some areas of, for example, Birmingham) would need to be addressed. Phasing is likely to be key in this regard.

9. The limited scale of growth proposed in rural areas may have some limited positive effect in supporting closing services.
 10. The provision of the additional housing growth has the potential to have both a positive, and also negative effect on the local natural and built environment in which it is brought forward. The application of measures to mitigate against the effects on the natural environment and the incorporation of the principles of good design will assist in minimising the effect on the environment. The HRA of the potential scenarios provides a more detailed analysis of measures to be addressed to minimise the effect on European sites.
- 7.11 The above summary identifies a range of effects that will arise through the delivery of the additional housing growth scenarios in addition to that identified in the SA (2007). It is clear that whilst the delivery of the additional housing growth that that identified in Policy CF3 of the Phase 2 Preferred Option will lead to more significant effects (both positive and negative) on the region's environmental, social and economic assets, there are also a number of uncertainties that arise from the scope and timing of this appraisal. Notably, it will be for local authorities to identify sites for the delivery of additional growth via their LDFs and, in doing so, will be able to take account of local conditions, policy issues and standards that will be key to ensuring that the growth can be delivered in accordance with the principles of sustainable development.
- 7.12 In addition, there are a number of pieces of work and studies that are ongoing; the results of which are key in analysing the effect of various issues on the indicators reviewed in this assessment. This includes ongoing work in identifying areas at risk of flooding and the implications of growth on the supply and demand of water.
- 7.13 Notwithstanding the need to address these issues, this SA has shown that the effect of including the growth included within the potential scenarios within Policy CF3 of the Phase 2 Preferred Option is capable of being brought forward in accordance with the core principles of sustainable development.

Cumulative & Synergistic Effects

- 7.14 Section A6.6 of the SA (2007) summarises the cumulative and synergistic (a type of cumulative effect) effects arising from the Phase 2 Preferred Option and as required by the SEA Directive. An analysis was carried out of all of the policies of the document on each of the SA objectives in turn and of the potential for effects arising from other plans and programmes. The assessment was carried out with regard to seven receptors which were considered to be the most likely to be subject to cumulative effects:-
- Transport networks;
 - Climate change;
 - Air;
 - Water quality and supply;
 - Land use;
 - Ecosystems; and
 - Population.
- 7.15 Cross reference to the conclusions and detailed analysis contained within the SA (2007) should be made as it relates to these issues and which is not repeated here.
- 7.16 This section, set out in tables 7.1 and 7.2 below, reviews whether the additional housing growth considered within this appraisal will give rise to any significant change to the cumulative and synergistic effects identified within the SA (2007) and whether the updates to other plans and

programmes will give rise to any changes to the conclusions made in the SA (2007). The same receptors identified in the SA (2007) are utilised for ease of reference and comparison.

Receptor	Summary of Effects Identified in SA (2007)	Changes Arising from Additional Housing Growth
Transport networks	Unclear as to effect of encouraging more sustainable transport patterns will have on demand in respect of both economic and housing growth. It was not considered that the policies on distribution and phasing of housing will lead to balanced development with needs being met locally. No detailed modelling carried out to assess effect on transport patterns but initial analysis indicates the additional housing would increase stress on several key links and corridors and by 2026 the network will be significantly stressed on the majority of routes during peak periods. Effect of waste policies unknown.	In respect of the provision of the additional housing growth identified in the scenarios, it has been concluded that this must have a positive effect on housing needs as the growth identified by the NHPAU was established to address this key objective. However, the distribution of housing as identified in the scenarios, and in the context of the policies within the Phase 2 Preferred Option, is not likely by itself to lead to balanced development with a focus on urban areas ahead of Greenfield sites. It may be that developers seek the delivery of the 'easier' greenfield sites outside of the urban areas ahead of brownfield locations in urban areas close to a choice of modes of transportation. This is potentially more acute in the light of current economic issues. As with the SA (2007), it is unclear as to whether policies to encourage more sustainable transport patterns are, by themselves, sufficient to reduce this potential trend. An increased need to travel is likely to have effects on emissions and therefore climate change and air quality. Improvements to infrastructure and public transport should therefore be identified as a priority for delivery both by the public and private sector to minimise the potential cumulative effects arising – this is of particular importance in the delivery of the new settlements. Stronger phasing policies may also be required so that sites already served by a choice of modes of transport are developed as a priority.
Climate change	Increase in CO ₂ emissions (3.2%) from 2006 to 2026 is anticipated from housing – unclear of effect of increase in renewable energy generation on reducing the effect of any increase. No information on effect of growing economy on CO ₂ emissions – but employment land policies in RSS encourage reduction in emissions by focusing employment land in MUAs/close to housing sites and by promoting sustainable transport to access sites. Emissions from transport may increase but in absence of information on transport patterns it is unclear to what extent. Effect of waste policies unknown.	Based on the assumptions of the SA (2007), CO ₂ emissions could be expected to further increase as a result of the growth identified in the potential scenarios. However, there is evidence that emissions may be on the decrease potentially as a result of recent policies and new standards. Continued emphasis on the importance of these policies and ongoing monitoring of the emissions will be key to ensure that the additional growth does not cause a significant adverse effect. The application of standards across the region may assist in maintaining the progress that is being made.
Air	Growth and development will both positively and negatively impact on air quality through changes in transport patterns, changes in energy generation and changes in economic activities including waste management. The policies will interact in different ways in different locations and it is not possible to predict where air quality will change. Assumed where traffic congestion increases that atmospheric pollution will increase. Increase in NO _x emissions is likely but may be a relatively small increase.	The general trends and cumulative effects identified in the SA (2007) are the same in respect of the potential scenarios. Increase in housing through the scenarios will have both direct and indirect negative effects on air quality e.g. increased transport generation. As air quality depends on local conditions, the application of AQMA management plans in areas at risk will be required which will require a consideration of related issues such as emissions from different landuses and transportation
Water Quality & Supply	Wastewater treatment infrastructure is already under stress in some parts of the region and growth of housing and economy will affect water quality if the capacity of sewerage infrastructure is not increased. Increasing risks associated with run-off from hard surfaces although incorporating SUDs in development should ensure no significant effects. Water efficiency measures will not be enough to prevent headroom deficits in some locations. Some districts with medium/high risks of flooding where housing development will be focused but depending on where and how the housing is developed and the application of policies on flooding then it is unlikely risks will increase.	All of the scenarios will increase pressure on the water supply/demand balance with Scenario 3 likely to require necessary new infrastructure and supply issues to be addressed earlier in the plan period than both Scenarios 1 and 2 and also the Phase 2 Preferred Option. The application of the principles of PPS25 in bringing forward new housing growth should ensure there is no significant increase in flood risk as a result of the scenarios. SUDs and water efficiency measures are key considerations in the delivery of the additional growth to minimise any effects.

Receptor	Summary of Effects Identified in SA (2007)	Changes Arising from Additional Housing Growth
Land Use	Large amounts of PDL will be used to deliver the growth but some other land will be required to accommodate growth, land required for other infrastructure and supporting services. No information on the capacity of the districts and it seems very likely that some of the additional housing will need to be provided in Green Belt. Likely to be negative effects on the current character and appearance of landscapes and townscapes – especially where development occurs on Green Belts, in rural locations or on the edge of settlements. It is possible to develop in sensitive urban locations without damaging a town's character – policies are in place to promote this. Likely fall in the quantity of contaminated land.	The cumulative effects identified in the SA (2007) remain relevant to the proposed scenarios for additional growth and it is likely that increased pressure, particularly in sensitive locations, will result with the additional growth
Ecosystems	Likely increase in pressure on the region's biodiversity and geodiversity depending on where additional development is located and how it is implemented. Impacts will be direct (e.g. loss of habitat) and indirect (e.g. changes in air quality). Increase in traffic associated with the additional development will also contribute to pressures on habitats/species	The cumulative effects identified in the SA (2007) remain relevant to the proposed scenarios for additional growth and it is likely that increased pressure, particularly in sensitive locations, will result with the additional growth
Population	People will benefit from increase housing provision and the replacement of older stock, leading to more housing availability including affordable and decent housing although the need will not be met where it arises and no evidence that sufficient affordable housing will be provided. Developments will be better designed and constructed, helping to create more sustainable communities, and the policies are likely to improve levels of access to services and employment/ensure development is focused around transport hubs/where alternatives to the car are provided. Economic policies will promote future prosperity and employment and promote greater access to opportunities for training, skills development and jobs. Likely reduction in tranquillity in rural areas due to the provision of 112,900 additional homes in these areas. Noise and light pollution is likely to generally increase. Overall effects on health are uncertain – growth could result in the environment being noisier, more polluted, less safe and more stressful – or, if it is in the right locations and designed in accordance with policy, it may significant improve these factors.	Most of the cumulative effects identified in the SA (2007) remain relevant to the proposed scenarios for additional growth. However, it is anticipated that the additional growth will have a real impact, particularly for the higher levels of growth in Scenario 3, on the issue of affordability of housing in the region. Scenario 1 may result in a widening of the GVA gap between the best performing south-east area of the region and the poorly performing areas in Birmingham or the north-east. Scenarios 2 and 3 may result in this gap being narrowed but this will depend on the market being able to deliver growth in the declining areas of the north east and the availability of funding to support growth in these areas.
<p>Table 7.1 - Changes to the Cumulative Effect of the Phase 2 Preferred Option on Principal Receptors with Additional Housing Growth in place Source: NLP</p>		

Changes to Cumulative Effects from Other Plans & Programmes on Principal Receptors with Additional Housing Growth

Plan or Strategy	Considered in SA (2007)?	Summary of Contribution to Cumulative Effect on indicators	Comment on Cumulative Effect/Change to Cumulative Effect of Plan or Strategy of housing growth on indicators
Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2007	Cumulative effect of this or previous strategy not considered	Providing a range of air quality standards seeking to reduce emissions of nitrogen dioxide, particulates and sulphur dioxide. Needs to be managed locally through AQMA plans but potential to limit impact of increase of emissions from increased economic and residential activity.	Anticipated that increase in households will result in an increase in emissions although the implementation of strategy to improve air quality could impact to reduce effects on new households. Will need to be assessed at a local level.
Waste Strategy for England, 2007	Cumulative effect of this or previous strategy not considered	Seeks to further reduce the amount of waste produced particularly through reuse and recycling. Could result in decrease in transportation or infrastructure required for landfill, etc and therefore positive effect on emissions. Also decrease potential for conflict of landfill on the environment.	Region has a good record in recycling generally. Increase in households could result in general potential for increases in waste but continuation of policy means that this may not be the case
England Biodiversity Strategy, 2007	Cumulative effect of this or previous strategy not considered	Strategy seeks to address the impact of climate change on biodiversity and provides a series of actions for adaptation to reduce adverse effects. Could have a potential effect in reducing the impact of increased emissions on sensitive sites.	Anticipated that increase in households will result in an increase in emissions although the implementation of strategy to reduce effects on biodiversity could have a positive effect on ecosystems and sensitive environments. Maintaining sensitive landscapes could have a beneficial effect on social wellbeing; particularly if managed access to sites can be provided.
PPS3: Housing, 2006	Cumulative effect of this or previous PPG3 not considered	Shift in emphasis to a plan-led approach in delivering housing and increased importance of Strategic Housing Market Assessment and Strategic Housing Land Availability Assessments. Should improve certainty of availability of housing sites which could assist in identification of effects on other indicators.	Increase in households has no further cumulative effect
PPS25: Development and Flood Risk, 2006	Cumulative effect of this or previous PPG25 not considered	Positive effect on land uses by reducing the potential for development being located in flood zones	Increase in households has no further cumulative effect. Requirement to consider risk of flooding in locating additional housing growth is a key consideration.
Aviation White Paper, 2003	Cumulative effect of this document was assessed	SA (2007) identified increased noise and air emissions including CO ₂ and greater mobility of population due to proximity of flights nearer to home	Increase in households has no further cumulative effect
Connecting to	Cumulative effect of	SA (2007) states that increase in jobs and increased visitor numbers	New strategy may give rise to positive effects on some of the

Plan or Strategy	Considered in SA (2007)?	Summary of Contribution to Cumulative Effect on indicators	Comment on Cumulative Effect/Change to Cumulative Effect of Plan or Strategy of housing growth on indicators
Success: West Midlands Economic Strategy, 2007	previous 'Delivering Advantage' (2004) was assessed	will have a general increase on transport and could affect environmental assets (depending on where new development is located). Associated implications on air, noise, emissions and congestion but unclear to what extent. Potential increase in demand on water supply. Economic and social benefits through job creation and skills development. 2007 draft is more general in approach but may have a positive effect on emissions through exploiting opportunities from low carbon agenda. Also greater focus on creating sustainable communities.	negative cumulative effects identified in the SA (2007). Increase in households will lead to generally similar effects particularly in urban areas.
Regional Energy Strategy (2004)	Cumulative effect of this document was assessed	SA (2007) summarised that the key effect may be to decrease greenhouse gas emissions and reduce car use.	Evidence from updated baseline that there has been a general decrease in greenhouse gases – this may be as a result of this strategy. Whilst the SA (2007) assumed an increase in development will probably lead to an increase in effects on climate change – it may be that the cumulative effect with the Regional Energy Strategy may actually be further reductions
West Midlands Visitor Economy Strategy (2008)	Cumulative effect of previous strategy (2004) was assessed	Generally seeks to encourage increased visitor numbers, new facilities and increase travel to support the regional economic strategy. This could lead to an increase in traffic and resultant emissions and also increase pressure on landtake for new facilities.	Provides potential for social and economic benefits through environmental improvements (to support tourism growth) and increased jobs to support additional households. Cumulative effect on increased traffic and emissions from increase in both visitor numbers and households.
Growing The Cultural Economy in the West Midlands, 2007	Cumulative effect of this document was assessed	Seeks to develop the cultural sector including the arts, sport, heritage, libraries, tourism, parks and green space, play and the creative industries and could impact through increased visitor pressure. Could result in increased traffic to key locations or, if it provides more local opportunities, could result in reductions in need to travel. Social benefits from increased participation in cultural activities	Increased number of households able to benefit from access to cultural assets leading to improvements in wellbeing and creation of sustainable communities.
Rural Renaissance: AWM Rural Framework, 2006	Cumulative effect of this document was assessed	SA (2007) identified potential contribution of developing rural economy (which may lead to an increase in traffic but could increase social inclusion), may change land management practices and could lead to increased pressure on environmental assets	Relatively small quantum of additional housing growth identified in all three scenarios. Unlikely to have any significant additional cumulative effects to that identified in SA (2007)
Draft East Midlands Regional Plan Proposed Modifications, 2008	Cumulative effect of previous Draft Plan (2006) was assessed	Main effects likely to arise from economic and housing growth particularly in Derby, Leicester, Northampton and Nottingham and also potentially in Daventry, Coalville, Hinckley and Swadlincote. Potential benefits in strengthening sub-regional role of Daventry and improvements to public transport into Birmingham. Potential negative cumulative effects on emissions from increased traffic and development and also water abstraction from housing growth.	Increase in housing growth in both the East Midlands and West Midlands regions likely to lead to general intensification of effects on emissions, water consumption and congestion, particularly in those areas along major routes. Could lead to need for improvements to water supply and quality to be addressed sooner due to cross-regional demands on limited resources – particularly in the Severn Trent WRZ

Plan or Strategy	Considered in SA (2007)?	Summary of Contribution to Cumulative Effect on indicators	Comment on Cumulative Effect/Change to Cumulative Effect of Plan or Strategy of housing growth on indicators
		Proposed Modifications propose further increases in housing from Draft Plan to 527,725 units throughout the plan period	
South West Draft RSS, 2006	Cumulative effect of this document was assessed	SA (2007) identified main potential effects from economic and housing growth particularly in Gloucester, Cheltenham and Bristol and the effect of increased transport on the M5 corridor. All may have an increased effect on emissions which could affect areas adjoining the region. Possible economic and social benefits from economic growth in Gloucestershire	Little/no additional cumulative effect identified – low levels of additional growth identified in regions immediately adjacent to South West region. Potential cumulative effect on increased transport on the network arising from increased activity in both regions.
Wales Spatial Plan Update, 2008	Cumulative effect of previous Plan (2004) was assessed	Potential effects arising from increased tourism (and therefore transport travelling to Wales through the region) which could have an effect on emissions. Increased pressure on water resources from economic and population growth in Cardiff. Overall greater awareness of informing regional and local plans and greater emphasis on climate change and protecting and enhancing the environment. The document also promotes and encourages the growth of tourism.	Increase in households has no further cumulative effect
Draft North West RSS, Further Proposed Changes, 2008	Cumulative effect of previous submission version of NWRSS (2006) was assessed	SA (2007) identified potential effects arising from increase in transport and economic related activity (including tourism) leading to increase in greenhouse gas emissions, air emissions, water consumption and visitor pressure – particularly on areas adjacent to the West Midlands region – and also potential economic and social benefits from economic growth in Cheshire on West Midlands areas close to the boundary with the North West. Proposed Changes propose further increases in housing from 403,060 to be provided between 2003 and 2021 to 416,000 and a removal of this figure being a maximum. However, no significant increase in the boroughs directly adjacent to the West Midlands.	Increase in housing growth in both the North West and West Midlands regions likely to lead to general intensification of effects on emissions, water consumption and congestion, particularly in those areas along major routes
Yorkshire & Humber RSS, 2008	Cumulative effect of this or previous consultation draft not considered	No significant cumulative effects anticipated due to relationship between this region and the West Midlands – limited direct transport links	No significant cumulative effects anticipated
South East Plan, Proposed Changes, 2008	Cumulative effect of this of previous SERSS (2006) was assessed	Potential effects from growth in housing and economy notably in Oxfordshire and associated transport growth	Increase in housing growth in both the South East and West Midlands regions could lead to general intensification of effects on emissions, water consumption and congestion, particularly in those areas along major routes
Draft Water Resources	Cumulative effect of Water Resources Plans for South Staffordshire Water and	Both promote water efficiency measures which could lead to lower levels of water consumption per head, although housing growth will lead to general increase in consumption. New infrastructure likely to be	Increased housing growth will lead to increase in consumption (although new housing development can incorporate new water efficiency measures to decrease effects) and investment in new

Plan or Strategy	Considered in SA (2007)?	Summary of Contribution to Cumulative Effect on indicators	Comment on Cumulative Effect/Change to Cumulative Effect of Plan or Strategy of housing growth on indicators
South Staffordshire Water, 2008			
Draft Water Resources Management Plan for Severn Trent Water, 2008	Severn Trent Water for periods 2005-2010 considered	required which may have landtake implications and effects on hydrology but will generally improve water supply. New technology could reduce effect on ecosystems	infrastructure likely to be required sooner than anticipated. Plans do not take account of increased housing growth so no information on when this may be required.
SUMMARY	General balance in cumulative effects between those plans and strategies seeking to promote additional growth (notably in housing and economic development) and those plans and strategies seeking to mitigate the adverse effects that may arise from the growth (e.g. greenhouse gas emissions, reducing need to travel). Some indications from updated baseline to this SA that some policy initiatives may be having an effect in mitigating these effects although insufficient time has yet passed since publication of some of the strategies to identify whether these trends will continue. Monitoring will be key in reviewing this moving forward (see section 8.0) of this SA and SA (2007) for further information. Some plans and strategies (notably the water resource management plans) have not at this stage taken account of the increased housing figures and there is potential for adverse cumulative effects if these plans fail to take account of additional growth.		
Note: Only those plans and strategies that have been updated since the SA (2007) and where there has been a change in policy emphasis (as identified in Appendix 1 to this appraisal) are reviewed here. Where plans and strategies have been updated but the policy emphasis remains the same then this has not been considered as an update.			

Table 7.2 - Changes to Cumulative Effects from Other Plans & Programmes on Principal Receptors with Additional Housing Growth in place

Source: NLP

Mitigation & Recommendations

- 7.17 This SA has considered the effect of bringing forward the three proposed scenarios for the delivery of additional housing growth over and above that identified in Policy CF3 (housing numbers and distribution) of the Phase 2 Preferred Option on the principles of sustainable development. The analysis has assumed that the growth identified in Policy CF3 of the Phase 2 Preferred Option is brought forward as identified and it has therefore been assumed that the maximum effects identified in the SA (2007) are likely to arise.
- 7.18 The SA (2007) identified the following mitigation and recommendations in relation to the effect of Policy CF3:-
- “Many of the environmental impacts which could arise from this level of housing growth can be mitigated by applying high standards of design and construction (i.e. through the sustainable communities and construction policies), in particular water use and wastewater discharge issues, CO₂ emissions, local transport and congestion, impacts on local environmental and historic assets. Issues around the potential use of greenfield sites (and greenbelt) could be addressed by density policies (CF6) and by policies in the Quality of the Environment chapter which will be part of the Phase 3 revision. Recommendations are made elsewhere on how these environmental pressures and impacts can be reduced. While it does not seem that house price growth can be reduced across the region as a whole without a vast increase in the supply of housing (which would probably not be deliverable or desirable), housing affordability issues can be partly addressed through policy CF7, and recommendations are made on that policy.*
- However, the issues around urban renaissance are harder to address. Unless a greater proportion of the overall housing total is located in the major urban areas, then it seems likely that the region will experience ongoing out-migration from these areas and a decline in their housing markets. While in theory it makes sense to locate additional housing in the Settlements of Significant Development, many of these towns appear to have major constraints (e.g. transport, green belt, water infrastructure, possibly flood risk) and it will be necessary to deliver that infrastructure before or at the latest alongside the housing for these towns to develop as self-sustaining and sustainable settlements.”¹¹*
- 7.19 The most fundamental and key issue that is addressed by the scenarios for the delivery of additional growth is the delivery (if the Panel are so minded) of the ‘vast increase’ in the supply of housing necessary to address housing affordability issues.
- 7.20 This appraisal also identifies that many of the environmental effects that could arise from the housing growth are capable of mitigation through the application and enforcement of policies and standards. These include those within the WMRSS as well as other national, regional and local standards that seek to tackle issues such as air quality, congestion, water use and flood risk. Many of the effects are only capable of mitigating at a local level and it will be for local authorities through their LDF and planning processes to seek to ensure that individual proposals to deliver the additional housing growth meet the principles of sustainable development.
- 7.21 The most fundamental and key issue that is addressed by the scenarios for the delivery of additional growth is the delivery (if the Panel are so minded) of the ‘vast increase’ in the supply of housing necessary to address housing affordability issues.
- 7.22 This appraisal also identifies that many of the environmental effects that could arise from the housing growth are capable of mitigation through the application and enforcement of policies and standards. These include those within the WMRSS as well as other national, regional and local standards that seek to tackle issues such as air quality, congestion, water use and flood risk. Many of the effects are only capable of mitigating at a local level and it will be for local authorities through their LDF and planning processes to seek to ensure that individual proposals to deliver the additional housing growth meet the principles of sustainable development.

¹¹ Summary of Mitigation, Policy CF3 analysis, Annex C – Policy-by-Policy Appraisal Findings and Recommendations, SA (2007)

- 7.23 This appraisal also notes the conclusions of the SA (2007) that the issue of out-migration is likely to continue without measures in place to reinforce urban renaissance. It is also noted that the SA (2007) does not indicate of what such measures are comprised (e.g. schools, crime statistics, environment, quality of life) and the precise role of housing distribution within this.
- 7.24 Recommendation 2 in the SA (2007) is the only recommendation that relates specifically to Policy CF3 – the basis of this appraisal. Recommendation 2 states:-
- “Policy CF3 (level/distribution of new housing) should establish housing figures for the non MUA districts as a maxima”*
- 7.25 The recommendation was not ultimately taken forward into the Phase 2 Preferred Option and there are clear issues to be addressed in the light of the challenge to the housing market of delivering the high levels of growth identified in the proposed scenarios. As noted elsewhere in this SA, there is a potentially high likelihood that greenfield sites outside of the urban areas are brought forward first by developers; particularly in areas in high demand and in the current economic climate. This could be tackled through the application of the principles of recommendation 2 of the SA (2007) into Policy CF3 which is endorsed by this SA.
- 7.26 However, and in addition, a real commitment needs to be made to improving the more marginal sites in the urban areas (particularly those declining areas of the MUAs identified for growth within the scenarios) through the delivery and investment in additional and improved infrastructure including transportation improvements, improvements and new water and sewerage infrastructure and social, environmental, educational and cultural infrastructure.
- 7.27 As this SA has used the SA (2007) as a starting point in its assessment, table 7.3 below summarises all the recommendations that were identified in the SA (2007) and, where it remains relevant to the potential scenarios, this has been indicated:-

Recommendation in SA (2007) in respect of the Phase 2 Preferred Option		Relevance to SA of Potential Scenarios for Additional Housing Growth
1	Policy CF4 (phasing) should take a more radical approach to phasing by ensuring that a much greater proportion of housing is delivered in the MUAs for the first 10 years of the strategy	Remains relevant and should be considered as a key potential strategy to achieve the objectives of urban renaissance and reduce the effects on more sensitive environments and communities outside of the MUAs
2	Policy CF3 (level/distribution of new housing) should establish housing figures for the non MUA districts as a maxima	Remains relevant but may prove a risk which may limit the potential to deliver the additional housing growth put forward by the scenarios
3	Implementation Plan must ensure that infrastructure is delivered in Settlements of Significant Development	Remains relevant to both SSDs and also the MUAs where additional growth is identified in the potential scenarios
4	Policy CF7 (affordable housing delivery) should require the provision of social and intermediate housing units identified by the Cambridge Centre for Housing and Planning Research	Remains relevant albeit this SA identifies that the delivery of the medium and high levels of additional growth is likely to have a significantly positive effect in addressing affordability in the region
5	Policy PA6A (employment land) should more closely allocate employment land to reflect levels of housing growth and unemployment	Outside the scope of this SA but remains relevant in the delivery of sustainable communities
6	Policy SR1 (Climate Change) should establish a regional target on CO ₂ reductions	Remains relevant and should be considered to ensure a continuation of apparent recent trends of a reduction in emissions

Recommendation in SA (2007) in respect of the Phase 2 Preferred Option		Relevance to SA of Potential Scenarios for Additional Housing Growth
7	A policy should require that new housing development helps to fund the retro-fitting of existing housing stock with energy efficiency measures	Not directly within the scope of this SA but nothing in this SA indicates this is no longer relevant
8	Policy CF6 (making efficient use of land) should establish a region wide minimum density rate to all developments over 10 units and an overall density target for the region	Remains relevant and should be considered in respect of the delivery of the housing scenarios. It has been a base assumption to the SA that all housing development needs to be brought forward at above 30 units per hectare with densities above this in central areas
9	SR2 Developments should be sufficiently large so that other community resources can be delivered alongside housing more effectively, as opposed to smaller infill developments	Remains relevant and is of critical importance in the delivery of new settlements to ensure that they meet the principles of sustainable development
10	SR2 Local authorities should look to enhance/extend natural habitats and create new assets, to help protect biodiversity from the likely effects of climate change	Outside the scope of this SA but remains relevant in the protection of natural resources and enhancement of the environment
11	CF7 Minimum % targets for intermediate and social housing at housing market area levels should be set	Remains relevant albeit this SA identifies that the delivery of the medium and high levels of additional growth is likely to have a significantly positive effect in addressing affordability in the region
12	PA6A Policy should also ensure the location of sites should promote sustainable transport behaviour, including that sites are or will be served by public transport	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process
13	PA6A Prioritise locations within urban areas which are or will be made accessible by public transport	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process
14	PA6A Promote employment land in mixed use development	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process
15	PA6B Clarify what is meant by attractive sites	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
16	PA6B Employment land reviews should also consider the degree to which the employment land supports mixed use and balanced development objectives; whether the site provides employment land near or accessible to the potential workforce; whether the site provides employment accessible to deprived communities and supports investment in areas of deprivation; vulnerability to changes in flood risk.	Outside the scope of this SA but remains relevant in the delivery of sustainable communities
17	PA7 & PA8 Sites proposed in development plans for RISs and MISs should be required to take account of the potential effects of increased traffic on AQMAs and to mitigate any potential impacts through plans for promoting alternatives to road freight and car use.	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process
18	PA9 Include requirement to consider light pollution, air quality effects, highway congestion and cumulative impact and	Outside the scope of this SA but will need to be considered in site allocation

Recommendation in SA (2007) in respect of the Phase 2 Preferred Option			Relevance to SA of Potential Scenarios for Additional Housing Growth
		employment need	by local authorities as part of the LDF process
19	PA13A	Clearer focus to employment need as a factor in allocating office space provision needed	Not directly within the scope of this SA but nothing in this SA indicates this is no longer relevant
20	PA13A	Include consideration of potential loss of accessible green space in assessing locations for development.	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process
21	PA13C	Casino development should consider the potential impact on road congestion and pollution	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
22	T6	Park and ride schemes to be explicitly linked to a broader package of measures to manage demand	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
23	T11	Encourage exploration of the potential for use of rail freight from Coventry	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
24	T12	Greater emphasis on investment in public transport schemes in the list of priority investments	Outside the scope of this SA but is key, as identified above, in ensuring the scenarios meeting the objectives of sustainable development
25	W1	Include requirement to minimise greenhouse gas emissions from waste management activities	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
26	W2	Increase diversion levels for C&I waste to meet national target for 2010	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
27	W2	Strengthen emphasis on importance of waste minimisation activities for both MSW and C&I waste	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
28	W2	Include commitment to support local/regional processing of recyclate and markets for recycled materials	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
29	W3	Sites in proximity to areas of congestion/low air quality should maximise use of alternatives to road transport wherever possible	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process
30	W5	Clarify accessibility criteria to prioritise locations close to the source of waste over end users	Not within the scope of this SA but nothing in this SA indicates this is no longer relevant
31	W6	Sites in rural areas should be considered in terms of overall sustainability impacts and benefits	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process
32	W11	Include requirement to promote restoration benefits for landscape, recreation and amenity and biodiversity.	Outside the scope of this SA but remains relevant in the protection of natural resources and enhancement of the environment

Recommendation in SA (2007) in respect of the Phase 2 Preferred Option			Relevance to SA of Potential Scenarios for Additional Housing Growth
33	W11	Include requirement for methane capture and energy generation from landfills	Outside the scope of this SA but will need to be considered in site allocation by local authorities as part of the LDF process

Table 7.3 – Effect of the SA of the potential scenarios for the delivery of additional housing growth on the mitigation and recommendations made in the SA (2007)

Source: NLP

- 7.28 Given the issues identified in the SA, and a consideration of the measures identified in the table above, no additional recommendations are identified as a result of the SA of the scenarios for the delivery of additional housing growth.

Monitoring

- 7.29 Section A8 of the SA (2007) provides a summary of those measures recommended to assist WMRA in monitoring the significant effects of the implementation of the RSS. A number of potential types of both direct and indirect indicator are identified that could prove useful in understanding how the RSS is being implemented.
- 7.30 Given the potentially wide-ranging effects of the housing options on the region that have been identified in this SA, it is likely that all of the indicators identified in the SA (2007) will remain of importance in monitoring the effects of additional housing growth; should a decision be taken to include the additional growth within the WMRSS. Cross-reference to Section A8 of the SA (2007) is recommended in this regard.
- 7.31 Notwithstanding, it is considered that certain indicators are of more relevance in considering the effects of specific options in the light of the likely effects that have been identified in Sections 6.0 and 7.0. Table 7.4 below provides a summary of the RSDF objectives and key indicators identified in Table A8.1 of the SA (2007) along with an indication of those indicators which are considered to be of specific relevance to each of the housing scenarios.

RSDF Objective	Indicator	Scenarios		
		1	2	3
Balanced Development, Sustainable Communities	Housing completions	✓	✓	✓
	Housing stock	✓	✓	✓
	Intra-regional migration	✓	✓	✓
High Quality Built Environments	Development density	✓	✓	✓
	Housing completions – Building for Life	✓	✓	✓
Use of PDL and buildings	Housing completions on PDL	✓	✓	✓
Flood Risk	Housing completions on flood zones	✓	✓	✓
Environmental and Historic Assets	Housing completions on Green Belt	✓	✓	✓
	Extent of Green Belt	✓	✓	✓
Meeting Housing Needs	Affordable housing completions	✓	✓	✓
Sustainable Construction & Design	Housing completions – Code for Sustainable Homes	✓	✓	✓
	Housing completions – West Midlands Sustainability Checklist	✓	✓	✓

RSDF Objective	Indicator	Scenarios		
		1	2	3
Renewable and Low Carbon Energy	Renewable Energy	✓	✓	✓
Economy and Prosperity	Employment land			
	Employment land on PDL			
	Retail and office development			
Waste Management	Waste management capacity	✓	✓	✓
	Waste management self-sufficiency	✓	✓	✓
	Waste recycling and composting	✓	✓	✓
	Waste recovery	✓	✓	✓
Transport	Distance travelled		✓	✓
	Bus and rail passengers	✓	✓	✓
	Trips by mode			
	Traffic	✓	✓	✓
	Congestion	✓	✓	✓
	Public transport by BIA	✓	✓	✓
	Freight			
Climate Change Mitigation	CO ₂ emissions (from housing stock)	✓	✓	✓
	CO ₂ emissions (by household)	✓	✓	✓
Access to services, facilities and opportunities	Access to services	✓	✓	✓
Pollution	Air Quality	✓	✓	✓
	Water Quality	✓	✓	✓
Natural Resource Use – Water and Minerals	Water supply	✓	✓	✓
Biodiversity	Biodiversity (more detailed recommendations on integrity of European biodiversity sites considered in more detail in Habitat Regulations Assessment)	✓	✓	✓

Table 7.4 – Effect of the SA of the potential scenarios for the delivery of additional housing growth on the monitoring recommendations made in the SA (2007)

Source: NLP