

**The Strategic Plan for Aberdeen
Strategic Environment Assessment: Part 20: Assessment of
the 8 Strategic Options SUMMARY**

1 Purpose

- 1.1 This paper describes the appraisal of the strategic options of the structure plan against the 28 SEA objectives. Assessing all eight options will comply with the need to assess both the preferred strategy and the alternatives as required for the Strategic Environmental Assessment (SEA). The outcome of this analysis will contribute to the technical evaluation of all the strategic options.

2 Background

- 2.1 On 17th April the SEA Scoping Report was submitted to the three Consultation Authorities to comment on the proposed assessment framework and to highlight or suggest additions to the data collected (e.g. baseline data). They suggested only minor changes to the mitigation measures framework and overall, the response was very positive. The changes proposed by the Consultation Authorities were agreed by members of ACSSPC on 25 June 2007 and authority was given to undertake the assessment.

3 Methodology

SEA objectives

- 3.1 The assessment was carried out using the high growth scenario, as this identifies the greatest significant impact out of all three potential growth scenarios (low, continuous and high).
- 3.2 However, due to the scale and nature of the development proposed in the structure plan (i.e. it does not identify site specific allocations or specific land uses), not all of the potential impacts to some of the SEA objectives will be known at this time. These impacts have been identified as “uncertain” (i.e. the effects on the SEA objective can only be identified in a more detailed plan such as a local plan or at a considerably later stage in the Structure Plan’s development).
- 3.3 The detailed assessment of the 28 SEA objectives was assessed, in the first instance, by members of the Structure Plan Officer group. Stakeholders with interests in the natural environment, historic environment, and environmental health were invited to review, and augment the planning officers’ assessment of all the SEA objectives at a seminar held on 6 July 2007.

Cumulative, synergistic and secondary effects assessment

- 3.4 The stakeholders were then invited to a further meeting with the planning officers to discuss likely cumulative, synergistic and secondary effects. The following process was used to identify likely cumulative and other impacts prior to the meeting:

- initial assessment of the structure plan options for cumulative, synergistic, and or secondary effects;

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Strategic Options

Results of the Community and Stakeholder engagement

- consideration of the effects that may arise from interaction with proposals within the structure plan as well as those within other plans, programmes and strategies (National Planning Framework, Regional Transport Strategy, and Local Economic Development Strategy);
- consideration of whether any effects will bring the critical environmental capital (e.g. water) close to their capacity or threshold to remain productive or sustainable; and
- noting the level of uncertainty in identifying cumulative, secondary or synergistic effects and ensuring that, where uncertainty exists, this is documented.

3.5 The meeting with stakeholders was held on 12 July 2007 to review and augment the planning officer assessment, and to ensure that the impacts are based on a wide range of expert opinion and professional judgment.

3.6 On the agreement of a potential strategic option by Aberdeen City and Shire Strategic Planning Committee, a wider group of stakeholders will be invited to assess the provisional option and identify possible mitigation measures and monitoring requirements

4 Outcome of the assessment

4.1 The results of this element of the SEA will be used to inform the appraisal of all eight strategic options.

5 Technical appraisal

5.1 Impacts are described in terms of whether the significant environmental effects damage (or otherwise) the receptors in relation to the reversibility or irreversibility of the effects, risks, duration (permanent, temporary, long-term, short-term and medium-term) and cumulative (direct, indirect, secondary and synergistic).

5.2 The scenarios described are those detailed in the accompanying publication "Information on the different possible options for development".

5.3 Effects are described as:

- ++ very positive
- + positive
- +/- mixed
- very negative
- negative
- ? uncertain
- 0 neutral

Assumptions

- 5.4 As noted above all scenarios were assessed using the high growth scenario as a worst-case scenario.
- 5.5 Within Aberdeen City, it is assumed the level of growth required could be accommodated to an extent by brownfield developments, but is likely to require significant greenfield land release. The two options considered for this greenfield land release are either as incremental growth across the city and / or the creation of a major expansion of the city (as has been achieved over a similar period at Bridge of Don). It is also assumed at this time that the take up of land would be constant over the plan period. No assessment of the implications of different phasing scenarios was undertaken. It was judged that environmental impacts would be similar regardless of relatively small differences in the phasing of development and in comparison to the differences between the spatial options.
- 5.6 Within Aberdeenshire, it is assumed that the scale of growth envisaged would be concentrated into “community” sized allocations of around 2,000 dwellings over a 25-year period, and that the take up of land would be constant over the plan period.
- 5.7 It is also assumed that the Aberdeen Western Peripheral Route will be built on its currently proposed alignment and is open to traffic on 1 January 2012.

Assessment

- 5.8 Tables 1 and 2 provide a summary of the SEA and cumulative impact assessment.
- 5.9 Table 1 presents a summary of the SEA of each option against the SEA objectives (without the cumulative impacts). Options 2 (Most of the development in Aberdeen City, significant development in the existing transport corridor) and 6 (Most of the development in the existing transport corridor, significant development in Aberdeen City) have the fewest negative significant environmental impacts. They scored well together on water quality (minimum pollution into water courses), biodiversity (minimum impacts on protected sites), climatic factors and human health. On detailed analysis, Option 2 scored best, because of its greater positive impacts on regeneration of derelict, vacant or contaminated land.
- 5.10 The SEA identified Options 4 (Aberdeen City, Growth Poles), 5 (new settlements), 7 (Transport corridor, growth poles) and 8 (transport corridor, new transport corridor) as having the highest negative significant effects. Options 4 and 7 scored worst when analysed in detail. Their poor scores were mainly attributed to significant effects on water quality (from water pollution (phosphates) and water abstraction), and on biodiversity (risk of development affecting designated sites and coastal areas).
- 5.11 The assessment of impacts in the context of outcomes from other plans and strategies (the cumulative and synergistic impacts) presents a slightly different picture. This element of the assessment takes account of the effects of other plans and strategies to make better or

worse, impacts. Table 2 breaks down the 28 SEA objectives into 9 SEA topics on air, water, etc. in accordance with a filtering process undertaken by SEA consultees. Most impacts resulting from the interaction of the option with other plans and strategies were cumulative, although there were some synergistic impacts for water quality (all negative) and climatic factors (all positive).

- 5.12 Option 5 (Aberdeen city and new towns) scored best in the context of other strategies, with consistent positive impacts across many of the SEA topics. This is due to the option proposing development away from historic towns and prominent landscapes and coastlines. The majority of the other options performed relatively poorly. Options 4 (Aberdeen city and growth poles) and 7 (existing transport corridor and growth poles) had the highest adverse cumulative impacts. They received more negative scores as they were judged to impact negatively on climatic factors (the dispersed nature of the growth poles would increase resource use), and on the historic environment and landscape, again due to the spread of development affecting more designations. Other plans and strategies did not mitigate potential impacts.
- 5.13 When the two assessments are considered together, Option 2 scores the best, due to the number of positive impacts in the SEA (Table 1) and the limited additional adverse impact when the option is considered in the context of other strategies. The second and third least impacting options are 6 and 3 (Aberdeen City and new transport corridor).
- 5.14 However, the assessment does identify shortfalls in all the options, which need to be mitigated against or the option amended to reduce its impact on the environment.

Table 1: Impact Matrix (excluding cumulative effects)

SEA Topics	Possible Objectives	Strategic Objective									Overall Effect	Comments
		1	2	3	4	5	6	7	8			
Air	1 Protect and improve local air quality.	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-	Effects could be damaging to the centre of the City and increased commuting by car could also reduce air quality. Direct cumulative and synergistic effects are likely. Scale of development will allow public transport investment resulting in an improvements in air quality
Water	2 Reduce water pollution and protect, maintain and enhance Water Quality and good ecological status	0	0	-	--	0	0	--	-	-	Neutral and/or negative effects are anticipated from all options, although all the effects could be considered neutral assuming that wastewater treatment facilities are provided to legal standards.	
	3 Maintain water abstraction, run-off and recharge within carrying capacity (including future capacity).	-	-	-	-	-	-	-	-	-	All options are likely to have negative impacts on water abstraction due to the scale of development proposed	
	4 Only development supported in SPP7: (Planning and Flooding) will be allowed within functional flood plains.	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options	
	5 Improve and support water efficient technologies.	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options	
Soil	6 Reduce area of land contamination in the region.	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options	

	7 Improve and safeguard the efficiency and effectiveness of land use and soil quality and quantity	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
Biodiversity	8 Conserve, protect, maintain and enhance biodiversity.	-	+/-	-	-	-	+/-	-	-	-	-	Land-take for development will have a long term and irreversible adverse impact on habitats. Risk is reduced by some options. Opportunities for habitat creation would be provided.
Climatic Factors	9 Reduce the causes of adverse climate change	+/-	+/-	+	-	+/-	+	+/-	+	+	+	Options which include development in the City and on major transport corridors will have a positive impact through providing the critical mass for efficient public transport, dispersal to growth poles has a negative impact
	10 Decrease the use of non-renewable energy.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	11 Reduce vulnerability to the effects of climate change	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
Human Health	12 Improve accessibility to good quality open green space and countryside.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	13 Improve accessibility to open spaces, jobs/ employment, education, public services, and decrease deprivation/social exclusion.	-	+/-	+/-	+	-	+/-	+	+/-	+/-	+/-	Centralisation in Aberdeen will impact marginalised areas. Options which improve accessibility from /to existing centres have both positive and negative impacts. Dispersal to growth poles promotes accessibility to employment and services

	14 Increase opportunities for indoor recreation and exercise.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	15 Protect and improve health.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	16 Increase the mix of housing types and tenure.	+	+	+/-	+/-	+/-	+/-	+/-	-	+/-		Continued development in locations where development has been occurring allows issues of mix and tenure in these areas to be redressed. Development in “new” locations (new settlement / new transport corridor) removes this opportunity.
Population	17 Improve the supply of housing land to accommodate in-migration and the predicted increase households.	?	?	?	?	?	?	?	?	?	?	Impacts are uncertain at this time. Work is being undertaken to assess aspiration and marketability of the different options
	18 Improve the supply of dwellings for the aging population and those with special needs.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	19 Improve the provision of land for care homes.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	20 Improve the provision of services to cater for ‘non-Scotland’ migrants	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
Cultural Heritage	21 Protect, and where appropriate, enhance the historic environment.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	22 Promote the understanding and enjoyment of the historic environment.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options

Landscape	23 Protect and enhance and where appropriate restore the quality and distinctiveness of the area's landscape and townscapes.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
Material assets	24 Promote the creation of fixed assets, including affordable housing and water and waste management facilities.	+	+	+	0	+	+	0	+	+	+	All options create additional fixed assets. Development in growth poles makes use of existing infrastructure capacity, reducing the need to create additional assets.
	25 Enhance and promote commercial and industrial assets.	?	?	?	?	?	?	?	?	?	?	Impacts are uncertain at this time. Work is being undertaken to assess aspiration and marketability of the different options .
	26 Regenerate derelict, vacant or contaminated land.	+	++	++	++	+	+	+	+	+	+	Impacts on derelict vacant and contaminated land are generally positive and greatest in strategies promoting development in Aberdeen City, Peterhead and Fraserburgh. Development in new locations is less advantageous
	27 Protect residential, commercial and industrial properties from flooding.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options
	28. Promote the use of sustainable materials and the adoption of Lifetime standards.	?	?	?	?	?	?	?	?	?	?	This is an issue outwith the scope of the assessment of strategic options

Table 2: Cumulative, secondary and synergistic impact matrix

SEA Topics	Strategic Objective									Overall effect (summary)
	1-8	1	2	3	4	5	6	7	8	
Air										
Cumulative		+/-	+/-	-	-	+	+/-	0	+	<ul style="list-style-type: none"> • Effects could be damaging to the centre of the City where development is concentrated. • The more sporadic the development, the more likely commuting by car would increase, which could also reduce air quality. • Depending on the scale of development, increased public transport investment would result in improvements in air quality.
Water										
Cumulative		-	-	-	-	+/-	-	-	-	Negative effects are anticipated from all options, although in the long term, all effects could be considered neutral assuming that wastewater treatment facilities are provided to current legal standards.
Secondary						-				Flooding from increased surface water runoff could affect settlements downstream if a new town is proposed near to a watercourse.
Synergistic		-	-	-	-	-	-	-	-	All options are likely to have negative impacts on water abstraction due to the scale of development proposed.
Soil										
Synergistic	-									Permanent loss of soil resource from new development, although the full extent is unknown, and will depend on the scale and density of development.
Biodiversity										

SEA Topics	Strategic Objective									Overall effect (summary)
	1-8	1	2	3	4	5	6	7	8	
Cumulative	-	+/-	-	-	-	-	+/-	-	-	Land-take for development will have a long term and irreversible adverse impact on habitats. This is reduced by some options where development is less concentrated. And sporadic. Opportunities for habitat creation would be provided.
Synergistic	-									Any development will have a long-term and negative impact on biodiversity, depending on the land developed (e.g. agriculture or scrubland) and its density. Greenspaces and green corridors would be provided.
Climatic Factors										
Cumulative					-	+		-		• Dispersal to growth poles has a negative impact.
Synergistic	+			+	+			+	+	<ul style="list-style-type: none"> Options, which include development in the City and on major transport corridors, will have a positive impact in the medium to long term through providing the critical mass for efficient public transport. Options that promote development in towns with ports/ harbours could reduce the number of freight vehicles travelling by road, reducing carbon emissions.
Human health & Population										
Synergistic	+/-									<ul style="list-style-type: none"> The density of development are likely to impact negatively on soil, biodiversity, and landscape, and increase mobility to work, increasing carbon emissions in the long term. The scale and layout of development in a new town could be better designed than extending existing settlements, although it does deny the opportunity to readdress issues of mix and tenure in existing settlements.

SEA Topics	Strategic Objective									Overall effect (summary)
	1-8	1	2	3	4	5	6	7	8	
Cultural heritage / historic environment										
Cumulative		-	+/-	0	-		+/-	-	-	<ul style="list-style-type: none"> • Where development is concentrated in the City or the Shire, it will adversely affect the historic environment in the long term from increased vehicle movements affecting their stability and damaging the buildings from air pollution. • Possible neglect of historic burghs where new development is proposed elsewhere from being unoccupied, although for some historic burghs, a lack of development is beneficial (e.g. Deeside). • Permanent loss of known and unknown archaeological remains.
Secondary		-				+		-	-	
Landscape										
Cumulative		0	-	0	-	+	-	-	-	<p>Impact on the landscape is generally unknown, as the scale and design/layout of any new development is unknown, and would have to be assessed in a lower tier plan (e.g. local plans). Impacts would be greater (e.g. more adverse) in prominent landscapes and coastlines.</p>
Secondary		+								
Synergistic	?									