

REGIONAL PLANNING AND SUSTAINABILITY – TOWARDS INTEGRATION IN THE UK AND EU

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A key premise of the paper is that the regional level of planning is a particularly appropriate level for the integration of bio-physical and socio-economic development issues. The UK, and the European Union (EU) more generally, have witnessed some important developments in regional planning practice over the last decade which have sought to encourage such integration. The paper reviews examples of innovative applications of Strategic Environmental Assessment (SEA) and Sustainability Appraisal (SA), in relation to EU Structural Funds, the new generation of UK Regional Plans, and UK Multi-Modal Transport Corridor studies. It concludes with an appraisal of progress to date towards the goal of a more integrated approach.

INTRODUCTION AND BACKGROUND

Socio-economic development and a high quality natural and built environment can be uncomfortable, and often incompatible, partners. Economic development and environmental degradation can be a causal downward spiral which is hard to reverse. In the European Union, several decades of Environmental Action Plans have had mixed impacts on various environmental indicators, as reported in the European Environment Agency's latest state of the environment report for Europe (Environment Agency 2003). Yet the adoption of the concept of sustainable development has offered a way forward which is potentially more positive, if the good intentions can be converted into good practice.

In this context, regional planning may have a particularly central role to play as the focus for 'territorial integration' – between the natural and socio-economic systems within a territory. In the UK the legacy of Ebenezer Howard and his healthy Garden Cities can be traced through into regional plans, with new towns and corridors of development, and an attempt to balance the pressures of development and environmental conservation. In the US, Friedmann and Weaver (1979) have reminded us of important innovative regional schemes, exemplified by comprehensive river based regional develop-

ment schemes such as that for the Tennessee Valley. Others (for example Roberts, 1994) have argued that the regional level, regional agencies and the regional planning process are perhaps best placed to secure the vital integration needed between socio-economic development and the bio-physical environment.

But can we deliver such effective integration at the regional level? Regional planning practice has been severely constrained by the 'means' to deliver the 'ends'. There are both institutional constraints and also methodological constraints. Institutionally, regional planning is often seen as the cuckoo in the nest between local and national levels. It often lacks the power base and legitimacy of the other levels of government and planning, and can be viewed with mistrust from both above and below, for 'empowered' regions can be a significant force in the country. It can be a contested area between many stakeholders with their varying interpretations of regional planning objectives – physical/land use planning or economic development; intra-regional planning or inter-regional planning? Yet there has been a renewed interest in regionalism in many countries in the European Union, as will be discussed further. But even if the institutional context is improved, can we overcome the methodological constraints involved in socio-economic and bio-physical integration? In this context,

the recent and rapid rise of Strategic Environmental Assessment (SEA) and Sustainability Appraisal (SA) offers promising ways forward.

This paper focuses on approaches to overcoming the institutional and methodological constraints in three contexts – the European Union and sustainable regional development (through the Structural Funds and SEA/Environmental Appraisal); the revival in English regional planning and Sustainability Appraisal; and a sub-regional transport sector example, using the currently popular UK example of transport corridor multi-modal studies, drawing on a case study from South Wales. As a preliminary to these three cases, the next section seeks to illustrate the many dimensions and levels of UK and EU regional development and planning in practice.

UK AND EU REGIONAL DEVELOPMENT AND PLANNING – A MULTI-LEVEL CONCEPT

Figure 1 provides a simple overview of five 'levels' of regional/sub-regional planning and development in the UK and the EU. At the macro EU scale, regional planning and development can be seen as embracing both the long standing, imperative and highly resourced Regional Policy, which uses the strength of the Structured Funds to help the

weaker EU regions; and the much more recent, indicative and very tentative European Spatial Development Perspective (ESDP) with its ideas for spatial planning in macro cross border regions and innovative planning concepts (for example – polycentricity in regional planning) (CEC, 2004; 1999).

Within the UK, there has been a long standing 'inter-regional' planning policy which has sought since the 1920s to assist the more economically distressed regions, which are primarily in the North and West of the country (for example Merseyside (Liverpool), Clyde-side (Glasgow) and South Wales). Within our large planning regions (see Figure 2), another level of planning, 'intra-regional' or regional spatial planning seeks to achieve the best distribution of land uses and development over planning periods of approximately 15 years. Such plans may identify sub-regions for particular development attention, for example the Milton Keynes area or the Thames Gateway area in the South East Region, which are then the focus for sub-regional planning. The lowest level of strategic planning in the UK is that of Structure Planning for the English Counties – soon to be ended under the 2004 reforms of the English planning system (ODPM, 2003).

Case 1: The EU and sustainable regional development

The EU is on an integration path, moving from free trade area, to common market, to various degrees of economic and monetary, and to some extent political, union. The aim of the Single European Act (1992) was the further elimination of barriers (non-tariff, such as restrictive practices, as well as tariff) and the creation of a powerful and competitive single market, well equipped to compete globally. The EU is also growing in terms of Member States and population. The EU of 15 Member States has a population of 380 millions. This will increase to 455 millions with the addition of the 10 Accession States in May 2004, and to 485 millions with the planned enlargement to 27 Member States, with the subsequent addition of Bulgaria and Romania. But the addition of new members usually brings problems of economic disparity. For example Bulgaria and Romania together would add a further 8% to EU population but under 1% to

Figure 1: The Range of level EU/UK Regional development and Planning Practice

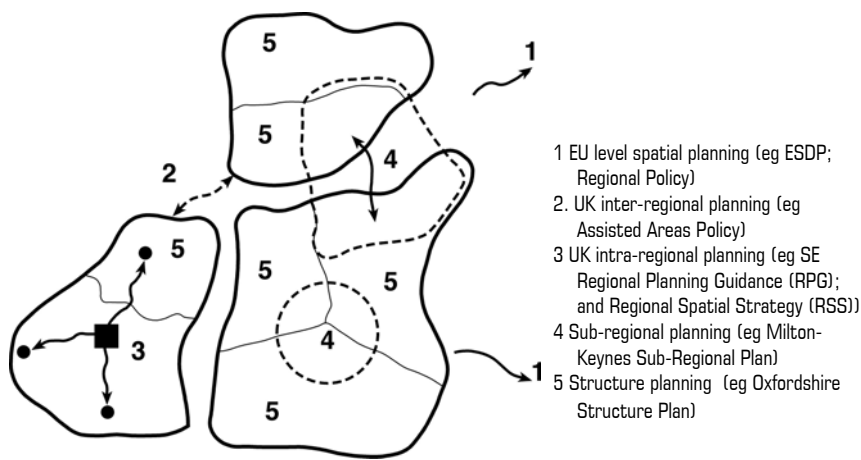


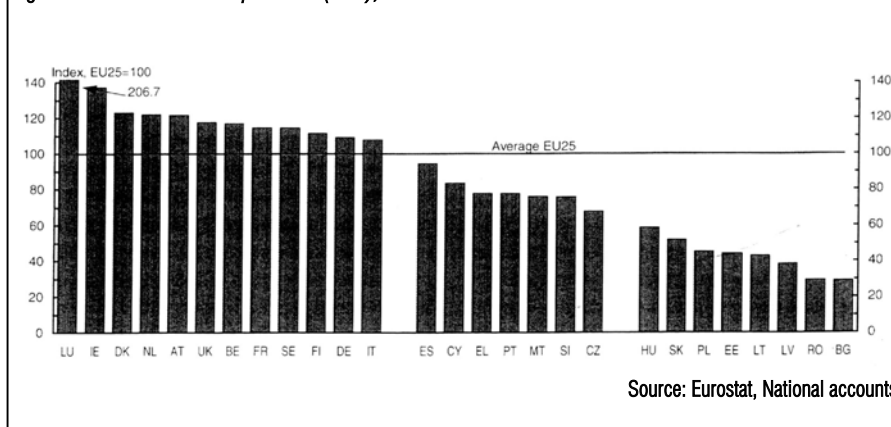
Figure 2: Map of the English Regions (DTLR,2002)



GDP (CEC, 2004). The removal of barriers to trade and factor movement within the EU can also emphasise the 'centre-periphery' model of differential prosperity. Figure 3 shows a division of the enlarged EU into three groups of Member States according to GDP per capita. The first group consists of 12 of the present 15 Member States, with GDP per capita at least 10% above the EU 25 average. In the second group, including the remaining three of the 15 Member States, Spain, Portugal and Greece, plus Cyprus, The Czech Republic, Slovenia and Malta, GDP per head is between 68% and 94% of the EU 25 average. In the third group of 8 countries (including Bulgaria and Romania), it is under 60% of the average.

The EU must be fair as well as free, and over time a counterbalancing regional policy has been developed to aid the development of problem regions in Member States. EU regional policy uses a variety of funding mechanisms, the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund, and others to support investment in infrastructure and people in the regions. The funding is now immense, almost half of the EU budget, and is targeted at the most disadvantaged (Objective 1) regions. But all development – new high speed train systems, major roads, energy facilities and the like – have environmental impacts, and there is a danger of EU regional policy objectives and actions clashing with those of the EU environmental policy. The Single European Act also stresses that the EU will aim for a 'high

Figure 3: EU States – GDP per head (PPS), 2002



level' of environmental protection, with objectives 'to preserve, protect and improve the quality of the environment, to contribute towards protective human health, and to ensure a prudent and rational utilisation of natural resources'. To such ends, there have been many environmental Directives, including the pioneering 1985 (amended 1997) Environmental Impact Assessment Directive (CEC 1997). The latter applies to projects, and has been applied, with some inconsistency, to developments across the 15 Member States (Glasson et al 2004). However, the introduction of Strategic Environmental Assessment (SEA) for the higher tiers of development actions - programmes, plans and policies - has been problematic. The EU has wanted such a facility for many years, but has been blocked by Member States claiming 'national subsidiarity' for such measures.

Yet an interesting way forward was found by the

EU, using the strength of EU regional policy funding. Under the Fifth Environmental Action Programme (EAP) (CEC, 1992), an Integration Unit was established in the European Commission (EC) Environment Directorate which had as one of its objectives, the undertaking of environmental assessments of EU actions. EU regional policy became a suitable case for treatment. To access the Structural Funds, 260 bn. Euro (2000-2006), Member States must produce regional development plans pulling together investment requirements for the region/sub-region in question. From 1994 onwards such plans had to be accompanied by an 'environmental profile' (see Table 1), which should provide an overview of the most significant environmental issues and the most acute environmental problems of a region. Over 150 plans, submitted by Member States between 1994-1999, were subject to the new requirements.

Table 1: EU Environmental Profile for Regional Development Plans

Key environmental issues	A description (quantified where possible) of the key environmental issues in the region including: <ul style="list-style-type: none"> – the location of zones of special environmental interest; – the nature and location of acute problems of pollution and the population affected (e.g. where Community standards are exceeded, where potentially irreversible damage to the environment has occurred); and – problems and/or areas of serious stress on the ecosystem (e.g. with reference to water quality and quantity, soil quality)
The legal and administrative framework	A description of: <ul style="list-style-type: none"> – the legal and administrative framework within which areas of environment interest are designated and protected; – the legal and administrative framework within which the regional development plan and environment policies are conditioned (e.g. through land use planning, project design and approval); – the role of environmental authorities in planning implementation of the development plan; and – the procedures for providing the public with information (and where appropriate consultation) on projects.

The Impact of regional developments plans on the environment	<p>A description of:</p> <ul style="list-style-type: none"> – the expected change in acute problems of pollution and stress on the ecosystem, as a result of the actions arising from the development plan (quantified where possible); – expected improvements to human skills; – whether (and if so how) preventative action is incorporated into the development and design of major infrastructure projects and regional aid schemes; and – existing and planned environmental information and monitoring systems.
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(Source: CEC, 1993)

An EC review of the environmental profile process (see Glasson and Gosling, 2001) indicated that it had produced plans of greater environmental content, both vertically (ie. the addition of specific environmental measures) and horizontally (ie. the inclusion of environmental concerns across all measures). There were of course some limitations; the measure was introduced quickly, and the profiles were weak on quantification. But they did represent an important example of confronting institutional and methodological issues. The institutional context was significant, in that it brought together Environment and Regional Policy Directorates, using the financial clout of the Structural Funds as the 'carrot' to implement the profile. The profile itself was simple in its requirements; later rounds of implementation will build on this format.

In a wider context, after 25 years of discussion and negotiations, the EU finally agreed the SEA Directive (CEC, 2001), to become operational from July 2004. It applies to plans and programmes in Member States, including regional plans, but agreement could not be reached on the inclusion of policies. The Directive relates to plans and programmes for agriculture, forestry, fisheries, energy, industry, transport, waste management, telecommunications, tourism, town and country planning or land use. Table 2 provides a summary of the requirements of the Directive. The introduction of the Directive, and its translation into national legislation and guidance (see Chap 12, Glasson et al, 2004 for UK guidance) provides a further step forward in overcoming the institutional and methodological constraints.

Table 2: Requirements of the EU SEA Directive

<p>Preparing an environmental report in which the likely significant effects on the environment of implementing the plan, and reasonable alternatives taking into account the objectives and geographical scope of the plan, are identified, described and evaluated. The information to be given is (Article 5 and Annex I):</p> <ol style="list-style-type: none"> a) An outline of the contents, main objectives of the plan, and relationship with other relevant plans and programmes; b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan; c) The environment characteristics of areas likely to be significantly affected; d) Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43 EEC; e) The environmental protection objectives, established at international, Community or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation; f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. (These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects); g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan; h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information; i) a description of measures envisaged concerning monitoring in accordance with Article 10; j) a non-technical summary of the information provided under the above heading. <p>The report must include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process to avoid duplication of the assessment (Article 5.2).</p>
<p>Consulting:</p> <ul style="list-style-type: none"> • authorities with environmental responsibilities, when deciding on the scope and level of detail of the information which must be included in the environmental report (Article 5.4) • authorities with environmental responsibilities and the public, to give them an early and effective opportunity within appropriate time frames to express their opinion on the draft plan and the accompanying environmental report before the adoption of the plan (Article 6.1, 6.2) • other EU Member States, where the implementation of the plan is likely to have significant effects on the environment in these countries (Article 7).
<p>Taking the environmental report and the results of the consultations into account in decision-making (Article 8).</p>
<p>Providing information on the decisions:</p> <p>When the plan is adopted, the public and any countries consulted under Article 7 must be informed and the following made available to those so informed:</p> <ul style="list-style-type: none"> • the plan as adopted • a statement summarising how environmental considerations have been integrated into the plan and how the environmental report of Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Article 7 have been taken into account in accordance with Article 8, and the reasons for choosing the plan as adopted, in the light of the other reasonable alternatives dealt with; and • the measures decided concerning monitoring (Article 9).
<p>Monitoring the significant environmental effects of the plan's implementation (Article 10).</p>

(Source: ODP, 2003)

Case 2: the UK regional revival and the example of SE England regional planning

UK regional planning (taken here as regional strategic planning for a region, or intra-regional planning) prospered in the 1960s and 1970s. But by the 1980s Breheny and Hall (1984) were writing about 'the strange death of strategic planning'. Fortunately it was a case of hibernation rather than death, and there has been a major revival of regional activity in the 1990s and beyond, particularly following the election of a Labour Government in 1997. Examples of this revival include institutional reform. Scotland and Wales have their own Assemblies, with responsibility for planning amongst other activities. Each of the eight English regions (Figure 2) has a Regional Development Agency (RDA) charged with the task of promoting the sustainable economic development of its region. The RDAs have substantial budgets, and provide a new resource lever for policy and plan implementation at the regional level. There are also regional Government Offices which co-ordinate the functions of Central Government in the English regions. The latter do not yet have directly elected assemblies as in Scotland and Wales, but there are appointed Regional Assemblies for the English regions and they are becoming a more significant player, especially in regional planning.

The regional revival has also had a procedural/methodological dimension. Activity in the 1990s was based around the production of Regional Planning Guidance (RPGs) for each of the English regions. Early examples had quite a narrow land use planning format and were stronger on analysis and strategy formulation than on implementation. Later examples adopted a wider brief. For example the 'Regional Guidance for the Spatial Development of the East Midlands' (EMRLGA, 1998) saw its role as follows:

'to set out an integrated spatial development strategy which encompasses proposals for the development of the region's economy, its infrastructure, its housing and other land use needs, and proposals for the conservation and enhancement of the natural and cultural environment for the benefit of all the region's citizens; to incorporate the key

elements of the Regional Transport Strategy: to set the spatial development strategy within the context of moving towards more environmentally sustainable living patterns; to involve all the region's stakeholders in a debate about the future direction of the region; to provide a framework (for other plans and programmes).'

New national Planning Policy Guidance on regional planning (PPG11) (DETR, 2000) further advanced the changing nature of the context and process of regional planning. The widening content included additional issues such as health and energy; other aims for revised RPG included more focus on policy integration, within and between policy fields, and between policy levels, and policy innovation. But resource constraints on regional planning activity continue to be apparent in most regions; regional planning operates on a shoestring, plus a great deal of good will from various levels of government and from relevant agencies.

The latest stage in the evolution of regional planning has come out of a major review of the UK planning system, encapsulated in the Planning and Compulsory Purchase Bill (ODPM, 2003). This provides for Regional Spatial Strategies (RSSs) to replace RPGs. The key differences between the two are:

- holistic approach – RSSs will cover even wider topic areas than the traditional land use and transport, including for example: health, education, skills and training, crime, social inclusion, and climate change;
- greater integration – covering regional and sub-regional priorities and stronger links between plans;
- statutory status – RPG was 'guidance'; RSSs will be statutory documents; and
- greater engagement – with an emphasis on broader engagement, and on including groups not previously engaged in the process.

During the 1990s there was also an increasing interest in building sustainable development into the regional planning process. A key UK Government document, 'A better quality of life – a strategy for sustainable development for the UK' (DETR, 1999a) broke down the sustainable development definition into four

key objectives:

- Social progress which recognises the needs of everyone;
- Effective protection of the environment;
- Prudent use of natural resources; and
- Maintenance of high and stable levels of economic growth and employment.

It stated that sustainable development would have a place in all strategic documents produced by public bodies at the regional level. The Government also wished to see high level sustainable development frameworks for each English region by 2000. A further publication (DETR, 1999b) produced a set of indicators for a strategy for sustainable development; another (DETR, 2000) provided guidance on preparing regional sustainable development frameworks.

South East England provides a regional example of some of the recent developments. It is the largest of the English regions, covering 19,000 sq.km., and is home to over 8,000,000 people. Its location close to London and to Europe help to give it significant economic advantages, making it an 'economic powerhouse' for the country and, along with London, one of only two UK regions that positively contribute to the Exchequer. Its dynamism also brings pressures; transport, affordable housing, availability of development sites, and erosion of environmental quality are key issues.

The current SE Regional Planning Guidance (RPG9) (GOSE 2001) did involve the application of sustainability appraisal. But a major advance was made with the publication of 'A Better Quality of Life in the SE – the Regional Sustainable Development Framework' produced by the SE England Regional Assembly (SEERA 2001). The document included a set of Sustainable Development Guiding Principles for the SE (see Table 3), plus a more specific set of Objectives and Indicators (see Table 4). These objectives and indicators have since been used to assess the sustainability of follow up studies to RPG9, for specific sector strategies – transport, tourism, waste management and renewable energy.

Table 3: South East Sustainable Development Guiding Principles

<ul style="list-style-type: none"> • Adopt an integrated approach to decision-making promoting economic, social and environmental objectives simultaneously. • Take a long term perspective rather than focusing on the short term. • Adopt a culture of responsibility where those responsible for environmental damage or social disadvantage, rather than society at large, pay for this to be rectified. • Respect environmental limits, particularly in respect of natural resources such as water and biodiversity, and the release of pollutants into the environment. Defining such limits is often difficult, and where this is not possible but a risk of exceeding them is evident, the precautionary approach should be taken. • Adopt the precautionary principle, defined in the Rio Declaration as 'where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'. • Adopt an informed approach using the best available information, including the likely impacts of policies and actions within and outside of 	<p>the Region, and of their likely costs and benefits including those that cannot be easily valued in financial terms.</p> <ul style="list-style-type: none"> • Be proactive in taking action to realise economic, social and environmental opportunities, and to avoid problems rather than reacting to symptoms of unsustainable development. • Adopt open and collaborative approach to decision-making, respecting cultural diversity and encouraging widespread and informed public participation, and partnerships involving all sectors of the community. • Meet local needs locally where this is possible and has the most benefit. This can help reduce local and global environmental damage through reducing travel and the need to travel, reducing emissions of pollutants and greenhouse gases, whilst benefiting local and regional economies and saving time for business and for people. • Increase awareness of sustainable development among all audiences from schoolchildren to international companies, as progress will depend upon the actions of everyone.
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(Source: SEERA, 2001)

Table 4: SE Region Sustainable Development Framework - Objectives and Indicators

OBJECTIVES	INDICATORS
Social progress which recognises the needs of everyone	
1. To ensure that everyone has the opportunity of a decent and affordable home.	1. Homelessness and housing need. 2. Affordable homes within total housing stock. 3. Homes judged unfit/non-decent to live in.
2. To improve the health and well-being of the population and reduce inequalities in health.	4. Death rate from coronary heart disease and stroke, cancer and accidents.
3. To reduce poverty and social exclusion and close the gap between the most disadvantaged communities and the rest.	5. Children living in low-income families. 6. Working age people in workless households. 7. Fuel poverty.
4. To stimulate economic revival in Priority Regeneration Areas.	8. Business start-ups and survival rates across the South East.
5. To raise educational achievement levels across the Region and develop opportunities for everyone to acquire the skills to find and remain in work.	9. Adults with NVQs and above. 10. Adults with basic literacy and numeracy skills. 11. Retention of young people in education beyond minimum leaving age.
6. To reduce crime and fear of crime.	12. Level of crime. 13. Fear of crime.
7. To create and sustain vibrant communities.	14. Population with access to key local services and facilities.
8. To encourage the development of, and participation in, cultural, creative and sporting activity, and a buoyant sustainable tourism sector.	15. Participation in cultural, sporting and arts activities.
Effective protection of the environment	
9. To improve efficiency in land-use through the re-use of previously developed land and existing buildings, and encourage urban renaissance.	16. Development on previously developed land. 17. Derelict land and empty properties.
10. To reduce air pollution and ensure air quality continues to improve.	18. Days when air pollution is moderate or high.
11. To maintain and improve the water quality of the Region's rivers and coast.	19. Rivers with good or fair water quality. 20. Compliance with EC Bathing Waters Directive.
12. To address the causes of climate change through reducing emissions of greenhouse gases.	21. Emissions of greenhouse gases.
13. To conserve and enhance the Region's biodiversity.	22. Populations of wild birds. 23. Condition of Sites of Special Scientific Interest (SSSIs). 24. Extent and condition of key habitats.
14. To protect, enhance and encourage enjoyment of the countryside.	25. Land covered by management schemes. 26. Extent and condition of key habitats.
15. To reduce road traffic and congestion through reducing the need to travel by car and improving travel choice.	27. Growth in traffic. 28. Traffic congestion. 29. Proportion of travel by car. 30. Investment in public transport, walking and cycling.

OBJECTIVES	INDICATORS
16. To maintain, enhance and make accessible the historic environment and assets of the Region.	31. <i>Building of Grade 1 and II* at risk of decay.</i>
Prudent use of natural resources	
17. To achieve sustainable water resource management.	32. <i>Per capita consumption of water.</i>
18. To reduce the risk of flooding that would be detrimental to public well-being, the economy and the environment.	33. <i>Properties at risk from flooding.</i>
19. To reduce waste generation and disposal, and achieve sustainable management of waste.	34. <i>Waste generation and method of management.</i>
20. To increase energy efficiency	35. <i>Energy use per capita.</i>
21. To increase the proportion of energy generated and consumed in the Region from renewable sources.	36. <i>Installed capacity for energy production from renewable sources.</i>
Maintenance of high and stable levels of economic growth and employment	
22. To ensure high and stable levels of employment so everyone can benefit from the economic growth of the Region.	37. <i>Working age people in work.</i>
23. To sustain economic growth and competitiveness, and ensure better distribution of economic activity across the Region.	38. <i>GDP per capita.</i>
24. To invest to secure our future prosperity and quality of life.	39. <i>Social, R&D, and total investment.</i>
25. To develop the knowledge economy by focusing on high value, lower impact activities.	40. <i>Labour productivity (GVA per head for manufacturing and whole economy).</i> 41. <i>Knowledge economy (in development).</i>

(Source: SEERA, 2001)

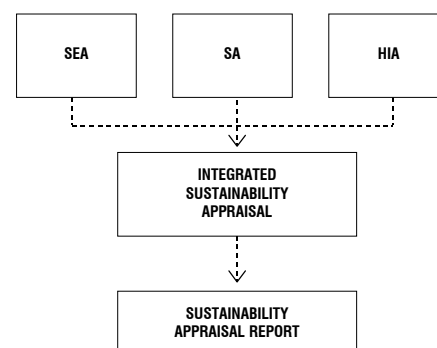
SEERA is now midway through producing the first SE RSS (to be known as the SE Plan) to provide a statutory regional planning framework to 2026. Appraisal methodology moves on, and latest ideas on the appraisal/assessment process suggest a combination of the SE Sustainability Appraisal approach noted above, with the requirements of the new SEA Directive, and enhanced by the interesting addition of a Health Impact Assessment (HIA) to assess the potential effects of the RSS on the health of its target population. Figure 4 provides a diagrammatic representation of how this process will contribute to an Integrated Sustainability Appraisal! Overall this rapid evolution of regional planning and a sustainability approach reflects another positive response to the institutional and methodological constraints which have bedevilled sustainable UK regional planning.

Case 3: a sub-regional transport sector appraisal the South Wales M4 Corridor Common Appraisal Framework study

In parallel with the regional plan appraisal initiatives over the last few years there have been a growing number of innovative studies seeking to appraise Multi-Modal options to resolve particular transport issues, and drawing on a new government appraisal framework for major road projects (DETR, 1998). These

normally relate to attempts to improve transport along congested corridors. In SE England they include for example the A34 Corridor, the South Coast and others (see SEERA's Transport Strategy, 2003). However one of the pioneers of such studies was the 1998-1999 Common Appraisal Framework study for part of the M4 Corridor in South Wales. The aim was to consider options to resolve traffic congestion on the section of the M4 around Newport, East of Cardiff. Options to

Figure 4: SE Regional Spatial Strategy: Structure of Appraisal Process



Source: South East Plan – Spring Debates documentation (SEERA 2004)

be appraised, on the basis of acceptable environmental, financial, economic and safety

criteria, included: do minimum; M4 relief road; enhanced public transport; traffic demand management; and a hybrid approach. The study was undertaken by Ove Arup, for the Welsh Office (subsequently Welsh Assembly). This author was one of a panel of three academics who provided advice on the project.

The options for appraisal were developed from an investigation of alternative transport measures identified from good practice in the UK and abroad. Possible measures that were seen as making a realistic contribution to reducing congestion, with costs commensurate with likely impacts, were packaged into three basic scenarios for testing. Figure 5 shows the road building scenario, with a 24 km M4 Relief Road. Figure 6 shows the key elements in the traffic/demand management scenario. Enhanced public transport made up the third basic scenario. The hybrid scenario was developed following preliminary assessment of the other three.

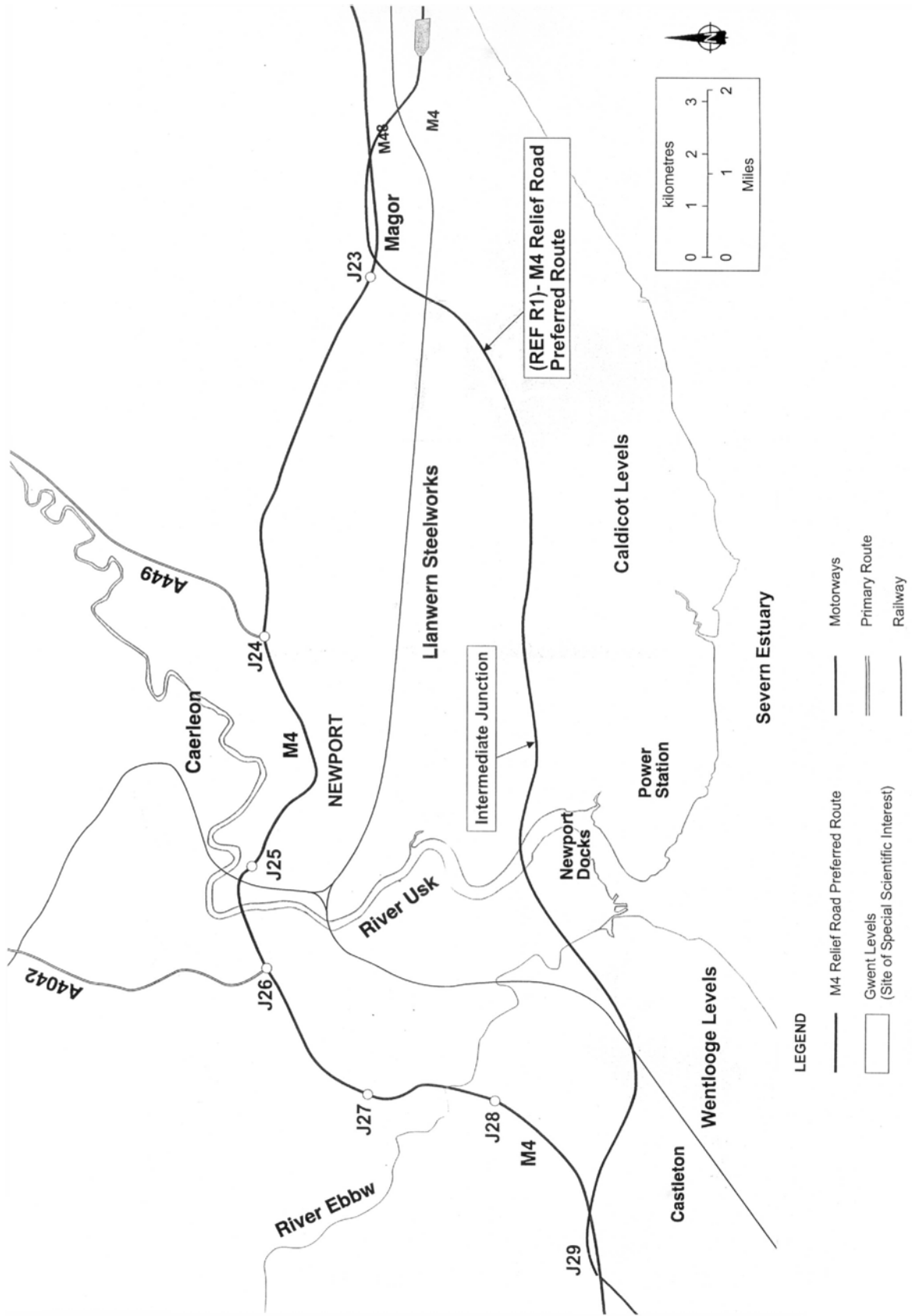


Figure 5: M4 Common Appraisal Framework : Road Building Scenario

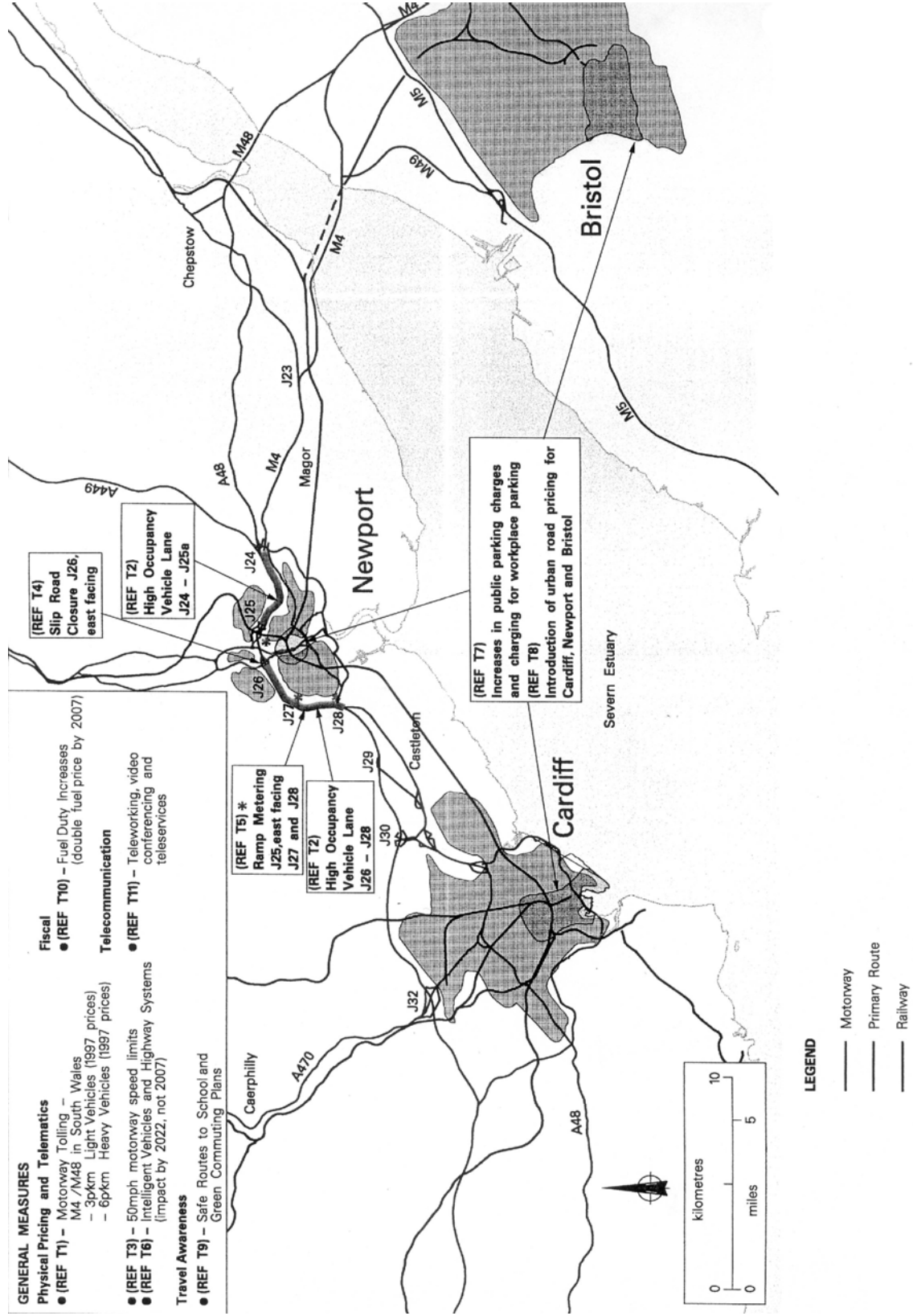


Figure 6: M4 Common Appraisal Framework : Traffic/Demand Management Scenario

The appraisal methodology involved assessment of scenarios against performance indicators for particular objectives. For example, the objective of 'emissions from transport affecting local air quality are minimised', was assessed by an indicator 'length of highway experiencing a change in NO_x emissions'. An array of findings was brought together in a Common Appraisal Summary Table (Table 5), which included Transport, Environmental and Economic Issues. The road building scenario would achieve the M4 congestion reduction objective, have economic benefits, but not assist national transport policy objectives and would have damaging environmental impacts on important sites in the lowest levels. In contrast, whilst the public transport scenario would assist national policy, and would be generally good for the environment, the primary objective of reduction in M4 traffic

would not be met in any significant way. Perhaps, predictably, it was the hybrid scenario which came through the process best.

The appraisal had many innovative features in its methodology, and the study itself was awarded the UK Institute of Logistics and Transport Award for Public Planning of Transport 2000. Unfortunately institutional support was less strong. Welsh Assembly officials believed that the motorway toll (demand management measures) built into the hybrid scenario, would be bad for the competitive position of Wales, would divert traffic onto local roads and could not offer a long-term solution to congestion. Such views were reinforced by the Welsh Assembly politicians who refused to support the proposed package of measures.

CONCLUSIONS

The initial premise of this article was that the regional level of planning, reinforced by the concept and practice of sustainable development, was particularly appropriate for achieving the better integration of socio-economic development with a high quality natural and built environment. Yet recent history had shown that there were constraints on such integration, and these could be broadly packaged as institutional and methodological. The purpose of taking the three cases was to assess whether there was evidence of any progress in overcoming these constraints, at three levels of regional intervention – EU, UK regional, and UK sub-regional. The three cases show considerable innovative activity in what has been a dynamic regional environment in the last decade.

Table 5: M4 Common Appraisal Framework: Summary Table

Indicator	Objective	Road Building scenario	Enhance Public Transport scenario	Traffic/Demand Management scenario	Hybrid scenario
Transport: Local Issues ie. Relief to M4, avoid adverse impact on Newport	Optimise local impact (eg. J25-26, 2007)	M4 objective achieved – 43% reduction. Minimal impact on Newport	M4 objective not achieved – 6% reduction. Small beneficial impact on Newport.	M4 objective achieved – 77% reduction. Increase in traffic in Newport (11% by 2007).	M4 objective achieved – 58% reduction. Increase in traffic in Newport (24% by 2007).
Transport: Strategic issues ie. Accessibility, integration, freight	Assist national transport objectives	Does not assist these objectives	Assists these objectives	Neutral to these objectives (due to lack of facilities for suppressed highway trips).	Assists these objectives
Environmental: Local Issues ie. Noise, NO _x emissions	Minimise adverse local impact	Local benefits to existing M4 corridor. Local adverse effects on the Levels.	Improvement in local conditions, but some areas deteriorate.	Complex effects on local conditions, some improvements but adverse effects from traffic diversion.	Complex effects on local conditions, some improvements but adverse effects from traffic diversion although less than T/DM.
Environmental: Strategic Issues eg. greenhouse gas emissions, designated sites of national importance.	Minimise adverse strategic impact	Increase in CO ₂ emissions (2% peak hour). Loss of 73ha from SSSI.	Reduced CO ₂ emissions (4% peak hour). Loss of 22ha from SSSI.	Large reduction in CO ₂ emissions (16% peak hour). No landtake from SSSI.	Reduced CO ₂ emissions (8% peak hour). Loss of 1.2ha from SSSI.
Economic: Local Issues	Maximise traveller benefits	Traveller benefits: £ 440m	Traveller benefits: £ 1038m	Traveller benefits: - £ 3556m	Traveller benefits: - £ 464m
	Maximise accident savings	Accident cost savings: £ 56m	Accident cost savings: £ 83m	Accident cost savings: £ 241m	Accident cost savings: £ 74m
Economic: Strategic Issues	Maximise economic value	Net Present Value of: £ 273m	Net Present Value of: £ 1103m	Net Present Value of: £ 549m	Net Present Value of: £ 1332m
Capital Cost of Scenarios* (undiscounted) Total** Attributed		£ 340m £ 340m	£ 930m £ 255m	£ 176m £ 176m	£ 653m £ 129m

* the capital costs would be met from a variety of sources, and would, in some cases be off-set by revenue

** these costs are non-attributed and are likely to generate benefits elsewhere – these are an issue outside the scope of this study

In terms of institutional support, the EU has been a strong supporter of both regional intervention and of seeking to achieve sustainable development. EU Regional Policy, underpinned by very large financial support from the Structural Funds, is very well established. But there can, and have been, inter-Directorate General tensions between the aims of Regional Policy and Environment in the EU. The 'back door' introduction of the environmental profile for regional development programmes was one positive step. Hopefully the implementation of the SEA Directive from 2004 will be another, although it is unfortunate that policy SEA is omitted to date – because environmental problems sometimes fall more in the policy arena than the plan arena. But, one step at a time – there is evidence of EU progress!

Within the UK the regional revival has been quite dramatic, and almost frantic with new initiatives – Scottish and Welsh Assemblies, English regional reform and Regional Assemblies, Regional Development Agencies, a reform of the planning system – and a rapid evolution from RPGs to revised RPGs to statutory RSSs. Yet, with the exception of Scotland and Wales, the institutional support for new regional bodies is partial. English Regional Assemblies do not have the strength of being directly elected and accountable, and the regional planning activity is thinly resourced, drawing much on the services and goodwill of the adjacent tiers of government. Of course, even where there is accountability and more resources, as in Wales, the rejection of the findings of the M4 Common Appraisal Framework study shows that the views of powerful stakeholders and the economic development imperative may still be dominant.

In terms of methodology, the three cases indicate the importance of a 'SEA-change' in appraising regional planning activity. This has both 'top-down' and 'bottom-up' dimensions – as has the institutional change noted earlier. UK Central Government and regional and local activities over the last decade have pioneered some innovative approaches to environmental appraisal. Most recently they have resulted in some acceptance and adoption of a tiered approach to sustainable development and quality of life indicators, which adopts a simple but broad brush sustainability appraisal, inclu-

ding a combination of bio-physical and socio-economic objectives and indicators. More detailed plan/programme studies, such as the transport corridor multi-modal studies, have sought to develop appraisal methods in more depth, and to confront the difficult issues of combining bio-physical 'apples' and socio-economic 'pears'. The implementation of the EU SEA Directive into Member States' legislation and guidance (for the UK, see Glasson et al 2004, Therivel 2004) will also help to develop methodology. However, the SEA Directive also raises another issue of scope, in parallel with the omission of the policy level noted earlier. The Directive is much more bio-physical in focus than the emerging Sustainability Appraisal approach in the UK. Advocates would argue that this helps to avoid the sidelining of crucial bio-physical environmental issues. Others would argue that it is better to recognise in the appraisal process that there will always be trade-offs between the economy and the environment – best covered in a more holistic Sustainability Appraisal.

An interim conclusion must be that there is good progress to report, but there are still many contentious institutional and methodological issues on the road to an integrated approach to bio-physical and socio-economic issues at the regional level.

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