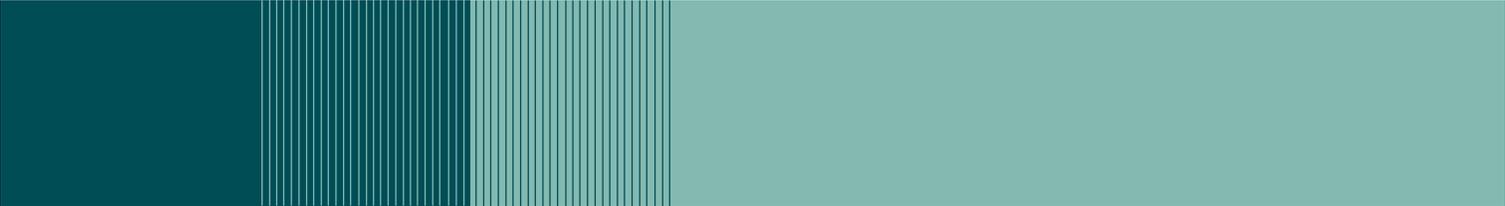


November 2007

Framework for Evaluation of the 2003 Air Transport White Paper

Policies

Department for Transport



NERA

Economic Consulting

FINAL REPORT

Project Team

John Dodgson
Michael Spackman
Emily Bulman
Stewart Carter

In writing this report NERA benefited from advice on evaluation methodology from the Tavistock Institute. However, NERA alone bears responsibility for the contents of this report.

NERA Economic Consulting
15 Stratford Place
London W1C 1BE
United Kingdom
Tel: +44 20 7659 8500
Fax: +44 20 7659 8501
www.nera.com

Contents

Executive Summary	i
1. Introduction	7
2. Policy Issues, Policy Instruments and Objectives	8
2.1. Introduction	8
2.2. ATWP Policy Issues and Objectives	8
2.3. Evaluation Objectives	9
2.4. Structure of the Evaluation Framework	10
3. Approach to Evaluation	17
3.1. Basic Concepts and Terminology	17
3.2. The Role of Theory and the Role of Counterfactuals	18
3.3. Impact Evaluation and Process Evaluation	19
3.4. Evaluability	20
3.5. Structure of Specific Evaluations	20
4. Evaluation of Specific ATWP Policies	22
4.1. Introduction	22
4.2. Climate Change Policies	22
4.3. Local and General Environmental Policies	33
4.4. Economic and Social Policies	47
4.5. Airport Development Policies	67
4.6. Summary	76
5. High Level Evaluation	79
5.1. Evaluating Achievement of the ATWP Aviation Policy Objectives	79
5.2. Evaluating the Impact of Publishing Government Views on Airport Development	95
6. Evaluation Management and Dissemination	99
6.1. Evaluation Management	99
6.2. Dissemination	100
7. Conclusions	106
7.1. The Evaluation Framework: A Summary Table	106
7.2. Concluding Comments	106
Appendix A. Literature and Information Review	118
A.1. Texts on “Theory Based Evaluation” and “Realistic Evaluation”	118
A.2. Documents Prepared for or about the ATWP	120
A.3. Government Implementation of White Paper Policies	124
A.4. International Experience	125
Appendix B. Department for Transport Business Plan Objectives	131

List of Tables

Table 2.1 Specific Policies Included in the Evaluation Framework	12
Table 2.2 Mapping of Specific Policies against ATWP High Level Objectives	14
Table 4.1 Individual Policies Included in Evaluation Framework	77
Table 5.1 Mapping of Specific Policies against ATWP High Level Objectives	81
Table 5.2 Indicators of Achievement of ATWP Aviation Policy Objectives	83
Table 6.1 Evaluation Dissemination	101
Table 7.1 Summary of Evaluation Framework	109
Table A.1 Papers of Potential Value to the Evaluation Programme	122

Executive Summary

Introduction

1. This Report proposes a framework for the implementation of the DfT's commitment to evaluate the 2003 Air Transport White Paper (ATWP) policies. It is written mainly for those who may be responsible for commissioning the evaluations but will also be of interest to prospective future evaluators and to the aviation industry and other stakeholders with aviation policy interests.

Policy Issues, Policy Instruments and Objectives

2. The ATWP "sets out a strategic framework for the development of airport capacity in the United Kingdom over the next 30 years, against the background of wider developments in air transport". This framework is expressed in terms of Government preferences for specific airport developments and also addresses local and global environmental impacts of airports and of air travel.
3. The ATWP identifies seven high level objectives for air transport policy. These are:
 - § to increase the contribution of air travel to national and regional prosperity, providing additional capacity where needed;
 - § to make best use of existing airports, to minimise the need for airport development in new locations;
 - § to reduce the adverse impacts of airport developments;
 - § to internalise the external costs of aviation;
 - § to increase the opportunities to benefit from air travel;
 - § to respect the rights and interests of those affected by airport development; and
 - § to provide greater certainty for all concerned in the planning of future airport capacity.
4. The primary objective of the proposed evaluation framework is to provide information for government, for the aviation industry and for other stakeholders to inform and improve aviation programme management and policy debate. It also fulfils the undertaking in the ATWP and in the subsequent Progress Report that this evaluation framework would be produced.
5. Certain general principles underlie the evaluation framework set out in this report. The framework is concerned with the implementation of the ATWP and ATWP Progress Report priorities, but not with re-appraisal of specific airport development priorities identified in the ATWP. It does not include private sector responsibilities, such as the costs of new airport developments. The framework is concerned with evaluation of individual policies as well as

with achievement of the higher level objectives, though it is constrained to individual policies in which DfT is in the lead. The framework includes some activities that are better described as monitoring or as impact assessment than as evaluation.

Approach to Evaluation

6. The term 'evaluation' in this report is used to describe analysis undertaken after the decision to implement a policy (or programme or project) has been made, and is concerned with the identification of the effects that the policy has had and an understanding of the causes and context of these effects.
7. International benchmarking appears to have limited potential in this context, but evaluators should be encouraged to consider whether there may be useful scope for such comparisons in particular applications.
8. The framework in this report deals both with evaluation of administrative processes and evaluation of policy impacts.
9. The framework adopts a pragmatic approach in regard to the question of 'evaluability'. It asks, given the ATWP and the Progress Report, and accepting the need always to express stated policies in operational and measurable terms, what evaluation is worthwhile in terms of the work required and the value of likely output.
10. The report adopts a standard structure for policy-specific evaluations which comprises the following elements: description of the policy; purpose of the evaluation and audience for the evaluation; guidance on methodology; skills required of the evaluators; data requirements and data and evidence gaps; evaluation management and timescales; and dissemination.

Evaluation of Specific ATWP Policies

11. Evaluation of specific ATWP policies is covered under the following broad headings: climate change policies; local and general environmental policies; economic and social policies; and airport development policies.
12. DfT already has in hand proposals to undertake a regular Emissions Cost Assessment to measure the costs of climate change imposed by UK aviation and to compare annual costs with annual revenue from aviation-specific taxation. However the key policy which is intended to ensure that users pay external costs in the future is the extension of emissions trading to aviation. Evaluation of this should include process evaluation of negotiations over the extension. Subsequent impact evaluation by the European Commission of the impact of emissions trading on emissions of greenhouse gases from aviation should be encouraged and the report outlines the work that would be required. The encouragement of offsetting is a Defra policy. The DfT should work with Defra to ensure that it is evaluated. This report also outlines what the evaluation might entail.

13. A number of policies in the ATWP are intended to reduce local environmental impacts of airports. They include local air quality policies, introduction of non-statutory compensation schemes, noise control schemes, noise mitigation and compensation schemes, and greater incorporation of environmental costs into landing charges. All should be monitored and their impacts assessed.
14. A number of other ATWP policies will impact on economic welfare in the regions. These include Route Development Funds, and Public Service Obligations for London runway slots to safeguard services to the regions. Progress on these measures should be monitored, with impact evaluations to assess whether they provide value for money.
15. An important objective of government is that airports should contribute to the economies of the regions where they are located. A first step in assessing this is to develop a clear methodology to identify the impact of transport on productivity. This is work that DfT should take forward, probably building on the current work being undertaken on the productivity effects of land transport.
16. A major component of the ATWP was that airports should produce master plans. Progress in producing the plans should be monitored, as should their success in spreading 'best practice' between airports. A further ATWP requirement is that airports produce clear policies to improve surface access and increase public transport mode split. Progress in doing so, as well as actual impacts on surface transport mode split at particular airports, should be monitored and evaluated.

High Level Evaluation

17. High level evaluation of the ATWP should consider both progress towards achievement of individual higher level objectives, and the impact of the ATWP in providing a strategic framework for the development of airport capacity and thereby increasing certainty for stakeholders in the industry and for air transport users.
18. Progress towards achieving higher level objectives should draw on the results of the monitoring and evaluation of relevant specific ATWP policies. In addition, the Department should collect a series of key indicators of achievement for each of the higher level objectives. The report identifies these key indicators and recommends that the Department should take the lead responsibility for their collection and publication.
19. Evaluation of the impact of publishing government views on airport development should concentrate on the value of providing a framework within which mainly private sector decisions (by airports and airlines) can be made in such a way as to minimise adverse environmental consequences of the air transport industry and make best use of airport capacity. In particular, this evaluation should examine how publication has influenced airport operators' behaviour with respect to airport development and how it has influenced the behaviour of other stakeholders.

Evaluation Management and Dissemination

20. The report considers the role of the different units in DfT in managing the evaluation programme, and the roles of in-house and contracted work. Recent moves by the Department's Procurement Team to establish panels of consultants with particular skills may provide a framework within which individual contracts can be let.

22. Dissemination should be a central feature of any evaluation programme. Dissemination of the proposed evaluations is discussed, with recommendations for dissemination summarised at the end of the report.

Readers' Guide: Framework for the Evaluation of the 2003 Air Transport White Paper Policies	
This guide indicates which sections of the report are likely to be of most interest to particular readers	
Executive Summary	Anyone who wants to know what the report is about, or wants a brief overview
Section 1 Introduction	Those wanting a short overview of the structure of the report
Section 2 Policy Issues, Policy Instruments and Policy Objectives	Those requiring a view of the way the different objectives of the Air Transport White Paper interact with the evaluation framework and the division between policy specific evaluation and high level evaluation
Section 3 Approach to Evaluation	Readers with a particular interest in evaluation methodology
Section 4 Evaluation of Specific ATWP Policies	Officials with responsibility for the specific policies included under the four main headings of climate change, local and general environmental policies, economic and social policies, and airport development policies. Readers who wish to see the full range of policies included in the ATWP and the ways they could be evaluated.
Section 5 High Level Evaluation	Those concerned with a wider view of the impact of the ATWP. Officials responsible for collating statistics on performance of the UK aviation sector
Section 6 Evaluation Management and Dissemination	Officials responsible for commissioning the evaluations Readers with an interest in dissemination of findings
Section 7 Conclusions	Those wanting to see the main conclusions of the report

Appendix A Literature and Information Review	Those seeking further information on evaluation methodology, evaluation in the transport sector, and international experience
Appendix B Department for Transport Business Plan Objectives	

1. Introduction

This Report has been commissioned by the Department for Transport following publication in 2003 of an Air Transport White Paper (ATWP)¹ and in December 2006 of an ATWP Progress Report.² The ATWP committed the Government to “monitor and evaluate the effectiveness and impact of the policies set out in this White Paper” and a programme of action included development of “an evaluation strategy setting out how we will assess the effectiveness of our aviation policy”. The Progress Report includes a commitment to “produce a strategy setting out how we will evaluate the impact of the White Paper policies”.

This Report provides a framework for the implementation of the Department for Transport’s commitments to evaluation of the ATWP and its associated policies. It is written mainly for those who will be commissioning these evaluations, but will be of interest also to prospective future evaluators and to the aviation industry and other stakeholders with aviation policy interests.

The ATWP Progress Report reflects developments over the three years since the ATWP, including the higher profile of climate change, and this is reflected in the evaluation framework.

- § Chapter 2 of this Report summarises the content and the objectives of the ATWP as updated by the ATWP Progress Report. It also explains the broad structure of the evaluation framework.
- § Chapter 3 discusses principles of evaluation.
- § Chapters 4 and 5 present a framework applying the evaluation principles of Chapter 3 to high level ATWP objectives and to specific aviation policies.
- § Chapter 6 discusses the evaluation management and dissemination.
- § Chapter 7 provides concluding remarks and a summary table which includes key evaluation questions, methodology, data requirements and main gaps in the data.
- § Appendix A records some relevant literature and other background information.
- § Appendix B lists the Department for Transport’s aviation-related objectives from its 2007 Business Plan.

¹ Department for Transport (2003) *The Future of Air Transport*, Cm 6046, The Stationery Office.
<http://www.dft.gov.uk/about/strategy/whitepapers/air/thefutureofairtransportwhite5694>

² Department for Transport (2006) *The Future of Air Transport Progress Report*, Cm 6977, The Stationery Office.
<http://www.official-documents.gov.uk/document/cm69/6977/.pdf>

2. Policy Issues, Policy Instruments and Objectives

2.1. Introduction

This Chapter summarises the policy issues addressed by the ATWP and the ATWP Progress Report, the associated policy objectives and policy instruments and the objectives of the evaluation programme. This is followed by an explanation of the structure of the evaluation framework.

2.2. ATWP Policy Issues and Objectives

2.2.1. ATWP Policy Issues

The Air Transport White Paper, *The Future of Air Transport*, was published in December 2003. It set out a long-term strategy for the sustainable development of air travel to 2030, recognising the growing aspirations to travel and the economic benefits that it brings while tackling the environmental challenges. The ATWP also said that the Government was committed to developing an evaluation strategy setting out how it would monitor and evaluate the effectiveness and impact of the policies set out in the White Paper.

As explained in its opening sentence, the ATWP “sets out a strategic framework for the development of airport capacity in the United Kingdom over the next 30 years, against the background of wider developments in air transport.” This framework is expressed in terms of Government preferences for specific airport developments and expectations of delivery from the industry, especially airport operators. The ATWP also addresses in depth the local environmental impacts of airports, especially noise. Some other, ongoing, air transport policies are also mentioned, notably safety, security, service quality, slot allocation and air traffic management, but as work-in-progress reports rather than new policy initiatives.

Thus the ATWP brings together a wide range of policies, some of them already ongoing, within the field of aviation, and supports a number of developments that depend upon private sector delivery. The ATWP also emphasises some policies that are important to aviation but are led by other Departments.

The Government published in December 2006 *The Future of Air Transport Progress Report*, which reported on progress made over the previous three years, including work to address the global climate change impacts of aviation. It gives weight to ongoing policy issues, reflecting evolving Government priorities over the intervening three years.

2.2.2. ATWP Objectives

The ATWP (paragraph 2.17) quotes the Government's four high level sustainable development aims.³

Delivery Objectives for the Department for Transport as a whole are set out in the Department's Business Plan. Those relevant to aviation in the current (2007) Plan are summarised in Appendix B of this Report. These Business Plan Objectives are a useful guide for the management of work in the Department. However, their focus is more on the Department's strategic goals than on the specific means to achieve these goals, such as those set out in the ATWP and the Progress Report.

More relevant to the evaluation framework are the seven high level but operational objectives quoted in the ATWP (paragraph 2.18) for air transport policy. These may be paraphrased as follows.

1. To increase the contribution of air travel to our national and regional prosperity, providing additional capacity where it is needed;
2. To make best use of existing airports, to minimise need for airport development in new locations;
3. To reduce the adverse local impacts of airport developments;
4. To internalise the external costs of aviation;
5. To increase the opportunities for people to benefit from air travel;
6. To respect the rights and interests of those affected by airport development; and
7. To provide greater certainty for all concerned in the planning for future airport capacity.

2.3. Evaluation Objectives

The objective of this evaluation programme is partly to demonstrate accountability, including accountability for meeting the undertaking in the ATWP that this work would be done. The relevant audiences for this accountability objective include Parliament, the industry, the media, environmental interests and other, local interest groups.

Given the close public interest in airport development, the accountability function of the evaluation programme – demonstrating the extent to which the ATWP was based on sound assumptions and the extent to which the commitment to mitigation of environmental impacts has been followed through – is important.

³ These are recorded in the White Paper as: 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.

More important however in many areas is the evaluation objective of providing information for government, the industry and other stakeholders to inform and improve aviation programme management and policy debate.

2.4. Structure of the Evaluation Framework

2.4.1. General principles

The general principles underlying the evaluation framework are as follows.

- § The evaluation framework is concerned with the implementation of the ATWP and ATWP Progress Report priorities. It therefore does not include re-appraisal of the selection of specific airport development priorities promoted in the ATWP.
- § The framework does not include activities that are essentially private sector responsibilities, such as the costs of new airport infrastructure and their commercial impacts on the airport or airline operators.
- § The evaluation framework does include, as a high level policy instrument, the effect of publishing comprehensive government views on the development, or non-development, of specific airports.
- § The framework also includes evaluation of the achievement, in the round, of the high level aviation policy objectives set out in the ATWP and the Progress Report, as well as (but distinct from) individual policies.
- § In the selection of individual policies for inclusion in the framework, one emphasis, as in the ATWP, is on policies tied to airport expansion and environmental impacts. It also includes all DfT policies that were announced in the ATWP and some that were recorded as ongoing policies.
- § The framework is however constrained to policies for which DfT has or shares the lead responsibility. Relevant policies led by other Departments or the EU are noted as issues for evaluation outside this framework. The DfT needs to consult other Departments to ensure that where appropriate this is undertaken. Activities that are already routinely evaluated within the Department are also excluded from this framework.
- § The framework includes some activities that are monitoring rather than full evaluation of outcomes and how they came about. (This applies to issues where the impact simply cannot be measured and where there would be little value in the full evaluation of the administrative processes.)
- § The framework discusses evaluation methodology case by case, but without unduly constraining the development of new ideas by future evaluators. It does not include comprehensive guidance on evaluation, for which readers may refer to other sources.⁴

⁴ The principal UK government guide on evaluation is the *Magenta Book: Guidance Notes for Policy Evaluation and Analysis*, produced and updated by the Government Chief Social Researcher's Office in the No 10 Strategy Unit (http://www.policyhub.gov.uk/magenta_book/). It is described as a set of guidance notes for policy evaluators and analysts, and people who use and commission policy evaluation and includes references on methodology. The most

2.4.2. High level evaluation

The seven aviation policy objectives listed above in Section 2.2.2 are operational, but they are all policy *objectives*, not policy *instruments*. They are statements of the direction in which the Government wishes the world to move. They are therefore not amenable to “policy evaluation”. The potential for evaluation is to study indicators of such movement and the reasons why this has happened, drawing as appropriate on the specific policy evaluations, which are discussed below.

In practice objective 6 (to respect the rights and interests of those affected by airport development) can for the purposes of the evaluation framework be subsumed under objective 3 (to reduce the adverse local impacts of airport developments).

Objective 7 (to provide greater certainty for all concerned in the planning for future airport capacity) can best be handled separately, as an element in the evaluation of the policy *instrument* of publishing the Government’s development priorities for UK airport development. Evaluating the effects of publishing a White Paper stating the Government’s preferences on airport development, on accelerating development at some sites and reducing local uncertainty at those sites and by the rejection of development at some other sites, is the minimum that Parliament and the public may expect from the ATWP evaluation programme.

Thus the high level evaluation, developed in Chapter 5 below, is composed of an evaluation of the policy of publishing a White Paper of this kind and, separately, an assessment of the extent to which five high level objectives have been achieved, drawing on the policy-specific evaluations set out in Chapter 4 and forming judgements about how these achievements are best explained. The evaluation framework proposes some indicative quantitative measurements of the extent to which the objectives have been achieved over time to combine with broad investigation of what factors have most contributed. Some of these factors are of course policies on which the Department for Transport is not in the lead.

Evaluating high level objectives in this way will answer in a literal sense the question of the extent to which the Government’s aviation policy objectives have been achieved, which some may see as a prime requirement of the evaluation programme.

The linkages between the policy specific evaluations and the five high level objectives are summarised in Table 2.2.

2.4.3. Policy specific evaluation

Specific policies are included in the evaluation framework where, reflecting the considerations set out in section 2.2.1 above, they:

authoritative, up to date guidance in the public domain is probably the web based guidance provided by the European Commission on the evaluation of socio-economic development (formerly the MEANS Handbook) (<http://www.evaled.info/> - updated from a 2003 text led by the Tavistock Institute, downloadable from the website).

- § feature significantly in the ATWP or the ATWP Progress Report;
- § are a Department for Transport lead or shared lead responsibility;
- § are not scheduled for evaluation in another context; and
- § offer realistic potential for evaluation findings that will be of substantial value (including for the purpose of informing the Department's future policy making), in content and timing, relative to the cost of evaluation.

Policies meeting the criteria for inclusion on the framework are listed in Table 2.1. These policies are mapped into ATWP high level objectives in Table 2.2.

Table 2.1
Specific Policies Included in the Evaluation Framework

Policy	Section of report
<u>Climate change policies</u>	4.2
Emissions trading	4.2.1
Offsetting	4.2.2
Voluntary industry targets and monitoring	4.2.3
<u>Local and general environmental policies</u>	4.3
Local air quality	4.3.1
Non-statutory compensation	4.3.2
Measures to clarify and strengthen noise control powers	4.3.3
Noise mitigation and compensation	4.3.4
Differential landing charges	4.3.5
<u>Economic and social policies</u>	4.4
Impact of airport development on local economic activity	4.4.1
Protection of air traveller health	4.4.2
Route development funds	4.4.3
PSOs to improve regional access to London	4.4.4
Promotion of aircraft maintenance away from the South East	4.4.5
Air Travel Trust Fund Levy	4.4.6
<u>Airport Development Policies</u>	4.5
Airport Master Plans	4.5.1
Improving surface access	4.5.2

Some policies and other activities mentioned in the ATWP and ATWP Progress Report are not included in the evaluation framework.

Some of these are excluded because they are analytical tools and processes:

- § Air traffic forecasting models, which are evaluated within DfT;

- § Emissions cost assessment, which is currently subject to consultation (see Section 4.2); and
- § Local land transport traffic forecasts, which are under constant review.

Table 2.2
Mapping of Specific Policies against ATWP High Level Objectives

Policy	Policy objective				
	Increase the contribution of air travel to our national and regional prosperity	Make best use of existing airports	Reduce the adverse local impacts of airport developments	Internalise the external costs of aviation	Increase the opportunity for people to benefit from air travel
Climate change policies					
Emissions trading	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Offsetting	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Voluntary industry targets and monitoring	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Local and general environmental policies					
Local air quality	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Non-statutory compensation			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Measures to clarify and strengthen noise control powers	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Noise mitigation and compensation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Differential landing charges	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Economic and social policies					
Impact on local economic activity	<input checked="" type="checkbox"/>				
Protection of air traveller	<input type="checkbox"/>				<input type="checkbox"/>

health				
Route development	■	□		■
funds				
PSOs to improve regional access to London	■	□		■
Promotion of aircraft maintenance away from South East	■			
ATTF Levy				■
Airport development policies				
Airport master plans	■	■	■	
Improving surface access	□	□	■	□

■ = direct influence; □ = indirect influence

Also excluded are most of those policies mentioned in the ATWP that are not DfT lead responsibilities, including the following:

- § Green Belt policies;
- § Statutory approval for airport development;
- § Land protection; and
- § Research and development policies.

Some are central to the ATWP, in particular the first three are land use planning issues that are a responsibility of the Department for Communities and Local Government (CLG). The fourth, research and development, is a responsibility of the Department for Business, Enterprise, and Regulatory Reform (BERR). The DfT should work with the relevant departments to ensure evaluations are done.

Other policies and activities are excluded because they are considered to be better evaluated on their own account, for example because they are substantial but peripheral to the ATWP, or because it does not appear that evaluation work would provide value for money. These include the following.

- § Runway slot allocation and trading, which is a major policy issue but not at a stage of development yet considered to merit evaluation;
- § Airspace management, which is mentioned in the White Paper as an action for the CAA;
- § Public Safety Zones, which are mentioned in the White Paper, but only as a record of ongoing policy;
- § Aspects of service quality, for which several actions are mentioned in the ATWP (paragraph 4.20). Two of these (the Air Travel Trust Fund and aviation health) are covered in section 4.4 below. The others have either been overtaken by the implementation of new EC regulation or not considered to merit formal evaluation;
- § Impacts on blight, where statutory compensation is a CLG policy, not a DfT policy, and where non-statutory compensation schemes have been selected by the DfT as an issue at this stage to be monitored rather than fully evaluated;
- § General aviation, which is not mentioned significantly in the ATWP; and
- § Security, which is a major policy issue but not central to the White Paper.

3. Approach to Evaluation

3.1. Basic Concepts and Terminology

The term evaluation in this report is used exclusively to describe analysis undertaken after the decision to implement a policy, programme or project.⁵ Evaluation in this sense is concerned with:

- (a) What effects⁶ the policy, programme, or project has had; and
- (b) How and under what conditions these effects have come about.

From the early 1990s, originating in the sociology literature but applied widely across practical evaluation of social policy, there has been a reaction against what came to be seen in many applications as an excessive focus on (a) – i.e. total impacts – at the expense of (b) – i.e. understanding how and why the policy works (or fails to work) in what circumstances. The reaction arose in the field of social policy where it was argued that the focus on techniques such as randomised control trials (RCTs), comparing groups of people to whom a policy had or had not been applied, had led to a far too mechanistic approach, where the statistical result of the trial was seen as the primary output and did not encourage work on understanding how the policy worked or how it depended on context. This has led to a considerable literature and much debate in the evaluation world.

Seminal works in this field are listed in Appendix A. As will be clear from the titles the debate has spawned a rich spread of terminology. Two of the most widely used terms to describe a primary focus on “how and why in what circumstances?” as opposed to simply “what?” are “theory-based” (or theory driven, or theory of change approach) and “realistic evaluation” – the latter being described by one of the term’s creators as a “species” of theory-driven evaluation, with a special emphasis on context.⁷ However for the purposes of the framework to evaluate the ATWP it is sufficient simply to differentiate between, on the one hand, identification of the theory (including the importance of context), and on the other hand estimation of impacts - by comparison of outturns with an explicit or sometimes implicit counterfactual (i.e. an estimate of what would otherwise have happened).

⁵ This may of course include evaluation of *ongoing* policies, programmes or projects. However the European Commission uses the term ‘evaluation’ to include *ex ante* analysis, the latter being described in UK government as ‘appraisal’. So too does the Cabinet Office Magenta Book, although the Magenta Book emphasis is mainly on analysis of current policies or programmes. On the other hand the Treasury Green Book makes a clear distinction between *ex ante* ‘appraisal’ and *ex post* ‘evaluation’.

⁶ Terminology can be a little confusing here. A recent Tavistock Report on an evaluation framework uses ‘outcomes’ to describe the immediate effects associated with the things an initiative produces, and ‘impacts’ to describe the longer term effects of an initiative’s outcomes. The word ‘effects’ here encompasses both outcomes and impacts.

⁷ Tilley, N. (2000) *Realistic Evaluation: An Overview, Presented at the Founding Conference of the Danish Evaluation Society*, September 2000. <http://www.danskevalueringsselskab.dk/pdf/Nick%20Tilley.pdf>.

3.2. The Role of Theory and the Role of Counterfactuals

3.2.1. Theory-driven and counterfactual-driven evaluation

The debate about theory-driven evaluation has not been prominent in transport evaluation, where the dominant concern is with the evaluation of capital projects, such as roads or light rail systems. The focus in such cases is on estimating effects on traffic flows, travel times, and other impacts, and then comparing these with estimates of what would have happened in the absence of the project and with prior expectations (the counterfactuals), and drawing lessons from the differences. In such work theory is of course not ignored. Indeed devices such as causal chain diagrams may be central to the analysis. However the initial focus is on comparing outturns with counterfactuals. Examination of “how, why and in what circumstances?” can and should follow from this, but may in practice not always do so.⁸

Many aspects of the ATWP evaluation are centred on the behaviour of institutions, in which case a primary focus on theory and the context in which it is applied is often appropriate. Indeed in many administrative contexts starting with a separately constructed counterfactual has little meaning. Evaluation needs in such cases to focus on examining and interpreting what happened, and counterfactuals (whether or not that terminology is used) will necessarily develop from this, implicitly if not explicitly. There is no escaping the components (a) and (b) above. Understanding mechanisms is fundamental; so too is an understanding of what effect they have.

A stronger focus on theory and context implies an initial focus on stakeholders and operational objectives and the translation of policies into implementation steps and measurable impacts.⁹ This implies developing models that specify what outcomes the particular policy was intended to achieve, and how the Government envisaged that it would achieve this (remembering also that policy may have changed over time). Such analysis may often require a mix of skills in the evaluation team (as is emphasised in Golden Rule 5 of the European Commission Evaluation Guide noted in a footnote to section 2.1)

3.2.2. International benchmarking

One factor to consider in developing the ATWP framework is the scope for international benchmarking. Might it be for example that countries that have not yet adopted a strategic approach of the kind provided by the ATWP could provide a ‘control group’ or counterfactual for the value of the ATWP approach, or indeed could international comparators be found for specific policies?

⁸ The counterfactual focus applies even more strongly, though with good reason, to the clinical trials of pharmaceuticals and medical procedures, where Randomised Controlled Trials (which have little role in ATWP evaluation) are and will remain the dominant approach. The (hard science or engineering) theory in such cases is informed by such evaluations but should not be seen as integral to the evaluation process. However for health evaluations in the community, issues of context become profoundly important.

⁹ The role of stakeholders is developed further in some sections of Chapter 4.

It may be that in some areas useful international analogues may emerge and the potential is always worth bearing in mind. However the scope appears to be very limited, given the contextual differences between countries (institutional, geographical and cultural) and the difficulties of obtaining comparable data in such fields. It is fine in principle to ask, for example, “how do the Germans think about the institutional handling of airport development?”, but in practice it seems doubtful that expenditure on such work would provide value for money.¹⁰ Prospective evaluators should however be encouraged to consider whether there may be useful scope for such comparisons in particular applications. International approaches to aviation evaluation, to the extent that it may be relevant to the development of the current UK approach, are briefly reviewed for five countries in section A.5 of Appendix A.

3.3. Impact Evaluation and Process Evaluation

The terms ‘process’ and ‘process evaluation’ can be a source of confusion. In evaluation terminology the term ‘process’ is used sometimes to describe administrative processes, such as consultation procedures, and sometimes to describe the causal chains or impact pathways or mechanisms by which a policy change affects outturns (and sometimes in a hybrid sense to describe the effectiveness of administrative processes in achieving outturns).

The term ‘process evaluation’ is used sometimes (very like theory-driven evaluation) to describe the evaluation of impact pathways, as distinct from impact evaluation simply of outturns. The Magenta Book notes that in the evaluation literature there are differing views as to whether distinguishing between process and impact evaluation in this way is useful, or whether the examination of causal chains or impact pathways is an element of impact evaluation. In transport evaluation, as noted above, the examination of impact pathways is at least in principle regarded as an element of impact evaluation. However, given these different usages, this Report avoids the term process, or makes its meaning clear by using terms such as administrative process.

Transport evaluation is traditionally mainly impact evaluation, examining the impacts of a policy, programme, or, most often, a project. Evaluation of administrative processes is rare. In this ATWP evaluation framework however there is no capital project evaluation and several elements of the framework focus on administrative process rather than policy impact. This can apply to policy development and to the ways that policies have been implemented.

The evaluation of administrative process is analogous to social policy evaluation and very different from traditional transport impact evaluation. One difference is that administrative process evaluation is concerned more with organisational learning than policy learning.

¹⁰ This is distinct from Government interest in policy innovations in other countries and the extent to which successful innovations might apply in the UK. In transport for example this has applied to multi-occupancy car lanes, and more recently the Government investigated Dutch experience in reducing the administrative cost of regulation to business by setting targets for government departments to reduce these costs. But even in cases of this kind, while they are worthwhile, contextual differences may greatly limit their value.

3.4. Evaluability

The 2006 European Commission Evaluation Guidance includes a “Sourcebook” section on “evaluability assessment”.¹¹ It describes this as an assessment to establish whether a programme or policy can be evaluated and to identify possible barriers to its effective and useful evaluation, having regard to “the coherence and logic of a programme, clarification of data availability, and the extent to which managers or stakeholders are likely to use evaluation findings.”

The approach to evaluability in this ATWP evaluation framework is pragmatic. It simply asks, given the ATWP and the Progress Report, and accepting the need always to express stated policies in operational and measurable terms, what evaluation is worthwhile in terms of the work required and the value of the likely output.

3.5. Structure of Specific Evaluations

As explained in Chapter 2, the framework in this Report covers policy-specific evaluations of many of the policies promoted in the ATWP or the ATWP Progress Report, followed by high level evaluation of the policy of publishing the Government airport development preferences and of achievement of the ATWP and Progress Report high level objectives.

The policy-specific evaluations (and the evaluation of publication policy) are for the most part conventional policy evaluations, albeit some more quantitative than others, and some of the work being only monitoring. In contrast, evaluation of achievement of high level objectives is not policy evaluation. Work can be done to indicate what movement there has been in the direction of each high level objective. But it will not generally be possible to estimate the individual or cumulative impacts on each objective of specific policies.

Nonetheless the framework adopts a standard structure for the policy-specific evaluations and applies a similar structure to the evaluation of achievement of the high level objectives. This structure is as follows.¹²

1. Description of the policy: A description of the objectives of the policy and of its practical mechanics, how it is supposed to achieve its objectives, and who are the relevant stakeholders.
2. Purpose of the evaluation and who it is for, for what use: This includes operational purpose (e.g. programme development, accountability) and hence,

¹¹ Under Methods and techniques / Planning and structuring evaluation.

¹² In part this draws on the following quotation: “the key to relevant and effective evaluation is more directly related to formulating the objectives and purposes of evaluation, in line with those of the initiative itself, and then identifying the key evaluation questions that need to be addressed and the criteria through which the evaluation can assess whether the purposes and objectives have been fulfilled. Selection of appropriate evaluation methods and techniques is shaped to a large extent by these questions and criteria, rather than the attributes of the initiative directly” Department for Innovation, Universities and Skills/ESRC *Evaluating Science and Society Initiatives: a Framework for Evaluation* Tavistock Institute, March 2007, p.38.

crucially, what specific questions the evaluation is seeking to answer. Identification of these questions, together with clarification of the policy (item 1 above), determine the general evaluation design. There is overlap between this heading and methodology (item 3 below) in that both may generate trade-offs between the scope of the evaluation and costs.

3. **Methodology:** The framework provides guidance on issues and potential approaches, while accepting that prospective evaluators should be encouraged to consider and promote their own methodologies.
4. **Skills required of the evaluators:** This is only indicative but designed to encourage thinking about the appropriate mix of capabilities required for the particular evaluation.
5. **Data requirements:** An assessment of data requirements, sources and likely availability.
6. **Evaluation management and timescales.** Policy-specific management issues. Timescales are considered for data collection and for evaluation. Estimates of costs can of course only be very broad, and are considered in Section 6 of the report.
7. **Dissemination:** Policy-specific dissemination issues, addressing the uses to which the particular evaluation might be expected to serve.

4. Evaluation of Specific ATWP Policies

4.1. Introduction

This section addresses each of the policies or impacts listed in Table 2.1, selected according to the criteria listed in section 2.4.3. As explained in Chapter 3 each is considered under the headings of:

- § description of the policy;
- § purpose of the evaluation and audience for the evaluation;
- § methodology;
- § skills required of the evaluators;
- § data requirements;
- § evaluation management, and timescales; and
- § dissemination.

4.2. Climate Change Policies

The Government considers climate change to be the “greatest long-term challenge facing the world today”¹³ and is committed to long-term strategies to address the causes and consequences. The development of economic instruments in the aviation industry to deliver environmental objectives (that aviation meets all its external costs including climate change costs) is discussed in the ATWP:

“Potential economic instruments include environmental charges, taxes and trading schemes. Such measures use price signals to drive improvements, and can help to encourage the development and use of environmentally friendly technology. Economic instruments can help ensure that aviation bears the external costs it imposes on society.”
(ATWP, box after paragraph 3.9)

After the introduction of Air Passenger Duty, a DfT and HM Treasury study was published that valued the external costs of aviation and discussed economic instruments.¹⁴ The study repeated the argument that use of economic instruments would ensure that the aviation industry takes account of its contribution to global warming and other environmental impacts, and that polluters should pay for the external costs they impose on society (‘internalising’ the external cost). For example, taxes should target particular externalities to make sure prices reflect external costs, while trading schemes should achieve a certain level of emissions abatement at least cost. In making the aviation industry face its external costs there are demand-side effects (i.e. demand is reduced where higher prices reflect the higher costs

¹³ HM Government, *Climate Change: The UK Programme 2006*, March 2006. Available at: <http://www.defra.gov.uk/environment/climatechange/uk/ukccp/pdf/ukccp06-all.pdf>, page3

¹⁴ Department for Transport (2003), *Aviation and the Environment: Using Economic Instruments*, March 2003

imposed on airlines) and supply-side effects (these depend on the cost absorbed by airlines and the take-up of more fuel-efficient technology).

Monitoring Whether Aviation Tax Revenues Cover External Costs

A DfT consultation paper published in August 2007 set in motion Government plans to check that aviation tax revenues cover climate change costs caused by airplanes.¹⁵ The consultation document sets out proposals to calculate CO₂ emissions costs using the UK's annual Greenhouse Gas Inventory CO₂ emissions for aviation, estimates of other climate change effects of aircraft, and estimates of the social cost of carbon. These would then be compared over a full year with aviation-specific tax revenues, from Air Passenger Duty (APD) and aviation gasoline duty (which applies primarily to smaller aircraft) for the UK as a whole; but not for individual airports. This assessment would be carried out approximately every three years to coincide with the regular review and report on progress in delivering the Future of Air Transport agenda. The consultation suggests that this tool would provide an important input into any evaluation of the ATWP policies' contribution to achieving the higher level objective of ensuring that external costs of aviation are internalised.¹⁶

Going beyond the objective of 'internalising the externality', Government objectives on UK greenhouse gas emissions include the Public Service Agreement targets (for which Defra, DfT and BERR (formerly DTI) share joint responsibility). These targets are:

- § a commitment under the Kyoto Protocol to reduce greenhouse gas emissions by 12.5 per cent below 1990 levels by 2008-2012; and
- § a domestic target to reduce UK CO₂ emissions by some 60 per cent by about 2050, with real progress by 2020.¹⁷

These targets do not include emissions from international aviation.

For Defra, in particular:

“The challenge is not only to ensure that policy-makers are aware of climate change, but also to develop a risk management framework and practical toolkit, ensuring that policy-makers identify clearly and take

¹⁵ DfT *Consultation on the Emissions Cost Assessment*, August 2007

¹⁶ The consultation document proposes that costs of localised air pollution and noise are not included in the Emissions Cost Assessment, but the earlier review of external costs of aviation showed that these are low in relation to the climate change costs (DfT and HM Treasury, *Aviation and the Environment – Using Economic Instruments*, March 2003).

¹⁷ This target was introduced in the Government's 2003 Energy White Paper. The draft Climate Change Bill, which is currently subject to consultation, proposes making a 60 per cent reduction in CO₂ by 2050 and a 26 to 32 per cent reduction by 2020 legally binding, so that a Government which fails to meet its targets or stay within budget, unless the law had been changed, would be open to Judicial Review.

action on those issues on which proactive planning is needed in the short to medium term.”¹⁸

For DfT the objectives on climate change are to:¹⁹

- § reduce the fossil carbon content of transport fuel;
- § increase the fuel efficiency of vehicles;
- § encourage a move towards more environmentally friendly forms of transport; and
- § work towards the inclusion of transport in emissions trading schemes.

Current UK policies to address climate change are set out in the 2006 Climate Change Programme, with annual reports for Parliament. The policies are broadly split into sectors (international, domestic, energy supply, business, transport, domestic, public and local government, agriculture, forestry and land management) and personal action policies. Policies to reduce emissions from aviation focus on the EU Emissions Trading Scheme and carbon offsetting.

The Office of Climate Change (OCC), a body governed by a Ministerial Board chaired by the Secretary of State for Defra, started work in 2006 to support Ministers in determining UK strategies for climate change. The OCC’s tasks include:²⁰

- § “High level management and reporting of progress on existing commitments;
- § Consolidating existing analysis to develop a cross-government consensus on current progress and outstanding issues;
- § Identifying short and medium term goals for particular sectors/ areas and consequent priorities for action;
- § Carrying out time-limited policy-focussed projects where Ministers agree that this adds value; and
- § Promoting understanding of climate change across government and supporting departments to adapt their policies”.

In March 2007 the Government published a draft Climate Change Bill for consultation. The Bill sets out strategies and frameworks for reducing UK and global emissions. Included in the draft Bill are legally binding CO₂ emissions targets, powers to make emissions policy implementation easier, and plans for a statutory body – Committee on Climate Change – to provide independent expert advice on achieving emissions reduction goals.

¹⁸ Defra, <http://www.defra.gov.uk/environment/climatechange/pubs/impacts/index.htm>

¹⁹ DfT, <http://www.dft.gov.uk/pgr/sustainable/climatechange/climatechangeandtransport>

²⁰ Defra News Release, *Office of Climate Change starts work*, September 2006. Available at: <http://www.defra.gov.uk/news/2006/060922b.htm>

4.2.1. Emissions trading

4.2.1.1. Description of the policy

The Government believes that the inclusion of aviation in an emissions trading scheme is the best option (in terms of economic efficiency and environmental effectiveness) for reducing the industry's impact on the climate. The ATWP stated that:

"[the Government] intend to press for the inclusion of intra-EU air services in the forthcoming EU emissions trading scheme, and to make this a priority for the UK Presidency of the EU in 2005, with a view to aviation joining the scheme from 2008, or as soon as possible thereafter." (ATWP, paragraph 3.40)

In formulating its detailed position on aviation emissions trading, the Government has had to consider a number of implementation issues, including:

- § how responsibility for emissions should be split between EU Member States;
- § who should be the trading entity and how to distribute allowances to them;
- § how to regulate the scheme ensuring consistency across EU Member States; and
- § how to deal with aviation's non-CO₂ impacts.

The EC put forward a proposal for legislation in December 2006 to include all domestic and international flights arriving or departing from an EU airport into the EU scheme by 2012.²¹ The proposal includes suggested approaches to addressing many of the issues listed above.

The Government is also working with the ICAO's Committee on Aviation and Environment Protection to develop guidance on international aviation emissions trading schemes. The work to modernise the Chicago Convention and ICAO is intended to:

"equip international civil aviation with a structure and legal framework that effectively maintains ICAO's good work on safety, security and technical co-operation while taking account of the economic and environmental realities of today's world." (ATWP Progress Report, paragraph 2.8)

Emissions trading schemes are a key measure in achieving the Government's Public Service Agreement targets.

²¹ European Commission, http://europa.eu.int/comm/environment/climat/aviation_en.htm

4.2.1.2. Purpose of the evaluation and the audience for the evaluation

The evaluation is primarily to provide information for the Government's handling of negotiations on emissions trading with other bodies – in particular the EC and ICAO. This is an evaluation of administrative process. Evaluating the Government negotiations is of particular interest to DfT, Defra and BERR as they have primary responsibility to implement policies necessary to achieve the Public Service Agreement targets, including emissions trading.

In the longer-term, an impact evaluation of the EU emissions trading scheme (ETS) would be of interest to the UK Government and to the airlines and environmental interests. It would provide accountability. It would also provide information to help the further development of such schemes internationally. Impact evaluation is discussed in the following sections, although such work may be for the EC to commission.

4.2.1.3. Methodology

As noted above, the evaluation of government policies on emissions trading is an evaluation of administrative process, which looks at two areas that the Government is seeking to progress:

- § Having aviation included within the EU emissions trading scheme; and
- § Setting up a trading regime for international aviation emissions through the ICAO.

Evaluation of the negotiations with EC, ICAO and other organisations should address those DfT and other UK officials who were involved in the negotiations. It should examine how the negotiations were conducted, how frequently and by what means contact was made with whom, what difficulties occurred, and outcomes. The problems that occurred and relative successes or failures from the negotiations can then be analysed to provide lessons for improvement. In addition, the evaluation should examine how responsibility is being shared between UK Government agencies and the effectiveness of communication between them. It should examine how well the risk register has captured the actual problems faced in practice, whether the Government has used evidence and analysis (e.g. commissioned research) to inform its view and negotiation lines, and whether negotiation outcomes at key stages matched Government objectives for timing and scope. Lessons should be drawn about more or less successful tactics and styles in particular contexts in a form that can be applied to ongoing and future international negotiations.

The evaluation should draw on contemporary documentation, but should rely mainly on face-to-face interviews with relevant UK Government officials.

As noted in section 4.2.1.2, evaluating the impacts from aviation emissions trading may be done by the EC,²² although the UK Government will have an interest and

²² Current legislation requires the EC to review the scheme and recommend modifications as required. Work is currently being undertaken with respect to the first year of the scheme's implementation.

may wish to influence the evaluation design or possibly commission work of its own from a UK perspective. To evaluate the long-term effectiveness of inclusion of aviation in the EU emissions trading scheme, the evaluator could use a realistic evaluation approach, identifying the context of the EU emissions trading scheme (e.g. the industries that are part of the scheme, how trading allowances are initially allocated, transaction costs) and the mechanisms (e.g. how allowance trading takes place) and constructing theoretical links between the context and mechanisms to explain why objectives have or have not been met. Outcomes could be evaluated relative to a number of possible UK government objectives.

It may be interesting to look at the net costs to aviation, which would depend on factors such as levels of emissions reduction, the net purchase of allowances, proportion of allowances freely received, what is happening in the wider ETS market, the ability to pass through costs, and resulting impacts on passenger demand. The emissions reduction will depend mainly on how the total number of allowances allocated compares to the “business as usual” scenario, but also on the “leakage” to higher emissions from sources outside the scheme. Other objectives might relate to costs (including administration and transaction costs); consistency with long-term UK objectives on low-emissions technology; price stability; provision of the industry with long term signals; and distributional impacts. The objectives of the scheme should be discussed between the government and the evaluators.

The evaluation of the emissions trading scheme ought to combine a quantitative, impact evaluation approach with a qualitative theory-based approach to understand how the scheme works (e.g. what were the main drivers of trading, how liquid was the market, etc). The quantitative aspect may use data analysis of transactions within the scheme, impacts on emissions and abatement cost, while the qualitative aspect should record companies’ experiences in using the trading scheme, using for example case studies and interviews.

4.2.1.4. Skills required of the evaluators

The evaluators need a good understanding of the EU emissions trading regime and how aviation would be included in this. Some knowledge of EC legislative processes and the ICAO will be useful. Experienced interviewers should be used for interviewing Government officials about the negotiations and the evaluators should have experience of, or clearly demonstrate a strong capability to analyse and draw constructive conclusions from the evaluation of the conduct of negotiations.

For evaluation of the aviation component of the EU emissions trading scheme, the evaluators should specialise in environmental economics and have experience of existing schemes and in analysing trading scheme data.

4.2.1.5. Data requirements

For evaluation of how the Government has handled the negotiations, the key source of information will come from interviews with past and current holders of the relevant senior UK official posts and with other officials involved in the negotiations. The interviews should be used to collect information on negotiation details (e.g. method

of communications and timing) as well as the problems encountered and the outcomes. It may also be useful to interview relevant officials from the EC, ICAO and other countries. This might be supported by inspection of key files identified by officials. Relevant press releases may also be inspected to help fill in the timeline of events and show how the issues were presented publicly at the time.

Later evaluation of the scheme in operation would draw on quantitative data for the EU emissions trading scheme.²³ For each Member State, the Community Transaction Log holds data on allocation and compliance, operator holding accounts and allowance transactions. The theoretical qualitative information should come from the environmental and economic literature; and information on companies' experience of the scheme from case studies and interviews.

4.2.1.6. Evaluation management and timescales

As an evaluation of the Department's interactions with international bodies and other national governments, this falls more into the wider fields of social research than economics research. The evaluation commissioning and management by the Department therefore might need significant social research input, preferably with experience of the evaluation of interactions between institutions.

The evaluation of Government negotiations should begin after outcomes from the negotiations are known, implying no earlier than 2009. A four month study should be sufficient to conduct the evaluation.

Current proposals are to include aviation in the EU emissions trading scheme from 2011 at the earliest. An impact evaluation of this should allow time for a number of transactions to take place and any material impacts on emissions to be felt. This implies 2013 would be the earliest date for an impact evaluation and the evaluation should take place over one year.

4.2.1.7. Dissemination

As an evaluation of administrative process this will almost certainly be an internal document to government and perhaps to the Department for Transport, although parts at least will be shared with other departments.

The main challenge for dissemination is that of ensuring as far as is practical that notice is taken of the results by those in a position to act on them and that action is taken.

Inclusion of aviation in emissions trading schemes will have noticeable and long-lasting impacts on the UK aviation industry. Therefore the results of this evaluation should be disseminated to other stakeholders in the form of short summaries, in addition to the main document going to DfT, Defra and other Government departments.

²³ Quantitative data is available on the European Commission website at <http://ec.europa.eu/environment/ets/>

4.2.2. Offsetting

4.2.2.1. Description of the policy

Offsetting refers to financial contributions that result in CO₂ reductions elsewhere that are equivalent to the CO₂ produced by the individual or business. The ATWP Progress Report mentions as an example that extra money is being spent on renewable energy technologies and energy-saving projects in developing countries to offset carbon emissions from Government officials' and Ministers' air travel. This occurs through the Government Carbon Offsetting Fund, which is used to purchase Certified Emissions Reductions issued through the Clean Development Mechanism.

The ATWP Progress Report sets out the Government's aims with regard to offsetting as an aspect of policy relating to climate change:

"We aim soon to bring forward proposals which will make it simpler for air passengers to offset the carbon emissions arising from the flights that they take by setting out a Government standard for how such schemes should operate." (ATWP Progress Report, paragraph 1.6)

The Progress Report also explains that:

"The OCC is intended to support Ministers as they decide future UK strategy and policy on domestic and international climate change. For example, this will be done by consolidating existing analysis to develop a cross-government consensus on current progress and outstanding issues. The OCC will also promote understanding of climate change across government and support departments in considering how their policies respond to climate change challenges." (ATWP Progress Report, paragraph 2.16)

"The Office of Climate Change²⁴, in its governmental coordinating role, has been working with airlines to encourage the promotion of offsetting schemes for airline passengers. This is linked to the development of a proposed Government standard for carbon offsetting supported by a voluntary code of best practice." (ATWP Progress Report, paragraph 2.24)

The consultation on the carbon-offsetting Code of Best Practice has been undertaken by Defra (including a partial Regulatory Impact Assessment), with a summary of responses published in July 2007.²⁵ The aim is to have the Code in place later in 2007. The Code includes information on the use of certified credits to offset emissions, accurate calculations of emissions to

²⁴ The OCC is governed by a Ministerial Board, which is a working subgroup of the Ministerial Committee on Energy and the Environment.

²⁵ Defra, <http://www.defra.gov.uk/environment/climatechange/uk/carbonoffset/codeofpractice.htm>

offset, clear information for consumers, transparent pricing, timescales for cancelling credits and measures to encourage consumer take-up.²⁶

4.2.2.2. Purpose of the evaluation and the audience for the evaluation

The evaluation of offsetting in the UK is partly for accountability, to inform stakeholders about how Government policy is working. It should also provide information to help government departments (in particular DfT, Defra and BERR) and others to help improve policy effectiveness.

DfT should liaise with Defra, who should be responsible for this evaluation.

4.2.2.3. Methodology

The evaluation should assess the progress of Government and OCC plans, including the proposed Government standard for offsetting and voluntary Code of Best Practice.

The policies to be monitored include plans by the Government to make offsetting easier for individuals (including a Government standard for how schemes should operate, supported by a voluntary Code of Best Practice); rate of uptake of Government standard by airlines in developing their offsetting schemes; and progress by the OCC in promoting understanding across Government departments to support UK strategies on climate change. The evaluation should look at Government activity in these areas.

In addition to monitoring the Government's progress in these areas, the evaluation should build up a theoretical understanding of how Government offsetting policy works to increase the awareness and levels of genuine offsetting. This could include interviewing or surveying key individuals at a selection of relevant Government departments to build up a picture of the issues that were raised in discussion with the OCC and how it has affected policy formation.

As a secondary exercise in the evaluation, evaluators should examine the scope for a quantitative impact evaluation of the extent to which changes in offsetting, by businesses and the public separately, are attributable to Government action.

4.2.2.4. Skills required for the evaluators

The evaluators should have some knowledge of carbon-offsetting schemes and a good understanding of Government processes, and have strong general analytical skills to conduct the monitoring.

²⁶ Defra, *Consultation on establishing a voluntary Code of Best Practice for the provision of carbon offsetting to UK customers*, January 2007, page 3. Available at: <http://www.defra.gov.uk/corporate/consult/carbonoffsetting-cop/consultation.pdf>

Evaluators undertaking the impact evaluation should have experience working with aviation emissions data and experience using data trends to construct counterfactuals.

4.2.2.5. Data requirements

For the monitoring exercise, information on the Government's progress should be available from department and agency websites (as reports and press releases). This should be supported by information from discussions with Government officials overseeing the offsetting policies.

Data on levels of carbon offsetting in the UK are not currently available and should be researched as a part of the evaluation. The DfT should consider collecting information to fill this gap. For example, useful data would include the level of contributions to private offsetting schemes and levels of carbon offset over time. A time-series dataset to provide baselining would be useful for the counterfactual analysis and offsetting behaviour should be looked at separately for businesses and individuals.

4.2.2.6. Evaluation management and timescales

The management task here is to ensure that Defra specify and manage the evaluation in ways that meet the needs of DfT as well as Defra. This implies a need to engage early and then continuously with the Defra project management team as the evaluation proceeds.

The OCC has recently been set up and the Code of Best Practice is due to be published in late 2007. The monitoring evaluation should take place after these measures have settled down, around 2009, for about four months.

The impact evaluation should take place after offsetting data has been collected up to at least two years following policy implementation to allow measures to have settled down, around 2010. The evaluation, including a very substantial amount of data collection, should take about one year.

4.2.2.7. Dissemination

Copies of the final report should be distributed to the key stakeholders of Government offsetting policy, which includes Defra, DfT and the OCC. Organisations should also be given the chance to provide feedback, whether this is at a formal session or via email.

Subject to requirements of commercial confidentiality, a press release showing evaluation results should be made available to other stakeholders, which includes Government officials that oversee and administer the Government Carbon Offsetting Fund, private companies that provide off-setting services and environmental groups.

4.2.3. Voluntary industry targets and monitoring

4.2.3.1. Description of the policy

The ATWP report describes how the Government will press for:

“voluntary action by airlines, airports and aerospace companies to control greenhouse gas emissions and develop sustainability strategies. Such action should include emissions reporting and targets at a company level.” (ATWP, paragraph 3.41)

The ATWP Progress Report mentions that a number of airports have set themselves “targets for energy efficiency and use of renewable sources.” (paragraph 2.21). In the future the Government:

- § wants “airport operators to publish an environmental statement alongside their master plans, setting targets for recycling, reducing carbon emissions and improving the energy efficiency of their business operations, with the aim of achieving carbon neutrality as quickly as possible;” and
- § “asks industry to report annually on the progress it has made on reaching the targets in its Sustainable Aviation Strategy.” (paragraph 2.37)

4.2.3.2. Purpose of the evaluation and the audience for the evaluation

The purpose of the evaluation is to demonstrate for accountability the effectiveness of government action and the performance of the industry in this field, and to guide policy-makers on the effectiveness of measures to encourage voluntary action.

The main audience for this evaluation include DfT, Defra and airport operators.

4.2.3.3. Methodology

The evaluation should initially examine the prevalence of voluntary targets and monitoring by airports in the UK and details of these initiatives. The evaluator should interview and/or survey samples of airport operators, airlines, manufacturers and air traffic controllers in the UK about their voluntary targets and monitoring. The interviews should include questions about why targets have been implemented, whether targets are projected to be met (or have been met), how targets and monitoring have affected behaviour, and whether targets and monitoring are a result of Government action.

It will also be useful to compare UK case studies with case studies from abroad. Interviews with aviation industry representatives abroad could be done by telephone or face-to-face.

The evaluator should use the case studies to assess whether industry targets are sufficient, given the UK climate change goals, whether targets are challenging, whether all environmental impacts are being monitored, and how effective Government action has been and why in order to identify further scope for

Government actions. The evaluation should summarise the case studies in order to identify cases of good practice.

It may not be feasible for the evaluation to go further and evaluate the environmental impacts of voluntary targets given data constraints and the difficulty in separating out the impacts on emissions levels from voluntary targets.

4.2.3.4. Skills required for the evaluators

The evaluators should have a good understanding of environmental and climate change issues in aviation. The evaluator should have good interviewing experience and good analytical skills for constructing the case studies and appropriate experience of analysing institutional behaviour.

4.2.3.5. Data requirements

The key data source will be the interviews with aviation industry representatives in the UK and abroad. In addition, company (airlines airports and aerospace) and regulator websites should contain information on voluntary industry targets and monitoring.

4.2.3.6. Evaluation management and timescales

This is another evaluation that falls more into wider fields of social research than economic research. The evaluation commissioning and management by the Department therefore needs significant social research input.

Given that the aviation industry has been given time to implement monitoring and targets, the evaluation could start soon, say 2008, and should take about six months.

4.2.3.7. Dissemination

The final report should be distributed to Government and key aviation industry organisations. This includes DfT, Defra, OCC and CAA. It may also be valuable to distribute report summaries to airport, airline and aerospace companies in the UK with the aim of encouraging voluntary monitoring in areas where it does not currently exist.

4.3. Local and General Environmental Policies

Airports, from their size and the noise and emissions of aircraft, inevitably impact on the local environment. The Government, along with airport operators, has implemented a number of policies to reduce the impacts of emissions and noise in the vicinity of airports, and the impacts of airport developments on landscape, heritage and biodiversity.

Government action on aircraft noise has included a revised night flights restrictions regime at Heathrow, Gatwick and Stansted. The revised regime, which runs from October 2006 to October 2012 does not allow for increases in the number of movements permitted and imposes a progressive reduction in the noise quota limit,

encouraging the use of quieter aircraft. The decision also set environmental objectives and specific noise abatement objectives for each airport. In addition, an Industry Code of Practice was published in November 2006 relating to operational procedures designed to reduce noise from arriving aircraft.

DfT has undertaken significant work on the local environmental impacts at Heathrow Airport, currently and as part of the 'Project for the Sustainable Development of Heathrow' (PDSH).²⁷ PDSH focuses on noise, air quality and public transport access. The Heathrow Consultation, which reports on the findings of the PDSH work, has now been published.

Landing charges at most airports within the UK now depend on the noise classification of each aircraft, to encourage the introduction of quieter aircraft. For example, at BAA's airports the noisiest aircraft may pay up to three times the landing charge of more typical aircraft;²⁸ and Manchester Airport is aiming to keep noise per aircraft movement below the 1992 levels (taking account of increased movements) and fine airlines that exceed targeted noise levels.²⁹

In addition to noise levels, Heathrow and Gatwick's landing fees have since 2004 and 2005 respectively included a charge for NO_x emissions during take-off and landing.

In addition to published reports, to encourage the dissemination of environmental information, Environmental Information Regulations mean that members of the public can request environmental information from any public authority (which includes central government, local government and bodies carrying out public functions on behalf of the authority), subject to disclosure restrictions, such as damaging commercial interests.³⁰

Section 4.3 sets out evaluation frameworks for the following ATWP policies:

- § Local air quality;
- § Non statutory compensation;
- § Measures to clarify and strengthen noise control powers;
- § Noise mitigation and compensation; and
- § Differential landing charges.

²⁷ DfT, <http://www.dft.gov.uk/pgt/aviation/environmentalissues/heathrow/>

²⁸ BAA, *Airport Noise Issue Brief*, September 2006. Available at: http://www.baa.com/assets/B2CPortal/Static%20Files/06_AircraftNoise.pdf

²⁹ Manchester Airport, *Noise*, available at: <http://www.manchesterairport.co.uk/web.nsf/Content/NoiseEnvironment>

³⁰ Defra, *Environmental Information Regulations 2004*. available at: <http://www.defra.gov.uk/corporate/opengov/eir/slides-leaflets.htm>

4.3.1. Local air quality

4.3.1.1. Description of the policy

The ATWP states that local controls should be used so that “local air quality is maintained within legal limits across all relevant pollutants in order to protect human health and the wider environment” (paragraph 3.6). Also of course climate change policies that reduce aviation fuel use will sometimes reduce local emissions.

The ATWP (paragraph 3.31) briefly sets out a combination of methods for improving local air quality, including emissions-related landing charges, which are addressed in detail in section 4.3.5 below. Two of the measures are limiting road traffic emissions associated with air passengers and employees, for example by more use of public transport and by improvements in motor vehicle technology. Related to this are ATWP policies on airport surface access, which are addressed in detail in section 4.5.2 below. Road traffic emissions and motor vehicle technology are Department for Transport issues but beyond the scope of this aviation policy framework. Another measure is industry and university research, which is not included in this framework as it is a BERR responsibility.

From the policies listed in ATWP paragraph 3.31 this leaves the following to be addressed in this section:

- § “reducing airport ‘airside’ emissions substantially through technological and operational improvements by both airports and airlines”; and
- § “pressing through ICAO for more stringent international standards to limit emissions from aircraft engines”.

The local impacts of specific airport developments are addressed in section 5.1.4.

4.3.1.2. Purpose of the evaluation and the audience for the evaluation

This evaluation is primarily a monitoring exercise to provide accountability to all stakeholders for the actions promised on these issues and to provide the DfT and Defra with information on progress and to help stimulate ideas for new or improved approaches.

The main audience for the evaluations are DfT and Defra. Other interested parties would include airport operators, environmental groups and other local stakeholders.

4.3.1.3. Methodology

As noted above this evaluation is mainly monitoring of progress in using Government policy to maintain local air quality within legal limits through technological and operational improvements and more stringent international standards. However in addition to monitoring the evaluator should seek to understand the reasons why good progress has or has not been made and identify examples of good practice.

The evaluator should consider case studies of airlines and airports in the UK and possibly abroad in terms of technologies and working practices, examining the

reasons for differences in progress across case studies and providing judgements on “best practice”. In cases where significant progress has been made, the evaluator should seek to establish how much of this can be attributed to government policy. Where limited progress has been made, the evaluator should examine the reasons for this.

The evaluator should record progress in Government negotiations with ICAO on international engine emissions standards, and examine the scope for worthwhile evaluation of DfT’s negotiation strategy and tactics, in the light of documentary data and interviews with Government officials.

As noted above, DfT has undertaken significant work in examining all environmental impacts of Heathrow in the Project for the Sustainable Development of Heathrow.³¹ Consideration should be given to the scope for reviewing the work on local air quality at Heathrow and evaluating those policy measures that follow from the public consultation. This should include assessment of the applicability of such work to other major UK airports.

4.3.1.4. Skills required of the evaluators

The evaluators should have some knowledge of the aviation industry and environmental issues, including technology and working practices and international emissions standards. The evaluator should also have extensive experience conducting case studies and interviews and should have general technical competence.

4.3.1.5. Data Requirements

The main data sources for this evaluation are the case studies and interviews.

4.3.1.6. Evaluation management and timescales

The evaluations of technology and working practices and of international standards could be conducted by different evaluators. However, these evaluations will need close management with significant input from DfT aviation and the environment experts.

The evaluations could be conducted relatively soon, say as soon as 2009, over about six months. It may be useful to renew the findings to reflect new technological innovations or international standards every five years.

4.3.1.7. Dissemination

The final reports should be distributed to those organisations involved in aviation technology and operations and international engine standards. This includes Government and aviation industry stakeholders (such as DfT, Defra, and CAA).

³¹ For more information see: <http://www.dft.gov.uk/pgr/aviation/environmentalissues/heathrow/>

Airport operators and airlines, in the UK and abroad, should be sent report summaries.

4.3.2. Non-statutory compensation

4.3.2.1. Description of the policy

The ATWP explains that:

“The prospect of airport development will in many cases have a wider impact on property values in the period before statutory protection is available. This is often referred to as ‘generalised blight’. There is no statutory remedy for this, but we accept that people should have access to some form of redress, for example to help them relocate before the development takes place, if they need to do so. Arrangements are therefore being made for non-statutory schemes to be brought forward locally by the airport operators to deal with the problem of generalised blight where runways are supported by this White Paper or where land is safeguarded for future development.”
(ATWP, paragraph 12.16)

The ATWP Progress Report (page 18) identifies cases of blight schemes from airport master plans and states that the DfT encourages “other airports to follow the examples already set by some airports.”

4.3.2.2. Purpose of the evaluation and the audience for the evaluation

This evaluation of progress in implementing non-statutory compensation schemes and of the effectiveness of such schemes is for accountability and to provide information for DfT, Defra and airport operators to help further development of this policy.

4.3.2.3. Methodology

The evaluation should monitor the progress in implementing schemes at specific airports to deal with generalised blight from runway development or land safeguarding. In addition, the evaluation should look at the effectiveness of such schemes and compare experiences across airports to identify specific lessons. It includes both monitoring of progress in implementation of schemes and evaluation of their effectiveness.

For monitoring, the evaluators should initially identify those airport sites where generalised blight might be expected to be a material issue. The evaluators should then examine the progress in implementing schemes in these areas. The ATWP policy in section 4.3.2.1 gives the example of assistance for relocation. The evaluators should be clear to define what ‘non-statutory compensation’ includes and excludes and be consistent when comparing schemes across airports. The evaluation should identify the size and scope of the schemes (e.g. how many households have been compensated?), the principles by which eligibility

compensation and its level is determined and how the schemes work (e.g. how do people apply for compensation? How quickly is it paid?).

The evaluation should also assess the effectiveness of the schemes. The evaluator should use a survey approach to find out about scheme managers' experiences with the scheme, including the level of compensation recipients received, and their satisfaction. Local estate agents should be consulted if they are informed about and are willing to discuss the scheme. The evaluator should use the results from the interviews and the monitoring to assess the distributional aspects of the scheme. The interviews should be done at each airport site where schemes are in place.

The final evaluation report should bring together the different work strands to provide an overall evaluation of non-statutory compensation schemes in the UK.

4.3.2.4. Skills required of the evaluators

The evaluators should have some knowledge of the link between airport developments and blight. The evaluators should also be skilled at interviewing officials about their policy implementation and at interviewing members of the public and others about the quality of service that they receive or believe they should receive, and at interpreting such data.

4.3.2.5. Data requirements

The key data source for this evaluation will be from interviews with airport generalised blight scheme managers and recipients of compensation. The interviews should be used to gather information about how the scheme works and satisfaction with the scheme outcomes.

Airport and airport operator websites should contain information about non-statutory schemes available.³² Where information is not publicly available, the evaluator could request information from airport operators about such schemes.

4.3.2.6. Evaluation management and timescales

The monitoring element of this evaluation is relatively straightforward data collection, but the data requirement needs to be tightly specified so as to enable, for example, constructive comparisons between airports. Evaluation of the effectiveness of the schemes, in terms of objective fairness and perceived fairness, is more challenging and closer to the evaluation of social policy than conventional transport evaluation. To be a fully competent client the Department needs to draw substantially on the skills of both social scientists and economists and to ensure that the relevant policy divisions are continuously engaged. CLG needs to be informed in advance of a specification being prepared and invited to contribute to the specification and subsequent stages.

³² For example, information on the Birmingham International Airport Property Value Protection Scheme is available at: <http://www.bhx.co.uk/Press/223.pdf>

The evaluation should take place soon, say 2008 or 2009, over the period of a year, since generalised blight schemes should be discussed in airport master plans. It may then be useful to monitor further progress every five years, or until statutory schemes are introduced.

4.3.2.7. Dissemination

Due to the sensitive nature of the evaluation, the evaluation results might be for internal use only. The final report from the evaluation should be provided to DfT and Defra.

4.3.3. Measures to clarify and strengthen noise control powers

4.3.3.1. Description of the policy

The ATWP stated (paragraph 3.14) that the Government proposed two main measures to strengthen and clarify noise control powers at airports, which, amended as described below, have since been introduced in the Civil Aviation Act 2006. These are:

- § controls set on the basis of noise quotas alone, without a separate movements limit; and
- § new powers to extend controls so that they can relate to overall use of the airport (currently they are voluntary or directly related to specific developments such as Heathrow Terminal 5).

The 2006 Civil Aviation Bill and Night Noise Regimes proposals were subject to amendments. One of these was to maintain quotas for aircraft movements at Heathrow, Gatwick and Stansted, so that the first of the two items listed above now has no impact.

The Secretary of State's powers under the Civil Aviation Act 1982 to control noise levels at airports are limited to designated airports (currently Heathrow, Gatwick and Stansted). However, other airport operators have been given statutory powers to introduce noise control schemes of their own, with fines for non-compliance.

The ATWP also said (paragraph 3.13) that the Government would start consultations in 2004 on a night noise regime for Heathrow, Gatwick and Stansted. Following the consultations, in June 2006 the Government made decisions on restricting night noise, to the effect that there will be no increase in night flights up to October 2012 and that night noise limits will reduce over time (ATWP Progress Report, page 16).

It should be noted that the Government proposes to consult airport consultative committees in 2008 to assist in the monitoring of how new powers provided by the Civil Aviation Act 2006 have been used.

4.3.3.2. Purpose of the evaluation and the audience for the evaluation

The purpose of this evaluation is mainly for accountability, to demonstrate the extent to which the new noise control powers in the 2006 Civil Aviation Act have been used and to evaluate the impacts on noise from noise control schemes that emanate from the ATWP (and subsequently Civil Aviation Act) and night noise regimes at the BAA London airports.

It will also be of interest to the DfT and Defra as a source of information for noise control policy development.

4.3.3.3. Methodology

The first part of the evaluation is monitoring noise control schemes at airports. The evaluator should interview airport operators at UK airports where noise disruption is a material issue, about any noise controls exercised at the airport (although data constraints may mean evaluations at some of these airports are not feasible). Where noise control schemes have been implemented, data should be collected on when the noise controls were implemented, how the noise controls are used (e.g. what is the fine for non-compliance?), and to what extent the controls are a consequence of the Civil Aviation Act 2006. Telephone interviews may be the most efficient way to interview a large number of airport operators.

Collating the information from these interviews, the evaluation should assess the impact of the ATWP on the number of and scope of schemes and use qualitative analysis to form judgements on whether the new powers in the 2006 Civil Aviation Act have been fully utilised.

For those airports with noise control schemes (including night noise regimes at Heathrow, Gatwick and Stansted) the evaluator should conduct an impact analysis on noise levels and disturbance.

The main (airport-specific) counterfactual is “no ATWP and no 2006 Act”, to indicate the effects of these particular government initiatives, although for some airports a “no scheme” counterfactual might also be considered, to indicate the effects of such schemes. The counterfactuals should be constructed using information from interviews with airport operators and using aircraft movement and noise data.

For the BAA London airports, the main part of this evaluation will consist of examining night noise levels. Noise data should be collected both before the implementation of the Civil Aviation Act and revisions to the night noise regimes, and after their full implementation. Noise measurements can be based on dBA L_{eq} for the night period (23:30 to 06:00, with shoulder periods between 23:00 and 07:00) using contours based on populations (with the same assumed population distribution before and after).

The evaluation could also be informed by other indicators, such as numbers of movements for different certification of aircraft (categorised according to the noise scale used in the night noise regimes); dBA L_{eq} by hour across the night, proportion of aircraft complying with various operational practices to reduce noise impact (such

as Continuous Descent Approaches), levels of compliance and incidence of fines for non-compliance.

The evaluators should consider whether the counterfactual differs in any material way from the noise impacts recorded prior to the changes in regulations. This may be relatively complicated if the new regime was implemented in phases over a number of seasons. In the intervening time, there may be demand changes that impact on noise levels. The evaluator should identify any such changes through interviews with the airport operator. The relevant counterfactual may differ from the observed ex-ante noise levels if major airlines have changed their fleet mix in the interim – typically towards quieter aircraft – and this change was planned irrespective of the night noise regime reforms. Overall demand for use of the airport may have increased or decreased over the period, and the evaluators should consider how this may affect the counterfactual. (For example the impact of night noise regimes will be unaffected by general traffic growth if the permitted level of night traffic is constrained by the regime.)

For other airports in the UK where noise is an issue, the counterfactual is likely to be more complex to construct since: controls may be implemented piecemeal; controls may not be wholly related to the ATWP and 2006 Civil Aviation Act (for example, many airports introduced noise measures prior to the 2006 Act using their conditions of use); and ex-ante night noise data may be limited. If these difficulties are severe, the evaluation should instead examine the direct outputs of individual controls. For example a control may directly result in exclusion of some of the noisiest aircraft during night hours. It may then be possible to translate this reduction into noise impacts, using established noise models.

The evaluation should also address the drivers of change. This will entail assessing why some airports, as compared with others, introduce more or fewer or different controls, whether there are any best practice lessons (for example from observing different airline responses to different controls), and whether the controls introduced achieve a similar balance of costs and benefits across all airports where noise is material issue.

4.3.3.4. Skills required of the evaluators

The evaluator should have a good knowledge of noise measures and contours for aviation and know how different measures of noise are related to each other. The evaluator should have experienced interviewers with knowledge of noise control schemes and night noise regimes. A strong technical background and ability to interpret institutional behaviour will be needed to construct robust counterfactuals and analyse differences in behaviour across airports (and to some extent airlines).

4.3.3.5. Data requirements

A large proportion of the data and information for the evaluation will come from interviews with airport operators.

Noise data (including contours and mix of aircraft) is well established at a number of UK airports, including London airports, Manchester and Birmingham. In addition, details on available noise data may be found in airport master plans.

The evaluators should liaise with the DfT to identify any data gaps. In the cases of gaps (and potential future gaps), airports should be encouraged to record noise levels before and after implementation of controls to provide noise data sufficient for evaluation.

4.3.3.6. Evaluation management and timescales

This evaluation requires a wide range of activities, from data collection of the extent to which schemes have been introduced, to technical analysis of what the effects of these have been, to institutional and behavioural analysis of the drivers for such schemes and their design and for their impacts on noise exposure. It also applies across a range of airports. Effective management therefore requires close coordination within the Department of the appropriate range of specialist skills and policy interests. The contractor may need to consist of a consortium of complementary skills.

Evaluation of noise control schemes should be conducted after schemes have been introduced and the impacts have materialised. Since the new powers were specified in the 2006 Civil Aviation Act, this implies that the evaluation should take place around 2009. One year should be a sufficient timescale to complete the monitoring and impact evaluations. Additional monitoring to identify further noise control schemes should be done every five years, with an impact evaluation to be conducted if there are a number of new schemes.

4.3.3.7. Dissemination

The final report should be disseminated widely within appropriate divisions of DfT and Defra. Result summaries should also be disseminated to other stakeholders, which include the CAA Environmental Research and Consultancy Department and environmental groups.

4.3.4. Noise mitigation and compensation

4.3.4.1. Description of the policy

The ATWP supports voluntary schemes to mitigate aircraft noise impacts at all airports. For airports with more than 50,000 movements per year, the Government expects airport operators to adopt certain measures with immediate effect, and other measures for future airport growth. With immediate effect airport operators are expected to:

- § “offer households subject to high levels of noise (69dBA Leq or more) assistance with the costs of relocating; and

§ offer acoustic insulation (applied to residential properties) to other noise-sensitive buildings, such as schools and hospitals, exposed to medium to high levels of noise (63dBA Leq or more).” (ATWP paragraph 3.21)

Where acoustic insulation is not appropriate or cost-effective:

“airport operators should endeavour to provide alternative mitigation measures such as environmental grants, the provision of quiet rooms for reading or music, or funding for school trips away from the noisy environment – especially where the loss of amenity outdoors may be severe.” (ATWP, paragraph 3.23)

For future airport growth, airport operators are expected to:

- § “offer to purchase those properties suffering from both a high level of noise (69dBA Leq or more) and a large increase in noise (3dBA Leq or more); and
- § offer acoustic insulation to any residential property which suffers from both a medium to high level of noise (63dBA Leq or more) and a large increase in noise (3dBA Leq or more).” (ATWP paragraph 3.24)

4.3.4.2. Purpose of the evaluation and the audience for the evaluation

This evaluation is for accountability to all those with an interest in aircraft noise and its mitigation, and to provide information for DfT on the prevalence and effectiveness of airport schemes to help the development of new or modified policy measures.

4.3.4.3. Methodology

This evaluation should monitor the extent to which Government expectations regarding noise mitigation and compensation measures have been implemented, and evaluate the effectiveness of measures on noise exposure.

The evaluation should monitor the existence of mitigation and compensation schemes at all UK airports with greater than 50,000 movements per year. The evaluator should survey airport operators to establish what measures and schemes are in place, how the schemes work, and details about the outcomes from the schemes. After finding out about schemes, the evaluator should also seek to establish in the interviews what aspects of the schemes (if any) pre-date the ATWP, and the extent to which schemes can be attributed to ATWP policies.

The evaluators should use the data and information from the surveys to assess the question of which Government expectations regarding noise mitigation and compensation measures have been implemented as expected. This will require separate, but interrelated, analyses of schemes as they relate to Government expectations for immediate effect after the ATWP was published and regarding future airport growth.

As part of the qualitative evaluation, data may be needed on numbers of households and groups that fall within the noise contours that the ATWP identified. This data might be gathered from airport operators during the surveys.

The impact evaluation should examine noise exposure levels at the airports with greater than 50,000 movements per year before and after the implementation of mitigation and compensation schemes. For acoustic insulation, data should be used to estimate the change in noise exposure resulting from insulation installation in household, school, hospital and other buildings. This may require additional data collection by or on behalf of the evaluators. The evaluator should aim to separate impacts on noise exposure due to mitigation from impacts due to differences in noise levels. Noise contour data is being collected by airport operators in 2007 and should be used to do this.

The evaluator should use data on changes in noise exposure and information on other scheme outcomes (e.g. school trip funding and school quiet rooms) to evaluate the effectiveness of the ATWP on noise mitigation and compensation.

4.3.4.4. Skills required of the evaluators

The evaluator should have a good knowledge of noise impacts from aviation and about mitigation and compensation schemes. In addition, the evaluator should have good interview experience and will need the expertise to work with noise measurements.

4.3.4.5. Data requirements

The key source for data and information on mitigation and compensation schemes would be the surveys of airport operators. Included in the surveys might be questions about the numbers of households assisted to relocate, numbers of households fitted with acoustic insulation, other buildings fitted with acoustic insulation, costs of schemes and other details of these and other initiatives.

To examine the impacts of schemes on noise exposure data may need to be collected on the effects of insulation and other outcomes, e.g. quiet rooms in schools. The evaluator should liaise with DfT and Defra to identify important data gaps.

4.3.4.6. Evaluation management and timescales

This evaluation is a combination of evaluation of the administrative development of schemes and evaluation of their effectiveness. As such it needs especially close coordination between the Department social scientists, economists and aviation and environment experts commissioning and progressing the evaluation. However, a single evaluator should be able to meet the full range of requirements.

Given that the ATWP identified immediate Government expectations relating to noise mitigation and compensation, the monitoring and impact evaluations should take place soon, say 2008, for about one year. Data on noise contours should have been collected by airport operators at this point.

There should be further evaluations of schemes every five years to monitor and estimate the impacts from schemes to mitigate and compensate for noise impacts from current and future airport developments.

4.3.4.7. Dissemination

The final evaluation report should be disseminated to the DfT and Defra. Summaries of the evaluation findings should be disseminated to other stakeholders, including the CAA and local environmental groups.

4.3.5. Differential landing charges

4.3.5.1. Description of the policy

The ATWP listed as one of a combination of measures to reduce the impact of aircraft noise:

“differential landing charges according to noise levels – for which powers already exist – at all airports where a significant local noise problem exists. Funds from a noise-related element in user charges could be used to finance local mitigation and compensation schemes.” (ATWP, paragraph 3.11)

In a similar list of measures to meet EU mandatory limits on air pollution the ATWP said that the Government intended to:

“bring forward legislation, enabling the Secretary of State to require an emissions-related element to be included in landing charges at airports where there are local air quality problems. In the meantime, the Government sees merit in individual airport operators modifying their charges to take account of local air quality impacts.” (ATWP, paragraph 3.31)

The Civil Aviation Act 2006 provides powers to airports to differentiate landing charges depending on emissions levels and aircraft type.

A number of UK airports have differentiated landing charges based on noise levels, with many initiatives pre-dating the ATWP.³³ Heathrow and Gatwick airports also introduced NO_x emissions-related landing charges in 2004 and 2005 respectively (using their conditions of use) and to date are the only UK airports to have landing charges based on emissions.

4.3.5.2. Purpose of the evaluation and the audience for the evaluation

The evaluation is for accountability and to inform DfT and Defra about the prevalence and scope of differentiated landing charges, and about best practice, and

³³ UK airports with differentiated landing charges based on noise levels include (but may not be limited to): Heathrow, Gatwick, Stansted, Aberdeen, Edinburgh, Glasgow, Manchester, Luton and East Midlands.

about the effect of the ATWP in this area. This will form an input for policy decisions about whether stronger or different Government measures are needed.

This evaluation should monitor the implementation of differentiated landing charges by noise and emissions levels at UK airports, and evaluate their impacts.

The evaluation should be used to inform DfT and Defra about the existence and scope of differentiated landing charges, and about best practice with regards to landing charges. In addition, the evaluation will form a useful input for policy decisions about whether stronger Government measures are needed.

4.3.5.3. Methodology

The evaluation should identify which airports in the UK have or do not have differentiated landing charges, and if so the features of these initiatives. Preliminary information should be available on airport operator websites.

The evaluator should interview airport operators about why their differentiated landing charges have been introduced, how they are calculated and how any extra revenue has been used. For airports that do not have differentiated landing charges, the evaluator should interview airport operators to discuss the reasons why differentiated landing charges have not been introduced. The evaluator should use the interviews to examine why some airports have differentiated landing charges, while others do not.

The evaluator should use the information from the interviews for a qualitative evaluation of the prevalence and scope of airport landing charge initiatives against Government objectives for such charges. The evaluation should identify good and bad practice and form a view as to how far differentiated landing charges reflect the local external environmental cost. The evaluator should investigate the drivers for airports' introduction and design of landing charges and assess the impact of the ATWP and the Civil Aviation Act.

Detailed work has been undertaken to determine the marginal cost of the externalities. It would be a cause for concern if charges were not levied on the basis of such detailed empirical research.

The next step is evaluating the impacts of differentiated landing charges. Econometric analysis might be considered but may not be feasible. The evaluator should in any case interview airlines about their behaviour before and after differentiated landing charges, and hence the impacts. These impacts will include such factors as fleet mix and route decisions. In doing this, the evaluation is looking at whether or not charges are sending effective price signals to airlines

The evaluator should choose a number of airlines and use interviews to form an overall assessment about the impacts.

4.3.5.4. Skills required of the evaluators

The evaluator should have a good understanding of the principles and practice of landing charges and a good knowledge of environmental issues more generally as they relate to aviation. The evaluator needs to have expertise in interviewing and should have strong analytical skills.

4.3.5.5. Data requirements

The key source for information and data on differentiated landing charges will be the interviews with airport operators and airlines. The proposed evaluation approach does not include complicated econometric analysis and so the available information should be evaluated qualitatively.

Data should be collected on marginal environmental costs in order to evaluate whether landing charges seem to be set at appropriate levels. For this, detailed data on air traffic movements, emissions levels and noise levels by aircraft type should be collected from airport operators where DfT or Defra do not have data.

4.3.5.6. Evaluation management and timescales

This evaluation again, like that of noise mitigation, is a combination of evaluation of the administrative development of airport measures and evaluation of their effectiveness. It again needs close coordination between Department social scientists, economists and aviation and environment experts in its specification and commissioning.

Given that airport operator powers to differentiate landing charges by emissions were only implemented relatively recently (in the Civil Aviation Act 2006), the evaluation should take place after airports have had time to put initiatives in place, and time has passed for impacts to materialise. Therefore, the evaluation should not take place sooner than 2009 and should be conducted over about one year.

4.3.5.7. Dissemination

The final evaluation report should be disseminated widely within DfT and Defra. Summaries of the results, and details of good and bad practice, should be disseminated to other stakeholders, including CAA and airlines.

4.4. Economic and Social Policies

The aviation and aerospace industries in the UK provide economic benefits at the national level through the service they provide to businesses and other users and through other aspects of their profitable activities. At the local level they provide direct employment and promote the development of other businesses. The ATWP sets out policies that aim to maximise the economic benefits from existing airports and new airport developments.

To promote economic growth around regional airports, the Government published a Protocol for Regional Development Funds (RDFs) in August 2007 to “attract new

routes that will enhance connectivity to important domestic and European markets.”³⁴ RDFs have operated for routes to/from Northern Ireland, Scotland, Wales and the North East. In addition, the Government is promoting regional centres of excellence for aircraft maintenance outside the South East in order to meet the industry’s long-term need and promote regional economic growth.

The Government aims to protect regional air access to London by setting out guidelines under which it would consider imposing public service obligations (PSOs), subject to European legislation, and has lightened restrictions on foreign air carriers to fly to and from regional airports.³⁵

Following joint consultation with CAA, DfT proposed reforms to Air Travel Organisers’ Licensing (ATOL) bonding arrangements to reduce the burden on ATOL holders while maintaining financial protection for air travellers. The Civil Aviation Act 2006 gave the Secretary of State and CAA responsibility for protecting air passenger health through the Aviation Health Working Group and CAA Aviation Health Unit.

In addition to evaluating the impacts of airports on local economic activity, section 4.4 sets out evaluation frameworks for the following ATWP policies:

- § Protection of air traveller health;
- § Route development funds;
- § PSOs to secure regional access to London;
- § Promotion of aircraft maintenance away from the South East; and
- § Air Travel Trust Fund Levy.

4.4.1. Impact of airport development on local economic activity

Airports are likely to affect economic activity in the regions where they are located. This is a factor discussed in the ATWP, and the ATWP notes that it is essential that proposals for new airport capacity are reflected in the spatial development, transport and economic strategies of the English regions, and Scotland, Northern Ireland and Wales. “The Government expects the relevant English regional bodies to take the conclusions in the ATWP fully into account in drawing up their strategies, and the devolved administrations are encouraged to do the same” (ATWP, paragraph 4.2.7). In doing this, one would expect that the relevant bodies would attempt to assess how airport development would impact on local and regional economic development, and this section of our report considers the availability of evidence and models available to do this. So while the policy in the ATWP is that of including airport developments in regional strategies, the evaluation needs to consider how such inclusion would

³⁴ DfT, *A national protocol for UK route development funds*, August 2007. Available at: <http://www.dft.gov.uk/pgr/aviation/domestic/anationalprotocolforukrouted2873>

³⁵ DfT, *Relaxation of restrictions on international services from UK regional airports*, October 2005. Available at: <http://www.dft.gov.uk/pgr/aviation/international/relaxationofrestrictionsonin2980>

actually take account of the impact of particular airport developments on local and regional activity.

4.4.1.1. Description of the policy

The ATWP highlights the importance of airports in promoting local economic activity:

“Airports are an important focus for the development of local and regional economies. They attract business and generate employment and open up wider markets. They can provide an important impetus to regeneration and a focus for new commercial and industrial development.” (ATWP, paragraph 4.24).

In addition, the ATWP mentions that airports lead to clusters of business development, increase access to international markets, increase employment, attract investment and increase in-bound and out-bound tourism. For these reasons, the ATWP states that proposals for new airport capacity and related development should be part of the spatial development, transport and economic strategies in the UK.

The ATWP Progress Report, published in 2006, reinforces the importance of aviation for local economic activity through international competitiveness, international trade and travel, investment and employment.

4.4.1.2. Purpose of the evaluation and the audience for the evaluation

The main purpose of this evaluation is to inform internal government and public debate about the local economic impacts of airport development and, especially, what contextual or policy factors contribute to favourable or less favourable outcomes. This is of close interest especially to DfT and CLG in central government and to local and regional authorities. It also serves a general accountability role, insofar as the prospect of local economic development is a significant element of the ATWP.

4.4.1.3. Methodology

In evaluating how ATWP developments have impacted on economic activity, there are a number of factors that can be considered. These include: employment ('direct', 'indirect' and 'induced'), output, income, productivity, investment decisions, tax contributions and revenue from international trading and tourism.

The evaluator should identify the contexts (e.g. geographic location, types of airport) in which local economic activity has benefited or not benefited from the ATWP; rather than simply aggregate impacts.

Looking first at employment, there are potential benefits from airport development on direct employment in air transport activities, indirect employment in industries supported by air transport (e.g. freight forwarders, aircraft maintenance, airport hotels) and induced employment (jobs created through expenditure by those directly and indirectly employed). Such benefits also flow similarly from indirect and induced income and output.

Airports can lead to increases in the profitability, competitiveness and productivity of companies through a variety of channels, including increased sales and improved logistics. Many businesses rely on connectivity and transport links, whether for business trips or air freight, and are likely to make investment and location decisions based on airport developments, affecting local economic activity. In addition, increased air travel can have benefits through increased competition between businesses, increasing efficiency and innovation.

Net increases in employment, income, output and business profitability from airport developments are likely to lead to increased tax revenues (from income tax, National Insurance Contributions, corporation tax and Air Passenger Duty).

Both increased in-bound and out-bound tourism from airport developments can have benefits for local economic activity. For example, expenditure by in-bound tourists generates employment in the UK, while out-bound tourism generates revenue for tour operators.

Oxford Economic Forecasting found that 30 per cent of UK exports by value travel by air, compared with 1 per cent of total UK visible trade by tonnage.³⁶ The study valued exports by air at £62.7 billion in 2005. This implies that the air freight sector transports a significant amount of the UK's low weight/high value trade, with benefits for economic activity by increasing revenue and encouraging technological innovation.

Many aspects could be examined as measures of the impacts of airport development on local and regional economic activity. Here the focus is on isolating the impact of policies in the ATWP.

Evaluation of the impact on local economic activity needs to be counterfactual led. The rest of this section focuses on approaches to constructing these counterfactuals and how to measure the impacts. In addition to the counterfactual analysis, evaluators should also look at the contexts and mechanisms behind these outcomes.

Due to data constraints, it may be more difficult to measure the impacts on economic activity at the local level than at country-wide or UK levels. The approaches set out here are relevant to all these levels of detail and the level of the evaluation therefore depends on data availability.

DfT social scientists are currently developing a specification for a project to assess the impact of transport developments on local and regional economic activity. Where the results from the project relate to airports, this can be fed into subsequent analysis of impacts of airport development. The SACTRA 1999 report *Transport and the Economy*³⁷ provides a valuable overview of the difficulties in assessing the impact of transport infrastructure projects on economic activity. In addition, the text

³⁶ Oxford Economic Forecasting (2006), *The Economic Contribution of the Aviation Industry in the UK*, October 2006, page 33.

³⁷ SACTRA, *Transport and the Economy* 1999.

by David Banister and Joseph Berechman *Transport Investment and Economic Development*³⁸ includes a Chapter on the economic impact of airports that reports (*ex ante*) case studies of projected employment impacts (using multiplier analysis) of Heathrow Terminal 5 and the second runway at Manchester Airports. The Department should however address gaps in evidence and data specific to airport developments.

In evaluating those impacts from the ATWP, the evaluator should look at those airport developments that would not have occurred, or would not have occurred to the same scale, under the ATWP. The next task is estimating the economic indicators affected by the airport developments, e.g. increased employment and passengers from a new terminal building or extra air freight volume from a new runway. When those potential impacts have been identified, the evaluator should try to isolate the magnitude of any impacts (e.g. number of employees) that are due to the development (in essence creating a “no ATWP” counterfactual). The method for constructing the counterfactual will depend on data availability and the type of development.

Regarding output, employment, and income from trade, the contribution of air transport to economic activity can be usefully represented as levels and as a proportion of all industries. In addition, output per worker provides a measure of efficiency. A report by Oxford Economic Forecasting,³⁹ uses econometric modelling to estimate the impact of business air travel on gross domestic product (GDP) and total factor productivity (TFP). Therefore, using these results, businesses passenger numbers net of the counterfactual can be converted into increases in GDP.

Having identified the direct impacts of airport developments on economic activity, benefits from developments will also be felt through industries supported by air transport and expenditure by air transport employees (indirect and induced impact). The indirect and induced impacts should then be calculated using ‘multipliers’, in addition to using other data sources to estimate impacts on employment and income in the tourism industry and any areas where the multipliers may not be robust.

In addition to output, employment and income, the tax revenue generated by airport developments should be considered, which may ultimately feed back into enhancing local economies. The tax revenues are from income tax, National Insurance Contributions, corporation tax and Air Passenger Duty. The evaluator should use the employment and passenger numbers and combine this with estimates of business profits and average wages in order to estimate tax revenues.

Airport developments should provide economic benefits by encouraging businesses to locate and invest in areas located near to the airports, creating employment and income in the local areas. It would be difficult to evaluate the impact of the ATWP policies in this respect using national accounts data. Instead the evaluation should survey a representative sample of businesses located near to airport developments,

³⁸ David Banister and Joseph Berechman, *Transport Investment and Economic Development* UCL Press, 2000.

³⁹ Oxford Economic Forecasting (2006), *The Economic Contribution of the Aviation Industry in the UK*, October 2006

asking businesses about the importance of airport developments on their business and about investment that relies on past or future developments. The results could be aggregated to local and national levels or presented as anecdotal evidence of the impact of ATWP policies on local economic activity depending on the robustness of the survey results. The latter may be more appropriate if operators differ in their business models and the extent to which they attract businesses to locate near the airport, which would make aggregate results misleading

4.4.1.4. Skills required of the evaluation

As indicated in the previous section, evaluating the local economic impact of airport developments is a complex exercise.

The evaluators will need to be skilled in their understanding and use of economic indicators and how they interrelate. This is especially important for the tasks of identifying those impacts that would not have occurred without the ATWP, using historical data trend analysis and multipliers. The evaluation team will also need to have some understanding of regional economic modelling.

In addition, the evaluators should be skilled in survey or interview techniques if surveys of businesses are to be conducted.

4.4.1.5. Data requirements

The most relevant websites with publicly available data on the aviation industry include those of the Office of National Statistics (ONS) and the Civil Aviation Authority (CAA) websites.

The ONS website can be used to find national level data on investment, income (e.g. the ONS publishes the Annual Survey of Hours and Earnings (ASHE)), tax revenue (also available on the HM Revenue and Customs website), balance of payments and employment.

ONS publishes gross value added data at the Government Office Region, county and unitary authority levels, by components of income and by industry; and has a dedicated Neighbourhood Statistics website that contains employment data (including employment status and numbers of benefit claimants) at the local authority, ward and 'neighbourhood' levels.⁴⁰ UK labour market data, including labour supply, hours worked, earnings, and VAT registrations at the local authority, postcode sector and ward levels are also available from the web-based database Nomis.⁴¹ These sources draw on data from sources such as the Labour Force Survey and the Annual Survey of Hours and Earnings.

⁴⁰ ONS, Regional Gross Value Added, available at: <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14650>

ONS, Neighbourhood Statistics, available at: <http://neighbourhood.statistics.gov.uk/dissemination/>

⁴¹ Nomis, Official Labour Market Statistics, available at: <https://www.nomisweb.co.uk/default.asp>

While ONS and Nomis publish labour market and GVA time-series data to reasonable disaggregated local levels and up to fairly recent years, the evaluator may find evidence gaps where local economic data do not cover the particular areas the evaluator wants to examine, or where time-series data are not recent enough to register impacts. The evaluator should examine the implications of this for its methodology and discuss with the DfT options for addressing data gaps at the local level. The evaluator should consider the usefulness of regional or national level data to supplement local area data.

At the national level, ONS and the Annual Business Inquiry (ABI) use the Standard Industrial Classification (SIC) to identify industries. The SIC codes from 2003 onwards likely to be of interest are:

- § (62) Air Transport – which includes sub-categories for ‘scheduled’ and ‘non-scheduled’ air transport, and ‘passenger’ and ‘other’ air transport;
- § (63.23) Other supporting air transport activities; and
- § (63.30) Activities of travel agencies and tour operators; tourist assistance activities not elsewhere classified.

As the Oxford Economic Forecasting (2006)⁴² report points out, activities at airports such as air cargo handling, retailing, catering, hotels and surface transport links cannot be separately identified.

Combinations of ONS data and market reports (e.g. on the Airport Operators Association (AOA) website)⁴³ should be used to estimate aviation industry employment. To calculate indirect employment, the ONS and Scottish Executive publish employment multipliers by industry, and other market surveys may contain multipliers.

In order to calculate labour productivity, ONS has guidance on using Gross Value Added and employment data.⁴⁴ In the case of looking at value added from indirect and induced employment, we recommend using ONS data in order to calculate value added per employee, and combining this with the estimates of the indirect employment.

For data on international and resident journeys by air and spending, the ONS publishes annual reports on results from the International Passenger Survey. In addition, there are data on passenger numbers by airport published on the CAA website.

⁴² Oxford Economic Forecasting (2006), *The Economic Contribution of the Aviation Industry in the UK*, October 2006, page 11

⁴³ In the Oxford Economic Forecasting (2006) report, employment data is sourced from airport surveys carried out for the Airport Operators Association, summarised in AOA (2005), *The Economic and Social Impact of Airports*, September 2005

⁴⁴ For example, see the following ONS publication:
http://www.statistics.gov.uk/articles/economic_trends/daffin_articlefinal.pdf

Financial accounting and output data for airlines and airports are summarised in publications on the CAA and Centre for Study of Regulated Industries (CRI) websites. Alternatively, published company accounts should be available on the respective company's corporate websites.

There is data on air freight, in terms of tonnes, available on the CAA website. For data on the value of exports and imports, the Oxford Economic Forecasting (2006) report sources Business & Trade Statistics, a company that can provide detailed international trade statistics by product sector as required.

4.4.1.6. Evaluation management and timescales

As a relatively conventional transport impact evaluation, albeit with an explicitly strong emphasis on causes and context as well as impact, this should present no unusual challenges. It will however require close social scientist and economist involvement and good engagement by airport policy experts.

In evaluating the local economic impact of airport developments, the exercise is likely to be dependent on data that is publicly available. Therefore, if airport developments have happened very recently, it is unlikely that such data would yet be available.

The core evaluation exercise should begin when data becomes available from the main sources (ONS and CAA) after a number of developments have taken place. However, the survey and interview of businesses with respect to investment decisions can begin sooner.

As a guide to evaluation timing, the overall evaluation should start relatively soon, say 2009 and should take place over about two years.

It will be useful to update the impact findings over time, but giving enough time for trends to emerge. This implies intervals of three to five years.

4.4.1.7. Dissemination

Evaluating the economic impacts of airport development is a difficult and complicated exercise, and there are likely to be a large number of interested parties. This implies a fairly wide distribution of the final report, with a formal opportunity for feedback (e.g. a seminar), to the following Government departments and organisations: DfT, HM Treasury, HM Revenue & Customs, and CAA.

Other interested parties might include Oxford Economic Forecasting and other companies from whom data or analyses are gathered, and airport operators, airlines, aerospace companies, and local councils. Therefore, there may be some scope for distribution of report summaries, in addition to a press release that discusses the main findings of the evaluation.

4.4.2. Protection of air traveller health

4.4.2.1. Description of the policy

The Civil Aviation Act 2006 amended the Civil Aviation Act of 1982 to give the Secretary of State responsibility for “organising, carrying out and encouraging measures for safeguarding the health of persons on board aircraft”, and to extend the responsibility of the CAA to include “the health of persons on board aircraft,”⁴⁵

In line with the Civil Aviation Act 2006, the ATWP states that the Government’s actions are to include:

“working closely with the CAA’s new specialist unit on aviation health issues, promoting research, and keeping advice to passengers and crew up to date” (ATWP, paragraph 4.20)

The CAA Aviation Health Unit (AHU) was established in 2003 (following DfT consultation in 2002) to act as a “centre of expertise with the duty of organising, discharging and encouraging measures for safeguarding the health of persons travelling by air.”⁴⁶

The results from a Regulatory Impact Assessment (RIA) of three options for the future of the AHU were published by the DfT in 2005. The three options were:

1. ‘do nothing’ (i.e. funding continues to come from the DfT and hence taxpayers);
2. enable the CAA to recover the cost of the AHU from the aviation industry (using a levy on the aviation industry, the intended impact is to have passengers fund the AHU); and
3. close down the AHU.

The DfT recommended that the second option be adopted.

4.4.2.2. Purpose of the evaluation and audience for the evaluation

The purpose of this evaluation is to help inform DfT and CAA decision making about the existence and funding of the CAA Aviation Health Unit, by consultation with officials of the AHU and other interested parties. The study would not include any new work on the measurement of health impacts.

4.4.2.3. Methodology

Given the background to the CAA AHU described in section 4.4.2.1, the evaluation should assess whether the AHU should exist (assuming that funding comes from the aviation industry).

⁴⁵ Civil Aviation Act 2006, http://www.opsi.gov.uk/ACTS/acts2006/pdf/ukpga_20060034_en.pdf, Chapter 34, page 9.

⁴⁶ DfT, *Civil Aviation Bill: Overarching Regulatory Impact Assessment (RIA)*, June 2005. Available at: <http://www.dft.gov.uk/consultations/aboutria/ria/civilaviationbilloverarching5507>, page 25

Evidence on whether or not the CAA AHU, funded by a levy on aviation passengers, is the most efficient and effective way of providing its functions should be sought in the first place by interviewing officials of the AHU and of the organisations represented on the Aviation Health Working Group (DfT, Department of Health, CAA and Health & Safety Executive). It may also be useful to interview aviation industry representatives.

4.4.2.4. Skills required of the evaluators

The evaluator should have experience in interviewing Government officials and have a good understanding of bureaucratic structures.

4.4.2.5. Data requirements

The evaluator needs to be well informed of the functions to be fulfilled by either the AHU or some other institutional arrangement and about the history and current structure of the AHU and the Aviation Health Working Group. DfT website contains material on aviation health issues, including reports on deep vein thrombosis and Aviation Health Working Group minutes which can supplement DfT briefing. For an international perspective the World Health Organisation has published a 2007 report on health risks for travellers and the Aerospace Medical Association have published reports on health risks and medical guidelines.⁴⁷ No other data is needed beyond that collected by interview and in operational documentation.

4.4.2.6. Evaluation management and timescales

This is likely to be a narrow evaluation of administrative process and may not require external input. If external input is needed it would have to offer an excellent track record in providing highly valued advice on administrative issues of this kind. The alternative is a review by a highly regarded DfT official independent of aviation and reporting to DfT Board level.

The CAA AHU was established in December 2003. Therefore, there has been sufficient time for it to have had an impact and so the evaluation should start soon, in 2008. The evaluation should take place over about a two month period; one month each for interviews and report writing.

4.4.2.7. Dissemination

The evaluation results will be of interest to members of the Aviation Health Working Group (DfT, Department of Health, CAA and Health & Safety Executive). This implies a relatively wide distribution of the final report.

Due to the sensitivity of the results regarding the CAA AHU, there is scope for a forum to discuss the results for representatives from the DfT, CAA, AHU and health sector professionals.

⁴⁷ World Health Organisation, <http://www.who.int/ith/en/>
Aerospace Medical Association, <http://www.asma.org/publications/index.php>

4.4.3. Route development funds

4.4.3.1. Description of the policy

The Government recognised in the ATWP (paragraph 4.41) “that in deciding whether to buy or sell slots, airlines will not take into account all the wider economic and other benefits that domestic air services to London may bring to other parts of the UK”. It further noted that:

“... the Route Development Fund established by the Scottish Executive in November 2002 has been very successful, having already helped to deliver fifteen new routes from Scottish Airports, bringing the prospect of substantial benefits to Scotland’s economy. We are also aware that the Northern Ireland Administration has recently established a similar fund, and that a number of new routes are in prospect as a result.

We believe that the establishment of further funds in Wales and in English regions outside the South East and East of England could play a valuable role in establishing new direct business links from both primary and secondary airports in these areas, thus stimulating inward investment and tourism. We accordingly invite the Welsh Assembly Government and the relevant English Regional Development Agencies to consider whether they would wish to set up a route development fund to encourage the establishment of new services at airports in their respective areas, and to consider what priority they would attach to such a fund.” (ATWP, paragraphs 4.41 and 4.42)

The ATWP Progress Report subsequently records that:

“Since then, the North East RDF is now supporting three routes from the region to EU destinations, while the Welsh Assembly Government has established a fund which currently supports one route. The North West Development Agency has decided not to operate an RDF.” (ATWP Progress Report, paragraph 5.36)

The Progress Report also records that in 2007 the Government would “review our Route Development Fund policy so that it is in line with European Commission competition rules.” (paragraph 5.41).

The objectives of RDFs are to:⁴⁸

- § “create net economic benefits for the region in which the Fund is operating by improving the connectivity between the UK regions and their domestic and European counterparts;

⁴⁸ DfT, *A National Protocol for UK Route Development Funds*, Key Principles, 20th August 2007. Available at: <http://www.dft.gov.uk/pgr/aviation/domestic/anationalprotocolforukrouted2873?page=2#a1003>

- § make best use of existing and potentially available capacity at regional airports; and
- § help to ease pressure on capacity bottlenecks, current and prospective, at airports in the London system.”

DfT issued a Protocol for UK RDFs in June 2006 to provide a framework of rules and guidance. A revised Protocol published in August 2007⁴⁹ is compliant with the EU state aid guidelines relating to route ‘start up aid’ published in December 2005. The guidelines in the revised Protocol significantly changed the parameters under which RDFs could support new routes.

4.4.3.2. Purpose of the evaluation and the audience for the evaluation

The purpose of the evaluation is to demonstrate the effectiveness of RDF schemes and the value for money in order to provide accountability and to inform DfT and Development Agencies’ policy development.

The key audience for the evaluation is therefore DfT, English Regional Development Agencies and the Welsh Assembly Government.

4.4.3.3. Methodology

The evaluation should start with a factual overview of the English and Welsh schemes, covering how many routes have been funded, and how many airports have new RDF services. This will provide background for detailed evaluation through case studies.

The evaluation should collect data on:

- § the Regional Development Agencies / Devolved Administrations (RDA /DA) that have sought to establish funds;
- § numbers of formal applications for funding;
- § numbers of routes funded and amounts of funds distributed;
- § number of routes for which services have continued operating (and frequencies maintained) after funding has ceased;
- § number of routes that have been withdrawn, or for which service frequencies were reduced; and
- § the extent to which the ATWP initiative accelerated the consideration of RDFs in England and Wales.

The evaluators should, through discussions with select RDAs, explore the reasons why some RDAs have launched an RDF and others have not. For example it could be that administrative barriers discourage some RDAs from establishing the fund, or

⁴⁹ DfT, *A National Protocol for UK Route Development Funds*, 20th August 2007. Available at: <http://www.dft.gov.uk/pgr/aviation/domestic/anationalprotocolforukrouted2873>

that the RDF is not perceived to be a useful instrument for certain regions. The changed framework in line with new EU state aid guidelines may also be relevant. These findings may have policy implications for ways in which the regulatory framework within which RDFs operate might be improved, or for promoting best administrative practice across RDAs.

The DfT has published detailed guidance on appraisal of RDF proposals, together with requirements for monitoring and impact evaluation. The appraisal framework, including evaluation requirements, is summarised in Box 4.1 below. It is sensible for the evaluation of the RDF initiative as a whole to complement the individual RDF appraisals and subsequent monitoring and evaluations.

For the evaluation of a specific RDF, the initial commercial appraisal should be revisited using outturn traffic and fare levels. There may be limited scope for re-estimating airline costs given the large amounts of sometimes commercially sensitive data required for this.

The withdrawal of certain routes is a strong indication that they are not commercially attractive; whereas continuation of routes beyond the period of funding suggests that they are commercially viable. The evaluators should define, examine and if necessary redefine the market imperfections which the temporary RDF funding is designed to correct. Associated with this, the evaluators should consider the additionally of specific applications – i.e. whether the route would have been launched in the absence of RDF funding (the evaluator could compare actual traffic levels with the original projections).

The evaluation should then examine user benefits and costs from the funding to assess the value for money. The RDA should have much of the relevant data from the appraisal.

The evaluation should also assess the impact of the RDF on other factors, in particular business efficiency, tourism and direct employment. This includes revisiting the calculations used to prepare the Route Appraisal Score using updated data. Levels of direct employment can be determined through discussions with the airlines and airports concerned. Outturn traffic data and passenger surveys can be used to deduce the net change in inbound tourists, which should be used to estimate tourism spending and employment. The RDA may have developed methods to estimate this.

Box 4.1

Appraisal Framework for Route Development Funds in the UK

The Department for Transport has prepared guidance on appraisal of RDF applications. The framework consists of:

- § A commercial appraisal of the option, to check that the services are financially viable, with allowance for risk, if and only if they receive the funding.

- § A quantification of user benefits for outbound passengers (residents of the region); the RDF application can only receive funding if these benefits exceed the associated costs to the RDA (and a higher benefit-cost ratio may ultimately be required).
- § A Route Appraisal Score, which is compiled from five sub-scores reflecting the impact of the route on: business efficiency, tourism, direct employment, social factors and the environmental.
- § Guidance on treatment of risk.

The document contains brief guidance on monitoring route performance and evaluating the impact of the RDF.⁵⁰ These reviews would include a comparison of actual business and leisure passenger numbers with those forecast and, through surveys, identifying the extent to which these are new journeys.

The guidance says it would be useful to:

- § Re-estimate user benefits on the basis of actual passenger data, and comparing these with forecast benefits; hence re-calculating the benefit cost ratio;
- § Examine tourism and employment impacts;
- § Make a qualitative assessment of business impacts.

Impacts on business can be explored through interviews with businesses near the airport. The interviews should be used to establish the benefits from increased productivity, opportunities for expansion, foreign direct investment and competition.

The evaluators should study information on the Scottish and Northern Irish RDF experience that is publicly available or can be provided by DfT, and approach the Scottish and Northern Irish Authorities to explore the scope for testing the emerging conclusions from the English and Welsh applications against Scottish and Northern Irish experience.

The evaluation should draw the work streams together to assess the effectiveness and value for money of RDF schemes in England and Wales.

4.4.3.4. Skills required of the evaluators

The evaluator should have a good knowledge of RDF schemes, experience working with aviation industry data and the evaluation skills needed to identify and analyse the counterfactuals and the factors that influence the effectiveness of RDFs and any subsequent regional routes.

⁵⁰ Paragraphs 5.88 to 5.95.

4.4.3.5. Data requirements

Regional funding bodies have the opportunity to specify data requirements for RDF evaluation at the funding stage. The requirements should be proportionate to the scale of public money involved. The appraisal framework guidance stresses that it is important to record passenger numbers and journey purpose, and conduct surveys to examine the extent to which such journeys occur because of the fund.

The RDAs should be expected to collect data on employment, tourism and business impacts. However, such data may not be consistent across regions, making cross-comparisons difficult. The DfT should discuss RDA plans for evaluation as part of the appraisal framework so that best practice is disseminated and adopted more widely across regions.

4.4.3.6. Evaluation management and timescales

This is an unusually demanding evaluation, requiring technical skills in the difficult fields of regional development and pump priming support for commercial ventures and the capacity to critically assess the institutional handling of RDFs. A successful evaluation will depend upon an unusually well considered and clear specification and close engagement throughout by Department economists, social scientists and airport policy experts.

The evaluations should be conducted after the funding has finished. Assistance is available over a maximum period of three years. Therefore, evaluations of current RDF schemes in the North East England and in Wales may need to start soon.

An overall evaluation of RDF schemes should be done after current funding has ceased. Further evaluations, say every five years, could then look at other RDFs if this appeared to be administratively realistic and to offer good value for money.

4.4.3.7. Dissemination

The evaluation reports should be disseminated to DfT, English Regional Development Agencies and the Welsh Assembly Government. Evaluation summaries should also be disseminated to other stakeholders, such as airport operators and airlines.

4.4.4. PSOs to improve regional access to London

4.4.4.1. Description of the policy

In the ATWP, the Government set out plans to protect access from regional airports to London airports with Public Service Obligations (PSOs). A PSO “enables the slots used for that service to be ‘ring-fenced’, so that an airline cannot use them for a service to an alternative destination.” (ATWP, paragraph 4.44).

The ATWP states (paragraph 4.45) that the Government will apply PSOs when three criteria are met:

- § “the route is to a peripheral region, or to a development region, or is a ‘thin’ route; we will consult shortly on the details of this;
- § the air service concerned is vital to economic development for the region; and
- § a PSO is required to ensure an adequate level of service. We will be consulting regional stakeholders and the aviation industry shortly on an appropriate definition of ‘adequate’ bearing in mind the importance to travellers of services at both peak and off peak times.”

Government guidelines for assessing PSO applications were published in December 2005.⁵¹ The guidelines seek to protect existing daily return flights between regions and London, but at the time of publishing the ATWP Progress Report no such applications had been received. However there are PSOs for domestic services in Scotland and Wales (ATWP Progress Report paragraph 5.39).

4.4.4.2. Purpose of the evaluation and the audience for the evaluation

The purpose of an evaluation is to demonstrate the effectiveness of PSOs for London, when they are implemented, to help inform government policy-makers on the benefits of protecting regional access to London and the effectiveness of the PSO as an instrument.

The audience for this evaluation will include DfT, English RDAs, Devolved Administrations and other stakeholders, such as airlines and airport operators.

4.4.4.3. Methodology

The evaluation should start with an overview of schemes, examining how many PSO slots are reserved at London airport and the reasons behind the Government decisions to impose PSOs.

The DfT will conduct the commercial and economic appraisal of PSO proposals according to the guidance document it published in December 2005. The evaluators should update results from the commercial and economic appraisals using outturn data. For example, an assessment of the economic benefits to the region concerned of safeguarding the airport slots should have been carried out at the appraisal stage. This work should be revisited and expanded during the evaluation using a similar approach and techniques to those used to assess benefits of the RDF.

The decision to ring fence a slot at a congested London airport will mean that other services are forgone. This has an associated opportunity cost (i.e. the opportunity cost, which can be defined as the cost associated with not choosing the next best alternative, would be the potential economic benefits from the slot had it not been ring fenced). DfT have work in hand on the valuation of slots, drawing on data from the grey market now established in Heathrow slots. There should be scope for revisiting this work during the evaluation.

⁵¹ DfT, *Guidance on the Protection of Regional Air Access to London*, 15th December 2005. Available at: <http://www.dft.gov.uk/pgt/aviation/domestic/praa/>

The evaluator should interview airport slot coordinators to discuss how other services may have been displaced as a result of the PSO, and the possible value of the slot.

The evaluator should use quantitative data analysis and qualitative information from interviews and associated studies to evaluate the effectiveness of individual PSOs, and PSO policy as a whole. This includes deriving lessons from the domestic service PSOs in Scotland and Wales.

4.4.4.4. Skills required of the evaluators

This work requires transport economics expertise. The evaluator should be skilled in working with aviation data and be familiar with slot allocation and PSO policy.

In addition, the evaluator should have good interviewing experience and strong analytical skills.

4.4.4.5. Data requirements

As part of appraising PSOs, DfT should have collected data such as passenger numbers and journey patterns. The evaluator should liaise with the DfT to discuss data requirements and data sources for the evaluation.

4.4.4.6. Evaluation management and timescales

This evaluation is specified as a fairly conventional transport evaluation, confined mainly to reassessment of the original appraisal of the effects of PSOs. The principle management requirement is that a clear understanding by the Department of exactly what it requires is fully reflected in the specification, commissioning project management and dissemination.

Case study evaluations of PSOs should be conducted after impacts from ring-fencing the slot can be measured, say two to three years after the PSO is imposed.

An evaluation of PSOs in the near future could take place around 2010, for about six months.

4.4.4.7. Dissemination

The results from the evaluation should be disseminated to DfT and key stakeholders, including English RDAs. Summaries of the evaluation findings should be disseminated to other stakeholders, such as airlines and airports.

4.4.5. Promotion of aircraft maintenance away from the South East

This section summarises the ATWP policies on aircraft maintenance and outlines possibilities for evaluation. These policies are not examined to the same level of detail as other policies in Chapter 4 because there remains uncertainty about the questions to be evaluated. This could be resolved within DfT or discussed between DfT and the evaluator at the inception stage in the evaluation process.

The ATWP (box after paragraph 4.27) says that the Government aims to “promote the establishment of a number of Centres of Excellence in civil aircraft engineering and training at airports outside the South East of England”. The following reasons for this are identified: to increase sector growth nationally and internationally; to increase competitiveness (because costs are lower outside the South East); to increase the supply of well-trained engineers and technicians for the industry to meet long-term needs; to encourage regional airports’ economic growth; and to free up space at London airports.

Therefore possible questions to evaluate include:

- § Have Centres of Excellence been established or are being developed, and in what way is this attributable to Government policy?⁵²
- § If so, have these Centres been established at regional airports, or are there plans to do so?
- § Will the numbers and skills of engineers and technicians be sufficient to meet the industry’s long term demand?
- § Is the UK’s share of international aircraft maintenance changing and why?
- § If so, how much of any increasing share is due to increased competitiveness through the establishment of regional Centres of Excellence?
- § What have been the benefits (e.g. from freed-up space) for airports in the South East?

When the Department and the evaluators are clear about the questions to be evaluated, the evaluator should develop a methodology (e.g. monitoring or impact evaluation and analysis) and identify data sources and related issues.

CAA should have a record of aircraft maintenance engineer (AME) licences issued over time, which would provide a useful data source. However, the data may not include records of where trainees are currently working (e.g. in the UK or abroad) and not all engineers in the UK have licences issued by the CAA.

As part of the methodology, DfT and the evaluator should consider what level of detail is sensible for the evaluation. For example, in examining whether the supply of engineers and technicians will meet long-term needs, should the evaluator consider only maintenance for commercial airlines or for the whole aviation community (including corporate aviation companies, air taxi operators, etc)? Also, should the evaluator examine how else skills gaps are being addressed, e.g. through apprenticeships?

Given the evaluation questions and proposed methodology, DfT and the evaluator should discuss how to address evidence gaps (e.g. through questionnaires or

⁵² The ATWP Progress Report states that new Centres of Excellence for aircraft maintenance have opened in Prestwick, South Wales and Newcastle since 2003 (paragraph 4.21).

interviews) and decide on sensible timescales for the evaluation and options for dissemination.

4.4.6. Air Travel Trust Fund Levy

4.4.6.1. Description of the policy

The majority of companies that sell air travel in the UK are required to hold an Air Travel Organiser's Licence (ATOL) as part of a customer protection scheme managed by the Civil Aviation Authority (CAA). Since the inception of the scheme in the 1970s, licensed companies have lodged bonds with the CAA. In the event that a tour operator becomes insolvent, the bonds are called to protect customers from losing money or being stranded abroad. The Air Travel Trust Fund (ATTF) is backed by the Government and is used when the bonds are insufficient to cover the cost of the failure. At present the ATTF is in deficit because, firstly, powers to levy tour operators for contributions lapsed some years ago and, secondly, because of costs resulting from the failure of a large tour operator in the 1990s.

In the ATWP, the ATTF levy is mentioned in paragraph 4.20:

“Within the UK, further action to promote and strengthen consumer interests will include ... seeking statutory powers to impose a new levy to ensure future solvency of the Air Travel Trust Fund;”

The ATWP Progress Report in 2006 contained information on the current status of the ATTF, with reference to the Civil Aviation Act 2006:

“[In November 2006] Civil Aviation Act introduced new powers to ensure future solvency of the Air Travel Trust Fund, and a duty to safeguard health of those on board aircraft.”

The Government and the CAA have worked to identify ways to reform the ATOL bonding arrangements to replenish the ATTF and reduce the administrative burdens on tour operators. Following a joint CAA and DfT consultation on options to replace bonding in Spring 2007, it is expected that the CAA will introduce a new scheme in 2008 whereby bonding is replaced by a per passenger contribution paid by tour operators. A contribution level of £1 per passenger is proposed, known as the ATOL Protection Contribution (APC). The APC would be collected by the CAA and used to repay the existing overdraft on the ATTF, meet ongoing failure costs and build up a cash surplus to protect against future failures. The fund will be reinsured to protect it against a major operator failure.

The ATWP policy of “seeking statutory powers to impose a new levy to ensure future solvency of the Air Travel Trust Fund” has been met by the Civil Aviation Act 2006.

4.4.6.2. Purpose of the evaluation and the audience for the evaluation

This monitoring exercise is to provide feedback on any ways in which the new procedures could be made more efficient or effective.

4.4.6.3. Methodology

The ATWP policy of “seeking statutory powers to impose a new levy to ensure future solvency of the Air Travel Trust Fund” has been met by the Civil Aviation Act 2006. This evaluation is a monitoring exercise, to track the progress in implementing policy reform for the funding of the ATTF.

In the joint CAA and DfT consultation on reforms to the ATOL bonding arrangements and replenishment of the ATTF three options were offered for stakeholder comments. The first of these options is “do nothing”; the other two options relate to charging ATOL holders and either maintaining the current bonding arrangements or using the charge to replace them (the per passenger APC). Consultation responses overwhelmingly supported the introduction of the APC, and Government has since given its agreement to the CAA to further plans towards its introduction.⁵³

The evaluator could track the progress in implementing a policy reform that works to replenish the ATTF and reduce burdens on tour operators. The introduction of an APC will not have any effect on the protection afforded to consumers.

The evaluator should monitor the outcomes of the DfT/CAA consultation, and confirm in the future that any reforms to policy meet the intention of replenishing the ATTF and reducing burdens on tour operators.

4.4.6.4. Skills required of the evaluators

The evaluator should have some knowledge of the issues surrounding consumer interests with respect to air travel, tour operators and the ATTF, as well as general analytical competence.

4.4.6.5. Data requirements

No data is required beyond that immediately available to the Department. Relevant sources include the CAA website, which includes the consultation document⁵⁴ and the CAA ATOL website.⁵⁵

The DfT/CAA consultation document was published on the DfT and CAA websites.⁵⁶ The CAA ATOL website⁵⁷ and the DfT website contain related published documents, including a summary of consultation responses.

⁵³ DfT, Letter from Aviation Minister to Chairman of the CAA, August 2007. Available at: <http://www.dft.gov.uk/pgr/aviation/hci/atolreform>

⁵⁴ http://www.caa.co.uk/docs/33/Consultation_ATOL_Reform_2007.pdf.

⁵⁵ <http://www.caa.co.uk/default.aspx?catid=27>

⁵⁶ DfT/CAA, *Consultation on Reform of ATOL Bonding Arrangements and the Replenishment of the Air Travel Trust Fund*, April 2007. Available at: http://www.caa.co.uk/docs/33/Consultation_ATOL_Reform_2007.pdf

⁵⁷ CAA, *Air Travel Organisers' Licensing*, <http://www.caa.co.uk/default.aspx?catid=27>

4.4.6.6. Evaluation management and timescales

The principle management requirement is that the DfT should have a clear understanding of what is required and that is reflected in the specification, commissioning and dissemination.

This is a fairly straightforward monitoring task, which should require minimal official time to carry out in-house.

The monitoring exercise should start in conjunction with announcements of policy reform, which itself may require periodic checks of the CAA or DfT websites. The new funding scheme is due to start in 2008 and so the evaluation should take place in 2009. A period of about four months should be sufficient to complete the evaluation.

4.4.6.7. Dissemination

This work is no more than routine monitoring of a fairly simple policy reform. It will be of interest to DfT management but otherwise probably no more than an item for the Department's annual report.

The key stakeholders for this evaluation are the CAA, DfT and HM Treasury. The final report should be distributed to these organisations.

In addition, a press release or news story on the CAA ATOL websites could be used to make the key results known to other interested parties.

4.5. Airport Development Policies

For the planning stage of airport developments, the Government's aims are to ensure that local stakeholders are made aware of planned developments, to demonstrate the costs and benefits associated with airport developments, and to introduce measures to minimise local environmental impacts. As part of this, UK airports should produce a master plan (or update an existing master plan) to set out development plans and measures to minimise local environmental impacts up to 2015 (with indicative land use plans for 2016 to 2030). For example, Stansted's interim master plan, published in 2006, looks at growth on Stansted's existing runway, while the Final master plan will address development up to 2030 with two runways.⁵⁸

To address surface access at UK airports, airports with over 1,000 passenger air transport movements per year are required to set up an Air Transport Forum and prepare an Airport Surface Access Strategy (ATWP paragraph 12.21). For Project Heathrow, investment in public transport and demand management for road use are

⁵⁸ BAA Stansted, *Stansted Airport Master Plan*, http://www.stanstedairport.com/portal/page/STN%5EAbout+BAA+Stansted%5EAirport+Expansion%5EMaster+Plan/ef93b2534a05010VgnVCM10000036821c0a____/448c6a4c7f1b0010VgnVCM200000357e120a____/

viewed as necessary to improve surface access and minimise environmental impacts.⁵⁹

Section 4.5 sets out evaluation frameworks for ATWP policies regarding airport master plans and surface access.

4.5.1. Airport Master Plans

4.5.1.1. Description of the policy

The ATWP (paragraph 12.8) explained that the Government expected airport operators to produce or update master plans setting out proposals for the development of their airport to 2015 in some detail. The plans should include detailed proposals for surface access, environmental controls and mitigation and, where appropriate, measures to address non-statutory compensation. Indicative land use plans should be included for the period from 2016 to 2030. However these master plans do not have the status of development plans.

The Department has since published guidelines for preparing master plans.⁶⁰ These guidelines explain why master plans should be produced, which airports should produce them, what the contents should be, and the preferred timetable and how they should be updated. The airports expected to produce them are those that the ATWP identifies for specific major development, or that are forecast to handle more than 20,000 air transport movements in 2030 and the guidelines list 30 airports that satisfy these criteria. Other airports may produce such plans if they choose to do so.

The ATWP Progress Report notes that 28 of these 30 airports had produced draft plans by the time it was published in late 2006. The Progress Report records that the plans illustrate examples of good practice in a number of areas, including schemes to address generalised blight, measures to increase public transport mode share, plans to deal with airport impacts on landscape biodiversity and heritage, initiatives and targets on recycling and waste management, and measures related to community engagement. Airports are encouraged to learn from these examples.

An important next step identified in the Progress Report is that airports should publish post-consultative master plans as soon as possible.

4.5.1.2. Purpose of the evaluation and the audience for the evaluation

The purpose of the evaluation is both for accountability and for the information of government, and airport operators and local and regional authorities to further advance the quality and usefulness of airport master plans.

⁵⁹ DfT, *Summary of Project Heathrow*, <http://www.dft.gov.uk/pgr/aviation/environmentalissues/heathrow/summaryofprojectheathrow?page=2#a1003>

⁶⁰ DfT *Guidance on the Preparation of Airport Master Plans*, Post White Paper Actions, July 2004

Box 4.2
ATWP Airport Priorities in the Short Term

- § **Edinburgh Airport** – safeguard land for new runway, new full-length parallel taxiway, new control tower, and additional terminal capacity and aircraft stands; more use of the cross-wind runway for departing aircraft; and relocation of the Royal Highland and Agricultural Society of Scotland.
- § **Glasgow International Airport** – safeguard land for terminal expansion and for full use of existing runway; surface access improvements; and replacement of existing hangar facilities.
- § **Glasgow Prestwick International Airport** – develop terminal and support facilities; and enhanced rail service capacity.
- § **Cardiff International Airport** – increase terminal capacity; and improve rail, bus and road links (i.e. Junction 34 of the M4).
- § **Belfast City Airport** – invite Northern Ireland authorities to review the planning agreement and the operational constraints in place.
- § **Manchester Airport** – terminal expansion (perhaps with expansion of airport boundary); review aircraft noise limits; and examine improvements to the motorway network in South Manchester.
- § **Liverpool John Lennon Airport** – terminal expansion and improved public transport links.
- § **Newcastle Airport** – support plans for terminal expansion and 360m runway extension.
- § **Teesside International Airport** – support future expansion through extensions to terminal facilities, runway length and taxiway system.
- § **Leeds Bradford International Airport** – support land safeguarding; and airport master plan should include plans for 300m runway extension and terminal expansion.
- § **Birmingham International Airport** – support safeguarding for a new shortened wide-spaced runway (“Birmingham Alternative” proposal); development of the master plan; and the airport operator should work with the Strategic Rail Authority and Highways Agency to improve public transport and road access.
- § **East Midlands Airport** – support expansion of air freight operations.
- § **Bristol International Airport** – encourage operator to bring forward a long term master plan setting out terminal and runway expansions (with voluntary purchase scheme to be included); and support participation in Greater Bristol Strategic Transport Study to discuss surface access improvements.
- § **Bournemouth International Airport** – support expansion to terminal capacity; and plans needed for appropriate compensatory measures or replacement habitat.
- § **Exeter International Airport** – support modular extensions to terminal; and progressive development of the apron and taxiway system.
- § **Stansted Airport** – support full use of existing runway; encourage the airport operator to seek planning permission for a second, wide-spaced runway and new terminal buildings; encourage the operator to discuss rail

access with the Strategic Rail Authority (including increased capacity on the West Anglia Main Line), and plan improved road access (e.g. increased capacity on the M11).

- § **Heathrow Airport** – support greater utilisation of the two existing runways and the building of a third runway and encourage the airport operator to safeguard the land; will immediately institute with airport operator and relevant agencies a programme of action to meet air quality requirements (specifically NO₂ limits), including examining public transport use and airport activity.
- § **London Luton Airport** – support maximum use of a single, full-length runway and encourage airport operator to plan a scheme to address generalised blight.

4.5.1.3. Methodology

The evaluation should follow the steps below.

1. Identify the airports to be included and their operators;
2. Check whether these airports have published post-consultative master plans and the stage they are at;
3. For post-consultative master plans that have been prepared, check their consistency with the DfT guidance;
4. Examine the uses to which master plans have been put by airport operators themselves, by local and regional authorities and by other stakeholders such as local (or potential local) non-aviation businesses and the aviation industry. A key requirement is to establish how effective master plans have been in helping operators plan ahead, engage the public and stakeholders and attract investment. (It appears that operators have used master plans as business planning and investment tools.)
5. Identify where airports not among the thirty specifically invited to produce a master plan have done so, and why, and examine the benefits that have been achieved.

The outturns should be compared with the absence of master plans and also with the absence of Government promotion of master plans via the ATWP and the issue of DfT guidance. Without such promotion some airport operators may have produced substantial plans, but of more variable content and quality.

Discussions with selected airport operators of the effect of the ATWP and the DfT guidance should be held early whilst memories of the pre-ATWP era still remain.

4.5.1.4. Skills required of the evaluators

This work does not need advanced technical skills, but it does need experience and business acumen. At least one person in the evaluation team should have experience of airport planning processes, and another should have experience of local and regional planning procedures.

4.5.1.5. Data requirements

Data on airport operators' progress in preparing and publishing master plans will mainly come from DfT's own monitoring and from operators' websites. The findings should be recorded into a database, which is updated for all the airports considered for evaluation.

In particular, discussions with operators and with regional and some local authorities, and other stakeholders, probably combined with survey data, will be needed to establish what would have happened in the absence of the ATWP and the master plan guidance and the effects of the master plans and how the plans, or the way they are used, might be improved.

4.5.1.6. Evaluation management and timescales

This evaluation should be of close interest to Department airport policy experts and also in some important respects to the Department for Communities and Local Government (CLG). The DfT should involve CLG as closely as possible with the specification and commissioning of the work and closely consulted it on progress and subsequent dissemination and use.

The list of airports whose master plans are chosen for evaluation, in more or less depth, should be assessed and updated immediately before evaluating the master plans.

The guidelines state that the progress of master plans will be reviewed every five years, which implies a similar frequency of evaluation, if such a long term programme is considered administratively feasible and worthwhile. The database should in any case be updated continuously, so that it includes published drafts prior to the publication of the full master plan, and so that it will be up-to-date and comprehensive when undertaking any subsequent evaluation.

4.5.1.7. Dissemination

The final report should be disseminated widely within DfT, CLG and other relevant government departments. Report summaries should also be sent out to stakeholders, such as CAA, airport operators and airlines.

4.5.2. Improving surface access

4.5.2.1. Description of the policy

The policy is to promote improvements to surface access to UK airports, to support airport development and reduce environmental impacts. In particular:

§ *All development proposals must be accompanied by clear proposals on surface access which meet criteria to minimise congestion, environmental and other local impacts (ATWP paragraph 4.55).*

§ *Airport operators should demonstrate how they will achieve an increase in the proportion of passengers getting to the airport by public transport in their proposals for developing new capacity (ATWP paragraph 4.56).*

The Department for Transport published a surface access strategy guide in 1999, in the wake of the 1998 Transport White Paper. This introduced the expectation that airports with more than 1,000 air passenger transport movements a year would establish an Air Transport Forum (ATF) and prepare an Airport Surface Access Strategy (ASAS). The ATWP repeats this requirement (paragraph 12.21).

4.5.2.2. Purpose of the evaluation and audience for the evaluation

The purpose of this evaluation is to report progress to all interested parties for accountability and to collect and share information to help policy development.

The audience will include airport operators, local authorities with or near airports, operators of bus and rail services to airports, and officials within DfT concerned with planning and funding public transport.

4.5.2.3. Methodology

The evaluation should address the following questions:

1. Have airports demonstrated in their development proposals how they will achieve the ATWP modal shift objective (following ATWP paragraph 4.56)?
2. Have airports produced adequate surface access proposals to secure planning approval for development (following ATWP paragraph 4.55)?
3. Did the airports deliver the surface access schemes proposed in their planning applications?

The evaluation should start by examining the surface access proposals in airports' master plans and subsequent planning applications.

As master plans are required to include indicative land use plans up to 2030, these proposals should generally include forecasts for mode share until 2030 (demonstrating that the public transport mode share is expected to increase over time). These forecasts can be examined in greater detail for a select number of airports, through technical discussion with the airport operators and reviewing modelling documents, exploring key forecasting assumptions and models used. Comparisons between airports will highlight differences in approach and best practice. An outcome of this aspect of the evaluation would then be a report on the extent to which different airports are expected to achieve the objective of increasing public transport mode share, best practice in surface access forecasting and where shortcomings lie. It should report on how robust the forecasts are, and whether the objective will be met under a range of sensitivity tests, for example different levels of economic growth.

The evaluator may review the progress of airport development applications. Through reviewing planning inquiry reports and discussions with participants in the planning inquiry, it should be possible to identify cases where the surface access proposals have supported or strengthened the case for development, cases where the surface access proposals have delayed approval (and have possibly been revised as a result), and instances where they have formed grounds for rejecting the application.

Finally, the evaluation may review mode share following completion of the development, probably using data provided by the airport operator, and compare this to levels achieved at the time of the ATWP and prior to the development opening. The evaluation should detail whether the planned surface access improvements have been fully implemented, partially implemented, or not implemented at all, and the reasons given for divergence from the master plan or planning application. In instances where the objective to increase public transport mode share was not achieved, the evaluation may explore whether this was due to unrealistic forecasts or other exogenous factors.

4.5.2.4. Skills required of the evaluators

This evaluation requires proficiency in transport planning and transport modelling, and the extensive experience needed to provide mature judgement in the extent to which surface access plans meet the three objectives set out in section 4.5.2.3.

It will also be important to be able to review planning documents and to hold discussions with the airport operator and planning officials in order to explore the contribution of the surface access proposals to the success of a planning application.

The evaluators will need to be especially competent at managing work which spans many geographical locations and many different facets of local transport.

4.5.2.5. Data requirements

The evaluation requires time series data on surface access mode share, for the airports selected for evaluation. For the airports subject to detailed examination, it will also be necessary to gather information on the surface access modelling methodology and assumptions used, as well as planning reports. Other information can be gathered through CAA Passenger Surveys,⁶¹ discussions with airport operators, planning officials and other stakeholders, for example rail operators.

4.5.2.6. Evaluation management and timescales

This evaluation is for the most part likely to be a fairly conventional transport evaluation comparison of outturns with plans and explanation of the differences. However it is complex in that, as noted above, it may involve dealing with a range of locations, and surface access has many facets. This will require firm departmental project management to ensure that all the strands are developed consistently in timing and in detail.

Given the strong regional dimension there may be merit in involving CLG in the project specification and in the dissemination of the results.

Initial evaluation of master plans and planning applications since the ATWP can be initiated in 2007. Much of the data on modelling methodology should be gathered soon, while many of the relevant officials are still in post or at least available. The issue can be revisited when a number of airport development applications have been processed. A final assessment of changes to mode share will be appropriate one to two years after the airport development concerned has opened.

4.5.2.7. Dissemination

The final report should be disseminated widely within DfT and other relevant Government departments, such as CLG. Tailored summaries of the evaluation findings should be disseminated to key stakeholders, such as the relevant airport and transport operators.

⁶¹ CAA, <http://www.caa.co.uk/default.aspx?catid=81&pagetype=90>

4.6. Summary

Table 4.1 provides a summary of the monitoring and evaluations identified in this Chapter of the report.

Table 4.1
Individual Policies Included in Evaluation Framework

Section reference	Evaluation
4.2	Climate Change Policies
4.2.1	Process evaluation of negotiations on emissions trading
4.2.1	Evaluation of impact of emissions trading regime
4.2.2	Monitoring progress in Government policies on offsetting
4.2.2	Quantitative impact of offsetting policies on emissions
4.2.3	Evaluation of impact of voluntary targets in aviation
4.3	Local and General Environmental Policies
4.3.1	Monitoring of progress in local air quality policy measures
4.3.2	Monitoring of progress in introducing non-statutory compensation schemes combined with evaluation of their effectiveness
4.3.3	Monitoring of noise control schemes at airports, with evaluation of the impact of ATWP policies on the number and scope of schemes and quantitative impacts on noise
4.3.4	Monitoring and evaluation of noise mitigation and compensation schemes
4.3.5	Monitoring of landing charges to assess whether and how environmental costs are incorporated, plus evaluation of impact on airline behaviour
4.4	Economic and Social Policies
4.4.1	Development of methodology to identify impacts of specific airport developments on local and regional economic activity
4.4.2	Evaluation of impact of Aviation Health Unit on air traveller health and options for passenger health policy
4.4.3	Monitoring of Route Development Funds and evaluation of impacts and value for money using selected case studies
4.4.4	Monitoring of use of PSOs and impact evaluation of their effects on the regions they are intended to benefit
4.4.5	Evaluation of the impact of the policy to promote Centre of Excellence for aircraft maintenance outside the South East, including labour market evidence on supply of and demand for skilled engineers
4.4.6	Evaluation of the impact of the levy on protecting air traveller interests and improving the solvency of the Air Travel Trust Fund
4.5	Airport Development Policies

Section reference	Evaluation
4.5.1	Monitoring of progress in producing airport master plans and evaluating their impact, for example in spreading 'best practice' between airports
4.5.2	Monitoring how airports have produced policies to improve surface access and public transport use and assessing how these policies have impacted on, and increased, public transport mode share

5. High Level Evaluation

Section 2.2.2 listed the set of seven high level objectives for air transport policy included in the Air Transport White Paper. Section 2.4.2 describes how for evaluation purposes this list can be reduced to five, since objective 6 ('to respect the rights and interests of those affected by airport development') can be subsumed under objective 3 ('to reduce the adverse local impact of airport development'), and objective 7 ('to provide greater certainty for all concerned in the planning of airports') can be handled separately as an element in the evaluation of the policy instrument of publishing the Government's development priorities for UK airports.

This Chapter considers, in section 5.1, evaluation of progress towards each of these five objectives. It also addresses, in section 5.2, evaluation of the impact of publishing Government views on the development of airports.

Some of this work appears to be, like nearly all of the work covered in Chapter 4, best suited for contracting put by DfT to external evaluators. This applies to the evaluation of local impacts of specific airports, as set out in section 5.1.3.3, and some aspects of the work described in section 5.2 on the impact of publishing Government views in this way on prospective private sector infrastructure development.

However the rest of the work described this Chapter is high level analysis of a kind that appears less well suited to contracting out. It does not entail time spent interviewing, nor the collection of data from novel sources. It does however entail a close familiarity with the current political priorities and perceptions and the consolidation of evaluation studies already commissioned by the Department. This is thus work that might be expected to be carried out in-house by DfT officials.

5.1. Evaluating Achievement of the ATWP Aviation Policy Objectives

The five higher level objectives of the ATWP considered in this section can be described as follows:

- § To increase the contribution of air travel to our national and regional prosperity, providing additional capacity where it is needed;
- § To make best use of existing airports, to minimise need for airport development in new locations;
- § To reduce the adverse local impacts of airport developments;
- § To internalise the external costs of aviation; and
- § To increase the opportunities for people to benefit from air travel.

Table 2.2, reproduced here as Table 5.1, maps the policies⁶² considered in Chapter 4 against these five objectives.

Achievement of each objective can be considered by combining the results of monitoring and evaluation of the relevant policy instruments as described in Chapter 4 with measurement and monitoring of relevant key performance statistics. Key performance indicators relevant to each high level objective are listed in Table 5.2.

Evaluation of high level outturns against each of these five objectives is discussed in sections 5.1.1 to 5.1.5 below.

The main purpose of this set of evaluations, which might mostly be better described as investigative monitoring, is to demonstrate accountability to Parliament and the public on the extent to which the transport objectives declared in the ATWP are being met. A further purpose is to provide a cross-cutting view of the individual policies, along with other factors, to help the Department and others understand what factors have been the most influenced these outcomes.

⁶² Together with work described in Chapter 4 on the local economic impacts of airport developments. For simplicity in Table 5.1 this is included under the heading of policy.

**Table 5.1
Mapping of Specific Policies against ATWP High Level Objectives**

Policy	Policy objective				
	Increase the contribution of air travel to our national and regional prosperity	Make best use of existing airports	Reduce the adverse local impacts of airport developments	Internalise the external costs of aviation	Increase the opportunity for people to benefit from air travel
Climate change policies					
Emissions trading	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Offsetting	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Voluntary industry targets and monitoring	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Local and general environmental policies					
Local air quality	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Non-statutory compensation			<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Measures to clarify and strengthen noise control powers	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Noise mitigation and compensation	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Differential landing charges	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Economic and social policies					
Impact on local economic activity	<input checked="" type="checkbox"/>				
Protection of air traveller	<input type="checkbox"/>				<input type="checkbox"/>

health				
Route development	■	□		■
funds				
PSOs to improve regional access to London	■	□		■
Promotion of aircraft maintenance away from South East	■			
ATTF Levy				■
Airport development policies				
Airport master plans	■	■	■	
Improving surface access	□	□	■	□

■ = direct influence; □ = indirect influence

Table 5.2
Indicators of Achievement of ATWP Aviation Policy Objectives

Policy objective	Indicators	Disaggregation	Sources and data gaps
To increase the contribution of air travel to our national and regional prosperity	Gross value added (GVA) from aviation	By region	ONS; area for research
	Mode share for cargo (tonnes) entering / leaving the country		CAA
	Business trips	By region	CAA data; ONS Internat'l Passenger Survey
	Number of employees ⁶³	By region and by airport	ONS; market reports (e.g. AOA)' area for research
To make best use of existing airports	Passengers / ATM	By airport; peak/ off peak; international comparisons?	CAA
	ATM / runway	By airport; peak/ off peak; international comparisons?	CAA
	Delays	By airport; ATC	CAA, Eurocontrol (eCODA)
	Declared terminal capacity/ actual terminal PAX	By airport	Individual airports; area for research
	Declared maximum hourly runway capacity/ average hourly ATM	By airport	Individual airports, Airport Coordination Ltd (ACL)
To reduce the adverse local impact of airport developments	Noise indicators, including population within noise contours, and size of noise contours; night noise	By airport	Defra; individual airports; Environmental Impact Assessments
	Forecast noise contours	By airport	Individual airports
	Local air quality emissions, especially NOx	By airport	Defra; individual airports
	Property prices; property mobility	By airport	Land Registry, CLG Housing Surveys

⁶³ The use of labour is a cost to the economy, not a national benefit. However it is of high local political interest.

Policy objective	Indicators	Disaggregation	Sources and data gaps
	Mode split for airport access	By airport	Individual airports CAA Passenger Survey
	Health impacts	For some major airports? ⁶⁴	Area for research
To internalise the external costs of aviation	Relationship between revenue from specific aviation taxes and climate change costs of aviation		Results of Emissions Cost Assessments
	Emissions trading regime		EC (ETS)
To increase the opportunity for people to benefit from air travel	Passenger characteristics	In aggregate and by airport where feasible	CAA data and International Passenger Survey (ONS) data
	Fares index		Airline Tariff Publishing Company (ATPCO)
	Number of flights and range of destinations	By airport	CAA; individual airports; area for research

5.1.1.

⁶⁴ An issue to consider, given the weight now given to health impact assessments and concerns expressed by local interests (e.g. Hansard col. 440WH, 11 Feb 2004).

5.1.2. Increasing the contribution of air travel to our national and regional prosperity, providing additional capacity where it is needed

5.1.2.1. Contribution of individual ATWP policies

The following individual policies, addressed in Chapter 4, can be expected to increase the contribution of air travel to national and regional prosperity:

- § Airport developments that impact substantially on local and regional economic activity (section 4.4.1);
- § Route development funds, which will contribute in particular to the prosperity of the regions served (section 4.4.3);
- § PSOs to improve regional access to London, which will also contribute to the prosperity of particular regions (section 4.4.4);
- § Promotion of aircraft maintenance outside the South East, again a policy with particular regional emphasis (section 4.4.5); and
- § Development of airport master plans (section 4.5.1).

Both local and national (climate change) environmental policies could be said to be likely to contribute to overall national prosperity where prosperity is taken to be measured in terms of quality of life as well as simply in terms of income.

Furthermore, the overall contribution of the ATWP policies to national and regional prosperity can be expected to depend on the way that opportunities for air travel for business travel increase, so the overall impact of the ATWP may be measured in more than the sum of individual policies listed above.

5.1.2.2. Key indicators and their collection

Potential indicators of the impact of air travel on prosperity listed in Table 5.1 are gross value added from aviation, tonnage mode share for cargo entering and leaving the country, business trips and employment.

Evaluating the modal share of aviation in freight transportation may require some data analyses – similarly for business trips and the number of employees directly and indirectly employed by the aviation industry. For labour force statistics the ONS Labour Force Survey (LFS) is updated quarterly, and a robust methodology should be developed for estimating direct, indirect employment and induced employment associated with the aviation sector.

Data might also be estimated for private investment in the aviation sector to derive an estimate for total value added at the national level. Given a consistent methodology this can be carried out for some years leading up to 2003 and some subsequent years, to illustrate progress towards the policy objective.

Quantifiable estimates of changes in prosperity attributable to air transport would usefully be supplemented with qualitative assessments. For example, public opinion about local prosperity (expressed for example in surveys) may provide useful

insights – whether positive (e.g. from direct employment, or increased ability to travel by air for business or leisure) or negative (e.g. busier commuting routes, or unproductive land use). The Department published the Public Attitudes to Air Travel Survey last year. Publishing this on an annual basis should be considered as at least a medium term objective. The RDAs will have their own opinions about impacts on business or regeneration, as will business organisations such as chambers of commerce. The combination of quantitative and qualitative assessment of the ATWP's impact on prosperity can provide a clearer picture than only using a single approach.

Skill (probably in-house) will be needed in collecting and analysing the statistical data. The appropriate variables will need to be chosen to estimate the indicators from Table 5.2.

Other skills (probably external) would be needed to collect softer data from local sources, by interview and/or from local public records.

Experience, expertise in economics and other social sciences, and common sense will be required to derive a meaningful account of the ATWP on national and regional prosperity.

Statistical data on these indicators is collected by numerous sources, principally by the Civil Aviation Authority (CAA) and the Office of National Statistics (ONS). For example, the CAA UK Airport Statistics present aviation outputs and activity (by UK airport), including giving data on the number of passengers, the number of aircraft movements, and freight tonnage. The ONS has historical labour force statistics, and trends in air travel in the UK split by purpose (i.e. separately identifies business travel). In 2006 Oxford Economic Forecasting produced a report⁶⁵ assessing the economic contribution of the UK aviation industry, which may provide a useful starting point in identifying data and appropriate methodologies.

The main task, as with most of these evaluations against the ATWP high level objectives, will be to tease out from a range of hard and soft data an informative picture of progress towards the objective and of what factors have been noteworthy contributors.

In taking forward this evaluation of achievement of the ATWP high level aviation objectives the Department should consider whether it should be aligned with the production of ATWP progress reports, which are currently scheduled for every three years, the next one being in 2009.

An area for choice is the range of developments that are examined individually. There may be a case for looking specifically at the effects of the major airports outside the South East.

⁶⁵ <http://www.oxfordeconomics.com/Free/pdfs/Aviation2006Final.pdf>

5.1.3. Making best use of existing airports, to minimise need for airport development in new locations

5.1.3.1. Contribution of individual ATWP policies

A major theme of the ATWP is to ensure that airport development is co-ordinated across the country so as to make best use of existing airports and minimise the need for airport development in new locations. Apart from the requirement to produce airport master plans, the individual policies discussed in Chapter 4 of this report do not contribute directly to this objective, although route development funds and PSOs will have some impact at the margin. However progress towards this particular high level ATWP objective will require measurement of airport utilisation and the associated trade-off between airport use and environmental and congestion costs. This will need to include other developments if they arise. Mixed mode runway use at airports with more than one runway is an example. The DfT Project for the Sustainable Development of Heathrow has looked at this. Another example is the achievement of higher capacity utilisation with larger planes, which may have implications for noise and air quality.

5.1.3.2. Key indicators and their collection

The evaluation should assess the levels of congestion at airports considered in the ATWP. It could collect basic indicators such as average number of daytime air transport movements (ATM) per hour as a percentage of the maximum permitted.⁶⁶ Other indicators could include average number of daytime ATM per runway; passengers per passenger ATM (which would reflect aircraft size); and actual hourly passenger throughput within the terminal as a percentage of maximum declared capacity.

These indicators should be projected forward to take account of forecast demand for years when regional airport developments are due to be completed. In many cases, this task may consist of updating projections made in the regional air studies in the light of the latest outturn data. It may also be that similar analysis is undertaken in preparation for airport planning inquiries.

Declared runway capacity can vary enormously. It may depend on physical constraints or on air traffic control. Low runway capacity relative to demand may however be indicative of ineffective use of capacity. For example, if limited additional investment in air traffic control might be able to offer important capacity increases, this should be noted.

Many airports are likely to experience capacity constraints at peak times. But highly peaked flow is indicative of inefficient use of capacity. For this reason capacity is generally best measured across the day, rather than just at peak times. Only if measures are applied to encourage off-peak and out of season use, such as differential landing charges, and traffic still remains highly peaked, is it clear that little

⁶⁶ RASCO (Regional Air Service Co-ordination Study), which was a major study commissioned by the DfT in the early 2000s, contains a useful technical note on this in Annex F.

substitution between peak and off peak times is possible, and capacity may be being used effectively.

The Department will need to obtain most data of this kind from the airport operator and airport coordinator. The airport operator would have the capacity declarations, and monitor passenger throughput, passenger numbers and some details on ATM. Airport coordinators maintain detailed records of airport schedules. CAA has data such as passenger numbers and ATM.

5.1.4. Reducing the adverse local impacts of airport developments

The subsection considers not only the general policies covered in Chapter 4, but also includes in section 5.1.3.3 the evaluation of impacts of specific airports, as will be expected by a number of stakeholders.

Local environmental impacts are diverse. They include localised air pollution, noise, local road traffic congestion and adverse effects on landscape, wildlife habitats, and heritage sites. Thus the ATWP (paragraph 3.6) states that local controls should manage the environmental impact of aviation and airport development so that:

- § noise impacts are limited, and where possible reduced over time;
- § local air quality is maintained within legal limits across all relevant pollutants in order to protect human health and the wider environment;
- § loss of landscape and built heritage is avoided wherever possible, and otherwise minimised and mitigated to the greatest extent possible;
- § all relevant water quality and other mandatory environmental standards are met;
- § surface access to airports is designed to help limit local environmental impacts; and
- § impacts on biodiversity, such as disturbance of habitats and species, are minimised.

5.1.4.1. Contribution of individual ATWP policies

A number of ATWP policy evaluations and impact analyses described in Chapter 4 are relevant, namely:

- § Measures to improve local air quality (section 4.3.1);
- § Measures to introduce non-statutory compensation (section 4.3.2);
- § Measures to clarify and strengthen noise control powers (section 4.3.3);
- § Noise mitigation and compensation (section 4.3.4);
- § Widening landing charges to take account both of noise costs and of air quality costs (section 4.3.5);

- § Production of airport master plans which include detailed proposals for environmental controls and mitigation of adverse environmental effects (section 4.5.1);
- § Requirement that development proposals include clear proposals on surface access to minimise congestion, environmental and other local impacts, and demonstrate how public transport mode share will be increased (section 4.5.2).

5.1.4.2. Key indicators and their collection

These relate to noise, to local air quality (which is a Defra policy responsibility) and to other impacts.

5.1.4.2.1. Noise

The ATWP (paragraph 3.11) says “Our basic aim is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise”.

The nation-wide evaluation of this noise objective should be based on population contours. Currently aircraft are monitored primarily with reference to dBA L_{eq} for daytime (07:00 to 23:00 hours), June to September. L_{eq} is a measure of long term average noise exposure. “*For aircraft it is the level of a steady sound which, if heard continuously over the same period of time, would contain the same total sound energy as all the aircraft noise events.*”⁶⁷ The Government focuses on three contours: 57 dBA L_{eq} , 63 dBA L_{eq} and 69 dBA L_{eq} . In the ATWP the lowest of these three contours is described as the threshold above which there is significant community annoyance. Populations within these contours can then be estimated on the basis of census data. Given that the 16 hour ‘daytime’ L_{eq} contours is an established system (and is used in the ATWP) this metric seems a natural choice for evaluating ATWP policies.

DfT has responsibility for the production of contours for Heathrow, Gatwick and Stansted. Elsewhere it is the responsibility of individual airports to produce contours, and in practice it is understood that all of the large airports do this. DfT and Defra have selective data on populations within these contours for some of the major airports recorded annually for more than ten years.⁶⁸

Under Directive 2002/49/EC, all airports with aircraft movements exceeding 50,000 a year are required to produce certain map contours, using the noise measurement L_{den} , which can then be translated into populations affected, using GIS and census data. This is a weighted average of sound levels across 24 hours. This metric may provide suitable data for monitoring the ATWP policy aim, for most if not all of the relevant airports. However, the Directive only came into force in June 2007, so that suitable data may not be available for many earlier years. Historical noise data may

⁶⁷ Glossary of the second stage of consultation on “Night Flying Restrictions at Heathrow, Gatwick and Stansted Airports, June 2005.

⁶⁸ <http://www.defra.gov.uk/environment/statistics/noise/nsaircraft.htm>. The database contains data on populations affected for Heathrow, Gatwick, Stansted, Luton, Manchester and Birmingham.

be available from select airport operators that allow the construction of equivalent measurements back to the base year. However, there seems to be no agreed threshold of significant community annoyance for the L_{den} metric. Therefore, use of the L_{den} noise measurement may not be appropriate for the evaluation.⁶⁹

Populations significantly affected by aircraft noise live mainly in the vicinity of Heathrow, with Manchester and Birmingham also causing major disturbance. In total it appears that twenty six airports will need to comply with the noise mapping requirements set out in Directive 2002/49/EC (including some airports with few commercial flights). These may provide a sufficient basis from which to monitor the achievement of the ATWP policy aim; however reservations regarding use of the Directive for monitoring have been set out above. Analysis might sensibly be restricted to those airports with significant numbers of residents affected and/or where major expansions are anticipated.

Airport operators should collect data on noise levels. In some cases, it may be necessary for separate mapping of contours to populations, as required by the EU Directive. The latter would require some proficiency in the use of GIS.

The numbers of people seriously affected by aircraft noise could usefully be monitored and published annually.

5.1.4.2.2. Local air quality

This is a Defra lead responsibility. The DfT will wish to ensure that work by Defra in this field is coordinated with other work on local impacts.

One key indicator is the local air quality emissions levels (especially NO_x), split by airport. Other key indicators might include property prices and mobility, mode split for airport access, and health impacts.

Defra and individual airports should have data on emissions levels over time. Land Registry and CLG housing surveys should be used to assess the impacts on property prices, while data on mode split and health impacts may only be available from individual airports.

In addition to local air quality, changes in mode split, property prices and health impacts will be affected by noise and other local impacts.

5.1.4.2.3. Other adverse local impacts

Impacts such as those on heritage, landscape, water quality, biodiversity, or health are extremely difficult to quantify. On the other hand the Department for Transport is better placed than any other Department in most of these fields given its lead role in Whitehall for extending cost-benefit analysis valuations into new fields.

⁶⁹ In addition to the above reasons given against the use of the L_{den} metric, also worth noting is that scientific evidence supporting the use of 5 dB and 10 dB evening and night weightings is considered to be limited.

There would in any case be value in a qualitative review of these impacts, to consolidate the actions taken nationally and locally to reduce each impact, and reach a judgement on whether the best cost/benefit balances are being found.

5.1.4.3. Impacts of specific airports

5.1.4.3.1. *Purpose of the evaluation and the audience for the evaluation*

The evaluation should conduct ex post environmental impact assessments of specific airport developments for Government, Parliament and stakeholders for accountability and to provide information to be used when estimating the impacts of future airport developments.

5.1.4.3.2. *Methodology*

The evaluation should compare the actual environmental impacts with any predicted environmental impacts, say in the original Environmental Impact Assessments and with reference to EU and domestic targets (e.g. EU limits on NO₂).

The evaluation should also examine the effectiveness of local environmental schemes.

The evaluation should look at airport developments on an airport by airport basis, the scope being determined in the light of a preliminary examination of the cost effectiveness of covering more or fewer developments in more or less depth.

The evaluation should estimate the local environmental impacts of airport developments (including surface access developments) since the ATWP was published, which include impacts on noise, local air quality, landscape and heritage, water quality and biodiversity. The evaluation should also assess the net effects of these impacts where the development may have resulted in traffic being diverted from elsewhere, and may therefore have reduced environmental impacts in those other locations.

An example of relevant work, as noted in section 4.3, is the Project for the Sustainable Development of Heathrow.

The evaluators should collate Environmental Impact Assessments, work that has been commissioned by airports, work by local government, and other aviation reports that examines the environmental impacts of airport developments. Where the documents do not contain sufficient data on environmental impacts, evaluators should obtain available data on air quality, noise, landscape and ecology from airports. The evaluators should evaluate whether the impacts have been broadly consistent with Environmental Impact Assessments and other project planning studies. The evaluation should include an evaluation of the effectiveness of local environmental schemes.

Local environmental data will be required both before the development's completion and after the development has been finished. A comparison on data points, in order to obtain the impacts, should take account of other factors that would have occurred

irrespective of the development, such as changes to the aircraft mix and in surface transport.

Where data is not available on local environmental impacts (e.g. impacts on heritage or biodiversity), the evaluators should conduct qualitative analysis to estimate the impacts. This could include interviewing local residents and local environmental experts about impacts of this kind of specific airport developments.

5.1.4.3.3. Skills required of the evaluators

The evaluators should have a good knowledge of local environmental issues in aviation and have strong analytical skills.

5.1.4.3.4. Data requirements

To evaluate the local environmental impacts of specific airport developments, data is needed regarding air quality, noise, water quality, landscape, heritage and biodiversity before and after the developments. The key sources will be Environmental Impact Assessments, work commissioned by airports, local environmental impact studies and measurements made at airports (which airport operators should collect).

There are potential data gaps where data is not available for assessing local environmental impacts. For gaps in data on local air quality and noise levels, data should be collected by the DfT. Where there are gaps in data for other environmental impacts, the evaluators should take a qualitative approach to the evaluation, say by interviewing local residents and local environmental experts on the impacts.

5.1.4.3.5. Evaluation management and timescales

The evaluation of developments airport by airport could be conducted by different evaluators, using a template to provide consistency between individual evaluations. The overall assessment of environmental impacts, which draws together the main themes from the individual airport evaluations, could be done by one of the evaluators.

The evaluations at individual airports should be conducted about two years after the completion of current developments so that the environmental impacts can be measured. The overarching evaluation should be completed following the individual evaluations and should be completed in the near future, say before 2012.

5.1.4.3.6. Dissemination

The final report of the evaluation should be disseminated to DfT and Defra. Summaries of the findings for individual airports should be disseminated widely to local stakeholders, for example the airport operators, local government and local and national environmental groups.

5.1.5. Internalising the external costs of aviation

5.1.5.1. Contribution of individual ATWP policies

Achievement of the objective of internalising the climate change costs of aviation is to be monitored by the Department's Emissions Cost Assessment, proposals for which were out for public consultation at the time this report was being finalised (see Section 4.2 above). DfT propose to produce the Emissions Cost Assessment approximately every three years and no further action is justified to monitor achievement of this climate change objective. However as currently proposed this does not include provision for measurement of local environmental impacts. So, unless this situation is reversed as a result of the public consultation, high level evaluation of achievement of the internalisation of external costs should include at least a simple overview of progress in internalising local impacts.

A number of specific policies, notably the following, contribute not only to climate change but also to internalising other external costs:

- § Introduction of emissions trading in aviation (section 4.2.1);
- § Introduction of offsetting policies in the aviation sector (section 4.2.2);
- § Voluntary industry targets and monitoring (section 4.2.3);
- § Measures to clarify and strengthen noise control powers (section 4.3.3).
- § Noise mitigation and compensation (section 4.3.4); and
- § Differential landing charges (section 4.3.5).

Evaluation of the achievement of this objective should draw on the results of the monitoring, process and impact evaluations of these policies.

5.1.5.2. Key indicators and their collection

The key indicator of achievement of this objective will be the DfT Emissions Cost Assessment noted above.

The EC collects transaction log data for the EU Emissions Trading Scheme, which might be used as part of the evaluation.

5.1.6. Increasing the opportunities for people to benefit from air travel

5.1.6.1. Contribution of individual ATWP policies

This high level objective is linked to a number of individual policies, though none would be expected to make a primary contribution to increasing opportunities to travel by air:

- § Route development funds (section 4.4.3) and PSOs (section 4.4.4) will increase opportunities for those in the regions to benefit from air travel; and

§ Maintenance of the Air Travel Trust Fund Levy (section 4.4.6) will provide some reassurance about consequences of airline failure, in particular for leisure travellers.

The main contribution of the ATWP to this objective is its facilitation of airport capacity expansion in the South East, together with its objective of making best use of existing airports. However, the main emphasis of the evaluation should be on measurement of key indicators.

5.1.6.2. Key indicators and their collection

Achievement of this objective can be monitored through three types of indicators:

- § Fares indices;
- § Measures and maps of accessibility, including destinations; and
- § Data from market research of personal travel;

Fares indices are widely used, for example in the UK rail sector. Sample fares are weighted, typically by the number of passengers, to derive weighted average fares. With airlines, each route has a multitude of fares, presenting some difficulties in comparing like with like. To achieve comparability, fares should be examined for the same day of the week, similar time of day, and for bookings the same number of days in advance. Ideally, fares should be sought with similar degrees of flexibility (such as cancellation fees), though this may be too time consuming. Published fares data tend not to be helpful as they do not reflect the discounts that are widely employed, and may not include fares data for no-frills airlines. Obtaining data from airlines can also be difficult. However none of these obstacles should prevent serious analysis of fare indices.

Accessibility from different regional airports may be derived from indicators based on numbers of flights and range of destinations, as well as possibly the ease of access to airports.

Market research could explore the proportion of the UK population using airports each year and their frequency of travel. The analysis could be disaggregated by region, socioeconomic group, income level, age and other factors. CAA collects passenger data (e.g. demographics) from passenger surveys. DfT may have additional survey data.

Specific research and surveys may be considered justified to monitor achievement of this objective more comprehensively. If the information collected in this way was found to be valuable and well used the indicators could be monitored periodically, perhaps at five yearly intervals.

5.2. Evaluating the Impact of Publishing Government Views on Airport Development

5.2.1. Description of the policy

The ATWP is presented (paragraph 1.6) as a strategic framework for the development of airport capacity, in order to:

- § provide a clear policy framework against which airport operators, airlines, regional bodies and local authorities can plan ahead. The lack of such a framework has been a serious hindrance to the efficient development of airports in this country, resulting in over-lengthy planning inquiries and unnecessary delay;
- § give greater certainty wherever possible to those living close to airports and under their flight paths. Again, the lack of a clear long-term strategy and the slow progress of decision-making has helped create unnecessary blight, uncertainty and distress for many people;
- § take a view of the long-term demand for air travel and airport capacity, both for the country as a whole and across regions, and of the best long-term strategy to respond to that demand, rather than addressing each separate proposal in a piecemeal and uncoordinated fashion;
- § set out a strategic and sustainable approach to balancing the economic benefits of airport development, the social benefits of easier and more affordable air travel, and the environmental impacts that air travel generates; and
- § ensure that airport development is properly linked in to our wider transport strategy and to our other transport networks.

The ATWP presents the Government's views on airport development priorities over thirty years into the future, encouraging the relevant airport operators to respond with development proposals. These views on development are accompanied by the strong promotion of policies to mitigate environmental impacts.

Such government statements have an impact to the extent that they are perceived as commitments that will lead to practical consequences, such as central government facilitation of planning inquiries (and perhaps raising objections to conflicting proposals), possible contribution of public funding for improvements to surface access, and guidance to the CAA on pricing regulation that does not inhibit the favoured investments.

5.2.2. Purpose of the evaluation and the audience for the evaluation

The main purpose of this evaluation is to inform government and the industry about the effectiveness of this approach, so as to provide lessons for possible other applications, and to provide any lessons on how the ATWP might have been better presented and followed up. It is also to demonstrate to other parties, in broad terms, the extent to which the main assumptions underlying the ATWP were sound.

The Department has already appraised the potential impacts of the proposed airport developments and the evaluation will not repeat or revise that work. Nor is there a sufficient case for a process evaluation of the work, such as the consultations, leading up to the ATWP, although it will be helpful to estimate broadly the cost of this work. Evaluation of the policy of publishing should be directed at the extent to which *publication of the ATWP* (as distinct from policies that did not depend upon its publication) has led to:

- § airport developments being delivered earlier, or at all;
- § other potential airport developments being abandoned or long delayed, and the consequences of the greater certainty to those local businesses, residents and councils;
- § reduced costs of airport development (notably costs associated with the planning stage); and
- § any other impacts such as those on the efficiency of air traffic management and material additional costs incurred by government to produce the ATWP.

The evaluation should also examine the extent to which the main assumptions of the ATWP, about for example the response of airport operators and other stakeholders, and traffic forecasts, have been broadly borne out in practice. It should also examine whether the policy has restricted operators' ability to change their development plans in the light of post-ATWP events such as air traffic shocks, changes to economic performance, evolving travel patterns, or developments in international competition.

The aftermath of the ATWP will have an impact on the credibility of government. If successive governments, in large part, retain the priorities stated in the ATWP over a long time frame, and translate these into meaningful action, this may increase public and business confidence in the significance of future policy pronouncements on strategic long term planning. If not, the reverse holds.

5.2.3. Methodology

The core task of this evaluation is to investigate the impact of the publication of the ATWP on people and institutions, relative to what would have been otherwise expected and relative to what the ATWP itself promoted in terms of airport developments.⁷⁰

The evaluator will need to examine how publication of the ATWP has:

⁷⁰ There would be little value in constructing a precise estimate of airport development prior to preparation of the White Paper, when there was no explicit government view on airport development and airports were left to make their own proposals, which were subject to the same planning procedures as other developments of a similar size. On the other hand respondents could be reminded that there has always been some government support for favoured schemes. For example the CAA, with Government support, provided support to BAA in the construction of Heathrow Terminal 5 by approving special revenue arrangements whereby airlines have been contributing to the cost of the terminal prior to its completion.

- § influenced airport operators' behaviour with respect to airport development;
- § translated into promised or implied government actions – for example rulings, directions and guidance, legislation, and funding decisions; and
- § affected the actions of and impacts on others – for example has such overt government support influenced the outcome of planning enquiries?

Initial information and data collection is needed at locations proposed for development and at those excluded. This needs to be done while practitioners and the public remember the airport development environment prior to the ATWP, as a baseline for comparison with the current, post-ATWP situation.

Data is then needed after some airport developments have been approved, on the extent to which, and why, the fact of publication changed the behaviour of airport operators and others at such sites.

A major source of information will be qualitative data obtained by discussion with industry and in some cases regional stakeholders. The work would usefully include the time taken to complete planning stages in the planning of airport development and costs to operators of the planning process, relative to the pre-ATWP circumstances.

5.2.4. Skills required of the evaluators

This evaluation will need mature skills at interpreting mainly qualitative information from interviews with officials, mainly from airport operators, combined with a sufficient knowledge of the planning system to form sound judgements of what airport development would have taken place in the absence of the ATWP.

5.2.5. Data requirements

However objective data, as distinct from interview evidence, might include:

- § Data on time taken to complete stages in the planning of an airport development, for developments pre- and post-ATWP; and data on how the forecast timescale for the planning and implementation of a development change over time.
- § Records of cost to operators, and others – to derive for example the cost savings from shorter planning inquiries.
- § Forecasts of impacts that would result from particular airport developments: this information was prepared for the consultation that preceded the ATWP.
- § Property values as one indicator of the effects of greater certainty.

Most other information may be subjective and often qualitative from airport operators and other stakeholders, supported by related public pronouncements and published documents.

5.2.6. Evaluation management and timescales

This is a somewhat open ended evaluation that will need clear specification and clear guidance by the Department as the work proceeds. However, the nature of the work required is fairly typical of that of evaluations traditionally commissioned by the DfT. It should therefore not present exceptional management challenges.

It is not a long term evaluation as the impacts of publication *per se* will already be observable. Indeed the need is for early action.

5.2.7. Dissemination

The only case-specific aspect of dissemination is the potential for the Department to produce an assessment for general reading within and perhaps beyond government of the publication of a major statement of government preferences in a field of private sector development.

6. Evaluation Management and Dissemination

6.1. Evaluation Management

The ATWP evaluation framework covers a wide range of policy applications, extended over many years, with many interested parties across and beyond government. Its success in delivering good evaluation that is subsequently well used depends upon a management structure that is well designed, is stable and has the active support of top management and of all relevant teams in the Department.

Experience of evaluation programmes in other sectors shows that success requires careful planning in advance. An overarching management framework is needed that ensures that individual evaluations are planned with an awareness of the wider context. This includes of example, in the ATWP case, interfaces between evaluations and the potential for each policy or impact-specific evaluation to contribute subsequently to the higher level evaluation.

These are issues for the Department. However this section summarises below aspects of administrative structure that the Department needs to consider and reviews the division between in-house and contracted out work.

It does not address issues, such as procurement or the evaluation management of single, well defined policies, which will follow standard civil service and Departmental good practice. Nor does this Report identify any exceptional issues of quality assurance. It is standard DfT practice to quality assure policy evaluations - both their methods and findings. The procedures are that before an evaluation starts its quality assurance process should be planned and clearly stated. As a minimum, quality assurance will involve an expert review of proposed methods and of findings, and representation from evaluation experts on an evaluation's steering group. Nor does the Report identify any exceptional ethic dimensions. Evaluators, and those that commission work, will however need to take account the Government Social Research Unit's Professional Guidance on Ethical Assurance⁷¹ and consider where in each case the principles and responsibilities specified there are relevant to and can be best applied to the particular study.

One key dimension is the question of how centralised a structure is appropriate. A minimal central role, perhaps just an instruction to relevant teams to evaluate those elements of the framework that lie in their field, and central filing of the results, might lead to an unbalanced and possibly incomplete programme. Very strong centralisation, with members of a central team closely supervising every aspect of the programme might be excessively bureaucratic. A sound balance, for the work to be commissioned by DfT, might be a central steering group, perhaps jointly chaired by airport policy experts and economists, with a strong social scientist presence, monitoring progress and methodology and providing a source of advice where needed, but leaving policy teams to establish their own steering groups where appropriate and employing their usual specialist advisers, for specific evaluations.

⁷¹ http://www.gsr.gov.uk/downloads/professional_guidance/ethical_assurance_for_GSR.pdf

There is also scope for including external stakeholders (from the industry and other interests) in the central steering group, or in separate groups, to provide wider validation and achieve satisfactory dissemination of the results.

A second key dimension is the division between in-house and contracted out work.

Most of the policy or impact-specific evaluation, including that of the impact of publishing the Government's airport development preferences will most appropriately be contracted out, partly because Departmental officials do not have the time to undertake the necessary fieldwork, but also because an external contractor is needed to demonstrate impartiality. The other high level evaluation would seem best done in-house as this evaluation requires no fieldwork (although it will draw on fieldwork from evaluation of specific policies), and is mostly dealing with data with which the Department is familiar.

DfT has recently developed a new framework approach to provision of transport-related technical advice and research, and consortia have been selected under six lot headings. Both Lot 5 ('Strategic Transport Planning and Policy') and Lot 6 ('Social Research') cover evaluation, and the consortia selected for both lots include a number of firms with strength in evaluation. This framework could provide a very suitable structure to identify consultants well-placed to undertake the evaluations required in the ATWP evaluation programme, even if officials commissioning specific evaluations might want to go beyond the framework teams from time to time.

6.2. Dissemination

A central feature of the planning of every element of the evaluation programme should be identification of the use to which the particular element of the evaluation will be put and parties to whom it will be of interest. Effective dissemination both during and following the completion of the evaluations is important in ensuring that evaluation results are used in policy processes.

Table 6.3 summarises the dissemination recommendations from Chapter 4 and Chapter 5. In the main, the evaluation results should be disseminated within and beyond the DfT. All of the evaluation final reports might appear on the DfT website. It would be helpful if the DfT is also able to maintain an overview commentary on the evaluation programme as it progresses.

Other key stakeholders in the evaluation process include CAA, departments and groups within Government departments, such as Defra, HM Treasury and OCC, airport operators, and airlines. There is also scope for disseminating some evaluation results to stakeholders at local and regional levels, such as local and regional government and private organisations.

In these cases dissemination should typically be tailored towards the audience, say in the form of report summaries. The DfT and evaluators should discuss dissemination strategies, and issues relating to result sensitivities and the method of dissemination.

Table 6.1
Evaluation Dissemination

Section reference	Evaluation	Dissemination
4.2	Climate Change Policies	
4.2.1	Process evaluation of negotiations on emissions trading	Internal document to DfT and other departments
4.2.1	Evaluation of impact of emissions trading regime	Final report to DfT and Defra; short summaries to stakeholders
4.2.2	Monitoring progress in Government policies on offsetting	Final report to DfT, Defra and OCC with feedback; press release for other stakeholders
4.2.2	Quantitative impact of offsetting policies on emissions	Final report to DfT, Defra and OCC with feedback; press release for other stakeholders
4.2.3	Evaluation of impact of voluntary targets in aviation	Final report to DfT, Defra, OCC and CAA; report summaries to airport operators, airlines and aerospace companies
4.3	Local and General Environmental Policies	
4.3.1	Monitoring of progress in local air quality measures	Final report to DfT, Defra and CAA; summaries to airport and aircraft operators and local stakeholders
4.3.2	Monitoring of progress in introducing non-statutory compensation schemes combined with evaluation of their effectiveness	Internal dissemination to DfT and Defra
4.3.3	Monitoring of noise control schemes at airports with evaluation of the impact of ATWP policies on the number and scope of schemes and quantitative impacts	Final report to DfT and Defra; summaries to other stakeholders,

Section reference	Evaluation	Dissemination
	on noise	such as CAA ERCD
4.3.4	Monitoring and evaluation of noise mitigation and compensation schemes	Final report to DfT and Defra; summaries to other stakeholders, such as CAA ERCD
4.3.5	Monitoring of landing charges to assess whether and how environmental costs are incorporated, plus evaluation of impact on airline behaviour	Final report to DfT and Defra; summaries to other stakeholders, such as CAA and airlines

4.4	Economic and Social Policies	
4.4.1	Development of methodology to identify impacts of specific airport developments on local and regional economic activity	Final report to DfT, HM Treasury, HM Revenue & Customs and CAA, with feedback; summaries to other stakeholders
4.4.2	Evaluation of impact of Aviation Health Unit on air traveller health and options for passenger health policy	Final report to members of Aviation Health Working Group, with forum
4.4.3	Monitoring of Route Development Funds and evaluation of impacts and value for money using selected case studies	Final report to DfT, English RDAs and Welsh Assembly Government; summaries to other stakeholders
4.4.4	Monitoring of use of PSOs and impact evaluation of their effects on the regions they are intended to benefit	Final report to DfT and key stakeholders, such as RDAs; summaries to other stakeholders
4.4.5	Evaluation of the impact of the policy to promote Centre of Excellence for aircraft maintenance outside the South East, including labour market evidence on supply of and demand for skilled engineers	Still to be determined
4.4.6	Evaluation of the impact of the levy on protecting air traveller interests and improving the solvency of the Air Travel Trust Fund	Final report to DfT, CAA and HM Treasury; press release on CAA website
4.5	Airport Development Policies	
4.5.1	Monitoring of progress in producing airport master plans and evaluating their impact, for example in spreading 'best practice' between airports	Final report to DfT and CLG; summaries to stakeholders, such as CAA and airport operators.
4.5.2	Monitoring how airports have produced policies to improve surface access and public transport use and assessing how these policies have impacted on, and increased, public transport mode share	Final report to DfT and CLG; tailored summaries to key stakeholders, such as airport and

		transport operators.
	Higher Level Objectives	
	To increase the contribution of air travel to our national and regional prosperity, providing additional capacity where it is needed	To be published by DfT
	To make best use of existing airports, to minimise need for airport development in new locations	To be published by DfT
	To reduce the adverse local impacts of airport developments	To be published by DfT
	To internalise the external costs of aviations	To be published by DfT
	To increase the opportunities for people to benefit from air travel	To be published by DfT

7. Conclusions

7.1. The Evaluation Framework: A Summary Table

Table 7.1 lists in summary form the specific policies and impacts to be evaluated, monitored or assessed, the specific objectives, and where appropriate the counterfactuals and key evaluation questions.

7.2. Concluding Comments

This Report provides a framework for the implementation of the DfT's commitments to evaluate the 2003 Air Transport White Paper (ATWP) and its associated policies. It is written mainly for those who will be commissioning the evaluations but will also be of interest to prospective future evaluators and to the aviation industry and other stakeholders with aviation policy interests.

The ATWP "sets out a strategic framework for the development of airport capacity in the United Kingdom over the next 30 years, against the background of wider developments in air transport". This framework is expressed in terms of Government preferences for specific airport developments and also addresses local and global environmental impacts of airports and of air travel.

The ATWP identifies seven high level objectives for air transport policy. These are:

- § to increase the contribution of air travel to national and regional prosperity, providing additional capacity where needed;
- § to make best use of existing airports, to minimise the need for airport development in new locations;
- § to reduce the adverse impacts of airport developments;
- § to internalise the external costs of aviation;
- § to increase the opportunities to benefit from air travel;
- § to respect the rights and interests of those affected by airport development; and to provide greater certainty for all concerned in the planning of future airport capacity.

The objective of the evaluation programme is partly to demonstrate accountability, but more important is the objective of providing information for government, for the aviation industry and other stakeholders to inform and improve aviation programme management and policy debate.

The evaluation framework is concerned with the implementation of the ATWP and ATWP Progress Report priorities, but not with re-appraisal of specific airport development priorities identified in the ATWP, nor with private sector responsibilities, such as the costs of new airport developments.

The framework is concerned with evaluation of individual policies and with achievement of the higher level objectives. It includes some activities that can best be described as monitoring and some others as impact assessment, rather than full

evaluation. It is mainly confined to policies in which DfT is in the lead. The framework deals with both evaluation of administrative processes and evaluation of policy impacts.

The key policy to ensure that users pay the external costs of aviation in the future is the extension to aviation of CO₂ emissions trading. Evaluation of this should include process evaluation of negotiations over the extension. Subsequent impact evaluation by the European Commission of the impact of emissions trading on emissions of greenhouse gases from aviation should be encouraged. The policy of encouraging offsetting should be evaluated by Defra.

ATWP policies and other activities to reduce local environmental impacts of airports include local air quality measures, introduction of non-statutory compensation schemes, noise control schemes, noise mitigation and compensation schemes, and greater incorporation of environmental costs into landing charges. All should be monitored and their impacts assessed.

Some ATWP policies will impact on economic welfare in the regions. These include Route Development Funds, introduction of Public Service Obligations for London runway slots to safeguard services to the regions, and encouragement of Centres of Excellence for aircraft maintenance in the regions. Progress in regard to all should be monitored, with impact evaluation to assess whether they provide value for money.

An important objective of government is that airports contribute to economic activity in the regions where they are located. A first step in assessing this is to develop a clear methodology to identify the impact of airports on productivity – this is work that the Department has in hand. Once this methodology has been developed then it will be possible to assess the impact of particular airport developments on the regions that they serve.

A major component of the ATWP was that airports be required to produce master plans. Progress in producing the plans should be monitored, as should their success in spreading ‘best practice’ between airports. A further ATWP requirement is that airports produce clear policies to improve surface access and increase public transport mode split. Progress in doing so, as well as actual impacts on surface transport mode split at particular airports, should be monitored and evaluated.

High level evaluation is proposed of progress towards achievement of the ATWP high level objectives. Also proposed is evaluation of the impact of the ATWP in providing a strategic framework for the development of airport capacity and thereby increasing certainty for stakeholders in the industry and for air transport users. Progress towards achieving higher level objectives should draw on the results of the monitoring and evaluation of relevant specific ATWP policies. The Department should also collect key indicators of achievement for each of the higher level objectives and take a continuing lead responsibility for their collection and publication.

Evaluation of the impact of publishing government views on airport development should concentrate on the value of providing a framework within which mainly private

sector decisions (by airports and airlines) can be made in such a way as to minimise adverse environmental consequences of the air transport industry and make best use of airport capacity. In particular, this evaluation should examine how publication has influenced airport operators' behaviour with respect to airport development and how it has influenced the behaviour of other stakeholders.

Much of the proposed work will need to be contracted out, but some would appear to be better carried out in-house. In most cases close coordination will be essential between different specialist and policy teams within the Department. Recent moves by the Department's Procurement Team to establish panels of consultants with particular skills may provide a framework within which individual contracts can be let.

Dissemination should be a central feature of any evaluation programme. This is discussed, with recommendations.

**Table 7.1
Summary of Evaluation Framework**

Policies or issues	Key evaluation question(s)	Methodology/ Counterfactual(s)	Data Requirements	Key Evidence Gaps
Specific policies promoted in the ATWP and ATWP Progress Report				
<u>Climate change policies</u>				
Emissions trading	What lessons can be learnt by the Government’s handling of negotiations regarding aviation emissions trading? What are the impacts of aviation emissions trading? (Evaluation by EC)	Administrative process evaluation of negotiations. Impact evaluation and qualitative evaluation of trading scheme	Details of negotiations and policy progress from interviews Experience using the scheme and transaction log data	

Offsetting	What has been the progress of Government offsetting policy? (Monitoring by Defra) How do the policies work, and what are the impacts? (Evaluation by Defra)	Monitoring of progress Impact evaluation of Government action	Details on policy progress Time series data on levels of offsetting	Data on levels of carbon offsetting in the UK for businesses and individuals
Voluntary industry targets and monitoring	What targets are monitoring exist? Has industry met agreed targets and are they monitored?	Monitoring of progress	Details on voluntary targets and monitoring from interviews	Details on industry targets and whether or not they have been met
<u>Local and general environmental policies</u>				
Local air quality	What has been the progress in technological and operational improvements? What has been the progress in international emissions standards?	Monitoring of progress	Interviews with airport and aircraft operators Interviews with Government officials involved in negotiations with ICAO	Details on technological and operational improvements
Non-statutory compensation	Have schemes been implemented? Have schemes been effective?	Monitor progress in implementing schemes and experience with schemes	Details on schemes and outcomes	Data on non-statutory schemes needed from airport operators

Policies or issues	Key evaluation question(s)	Methodology/ Counterfactual(s)	Data Requirements	Key Evidence Gaps
Measures to clarify and strengthen noise control powers	<p>Have noise control powers been used?</p> <p>What has been the impact of the Civil Aviation Act and new night noise regimes on noise?</p>	<p>Monitor policy progress</p> <p>Impact evaluation on noise levels</p> <p>'No ATWP and no 2006 Act' counterfactual</p>	<p>Details of noise controls at individual airports, over time.</p> <p>Mix of aircraft at individual airports</p> <p>Time series noise contour data, spanning pre- and post-implementation of Civil Aviation Act 2006</p>	<p>Potential noise and night noise data gaps for some UK airports</p>
Noise mitigation and compensation	<p>Have Government expectations been implemented?</p> <p>Have schemes impacted on noise exposure?</p>	<p>Monitor scheme and impact evaluation</p> <p>Separation of pre-ATWP scheme impacts</p>	<p>Practice prior to ATWP</p> <p>Time series data on numbers of households assisted with relocation or insulation</p> <p>Time series data on noise levels</p> <p>Details of other mitigation schemes</p>	<p>Impacts of mitigation measures, e.g. insulation and quiet rooms</p>

Differential landing charges	Do landing charges in the UK reflect noise and emissions costs? What have been the impacts?	Monitor policy progress Qualitative evaluation of airport's' approaches Impact evaluation	Details of charges at individual airports CAA / operators' papers setting out empirical basis for charges Discussions with CAA / operators to understand methodology used Traffic movements, emissions and noise levels	Detailed data on movements, emissions levels and noise levels by aircraft type needed from airport operators
<u>Economic and social policies</u>				
Impact of airport development on local economic activity	How might airport development impact on local economic activity? Is there evidence that specific airport developments led to economic growth and why? What lessons can be learned?	Impact evaluation of specific airport developments	Detailed employment and local income statistics Investment, tax revenue and trade statistics	Possible economic data constraints at local UK levels
Protection of air traveller health	Is the CAA AHU the best use of resources for protecting health?	Administrative process evaluation	Details of AHU operations and impacts Health risks for travellers	Information on aviation health issues

Policies or issues	Key evaluation question(s)	Methodology/ Counterfactual(s)	Data Requirements	Key Evidence Gaps
Route Development Funds	Have RDF schemes been effective and why? Have they delivered value for money?	Impact evaluation of RDFs Cost-benefit analysis Appraisal framework	Data collected by RDA for monitoring purposes, including passenger numbers and journey purpose; funds distributed; routes funded; direct employment; Qualitative data on business and tourism impacts	Potentially inconsistent data across RDAs on employment, tourism and business impacts
PSOs to improve regional access to London	Have PSOs been effective?	Update commercial and economic appraisal	Passenger numbers, journey patterns, and qualitative data on business and tourism impacts	Potential gaps where not data not collected at appraisal stage
Promotion of aircraft maintenance away from the South East	Still to be determined	Still to be determined	Still to be determined	Still to be determined
Air Travel Trust Fund Levy	Have policy reforms been effective in replenishing the ATTF?	Monitor progress	Details of ATTF funding	
<u>Airport development policies</u>				

<p>Airport Master Plans</p>	<p>Have airports produced good quality master plans? Have master plans provided information to stakeholders? Have master plans been used in local development plans?</p>	<p>Monitoring evaluation of master plan features 'No master plan' and 'no ATWP policy' counterfactuals</p>	<p>Master plan details Effects of master plans on planning</p>	<p>Use of master plans by stakeholders and developers</p>
<p>Improving surface access</p>	<p>Do development proposals demonstrate achievement of modal shift objective? Have adequate proposals been produced? What actually happened to mode share after development took place and why?</p>	<p>Monitoring evaluation</p>	<p>Time series mode split data by airport Surface access proposals detailed in master plans and planning applications Mode split forecasts Modelling methodology and assumptions used to forecast mode split</p>	<p>Data needed from airport operators on forecast mode split</p>

Policies or issues	Key evaluation question(s)	Methodology/ Counterfactual(s)	Data Requirements	Key Evidence Gaps
<u>High Level Evaluation</u>				
<u>Impact of Publication of ATWP</u>				
The impact of publishing airport development preferences	Have airport developments been delivered earlier because of the ATWP? Effect on sites excluded from development proposals? What impacts on airport development costs? Other impacts – e.g. ATM?	Policy evaluation	Planning data (length of airport planning inquiries, pre- and post-ATWP) Discussions with planning officials and airport operators to understand inquiry costs Forecast impacts of developments Property values	Evidence on inquiry details and costs, and the forecast impacts
<u>ATWP Aviation Policy Objectives</u>				
To increase the contribution of air travel to our national and regional prosperity	To what extent have these five ATWP objectives of aviation policy been met? What have been the main drivers and constraints?	Investigative monitoring Consolidation, for each high level objective, of relevant specific studies with additional aggregate data.	Gross Value Added for aviation (regional, national) - ONS Mode share for cargo – CAA Business trips – CAA, ONS Employee data – ONS, market reports	Areas for research include GVA and employment
To make best use of existing airports			Passenger & ATM data - CAA,	Possible gaps include details on terminal and

Policies or issues	Key evaluation question(s)	Methodology/ Counterfactual(s)	Data Requirements	Key Evidence Gaps
High Level Evaluation				
Impact of Publication of ATWP				
			Delays - CAA / Eurocontrol Declared terminal capacity - Airports Declared runway capacity – Airports, ACL	runway capacity
To reduce the adverse local impact of airport developments			Noise indicators – Defra, EIAs Noise contours - Airports Local Air Quality - Airports, Defra Property prices - Land Registry, CLG surveys Mode Split - Individual Airports Health impacts	May be some gaps for individual airports, and health impacts are an area for research
To internalise the external costs of aviation			Relationship between tax revenue and climate change costs – ECAs Emissions trading regime - EC	
To increase the opportunity for people to benefit from air travel			Passenger characteristics – CAA, ONS	Key evidence gaps include details on accessibility

Policies or issues	Key evaluation question(s)	Methodology/ Counterfactual(s)	Data Requirements	Key Evidence Gaps
<u>High Level Evaluation</u>				
<u>Impact of Publication of ATWP</u>				
			Fares Data - ATPCO Accessibility – CAA, individual airports	

Appendix A. Literature and Information Review

This review follows an examination of the following sources and an assessment of their relevance to an ATWP evaluation framework.

- § Texts on “Theory-based evaluation” and “realistic evaluation”;
- § Evaluations and evaluation guidance;
- § Documents prepared for the ATWP and for its preceding consultation and subsequent Parliamentary debate;
- § Government actions following the ATWP; and
- § International experience.

Almost all the documents reviewed are available on the internet. Some other documents were made available by DfT during a visit at which the DfT provided access to the Department’s relevant databases.

A.1. Texts on “Theory Based Evaluation” and “Realistic Evaluation”

A.1.1.Seminal Texts

Seminal texts in this field include the following:

Chen, H.T. (1990) *Theory-driven Evaluations*, London, Sage

Guber, E.G. and Y.S. Lincoln (1993) *Fourth Generation Evaluation*, London: Sage. This began the debate on “creating understanding” and focuses on the themes of “illuminative evaluation” and “truth for you” (with an emphasis on qualitative analysis) and an emphasis on accountability evaluation.

Pawson, R and N. Tilley (1997) *Realistic Evaluation*, London: Sage. This book launched the term realistic evaluation. Two subsequent papers by Pawson, published in the journal *Evaluation* in 2002⁷², are simpler and more to the point and the main basis for the exposition below on “What is realistic evaluation?”.

Patton, M.Q. (1986) *Utilisation Focused Evaluation*, London: Sage. This focuses on utilisation i.e. giving meaningful answers to pressing questions in real time – importance of the question ‘what’s it for?’

Weiss, C.H. (1983) “The stakeholder approach to evaluation: origins and promise”, in: Bryk, A.S. (ed) *Stakeholder-based Evaluation*, San Francisco, CA, Jossey-Bass, pp. 3-14. Weiss’s work relates to all the other references and focuses on the importance of the audience for the evaluation (e.g. CBA might be acceptable to economists but not necessarily to other stakeholder groups). This points to multiple questions and multiple methodologies.

⁷² See footnote 42 below,

Weiss, C.H. (1998) *Evaluation: Methods of Studying Programmes and Policies* Prentice-Hall. Highly rated reference with well balanced approach

A.1.2. What is realistic/ theory driven evaluation?

Tilley (2000)⁷³ describes ‘realistic evaluation’ as a “species” (and presents it as a development rather than a sub-set) of theory-driven evaluation.⁷⁴ It asks the question “what works for whom in what circumstances?”. This he compares with traditional experimentation, which asks “what works?”. In realistic evaluation the assumption is made that outcomes depend vitally on the conditions surrounding the outcome (i.e. the context and mechanisms). Evaluations should identify successful and unsuccessful configurations of mechanisms and contexts, to test theories about what combinations work, rather than identifying successful and unsuccessful programmes themselves.

In his 2000 presentation, Tilley identifies the following questions that need to be asked in any realistic evaluation:

- § How is the outcome achieved in a given context? (i.e. by what ‘mechanisms’?)
- § What conditions are needed to achieve the outcome using the mechanisms? (i.e. what ‘context’?)
- § What are the impacts when the particular contexts and mechanisms are combined? (i.e. what is the ‘outcome’?)
- § How does the outcome change if the context or mechanisms are changed?

Pawson (2002b)⁷⁵ broadens the debate in describing how a database of past evaluations can be used to produce policy lessons. From such a database he suggests that “Meta-analysis performs calculations to reveal ‘best buys’ ... Narrative review delivers text to understand ‘exemplary cases’ ... Realist synthesis delves into inconsistencies to build ‘programme theories’.”⁷⁶ In other words, realist synthesis of a group of programmes should not focus solely on numerical results or on the most successful outcomes, but instead examine the context and mechanisms behind the programmes so as to develop theories of *what works for whom in what circumstances*.

⁷³ Tilley, N. (2000) “Realistic evaluation: an overview”, Presented at the Founding Conference of the Danish Evaluation Society, September 2000. Available at: <http://www.danskevalueringsselskab.dk/pdf/Nick%20Tilley.pdf>.

⁷⁴ Theory-driven evaluation is defined by the Tavistock Institute as an “evaluation approach that embodies a core theoretical framework which is used to test whether an intervention has had an impact and in what ways.”

⁷⁵ Pawson, R. (2002b) “Evidence-based policy: the promise of ‘realist synthesis’ ”, *Evaluation*, Vol. 8(3), pp.340-358. This article accompanies Pawson, R. (2002a) “Evidence based policy: in search of a method”, *Evaluation*, Vol.8(2), pp.157-181.

⁷⁶ Pawson (2000b), p.346.

A.1.3. Applying realistic/ theory driven evaluation to ATWP policies

The general principles behind realistic/ theory-driven evaluation are presumably uncontroversial (despite considerable controversy in the social policy context about exactly what they mean in practice) and they are relevant to any public policy evaluation.

There is limited scope for ‘realist synthesis’ (i.e. using past evaluations to develop theories), there being very little in the way of past evaluations in fields relevant to the ATWP.

However there are many areas where the main focus of the evaluation needs to be not on “how is the world different”, but on the mechanisms whereby the policy had an impact in its particular context.

As an example, say that the ATWP policy on airport master plans encourages some airports to publish master plans, whilst other airports have still not produced a satisfactory plan. A realistic/ theory-driven approach implies going far beyond recording whether or not the ATWP policy has *worked* in this sense, to identify why it worked or did not work for individual airports (i.e. identify the incentive mechanisms) and identify the contexts where the policy was successful or unsuccessful (e.g. size of airport, budgetary issues, technical difficulties, policing of the policy). The resulting analysis should then provide theories about the mechanisms and contexts promoting success and why, and how these can be further promoted.

A.2. Documents Prepared for or about the ATWP

The ATWP was underpinned by a massive research programme. This includes detailed modelling and appraisal of a wide range of airport development options that formed part of the seven regional air studies prepared for the consultation preceding the ATWP. Many of the papers deal with very specific issues such as the risk assessment of flooding at Edinburgh and Glasgow airports; and surface access at Birmingham airport and whether its rail mode share can be increased. However the evaluation programme is not concerned with assessing the accuracy of these studies, nor with questioning the government’s conclusions on airport development priorities. The documents are useful for this study only insofar as they:

- § provide assessments of impacts which may inform the evaluation;
- § in some instances provide methodologies for measuring impacts that may be adopted in the evaluation;
- § provide information that may be used to construct a counterfactual; or
- § review the state of aviation data prior to the ATWP, and thus inform our review of available data.

The same qualification applies to the large volume of consultation documents. We do not see the consultation documents as generally of value for evaluation except, again, in the limited instances noted above.

The reviewed documents included the main Commons debates. These were of value in identifying public and Parliamentary concerns, which would seem to be an important factor in the design of the evaluation programme.

Some studies that are fairly generic in nature and, prima facie, of potential value for future evaluations are summarised in Table A.2. All are published by the Department for Transport except the first, on the assessment and management of noise, which is published by the Department for Regional Development in Northern Ireland.

All were supporting documents for the ATWP except for the last, on air quality, which was a background document for the consultations.

Table A.1
Papers of Potential Value to the Evaluation Programme

Title (and link)	Author	Date	Contents
A Good Practice Guide to the Assessment and Management of Noise Nuisance	Manchester Metropolitan University	Jul 2003	Provides a good practice guide to the management of aircraft noise. It provides a framework that enables airport operators to benchmark themselves with respect to nuisance, also provides guidance for stakeholders of airports for the issue, introduces also the issue in general, its effects and regulation.
Report of the inter-departmental working group on the training of aircraft maintenance engineers	Inter-departmental working group	Feb 2004	Aims at identifying and quantifying the problem in detail. It sets out a database with the number of maintenance engineers, which provides the basis for future work on the topic and it will allow making comparisons to other countries. It is noted that ultimate responsibility lies with the industry, but suggestions are made on how to deal with the problem.
Air Quality Assessments Supporting the White Paper	DfT	Dec 2003	Models the local impact of emissions, focus on NOX and South East airports, using existing models and revising and adapting them. Emissions around Heathrow are projected to exceed tolerance levels by 2010, other airports believed to be of no major concern.
Aviation and Global Warming Report	DfT	Jan 2004	Analyses the contribution of aviation to global warming up to 2030; takes into account likely technological advancements; puts total UK emissions into context with that of the aviation industry; analyses the impact of air travel growth on emission levels.
Aviation Core Cities and Regional	Ove Arup & Partners Ltd	Dec 2003	Impact of aviation on the UK economy and the corresponding prospects for the economic development of regions, with emphasis on the role of air connectivity for a region and the means by which governments can intervene (airport subsidies).

Title (and link)	Author	Date	Contents
<hr/>			
Economic Development			
ERCD Report 0307 and ERCD Report 0308	CAA	Dec 2003	The documents, by the CAA Environmental Research and Consultancy Department, are updated studies of aircraft noise predictions for Heathrow, Gatwick, Stansted, Luton, Birmingham and Manchester airports. Methodology and data have been updated since 2002.
Air quality at UK regional airports in 2015 and 2030	DETR	undated	Determines the impacts of postulated airport growth scenarios on air quality in the vicinity of 23 UK regional airports, as judged against the objectives in the Air Quality Regulations 2000, focusing on the pollutants NO2 and PM10.
<hr/>			

A.3. Government Implementation of White Paper Policies

Clearly relevant to the evaluation programme are the Civil Aviation Bill and the Act when it materialises and many current documents that are specific to particular policies included in the evaluation programme. Below is a very brief summary of the Bill and examples of policy specific documents.

The Civil Aviation Bill was introduced to Parliament in June 2005. It covers topics including aircraft noise and local emissions, the Air Travel Trust Fund, public airport operators, CAA's Aviation Health Unit and Route Licences.

Provisions particularly relevant to the evaluation programme include those on charging and regulation of noise and local emissions impacts.

The Bill contains provisions to:

- § Clarify and strengthen the measures available to airports for dealing with aircraft noise. This includes a greater ability to introduce and enforce noise amelioration measures beyond airport boundaries and an ability to take economic measures to reflect aircraft straying from routes designed to minimise noise. The Bill gives airports the power to introduce noise regulation schemes that might, for example, prohibit the use of certain types of aircraft, specify the number of maximum allowed take-offs and landings of certain types of aircraft, and impose penalties for airlines that do not comply with these requirements.
- § Make explicit the powers of airports to set charges which reflect local emissions from aircraft. The Secretary of State would also have powers to direct them to levy such charges.

The Department published guidance in 2003 on the preparation of **Airport Master Plans**.⁷⁷ Airport operators were asked to prepare master plans in accordance with these guidelines, reflecting the development proposals in the ATWP, by the end of 2005. They are intended to keep stakeholders and governmental bodies informed about future development intentions.

All airports wishing to bring forward major developments, and any others that are forecast to handle 20,000 air transport movements a year by 2030, were asked to prepare master plans. The guidance includes a list of thirty airports that fulfil these conditions.

Master plans should address the following issues.

- § Forecasts (up to 2030);
- § Infrastructure proposals (dates and key thresholds, layout plans, airside and landside development plans); these can include alternative options;
- § Safeguarding and land/property take (especially long-term land requirements);

⁷⁷ http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_031530.hcsp

- § Surface access initiatives (long-term strategies up to 2030, especially if any public money is to be involved)
- § Impact on people and environment (identification and quantification of positive and negative impacts)
- § Proposals to minimise and mitigate impacts

The guidance proposes that master plans should be revised around every five years.

The master plans are not however statutory documents and do not have the status of regional development strategies.

The Department has published a national protocol and appraisal framework diagrams⁷⁸ for **Route Development Funds**, for the provision of pump priming for new routes to and from peripheral areas.

On **night noise regimes** for Heathrow, Gatwick and Stansted the Department is currently consulting.

A.4. International Experience

A.4.1. Overview

This section reviews aviation evaluation experience in Canada, Australia, the United States, New Zealand and Sweden, to the extent that it may be relevant to the development in the UK of an evaluation framework for the ATWP. For each country the note records the government body responsible for aviation policy, and outlines its practice in impact assessment and evaluation and its airports policy.

In most of these countries policy evaluation is fairly widely practiced in transport and in some cases it has extended to aviation. However these latter cases appear to have been focused on financing and administrative process issues, and to have touched only occasionally on some impacts.

Although some of the countries have an explicit, integrated airports policy, there does not appear to be any circumstance similar to that of the UK ATWP, in which central government has given a steer towards an airport expansion programme by privately and municipally owned airports; nor does there appear to have been any significant evaluation of airport environmental impacts.

A.4.2. Canada

A.4.2.1. Responsibility for Aviation Policy

The government department Transport Canada (www.tc.gc.ca) is responsible for transport policies, regulations and services.

⁷⁸ http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/divisionhomepage/611954.hcsp

A.4.2.2. Practice in Impact Assessment and Evaluation

Departmental Evaluation Services sits within Transport Canada with a mission to:

- § advance the use of evaluation and results-based management;
- § provide relevant and high quality services and information to all groups and regions in Transport Canada.

They describe evaluation as follows:

“Evaluations provide accurate, objective and evidence-based information to help managers make more effective decisions on their policies, programs and initiatives. In doing so, evaluation studies play a key role in providing focused and measurable results for Canadians.

“Evaluation studies provide essential information on the impact of a policy, program or initiative, including the extent to which they are:

- § *Relevant – is it consistent with departmental and government-wide priorities and does it realistically address an actual need?*
- § *Successful – is it effective in meeting its objectives, within budget and without unwanted outcomes?*
- § *Cost-effective – are the most appropriate and efficient means being used to achieve its objectives, relative to alternative design and delivery approaches?*

A.4.2.3. Airports Policy

In 1994 Transport Canada published a National Airports Policy for transferring airports into private operation or ownership. Transport Canada retained ownership of the twenty six Canadian airports that form the National Airports System (NAS). These are airports with more than 200,000 passengers a year or with important regional significance. They were leased for sixty years to not-for-profit operators. Transport Canada divested the smaller airports, which were typically transferred to municipal ownership. It also privatised civilian air traffic services through the establishment of a not-for-profit company NAV Canada.

The Office of the Auditor General of Canada conducted an audit of the NAS in 2000, and again in 2005. In its 2005 report it stated that Transport Canada had almost concluded the National Airports Rent Policy Review, which would allow it to assess the financial impact of the transfer of the airports in the NAS. The review would determine, among other things, the impact that rent charges had on the viability of the airport authorities and air carriers, and on the government's finances. It would also determine whether the current rent policy was fair to the taxpayers, users, and airport authorities.

According to the Auditor General 2005 report, Transport Canada did not measure the airports' performance, with the exception of financial performance. The

Department had not yet identified the areas it needed to measure and has no approved framework showing how it would measure performance.

In 1999 Transport Canada prepared a framework for evaluating the NAS. The framework described how the Department proposed to assess the financial impact of the transfer of the NAS airports and the impacts on service and security. As of early 2005, the evaluation had not started. The Department had wished to delay the evaluation until after proposed legislation on airports had been adopted by Parliament. The updated evaluation framework would examine the impacts of the legislation and the impact of the National Airports Rent Policy.

The most relevant recent air sector evaluations conducted by Transport Canada are:

- § Evaluation of the Airports Capital Assistance Program (ACAP) 2004; although this program is concerned with funding developments, the study took the form of a process evaluation – it did not examine impacts of the development;
- § Evaluation of the Non-NAS Airport Divestiture Program; this evaluation focused on accountability issues and on developing key lessons learned from the program to apply to future government commercialisation initiatives

A.4.3. Australia

A.4.3.1. Responsibility for Aviation Policy

The Department of Transport and Regional Services (DOTARS) (www.dotars.gov.uk) is responsible for aviation.

A.4.3.2. Practice in Impact Assessment and Evaluation

The DOTARS Bureau of Transport and Regional Economics (BTRE) provides information and analysis including economic analysis and has conducted a number of appraisals and evaluations. It conducted an ex post evaluation of road investment policies, where the cost-benefit analyses used to justify the projects are revisited ex post. It has conducted a number of programme evaluations, for example a mid-term evaluation of the Sustainable Regions Program, an evaluation of the Natural Disaster Mitigation Program, and an evaluation of the Bushfire Mitigation Program. These evaluations are designed to assess the effectiveness of and value for money from government funding.

It monitors aviation statistics on aviation traffic, safety and performance.

It does not use the term “evaluation” consistently to refer to ex-post assessment. For example, it labelled as “evaluation” an assessment of impacts of high speed rail services, that formed part of a scoping study for high speed rail.

A.4.3.3. Airports Policy

The 1996 Airports Act provided a framework for the regulation of the twenty two leased federal airports in Australia. DOTARS conducted a review of the Act in 2005,

including examination of sixty one submissions from various bodies and individuals. It found that, generally, the Act was working reasonably well. It put forward certain amendments to the legislation, including amendments to clarify the purpose and expectation of airport master plans and the relationship between master plans and major development plans. The review was not however a formal evaluation, and did not have a counterfactual.

A.4.4. United States

A.4.4.1. Responsibility for Aviation Policy

The Federal Aviation Administration has a wide remit for aviation, including economic regulation, safety regulation, encouraging new aviation technology, operating air traffic control, and carrying out programmes to mitigate noise and other environmental impacts.

A.4.4.2. Practice in Impact Assessment and Evaluation

The FAA publishes guidance on cost-benefit analysis and more general analysis of investment and regulatory decisions.⁷⁹ It also has dedicated staff to conduct evaluations of FAA agency programmes, processes and systems. These tend to be process evaluations, providing an objective assessment of how well a programme, process, or system is operating. They do not include the evaluation of impacts. The most recently published reports concern:

- § Evaluation of Effectiveness of Risk Management Practices within the Federal Aviation Administration
- § Best Practices for the Configuration Management of Commercial Off-The-Shelf and Non-Developmental Items in the National Airspace System
- § Evaluation of the Federal Aviation Administration National Purchase Card Program's Administration and Internal Controls
- § Review of the Center for Advanced Aviation System Development (CAASD) efficiency and effectiveness
- § Benefits Assessment of the Integrated Terminal Weather System
- § Evaluation of the National Airspace Redesign and Precision Runway Monitor Programs in the Operational Evolution Plan Version 5.0

A.4.4.3. Airports Policy

The FAA and the Department of Transportation established in 2000 a National Plan of Integrated Airport Systems (NPIAS). NPIAS identifies more than 3,300 airports that are significant to national air transportation and thus eligible to receive Federal grants. Federal grants are distributed under the Airport Improvement Program (AIP) to public entities and private bodies that are operators of public-use airports . The

⁷⁹ http://www.faa.gov/regulations_policies/policy_guidance/benefit_cost/

NPIAS provides estimates of the amount of AIP money needed to fund infrastructure development projects that will bring these airports up to current design standards and add capacity to congested airports. FAA is required to provide Congress with a 5-year estimate of AIP eligible development every 2 years.

The FAA conducted a cost-benefit analysis of the AIP in 1999, prior to its launch. There appears to be no suggestion that the AIP will be evaluated.

A.4.5. New Zealand

A.4.5.1. Responsibility for Aviation Policy

The Ministry of Transport is responsible for setting transport policy. The Civil Aviation Authority of New Zealand is primarily concerned with air sector safety.

A.4.5.2. Practice in Impact Assessment and Evaluation

Land Transport New Zealand has evaluation procedures and publishes guidance. There do not appear to be equivalent procedures for air transport.

A.4.5.3. Airports Policy

The New Zealand Government published a New Zealand Transport Strategy in 2002 for the period until 2010. Although the air sector is not excluded from the strategy, coverage of aviation appears to be limited to aviation security.

There appear to be no recent policies or legislation that are in any way comparable to the major policy developments represented by the ATWP.

A.4.6. Sweden

A.4.6.1. Responsibility for Aviation Policy

The Ministry of Industry, Employment and Communications is responsible for transport policy, including aviation.

The Swedish Civil Aviation Authority (Luftfartsstyrelsen), is responsible for regulations and inspections. It supervises, analyses and evaluates the development of the civil aviation sector and providing expertise on issues such as physical planning, the environment, emergency planning and contingency planning.

The Swedish Civil Aviation Administration (Luftfartsverket) manages state-owned airports and air traffic control.

A.4.6.2. Practice in Impact Assessment and Evaluation

The Swedish Institute for Transport and Communications Analysis (SIKA), is an agency responsible to the Ministry of Industry, Employment and Communications. It has three main areas of responsibility in the transport and communications sector:

§ To carry out studies for the Government;

§ To develop forecasts and planning methods;

§ To be the responsible authority for official statistics.

It has carried out a number of evaluations in different areas, for example of the Stockholm road toll. However there is no clear evidence of evaluation in the air transport sector.

A.4.6.3. Airports Policy

Sweden has an ongoing transport strategy of which aviation forms a small part. It does not have a prominent, self contained, aviation policy or strategy.

Appendix B. Department for Transport Business Plan Objectives

Delivery Objectives are set out in the Department's current Business Plan.⁸⁰ Those objectives that seem to apply to aviation are listed below. The numbering is from the Business Plan for the whole Department.

- 1.3 Work with regions and Local Authorities to ensure that transport planning supports and influences plans for productivity and regeneration, so that potential pressures on transport networks are addressed effectively
 - 1.3.2 Work with regions and Local Authorities to ensure that cost-effective longer-term transport planning in the South-East and Eastern regions both supports and influences housing and economic growth strategies
 - 1.3.3 Work with regions and Local Authorities to ensure that cost-effective longer-term transport planning in the North-West Yorkshire and Humber and North-East regions both supports and influences housing and economic growth strategies
 - 1.3.4 Work with regions and Local Authorities to ensure that cost-effective longer-term transport planning for the Midlands and South-West regions both supports and influences housing and economic growth strategies
- 1.7 Improve accessibility and inclusion
- 3.1 Improve the economic, regulatory and environmental regime that supports a sustainable UK aviation industry and a fair deal for passengers
 - 3.1.1 Deliver outcomes in air services negotiations and manage international aviation relations so as to benefit passengers and industry
 - 3.1.2 Improve the regulatory regime for aviation at national, EU and global levels in line with wider policy objectives
- 3.2 Work with the aviation industry to secure sustainable use of airport and airspace capacity and operations in line with the Government's 2003 Air Transport White Paper
 - 3.2.1 Promote better use of existing UK airport and airspace capacity and support delivery of sustainable airport expansion
 - 3.2.2 Support sustainable and resilient operations by the UK aviation industry

⁸⁰ DfT, *Delivering better transport: Priorities for 2007-08 and beyond*, April 2007
<http://www.dft.gov.uk/about/publications/priorities/busplan0708a>

- 3.2.3 Improve public and stakeholder understanding of the Government's ATWP policy
- 3.4 Work with DEFRA, DTI and internationally to deliver the joint PSA target for climate change and take forward the Department's strategy for tackling the environmental impact of transport in line with the Stern Review
 - 3.4.1 Improve strategy, planning and the evidence base for climate change policy in DfT
 - 3.4.2 Tackle the climate change impacts of transport through putting a price on carbon (tax, trading or regulation)
 - 3.4.3 Promote technological development and innovation to reduce carbon emissions from transport
 - 3.4.4 Tackle the climate change impacts of transport by removing barriers to behavioural change and promoting more environmentally-friendly transport
- 3.5 Work with DEFRA and other Stakeholders to deliver the joint PSA target for air quality to meet national air quality targets
 - 3.5.1 Deliver the Department's Air Quality targets (shared with Defra)
- 3.6 Maintain and improve safety in the rail, maritime and aviation sectors
 - 3.6.5 Ensure effective safety regulation of UK airlines, aircraft and air traffic control and promote improved levels of safety internationally
 - 3.6.8 Maintain and improve the current high standards of air accident investigation
- 3.7 Maintain and improve transport security and resilience
- 3.8 Influence international transport negotiations to achieve UK objectives for market liberalisation, improved environmental protection, consumer rights and better regulation
- 4.1 Improve the economic, regulatory and advisory regime that supports a sustainable UK logistics sector
- 5.1 Develop cross-cutting evidence and spending plans to achieve maximum value for money in achieving sustainable economic growth in line with the conclusions of the Eddington Transport Study and the Stern Review on the Economics of Climate Change

NERA

Economic Consulting

NERA Economic Consulting
15 Stratford Place
London W1C 1BE
United Kingdom
Tel: +44 20 7659 8500
Fax: +44 20 7659 8501

NERA UK Limited, registered in England and
Wales, No 3974527
Registered Office: 15 Stratford Place, London
W1C 1BE