



Local Government Association

Measuring the Local Impact of Tourism

**A Review for the British Resorts Association
and the Local Government Association**

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With honorary appointments as a Professor of Tourism at two universities in England and well known to BRA, LGA, DCMS and national and regional tourist boards, Victor Middleton is an independent management consultant with wide ranging interests in travel and tourism. As an author and academic of international standing, while his focus is primarily on the use of information for management decision purposes, measurement issues have been an underlying factor in much of his work

His involvement with tourism statistics dates back to 1968 when he was the first manager for research and planning at the British Tourist Authority. He chaired an industry led, government supported JICTOURS initiative (Joint Industry Committee for Tourism Statistics) in 1991/1992 that was lost in the ETB budget and staff cuts that succeeded the economic recession of the early 1990s. He was appointed as the UK Consultant to EUROSTAT in the process that led to the 1995 EC Directive on tourism statistics and in 1999 he undertook an analysis of the methods of measuring sustainable indicators at local level for the European Environment Agency. His previous report for BRA, *Measuring the Local Impact of Tourism*, was published in 1996 and widely endorsed. Its key findings were further endorsed in the DCMS Guidelines for local tourism statistics in 1998.

Victor Middleton was a member of the Market Research Society and the Royal Society of Statisticians when his work involved direct responsibility for research budgets.

Acknowledgements

This report owes its existence to the British Resorts Association (BRA), the Local Government Association (LGA) and the National Tourism Best Value Management Group who decided to have the measurement issues reviewed again at the end of 2001. Victor Middleton agreed to do the work with the help of an honorarium provided by the Best Value Management Group, and by making a voluntary contribution of his own time to the cause of better data. LGA, BRA, Peter Lane and Judith Barratt (Best Value Management Group), David James, Global Tourism Solutions (UK) Ltd. (STEAM) and Geoff Broom of Geoff Broom Associates (Cambridge) all provided helpful and much appreciated inputs to the review.

At the ETC/DCMS National Tourism Forum meeting on 10th April 2002, there was national recognition of the data deficiencies addressed in this report by ETC and DCMS and an industry subgroup that debated the issues on that day.

Post Publication Notes

Since issued in May 2002, a number of points have been raised. These are addressed in the additional Appendix III, "Author's amendments and corrections", which should be read in conjunction with the main text of the report.

Measuring the local impact of tourism

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1. Objectives of this report

The overall objective of this report is to review the findings of the 1996 Report for BRA (see below), six years on, in the light of the remarkable changes affecting UK tourism noted in Section 4. It was agreed with BRA, LGA and the National Tourism Best Value Management Group that this review would:

- Revisit the original report to establish what remains valid and what has changed for 2002 with an outlook period of around 3-5 years ahead.
- Review the recommendations in the light of the considerable changes since 1995.
- Evaluate the comparative data issues of direct concern to the Best Value Management Group.
- Consult with the main players using and providing information to verify the current position.

2. Background to the report

In 1995, reflecting the widespread lack of information and confusion that existed then among local authorities concerning the best ways to measure the local economic impact of tourism, BRA commissioned Victor Middleton to investigate, consult with the main players and evaluate the then available methods. At the time, the national tourist boards felt unable to offer support for the work and funding was achieved by contributions from a number of local authorities determined to have the issues examined. A report was published, *Measuring the Local Impact of Tourism*, and an article summarising the main findings was published in INSIGHTS in September 1996.

Recognising the importance of the issues addressed in the report, the then Department of National Heritage decided, with the tourist boards, to take the BRA report forward on their own terms and develop its recommendations. After a delay of some two years that included commissioning another (unpublished) report, DCMS issued Guidelines in 1998 (*Measuring the Local Impact of Tourism*), welcoming the earlier BRA initiative. The editorial group for the Guidelines comprised Paul Allin (DCMS), Geoff Broom and David James.

The 1998 DCMS Guidelines, prepared in collaboration with the two main providers of economic impact models, were a useful and welcomed contribution. Inevitably, because a Government cannot offer advice of a commercial nature and the position of the English Tourist Board was somewhat compromised because its Regional Boards had a contract with one of the model providers and generated revenue from it, the Guidelines addressed the key issues but avoided any clear action recommendations to assist local authorities in choosing between model options. Without such clear recommendations the Guidelines had only limited practical value to prospective users, few of whom have any statistical training to help them make the most effective and *best value* choice.

In 2002, as in 1996, although the English Tourism Council is now formally committed to the principles of better research for English tourism, they felt

unable to support this review financially. It is understood that ETC have since commissioned separate research relevant to the issues covered in this review and will publish their own Guidelines for local measurement later in 2002. It is hoped this review will be a helpful input.

3. Management Summary

The measurement of tourism for a local authority may be likened to assembling a jigsaw puzzle comprising many complex shapes from which no obvious immediate pattern emerges. Many of the key pieces are missing...

3.1 The 1996 report to BRA concluded that in the early 1990s, of some 500 local authorities in England, Scotland, Wales and Northern Ireland, only around 25 were then measuring local tourism regularly. Events were moving fast, however, with some 120 authorities using or considering the use of local models by mid 1996. The report predicted "it seems entirely possible that by the year 2000 up to 300 local authorities could be putting an average of around £3,000 a year into management information for tourism." The 1996 prediction was on target for numbers as at least half of all authorities are now measuring tourism annually or once every 3 years or so. Probably another 100 or so local authorities are currently perplexed by the decision they may well have to make in the next 12 months.

3.2 Driving the increased numbers measuring their tourism since 1996 are the newly created regional bodies that now advise and cajole local authorities and the growing pressure to meet government *Best Value* requirements which did not exist six years ago. Section 4 of this report notes 12 dimensions of change since 1996, cumulatively adding pressures for better measurement locally. The incidence of Foot and Mouth Disease in 2001 and the damage to the tourism economy in rural areas focussed politicians' minds on measurement issues as never before, pushing them up the national agenda.

3.3 *Plus ca change...* Changes in circumstances notwithstanding, local authorities' needs for management information about tourism are, in principle, exactly the same today as they were in 1996. The measurement options about which local authorities have to decide have not changed either and the level of confusion and uncertainty among local authorities having to decide which option to choose are also the same.

3.4 Most Authorities need to measure tourism for general PR and communication purposes but more specifically for decision and delivery purposes that range from:

- Marketing responsibilities.
- Planning and development responsibilities.
- Development of more sustainable tourism.
- Making bids for central and regional funds.
- Compliance with information demands from national and regional government.
- Devising effective visitor management plans for destinations and monitoring the results over time.
- Implementing their *best value* obligations.

In 2002, most local authorities recognise and pay lip service to these information based functions and obligations but cannot deliver them adequately.

3.5 Theoretically, it is possible and a highly attractive option to measure local tourism by disaggregating national data on volume and value into regional and local estimates. That way, the local, regional and national totals will always add up. In practice, however, with over 500 local authorities in the UK it is not possible to achieve what individual authorities need because the national sample sizes will always be too small to yield reliable trend data for decision purposes. See Sections 5.3 and 5.4.

3.6 Also theoretically, local tourism can be measured by commissioning visitor surveys. In practice, however, it is not and will not be affordable or technically feasible to measure the volume, value and impact of tourism around the year through regular local surveys of demand. See Section 5.3

3.7 In practice, as explained in Section 6, the only way to measure local tourism within acceptable cost boundaries is through the use of models. Using standardized processes within a framework established by estimates of volume, these aim to complete the jigsaw puzzle for each area by identifying key parts of the picture from the limited evidence available and filling in the gaps using a series of 'average' or imputed variables drawn from other sources. See Section 5.4.

3.8 In the UK, since the early 1990s, there have been two main model approaches at local authority level. Both models incorporate supply side and demand side measures but they start at opposite ends and ultimately must be judged by the approach from which they start and validate the estimation process. One adopts a 'top down' and the other a 'bottom up' approach to the estimation of tourism volume and these are radically different routes. The *top down* model, identified as the Cambridge Model, is funded, operated and marketed by the trading company established by England's Regional tourist boards (Unicorn). The bottom up model, identified and marketed as STEAM is a commercial operation owned and managed by Global Tourism Solutions (UK) Ltd.

Top down generates its estimates by disaggregating the data from the annual UKTS and other national surveys of consumer demand into first regional and then local authority estimates of the all important volume data. *Bottom up* generates its key volume estimates from sample surveys of visitor flows measured on a weekly and monthly basis at local businesses. Once the key estimates of volume are made, both methods follow broadly similar procedures for estimating revenue and calculating employment.

3.9 In summary, the CAMBRIDGE model provides a broad pattern of the volume and value of local tourism at the lowest available cost. To use the model, it is only necessary for a local authority to supply what it knows of its local database of accommodation capacity. But the Cambridge model results are a year to 18 months out of date when available and cannot provide acceptably reliable estimates or comparisons over time and between areas. As with STEAM a more collaborative approach with local businesses produces better calibration of the model and a better approximation of the true value of tourism.

3.10 In summary, STEAM costs more than Cambridge but it delivers more. It is calibrated directly from knowledge of local tourism and *provided that* a local authority works with the STEAM team to develop its supply side database and collaborates with local businesses, the data it produces will be acceptably reliable, timely and capable of comparison over time and between areas. Although the absolute numbers cannot be guaranteed, the direction of change in trends should be valid and reliable on a monthly, quarterly and annual basis as well as actionable in decision terms.

3.11 The author of this report was requested in 2002, as in 1996, to evaluate the issues in local measurement and make recommendations. In 1996 the jury was still out on which model to adopt. The models were relatively new, the number of users was small and the needs of local authorities (and demands upon them for information) were much less urgent and specific than they are now. Six years on it is possible to offer recommendations without equivocation. While other models may appear and be offered to users, they will utilise a methodology that is similar in principle to the options now available. In 2002 there are only two models with a track record and experience built up over several years. These are:

- CAMBRIDGE/UNICORN, which cannot produce reliable and comparable local trend results year on year because its volume and value estimates are always governed by the annual statistical variations that are part of any sample survey process and magnified in the disaggregation process of national survey data. The use of the Cambridge model has declined in the last five years.
- In the circumstances outlined in Sections 4 and 5 of this report, judgement indicates that STEAM can produce acceptably reliable and comparable local area results on a year on year, (or month by month or quarter by quarter) basis for a given local authority. The use of the STEAM model has grown rapidly in the last five years.
- Neither model claims accuracy in terms of absolute volume and value for its estimates and it is not possible to cite a plus or minus 'x' % level of confidence for the estimates produced by models of this type.

3.12 The cost of models currently ranges from around £1,500 to £4,500 a year depending on the model adopted, the type and size of the local authority or area, the level of detail required and the number of reports a year to be produced. Many local authorities still appear to consider that too much, even in destinations where tourism is among the top 3 elements of the local economy outside public sector services – and sometimes the only growth sector. No one appears to question the cost of bad decision-making based on ignorance.

The first estimates emerging from the National Tourism Best Value Management Group indicate that local authorities spent some £220 million in 2001 on tourism out of their annual revenue budgets. They do so because of the economic gains they plan to achieve. It must surely be

questioned, therefore, that a typical local authority, with an economic contribution of, say £250 million to £500 million a year generated from tourism, should balk at an annual research cost equivalent of funding say one public toilet or 25% of a secretary allowing for salary and overheads, and social welfare provisions. Research costs should, of course, be set against the potential gains of cost effectiveness and better value arising from access to improved information for making all the practical decisions noted in Section 3.4 above. It should also be set against the costs of making mistakes through lack of data or using misleading information.

4. Changes and developments since 1996

Since 1996 a remarkable series of changes, in what may appear superficially to have been a largely static situation, have influenced the local measurement of tourism and will continue to do so over the next five years. In addition, many of the personnel concerned at national, regional and local levels are in new posts or have changed jobs since 1996 so the situation is new to many managers (and memory of the last decade lost) even if the key issues remain essentially the same.

4.1 The devolution of tourism responsibilities to the Parliament in Scotland and the Assembly in Wales has created a new context within the UK against which local data has to be considered. This report focuses primarily on the issues for England where the establishment of Regional Development Agencies has created a new tier of government since 1999. To perform their strategic roles these new bodies require information on which to plan, target and monitor their objectives and measure their effectiveness. There is currently an often uneasy relationship in England between RDAs and RTBs and better information at local level is needed in all areas of tourism for case making and resolving possible disagreements on strategic directions. The information is vital for forging better collaboration between RDAs and RTBs.

4.2 The introduction by Government since 1997 of the *Best Value* process to assess all forms of local government funded services is changing the corporate culture and sense of urgency within which all aspects of such services are delivered and funded. There are increasing demands for information and expectations of performance and other management targets and indicators that most local authorities have difficulty in providing for tourism. Until 2000, tourism services were not a priority area for the application of *Best Value* procedures but the position is changing rapidly and tourism services are under increasing scrutiny from 2002 onwards.

4.3 A National Tourism Best Value Management Group was established in 1999 and, for the first time on this scale, is working to collect and disseminate comparable tourism related data from local authorities within broadly comparable destination categories. Some 150 mainly English local authorities are involved in submitting data in 2002 and, as they use different sources for the information provided, the issue of comparability and best practice in measurement methods has been highlighted as a key issue. The data collection and dissemination process is presently contracted to the Southern Tourist Board, which acts as an agent for the national group.

4.4 For valid statistical reasons UKTS methodology was subjected to major change in 2000. Unfortunately the changes made realistic year on year comparisons after 1998/9 very difficult at national and regional level and all but impossible at local level. At the end of March 2002, it was understood that ETC had devised a formula whereby results could be made broadly comparable by applying a multiplier to the data from 1995 to 2000 when the new methodology was first operated. No information on the methodology was available at March 2002 but judgement suggests that any data 'smoothing' will be applied only to overall national aggregates, not to regional and local variations that occurred over the

years. It seems inevitable that attempts to identify trend data between 1999 and 2002 using the Cambridge UKTS methodology will be too unreliable for local decision purposes.

4.5 The UK-wide context for measuring day and staying domestic tourism, still relevant in 1996, is becoming increasingly difficult to maintain following devolution. The International Passenger Survey of inbound and outbound tourism retains its former UK status and comparability but agreement on common survey methodological practice for domestic tourism in England, Scotland, Wales and Northern Ireland is now on a voluntary basis and there is hope, but no guarantee, that it will continue.

4.6 Destination Management Systems (DMS), based on on-line inventories of local accommodation and other tourism facilities and businesses, are being developed in 2002 throughout the UK, although not necessarily on a common basis. DMS development requires active participation by local authorities, and it requires them to develop up-to-date knowledge of the volume and details of local tourism resources such as accommodation types and capacity and visitor attractions. When operational, local DMS will provide direct on-line consumer access to each area's product stock – potentially revolutionising existing marketing practice for consumers, but inter-alia also providing on-line direct feed inputs for use in local statistical modelling processes.

4.7 On the supply side, by their nature, DMS systems will greatly facilitate the process of communicating with local businesses and will open up new business to business (B2B) links between public and private sector that are entirely relevant to better tourism measurement at local level. Trade surveys in the future should be greatly facilitated in this way.

4.8 EnglandNet is ETC's major government funded development project in 2002 that must interface with the development of DMS at local level – if the software infrastructure makes the links compatible. When the system is running, its outputs will be an essential element of market research and better supply side measurement.

4.9 Foot and Mouth Disease (FMD) in 2001 and the need to understand the impact of tourism at local level drew Government attention to the current inadequacies of tourism measurement. Anecdotal evidence indicates that Ministers were surprised at how weak the data was for evaluating trends around the regions. Preparing bids for funding support by Regional Development Agencies adds a further twist to information pressure on local authorities in rural areas that were worst affected by FMD and have now to prepare and justify with data, bids for recovery funding.

4.10 The Hartwell House session organised by DCMS in November 2001 identified better tourism data as a key priority for 2002 (and beyond). Ministers have declared their wish to see improvements in data at national level, some of which will have a valuable spin off at local level. The ETC's National Tourism Forum meeting in April 2002 unanimously endorsed the needs.

4.11 Although day visits have become more important for many destinations than staying visitors over the 1990s, the biennial

measurement of leisure day visits was not undertaken in 2000 because of Treasury cuts. The 2002 Study is now in the field and when results are available in 2003 they may throw the issues of local measurement into sharp relief and BRA and LGA will wish to have a view – at least on the way in which the national findings can be assessed in local terms.

4.12 Under the arrangements of the Government's newly established (March 2000) Statistical Commission, all Government provided data (for all purposes) are being systematically reviewed over the next two years. Transport, Travel and Tourism statistics are being formally evaluated as a 'theme' by DTLR in collaboration with DCMS and it is intended to bring some of the national tourism statistical series 'within scope' of 'official' national data. This means that the main surveys will have to be improved to meet best practice statistical criteria, which, apart from the IPS measuring inbound tourism, they currently do not. It also means that users of data must be consulted to establish their needs and satisfaction with current provision. There is also scope for better co-ordination, especially between transport and tourism data series, that could be important to improving the quality of data available to local authorities in the next three years.

5. The needs of local authorities for information and the measurement options available

5.1 Why do local authorities need to measure tourism?

The measurement of tourism for a local authority may be likened to a box of jigsaw pieces comprising many complex shapes from which no obvious immediate pattern emerges. Many of the key pieces are missing...

To meet their current and future needs effectively, local authorities have to be able to measure the changing volume and value of tourism locally on a reliably accurate basis and to assess the positive and negative economic, environmental and social impacts of visitors on local communities. Positive and negative in these terms is not something to be measured once every five years or so but a fluid, constantly shifting balance that can only be traced by measurement. It reflects what local businesses do (and do not do) and the policies and actions (and inactions) adopted and implemented or not by local authorities.

Most Authorities need to measure and collect tourism information for general PR and communication purposes but more specifically for decision and delivery purposes that range from:

- Marketing responsibilities
- Planning and development responsibilities
- Development of more sustainable tourism
- Making bids for central and regional funds
- Compliance with information demands from national and regional government
- Devising effective visitor management plans for destinations and monitoring the results over time
- Implementing their *best value* obligations.

In 2002, most local authorities pay lip service to these information needs but cannot deliver them adequately.

5.2 Amid the smoke and mirrors – tourism volume is the key driver in all measurement.

Given the state of the art, most local authorities are actually far more interested in estimating and communicating the value of tourism and its economic impacts, than in worrying about the actual number of visitors involved. Value and jobs are the politically sexy side of tourism.

This is a fundamental mistake. The way volume is calculated is the most important single issue in measuring local tourism. The key data is *always* the estimate of the numbers of staying and day visitors. The volume estimates provide the outlines of the local measurement jigsaw puzzle. **Volume is the real driver in all the decision issues noted above – value and employment estimates are based on volume.**

5.3 Can LAs achieve their measurement needs by national surveys or must they measure locally?

Theoretically, it is possible and a highly attractive option to measure local tourism by disaggregating national data on volume and value into regional and local estimates. In practice, however, there are over 500 local authorities in the UK and it is not possible to achieve what individual authorities need because the national sample sizes will always be too small to be reliable. For example, the 1998 LDVS Survey on which the estimates of nearly half of all British tourism expenditure (and therefore employment estimates) are calculated, was based on the responses of just 370 respondents making tourism day visits for the whole of England. That amounts to less than one respondent (on average) for each local authority. The study will have missed five years when the next data is available.

Also theoretically, local tourism can be measured by commissioning visitor surveys. In practice, however, it is not and will not be affordable to measure the volume, value and impact of tourism around the year through regular local surveys of demand. Occasional, ad hoc local surveys have an important role to play, where affordable, to fill in parts of the picture – defining the key shapes of the jigsaw puzzle - for example to assess the volume of business visits, day visits, visits to friends and relatives and to provide up to date expenditure data for converting volume estimates into expenditure estimates and deriving employment through tourism data.

5.4 Measurement using standardized models

In practice, as explained in Section 6, the only way to measure local tourism within acceptable cost boundaries is through the use of models. Using standardized processes within a framework established by estimates of volume, these aim to complete the jigsaw puzzle for each area by identifying key parts of the picture from the limited evidence available and filling in the rest using a series of 'average' or imputed variables drawn from other sources. For example, in destination 'x' it may not be known what proportion of staying visits lodge with friends and relatives or what is the ratio of day to staying visits. But if evidence from other destinations judged broadly comparable is available, it can be used for destination 'x' to complete a picture that is acceptably indicative if not accurate. If destination x later measures the variable directly, the new values can be incorporated and the model outputs adjusted.

The value of tourism is primarily a function of multiplying the estimate of numbers by a per diem expenditure, which comes from national surveys (adjusted where there is local survey information) and trade surveys. Both Scotland and Wales, for example, have commissioned separate visitor expenditure surveys to help calibrate model processes. Employment is calculated, in part, by local job totals in accommodation etc, but the standardised employment categories available do not reveal the range of tourism related jobs and at local level employment is estimated partly by the number of jobs sustained per £000 tourist expenditure. Local multipliers (based on local studies of visitor expenditure) are used, where they are available, to identify how initial tourism expenditure generates further spending in other sectors of a local economy. If local multipliers are not available, indicative surrogate figures

can be used drawn from other areas with similar characteristics (such as seaside, rural or city).

5.5 Model options

In the UK, since the early 1990s, there have been two main model approaches at local authority level, each making estimates to complete the measurement of area tourism jigsaw puzzles. Both models incorporate supply side and demand side measures but they start at opposite ends and ultimately must be judged by the approach from which they start the estimation process. One adopts a 'top down' and the other a 'bottom up' approach to the estimation of tourism volume and these are radically different routes.

Top down generates its estimates by disaggregating the data from the annual UKTS and other national surveys of consumer demand into first regional and then local authority estimates of the all important volume data. *Bottom up* generates its key volume estimates from sample surveys of visitor flows measured on a weekly and monthly basis at local businesses (also known as 'trade surveys'). Once the key estimates of volume are made, both methods follow broadly similar procedures for estimating revenue and calculating employment.

The *top down* model, identified as the Cambridge Model, is funded, operated and marketed by the trading company established by England's Regional tourist boards (Unicorn). It is outlined in Section 7.

The best-known bottom up model, also outlined in Section 7 is identified and marketed as STEAM. STEAM is a commercial operation owned and marketed by Global Tourism Solutions (UK) Ltd.

6. Criteria for choice between measurement options – Cutting through the impenetrable technical mysteries

6.1 Although the *use* of information for management purposes is a constant preoccupation for all local authority managers – it goes with the job - the methodology whereby data is *collected, analysed and presented* is a technical process that very few without statistical training ever understand. Few, if any, managers are actually interested in the process, only in the use.

In fact, the methodology that is used for local estimation is conceptually (perhaps disturbingly) simple. It is because of the complex nature of modern tourism, and unwillingness/inability among LAs to invest, other than marginally, in measurement methodology, that the processes used to measure demand and supply at local level have to be highly ingenious and massively complex. A wide range of informed 'guesstimates' and surrogate variables are utilised to compensate for what cannot be measured affordably. These 'imported' variables are generally not transparent (they are the knowledge base on which the modellers trade) and this creates an aura of complexity and mystery that baffles and defeats most without statistical training and experience.

6.2 The common ground, identified in Section 5, is what the users need. At its simplest they need to be able, at the least possible cost, to estimate the:

- volume (total number of visits by type);
- expenditure (total revenue attributable to tourism);
- implications for employment through tourism both directly and indirectly (evaluating the multiplier effect).

6.3 To date, many local authorities have managed with only occasional, ad hoc data to discharge (more or less) their management decisions outlined in Section 5.1. For reasons set out in Section 4 this is no longer adequate and increasingly they will have to trace key trends at least annually. As tourism is still a strongly seasonal activity it is better to be able to assess trends quarterly. Monthly assessments are relevant to realistic destination management monitoring. To be used with confidence the data must be (as the 1996 BRA Report noted and the 1998 DCMS Guidelines endorsed):

- **credible/valid** (acceptably accurate and fit for purpose as judged locally).
- **reliable** (over time so that trends can be assessed and built into decisions).
- **timely** (available in time to make decisions for the year ahead)
- **affordable** (in the context of local tourism and leisure budgets under seemingly permanent downward pressure).
- **comparable** (to make sensible comparisons between authorities and regions over time and between areas).
- **actionable** (in terms of policy decisions)

6.4 A Satellite Accounting method for measuring economic impact

Because of the complex, interactive nature of modern tourism its economic and other impacts cannot be easily assessed locally solely from the **supply side** in the same way that other industry sectors can be. At local level it is not possible to identify the output or turnover of just one or two economic sectors because expenditure by staying and day tourism spreads across many very different sectors. Tourism expenditure is only part of retail turnover, part of public and private transport, part of accommodation services (which includes institutions such as prisons and hospitals) part of catering, part of cultural facilities and part of leisure and recreation facilities (to name only some of the main sectors). It is also a significant part of self-employment.

6.5 At national level, using the 'input/output tables' agreed as the international methodology for national economic accounting, it is possible to estimate the economic value of tourism through what is known as a Tourism Satellite Account. Initiated in Canada and the USA, promoted by OECD and the World Tourism Organization, satellite accounts for tourism are now under active evaluation in several European countries including France, Finland, Sweden and Spain, although not yet in the UK. Both Scotland and Wales have constructed input/output tables through which it is possible to identify the size of their tourism economy but, at least until 2002, it has not been possible to apply satellite accounting processes to

English Regions. Recent developments for One North East (N.E. Region RDA) are noted in an appendix to this report.

7. CAMBRIDGE and STEAM – The differences compared

It is worth stressing that the two main models available for estimating the volume, value and impact of tourism locally are not run by economic or academic consultancies that have branched out into the tourism field. Both have been developed by individuals with long experience of UK tourism. Both have been evaluated by independent audits and found fit for purpose within their stated limitations.

The individuals concerned have held senior positions in national, regional and/or local tourism and have contributed regularly to the measurement debates (including the 1998 DCMS Guidelines). Their *hands on* knowledge is extensive, practical and available to those who approach them for support. Their cumulative experience covers just about every local tourism measurement issue throughout the UK. It should give some confidence to those grappling with choices.

7.1 CAMBRIDGE/UNICORN – the Top Down model

Widely known as the ‘Cambridge’ model because of its origins (and the apparent associations of its title are excellent for branding purposes) this is in fact an English Tourism Regions model operated by UNICORN, the trading company owned jointly by the English Tourism Regions. Originated by Geoff Broom for PA Cambridge Economic Consultants (PACEC) in the 1980s the model was taken over by Geoff Broom Associates in 1995 when Cambridge Economic Consultants ceased trading and an agreement was made to provide research and support services under contract to UNICORN.

When the CAMBRIDGE model is purchased, Geoff Broom Associates develop a form of self-completion template based on disaggregation of national surveys that is supplied to the tourist region concerned, not to the local authority. Staff in each region then insert the key local supply data covering accommodation capacity and occupancy that are used to convert regional totals to local estimates. Regional staff run the spreadsheet model, which incorporates all the equations needed to produce the local estimates. Geoff Broom Associates provide a support service but the work is done separately in the regions by staff who may or may not have had research and statistics training. The staff may spend time on evaluating and developing the local authority capacity database but generally they will not have the time or resources to do so.

Geoff Broom Associates work on a commercial basis to an agreed contract (a form of outsourcing of research services) but UNICORN is not a private sector operation and has direct links to national and regional data. The full cost structure of the modelling support work via UNICORN is not known.

The official ETC position stated in the DCMS 1998 Guidelines is that it cannot endorse one model over any another. In practice, the links between ETC and the English Regions, the access to detailed tabulations provided from UKTS and IPS, plus the fact that UNICORN is promoted

exclusively by regions to their local authority members creates an impression among many considering their options that 'Cambridge' is the preferred model officially endorsed. Bearing in mind that cheapest price will be the deciding factor for many model buyers, especially if there is an implied 'official' designation for comfort, there is an issue to be unravelled here of potentially unfair competition.

Notwithstanding its cost advantages and obvious marketing links with Regional Boards in England, the use of the CAMBRIDGE model appears to have declined since the BRA evaluation of 1996. Its use is now largely restricted to parts of England South of the Midlands. It is significant that Wales and Scotland, both of them long term investors in national surveys of demand, have chosen not to operate the model that is UKTS based.

The reason for declining use is no reflection on Geoff Broom's competence. It is growing recognition that the Cambridge model cannot deliver the requirements noted in Sections 5.1 and 6.3. Geoff Broom Associates bring to bear considerable expertise and knowledge in dealing with local measurement issues and have built up a database of particular value in estimating the employment and multiplier aspects of the estimation process.

7.2 CAMBRIDGE/UNICORN in summary

- Has excellent fast-track access to the main national surveys (UKTS, IPS and LDVS) and the means to disaggregate their totals through arrangements with ETC. The model outputs are effectively 'pegged' to regional estimates generated by national surveys. Superficially at least this generates confidence in the results.
- Provides a lower cost and lower maintenance alternative to STEAM.
- Uses available local supply side information but is locked into the results of national sample surveys that for all but the largest tourist regions are likely to vary by at least plus or minus 10% every year. Very small sample sizes for most regions are inevitable given the cost of surveys carried out to yield a national picture.
- Cannot provide data at other than annual intervals and the waiting time from the end of a year to production of results is often in practice over 12 months (2000 results were delayed by over 18 months).
- Cannot produce reliable year on year trends because of the small sizes of regional samples and inevitable statistical variations

The CAMBRIDGE model is essentially a low cost means of establishing a broad pattern of the overall value of local tourism. To use the CAMBRIDGE model, it is only necessary for a local authority to supply what it knows of its local database of accommodation capacity. But, as with STEAM, this is seldom a simple process and greater collaboration with local businesses produces better results.

7.3 STEAM – The Bottom Up model

Developed initially in Canada in the 1980s by a partnership including David James, the latter brought the model with him to Yorkshire when he

became Director of Tourism and Amenities at Scarborough – hence the name Scarborough Tourism Economic Activity Model. It was first implemented for the resort in 1989 and quickly spread to North Yorkshire. The methodology has been independently reviewed on at least two occasions and the level of (annual) repeat business from all parts of the UK over recent years speaks for the practical utility of the model.

In 1997, David James left Scarborough to form and become Managing Director of Global Tourism Solutions (UK) Ltd, with a Chairman and Board of Directors, to develop the STEAM model's potential. It is an unsubsidised private sector operation that succeeds or fails on the quality of its product. There are currently six staff dedicated to the task of measuring tourism at local level in England and Scotland and STEAM is operated in Wales under licence by one of the tourism companies. Their cumulative experience and knowledge base, gained over the years of working with the whole range of local authorities, is the core of the company's competitive position.

As a standardized process the model can 'learn' and develop over time. That is to say it can correct dubious data and introduce better practice as new information emerges. Ratios and knowledge gained in one local authority can be applied to others and vice versa. If major new knowledge becomes available (for example on day visit categories and expenditure) it can be used to recalibrate existing models and, if necessary, data for earlier years can be reworked to provide comparable data on the same basis.

By 2002, from its small beginnings at the beginning of the 1990s, the usage of the STEAM model has extended across much of the UK and is also used internationally. The model is currently used across the whole of Scotland (including Visit Scotland, Area Tourist Boards and local Enterprise Companies). It is used in all of Wales except for 2 Unitary Authorities. In England it covers parts of Northumbria; North Yorkshire, and Cumbria; 12 of London's Boroughs and London Tourist Board; North Lincolnshire and Somerset. In Cumbria, for example, which originally used the Cambridge model, the switch was made to STEAM in 1998 after a detailed review of needs and options that involved all the six District Councils, the County and the National Park Authority.

If a local authority decides to buy into the STEAM model the first stage in the first year is always to evaluate and refine the local database of accommodation and attractions using local information and the resources of the STEAM data processing team. Generally STEAM users sign up for a minimum of three years and the local database is updated annually. This process typically uncovers substantial additional capacity hitherto unknown.

With a clear understanding of capacity (establishments and beds over the months in which they are open for business), the model proceeds with monthly occupancy studies of the main accommodation types. Other local data for visits to attractions, TIC numbers and car parking are used in the model. The sampling framework and the efficiency with which the occupancy studies are conducted are the essential driver for the volume calculations. STEAM is able to advise and assist with this process and can provide monthly, quarterly and annual results. For a new client the

process always estimates the previous as well as the current year under research.

When the core volume estimates have been made, the value estimates and economic estimation follows along lines that are quite similar to those adopted by Cambridge.

7.4 STEAM in summary

- Measures tourism locally on the supply side and can provide realistic and reliable quarterly and year on year trends. If the local database improves (as it should over time) the results will improve with it.
- Given an adequate local database, can provide reports for a variety of local government levels from wards to counties or specified cross-boundary areas.
- Can provide results within about six weeks of submission of local occupancy and related time series data.
- Is sensitive to area differences caused by specific events such as local festivals and new capacity – or local disasters such as FMD outbreaks in 2001.
- Is a process that draws on, develops and communicates local knowledge and, potentially, embraces local authorities and local businesses in a collaborative virtuous information circle.
- Creates a developing central repository of knowledge and understanding of different types of local tourism measurement that can be made available to others as part of the process. As use of the model grows this knowledge base is of national value. Significant developments in local measurement can be introduced into the model and trends backdated on the new basis.

STEAM costs more than Cambridge but it delivers more. Provided that a local authority works with the STEAM team to develop its supply side database and collaborate with local businesses the data it produces will be acceptably reliable and capable of comparison over time and between areas. Although the absolute numbers cannot be guaranteed, as with any model, the direction of change for trends should be valid and reliable as well as actionable in decision terms.

8. Frequently asked Questions (FAQs)

8.1 Surely by now there must be other models than those available in 1995?

To some extent, reflecting the historic reluctance, nationally, regionally and locally, to accept the need for measuring tourism and the universal unwillingness to pay for such measurement, the answer is 'no'. There can only really be one top down method because there is only one set of national studies and special support is needed to gain the necessary access to non-published data series, required to disaggregate the totals.

There could be more than one bottom up model and in principle, at least, any university department or firm of consultancy with economic expertise could deliver the same approach as either STEAM or Cambridge. But

over the years both models have generated economies of scale as well as their own knowledge base, databanks and market linkages. As long as the established models deliver user satisfaction, would-be competitors cannot easily replicate these advantages and compete without substantial initial subsidy.

8.2 Surely there must be a reasonable alternative, middle ground or compromise position between the main models?

As explained in Section 5, the estimate of tourism volume is the final driver in both the models. One is bottom up and the other top down. If the bottom up estimates are sound, and at least these are based on trade surveys that can be tested locally, there is no sense or reason in adjusting (distorting) the volume by national surveys. If the top down estimates are not sound (i.e. fly in the face of local knowledge) there is no means of adjusting them locally other than by shifting to a bottom up approach. In other words there is no middle ground for the core estimate of volume, which is the driver of all the other estimates.

8.3 Is it possible to compare trend estimates from different models?

The answer is essentially a geographical one. Although both the Scottish and Wales Tourist Boards have been primary contributors to the UKTS, along with ETC, they do not use the 'Cambridge' approach to assess tourism locally. Given the success of the STEAM model over several years, it has been selected for use throughout the whole of Scotland, most of Wales and most of the Northern half of England down to and including greater Manchester plus several London Boroughs. It is not confined to the UK and the methodology is now also used internationally.

The STEAM method is always carried out on an annual basis (two or more consecutive years) and comparing annual trends among local authorities in Scotland and Wales is therefore a realistic option since all are on the same system. The same is also true in Northern England. In Cumbria, for example, (which commenced with the ETC model and then changed after a detailed evaluation to STEAM) there are six Districts and a County. They can and do compare shifts between themselves. In the depths of the FMD crisis it was found that tourism volume in some areas of Cumbria was down by some 40% whilst in others it was 5% up. The results were entirely consistent with the slaughter policy that was implemented but such local variations could not possibly have been identified using UKTS.

In Southern England, where the RTB model is generally used it is often not used on an annual basis because its estimated annual shifts cannot be relied on to match local experience. Local authorities can choose which years are likely to give them the most positive result and avoid the downturns. The results provide an indicator of volume and value at a particular point in time but not annual trends. It would not be possible to make any meaningful comparison of trends from the STEAM approach with the trends from the ETC model.

8.4 Is it possible to compare overall estimates of volume and value from different models?

The answer is no. Volume is the driver and the top down and bottom up approach to calculating volume is fundamentally different and not reconcilable. If the STEAM and CAMBRIDGE methodology were applied in the same local authority in the same year, the results would not be directly comparable other than by sheer coincidence. Over two consecutive years the results might easily indicate divergent trends (one rising the other falling).

8.5 But surely some elements of the models are the same?

Yes they are. Both use the same local employment tables and may use the same multipliers. Both draw on IPS estimates of overseas visitors and both utilise the LDVS estimates of day visits. CAMBRIDGE uses what is known of bed capacity and bed occupancy to allocate its regional totals across the local authorities within the region. Both use Windows Excel Spreadsheet analysis. In all these ways the models (and any others that may emerge) have apparent similarities. But the STEAM model and its support services are geared to improving the local capacity and occupancy estimates every year and work with local authorities to achieve this. STEAM has also built up over the years a massive databank of variables by type of authority which it can draw on in its estimation process. CAMBRIDGE uses the TRIPS capacity data available at the time of the estimate and does not have the resources or staff to improve it. In 2002, the TRIPS database is notoriously unreliable unless evaluated and updated annually. It may contain errors of plus or minus a third of the actual capacity. Such errors, unless detected, are translated into the estimation process. The bottom up vs top down approach remains fundamentally different and divides the models irreconcilably.

8.6 Will satellite accounting be the method for the future?

The answer for local authorities appears to be no. Because of the impossibility of measuring tourism as a single industry (see Appendix I) satellite accounting for estimating tourism volume and value and economic impact has been developed *at national level* over the 1990s in Canada and other countries with the support of OECD and WTO. At national level satellite accounting is strongly endorsed but local authorities do not prepare their economic accounts in the same way and it would not be feasible for them to do so.

At English Regional level, however, a form of satellite accounting for tourism may well prove feasible and a methodology is being evaluated in One North East (N. East RDA) in 2002. Pending results this appears to offer a positive route to better regional economic impact evaluation although it will still be dependent on data for demand and expenditure extracted from regional estimates derived from national surveys of tourism. It seems unlikely that the method will be able to calculate adequate volume estimates for local authorities or monitor annual changes with usable precision. (See Appendix for further information).

9. Recommendations

9.1 In 1996 the jury was still out on which model to adopt. The models were relatively new, the number of purchasers was small and the needs of local authorities (and demands upon them for information) were much less urgent and specific than they are now. Six years on, major changes to the UKTS in 2000 and the postponement of the 2000 LDVS have rendered 'top down' annual trend comparisons either difficult or impossible in recent years at regional level. This combination of factors make it possible to offer recommendations without equivocation.

9.2 STEAM is currently the only available method that can effectively produce reliable and comparable local area results year on year (or quarter by quarter) for a given local authority. STEAM does not claim accuracy in terms of absolute volume and value for its estimates, however, and it is not possible to cite a plus or minus 'x' % level of confidence for the estimates produced by a model of this type.

Given the discrepancies between local authorities in what they know of their accommodation capacity and occupancy/utilisation (even with the support of the STEAM team), direct comparisons between different authorities using STEAM are likely to be indicative only. Precision, for example, in terms of comparing specific tourism income generation between authorities, will not be reliable. Comparison between authorities concerning annual trends are likely to be acceptably reliable. This judgement applies to authorities both within and across regional boundaries.

To use STEAM effectively it is important that a local authority and local businesses become active 'players' in the process although such participation is arguably essential anyway if effective tourism policies are to be devised, implemented and monitored locally. The model will still produce results if they do not become active players but valid output does require collaborative local input. If a local authority is not willing to commit some staff time to the process, the use of STEAM is likely to be less effective.

9.3 CAMBRIDGE/UNICORN cannot produce reliable and comparable local results year on year because its volume and value estimates are always governed by the annual statistical variations that are part of any sample survey process and magnified in the disaggregation process of national survey data. In a year (such as foot and mouth), when real tourism results are known to be down on local evidence, the CAMBRIDGE model would be capable of calculating a volume increase that reflected a statistical blip and there is no reliable *top down* method for adjusting the blips locally.

It follows that comparing one authority with another using the Cambridge model in the *same* region is feasible for any given year but not between consecutive years. There is no realistic comparison possible between local authorities in different regions in either the same or different years.

The primary advantage of CAMBRIDGE is the low cost and relatively low involvement required to produce a first broad estimate of the volume and value of tourism in an area, albeit using data typically 18 months out of

date. Discussion with Geoff Broom Associates indicates that few of its purchasers do so on a consecutive annual basis because they recognise that annual comparisons have no meaning by this method. The Cambridge model has also been adapted for use in the PRIME model developed in the North East Region to evaluate the probable economic impact of local development projects and in this context it can make a valuable specific contribution to project evaluation.

9.4 Cambridge or STEAM?

When the issue of getting some broadly acceptable estimates of local tourism volume and value was the primary requirement for local authorities, the Cambridge method was an appropriate if not necessarily the best way to proceed. As section 4 of this report indicates, however, time and the demands on local authorities have moved on significantly since 1996 and the top down approach will not deliver the key management decision requirements identified in Section 5.1.

If the circumstances outlined in Sections 4 and 5 of this report are accepted, only STEAM, collaboratively developed and operated in partnership with local businesses and a local authority, can deliver results that will be fit for purpose, The comparative decline in the use of 'Cambridge' in recent years and the significant expansion in the growth of the use of STEAM is a pragmatic demonstration that this view is being endorsed in practice.

9.5 Development of overall destination management models

The author's attention was drawn to the 'VICE' model developed over recent years by the New Forest District Council and recently extended on a sub-regional basis to include parts of East Dorset. VICE establishes an overall framework for measuring key aspects of Visitors, the Industry, Community and the Environment. This model approach is based on research measures but goes comprehensively into management strategy beyond the core issues of volume, value and impact. In operation is very much a bottom up approach to managing tourism in collaboration with the local industry and community and its use and effectiveness depends very much on the time and resources that local authorities are willing to put into tourism. The development of this model may be an important indicator for future development but it does not alter the conclusions drawn in this report.

9.6 The issue of cost

The cost of models currently ranges from around £1,500 to £4,500 a year depending on the model adopted and the level of detail required, the number of reports a year to be produced, etc. Many local authorities still appear to consider that too much, even in destinations where tourism is among the top 3 elements of the local economy outside public sector services.

It must surely be questioned, however, that a local authority with an economic input of, say £250 million to £500 million a year from tourism – with all the social, environmental and visitor management implications involved – should balk at an annual cost equivalent of say one public

toilet or 25% of a secretary allowing for salary and overheads, and social welfare provisions. Such cost should, of course, be set against the cost effectiveness of marketing and the role of better information underpinning all the other decision needs noted in Section 5.1.

9.7 Will bottom up and top down meet?

The 1998 DCMS Guidelines, while firmly endorsing the need for and value of best practice in this area, expressed the view that *“As both a matter of principle and a pragmatic step, we recommend that local area estimates should be compatible with the published regional and national totals in the national statistical sources [...so that] local area estimates can be seen and compared on the correct scale.”*

On the evidence reviewed in 1996 and 2002, this author can find no justification for this recommendation. Pragmatic it may be, but a matter of principle for Scotland, Wales and the English Tourism Regions that have adopted STEAM, it surely cannot be. Given the state of the art, there is no reason in principle why good practice at local level should add up to disaggregated totals derived from national tourism studies – especially where the latter do not operate to the standards set for national statistics. ETC is invited to review this 1998 recommendation when it produces its report later in 2002.

9.8 User Forums

This is an issue that deserves fuller consideration. In 2002, STEAM has set up formal user forums to work with users in Scotland and Wales and, as the whole approach is to work with local businesses and local authorities in partnership, there is feedback and contribution at all stages. There are no known user forums for the Cambridge model other than the general forum of the RTB's own Executive Boards and Committees.

No user difficulties were unravelled in this brief review that need urgent attention but there is nevertheless an issue of the ongoing relationship between research users and research providers especially when the latter own and control a methodology that probably approaches some 50% of the market and is likely to grow. Current events (in progress during April/May 2002) suggest that a national user forum for tourism statistics may develop in the future within which the interests of local authorities will be represented.

Appendix I

Shortcomings/weaknesses of available measurement models

1.1 Both the two primary models suffer from measurement difficulties noted below that reflect local circumstances and local data collection. These difficulties are not specific to Cambridge and STEAM. They would affect any other attempt to measure tourism locally.

Surveys of local businesses depend on knowing the numbers and types of local businesses and this is a very inexact science.

- Without statutory registration, local bed capacity is inevitably a best 'guesstimate' and there is no requirement for accommodation businesses to declare their turnover/guest throughput. Local trade-survey models therefore use best estimates of bed capacity but these are often only approximate and fluctuate annually. Good practice requires lists of businesses to be checked annually with throughput and turnover estimated by sample surveys and then 'grossed up' to represent the estimated total.
- Similarly, without statutory registration the attractions stock is not known and there is no requirement for attractions to declare their visitor throughput/turnover. The measurement process uses sample survey returns, as for accommodation.
- Occupancy studies are the primary method of measuring the level and trends in tourism business and they depend on continuing trade co-operation over time, which is both hard to establish initially and subject to survey fatigue. Much depends on the persuasive skills of those who operate them. Attractions can be invited to declare weekly volume but as many of them do not operate admission charges their own admission estimates are often vague or inaccurate.
- Changes in the volume of day visits, which now comprise half or more of the tourism turnover for most local authorities, may be gauged in part from data collected from attractions, TICs and car parks. But day visit volume is also calculated from national surveys that had a four-year gap between the latest measures (1998 and 2002) and the surveys use very small samples with wide statistical fluctuation.

1.2 It is a strength of the STEAM model that it commences from an explicit recognition of these shortcomings and systematically tackles the core weaknesses (see Section 7). Although it requires local input to maintain the accommodation and other lists of capacity and to sustain the trade support for occupancy studies and other returns, it is a systematic process that supports a 'learning' model that can improve annually and incorporate new information, as it becomes available. Above all, STEAM is a standardized process that applies to all destinations and is a collaborative process with local players that is operated by a single dedicated team that brings its expertise to all who adopt the model.

1.3 However sophisticated the adjustments in the Cambridge model, which also takes account of local trade statistics and occupancy data, the RTB model is by definition locked into national surveys for its key

estimates of staying visitor volume in each region and it is subject to the same statistical variability every year. The 1998 DCMS Guidelines claim that “national tourism surveys are generally based on a sample of a size which is effective at county level...” In this author’s experience, UKTS and LDVS tourism data disaggregated to County level is wholly unreliable and cannot match the criteria (endorsed by the same Guidelines) shown in Section 6.3 of this report.

Thus, if national UKTS results indicate, say a 15% increase in tourist spending in a region between two consecutive years, this has to be reflected in the tourist volume estimates at local level, even if available local evidence points to a 15% downturn in the same period. The Cambridge model incorporates what is known about bed capacity and occupancy to *allocate* or distribute the UKTS regional totals to local authority level but it has no method to discount for annual statistical variability.

Appendix II

Tourism Satellite Accounts

In February 2002 WTO distributed a paper promoting the advantages of Tourism Satellite Accounts, noting that:

The methodological design of the Tourism Satellite Account (TSA), proposed by the World Tourism Organization (WTO), the Organization for Economic Cooperation and Development (OECD), and the Statistical Office of the European Communities (Eurostat), was approved by the United Nations Statistical Commission (UNSC) at its thirty-first session (29 February – 3 March 2000).

As promoted by WTO, satellite accounts for tourism are a subset of national accounts drawn up according to internationally agreed methodology by OECD countries. This methodology depends on Input/Output tables that represent all sectors of the economy and trace the flows between each identified sector and all the others.

Input/Output tables exist for the UK and for Scotland and Wales but they do not, at present, exist for English Regions and certainly not for local authorities. In 2002, however, DCMS with One North East (RDA) and the Northumbria Tourist Board have commissioned a pilot Tourism Satellite Account approach for the North East Region. The data input on the demand side that will be used to calibrate the account will be based on exactly the same IPS, LDVS and UKTS information for visitor volume and expenditure patterns that are used to derive the overall regional totals in the Cambridge model – there is no other option at regional level. The data will be subject to exactly the same statistical variations noted in this Report in Section 6.3

Results will not be available until June 2002 and it is not possible to prejudge what the study will conclude. But at regional level, the approach appears certain to produce a substantially better and more detailed appreciation of the economic impact of tourism than is available now. On the other hand, the model will work within the statistical limitations of disaggregated volume and expenditure data and it will still be a 'snapshot,' albeit a much clearer one in the context of one year's data disaggregated from national totals. It appears most unlikely on what is presently known that the proposed methodology could produce useable annual *trend* data. It is also unlikely that the method will be useable below regional level and it will not, therefore, solve local authority needs.

Appendix III

Author's amendments and corrections to *Measuring the Local Impact of Tourism* Report dated April 2002 and issued in late May 2002 – in the light of comments received after publication.

July 16th 2002

As many readers will be aware, recognising the need for urgency in production, the BRA/LGA Report was produced in a matter of weeks between January and April on a 'shoestring' total budget of £2000 including all time spent in consultation, travel, etc. It was not possible to achieve financial support from ETC for the work, which inevitably curtailed what otherwise would have been a desirable consultation process. The need for speed involved the risk of some factual errors for which the author accepts full responsibility.

Victor Middleton did, of course, speak with Geoff Broom and David James, owners of the two principal measurement models. The latter provided written statements on the methodology and the draft report, which the author drew on in finalising the report. Geoff Broom also provided comments on a draft of the report although a delay of 3 weeks in producing his views meant they could not be fully reflected when the report was released. Page 17 of the report states clearly the professionalism and depth of tourism experience inherent in both of the model providers.

Since publication in May, a number of comments have been received from ETC and Regional Tourist Boards about the conclusions drawn. Some of these points highlight factual inaccuracies, which the author and BRA readily acknowledge and for which we apologise. Others are observations with the author's comments noted in italics.

Although any errors are regretted, the author's judgements on the evidence available, in particular the recommendations and conclusions drawn in the report in Section 9, are not altered by these amendments and corrections.

1. The Cambridge model is and has always been owned by Geoff Broom Associates (GBA) and it was developed *with* PACEC, not *for* PACEC as stated on page 17.
2. GBA can and do operate the model independently for local authorities when approached. *In practice, however, the usual route is via RTBs using the process noted on page 17.*
3. Page 21 incorrectly refers to the 'ETC Model'. *The correct reference to Cambridge as a model contracted to and marketed by UNICORN for the English Tourism Regions is explained and clarified on pages 4, 7, 8, 15 and 17.*

4. ETC have explained that the Guidelines they plan to produce later in 2002, referred to on page 5 of the Report, will “give a brief overview of the models used.” But they will not include “assessment of the validity of the models” or recommendations on which methodology to use for measuring volume and value of tourism locally, because their stance on both models is neutral.
5. The figure of 370 sample size of respondents quoted on page 14 for tourism day trips taken in England is incorrect. The figure should be 2,864 referring to trips taken rather than respondents, and the latter would be a substantially lower figure (probably around 1000). *The error arises from the layout of an original table in which the two figures are presented.*
6. If a local authority were to undertake annual local visitor surveys and local business surveys (annually or with some lesser regular frequency) the Cambridge model could be driven (as STEAM is) by locally collected data (Bottom Up). *In practice, however, no local authority in the UK is likely to be able to afford such commitment to regular survey work as explained on page 14.*
7. Although annual reports from the Cambridge model has been a limitation up to the present time, quarterly data may be introduced later in 2003. *The report (page 18) was correct on information available at the time of publication.*
8. The Cambridge model does allow for a learning process in that GBA as a body is a learning group developing from its own growing experience and drawing on better data and methodology as they become available. RTB officers meet regularly and exchange ideas and practice on the Cambridge model as with other research programmes. *This is clearly true and acknowledged on page 18 and 21. The learning/iterative point on page 19 and 26 refers not to the model providers but specifically to the Cambridge link to annual variations in national statistics. Such variations are governed by sample survey rules that reflect annual survey size and response rates and cannot be modified through a learning process.*
9. Although Cumbria County and Districts switched from the Cambridge model to STEAM (page 19), Lincolnshire County and Districts switched from STEAM to Cambridge following an independent review process. *There may be other examples of such change not known to the author.*
10. ETC state that it “believes wholeheartedly in demonstrating the economic impact of tourism and encourages the use of local economic impact models. However it recognises the limitations of both models currently available.” *The author shares this view, recognising fully the errors that are inherent in all survey data inputs. But users at local level need support and direct advice in deciding which model to use, which ETC is not able to provide. The BRA/LGA report was commissioned specifically to provide such advice as stated in the objectives listed on page 4.*