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LOCAL AREA TOURISM STATISTICS

by

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(The intention of this paper is to be thought provoking concerning the identification of the information needs of tourism practitioners, and to provide some thoughts concerning the modelling of the local area economic impact of tourism)

1. LOCAL AREA TOURISM STATISTICS: USER REQUIREMENTS

1.1 Introduction

“The apparent paradox between the widespread perception of the important role which tourism plays in Europe and the imprecise vision of its identity has somehow affected the recognition of tourism as an industry in its own right.”

This first paragraph of the Foreword to the **European Methodology on Tourism Statistics** by European Commissioners Christos Papoutsis and Yves-Thibault de Silguy portrays succinctly the challenge which confronts tourism practitioner, entrepreneur, academic researcher, politician and official. The challenge exists at both the macro and micro levels and whilst much progress has been made at the macro level, progress at the micro level has lagged behind.

1.2 The purpose of this paper is to consider the importance of Local Area Tourism Statistics with particular emphasis from the users point of view. This being done in the context of the **EU Methodology**. In later sections of this paper, reference is made to the **“Local User Requirement”**. At the local area, as at the macro level, such a broad collective will cover a wide range of bodies whose use of statistics will be various, with different levels of understanding and application. Whether a local hotel, attraction, transport company, tour operator, municipality, region, to name but a few, they or their equivalents need accurate, timely, affordable and frequent information upon which informed decisions can be made.

1.3 In the final sections of the paper, an introduction is given to one of two local area tourism economic impact models commercially in use in the United Kingdom.

1.4 What kinds of data relate to tourism?

The kinds of data relating to tourism obviously relate to the needs that there are for such data, and four major categories of user needs broadly exist:

- a) Advocacy, Planning and Public Awareness
- b) Marketing
- c) Investment, Operations and Management
- d) Manpower, Education and Training

Data is required at the national or “macro” level to establish the economic and social impact of tourism and will have a bearing on policy development, tax legislation, exchange rate changes, investment development, and strategic planning by Central Government. Such data disaggregated to the local or “micro” level may be suspect as, equally, may be the variability arising from the lack of standards of accuracy of local variable inputs. In the main, such information is better generated at the local level for local government and local private sector use, although this, too, can be suspect on occasion.

Tourism is essentially a local or “micro” phenomenon. The strength of attractions at the local level combine to build a synergistic whole. It is at this level that the greatest difficulties exist. Most information stems from disaggregated information or from demand side survey work which, certainly for many destinations, leads to a very serious underestimate of the value, volume and impact of tourism.

1.5 What are the local needs?

Good practice in the selection, development and use of local tourism information systems covers a number of stages:

- i. First of all, establish your needs for local data. What are you trying to do, and why? How will information feed into your tourism policy development and tourism operations?
- ii. What staff and financial resources are available to gather the necessary data, to extract the relevant information, and to undertake, manage and report on all aspects of the work that will need to be done?
- iii. Always take stock of the information that is already available and which may be relevant to your latest needs.
- iv. Look carefully at the different kinds of solutions that are on offer to help you build a local tourism information system. There are products known as local area “models” but we all need to be careful in understanding what is meant by a model. A model is essentially a set of equations and relationships to help us determine the local impact of tourism given a number of pieces of input information, but these are not necessarily exact mathematical relationships such as those that apply in physical laws. You will need to understand the variability that is inherent in local area models and try to determine the limits of uncertainty. The aim should be to produce data that are fit for the purpose to which you are putting them.

- v. A local tourism information system needs to be based on sound and agreed definitions with a clear statement of those aspects of tourism that are included and those that are excluded. Tourism, according to the internationally agreed definition, is not restricted to trips involving at least one night away from home. Day visits are an important part of tourism but pose their own set of questions when considered as part of the local tourism information system. Visits to friends and relatives also need to be considered, as do business and work-related trips.
- vi. It is recommended that some key variables and standard definitions should be used regardless of the type of local information system in use.
- vii. It is recommended that good practice in the use of local area tourism statistics is vital to the sustainable growth of tourism.

1.6 Defining the local user requirement

The first step to measuring the local impact of tourism should be to draw up a “**user requirement**”. This will establish the needs for local data and state the overall aim and specific objectives for the work. It makes sound business sense only to require information to meet these needs and which is accessible, verifiable, reliable, testable, and comparable with other information produced for the service industries and for tourism elsewhere. The British Resorts Association identified six key criteria, which we endorse as issues to be addressed in drawing up any user requirement:

- **Reliability:** how accurate must the information be for the purpose to which it will be put? There are two main aspects to accuracy, precision and bias, which are considered below;
- **Timeliness,** or how soon will the information be available following actual events;
- **Participative,** to involve those who will provide as well as those who will use the information;
- **Cost:** what is affordable, including the internal staff and other resources that will be needed to support this work?
- **Comparability:** is part of the requirement to make comparisons with other local areas, or with regional or national totals?
- **Frequency:** is the information required continuously, meaning, say, every year or every month? It may be as important to assess change over time as it is to estimate the level of tourism during a given period.

1.7 User requirements, and the sources of data, should also be clear that tourism visits are deemed to have a main purpose of travel away from home. “Main purpose” is defined within the EU community methodology on tourism statistics as:

- i. Leisure, recreation and holidays: including sight-seeing, shopping, attending sporting and cultural events, going to the beach, etc.

- ii. Visiting friends and relatives (VFR).
- iii. Business and professional reasons: installing equipment; sales visits; attending meetings, conferences, trade fairs; professional sports activities; paid study, education and research, such as university sabbatical leave; language, professional or other special courses in connection with the visitor's business or profession.
- iv. Health treatment.
- v. Religion and pilgrimage.
- vi. All other reasons.

1.8 In the light of the **user requirement** it is necessary to consider what staff and financial resources are available to undertake, manage and report on all aspects of the work that will need to be done. To be effective, this work needs to be closely integrated with tourism policy and operations. The necessary data will have to be collected or collated from existing sources. It is then necessary to extract from the data the relevant information which, in turn, needs to be fed into an action programme. The final stage in the cycle is to evaluate the programme and to draw up a revised action plan, as appropriate.

1.9 It is strongly recommended that there is careful consideration of the information that is already available and which may be relevant to latest needs, before setting out to gather new data. National Tourist Boards and Offices for National Statistics may already be able to provide some of the information sought, because data from some national surveys (such as, in the UK, the UKTS and the IPS) are available down to county or equivalent level. The Office for National Statistics (ONS) publishes quarterly statistics covering employment in some industries (Appendix 5). It is worth checking what local surveys have been conducted in tourism and related subjects, such as travel patterns and transport usage. Information about tourism facilities, including accommodation, may be available from local administrative sources. (Appendix 7: Key Point Summary)

2. SOME KEY VARIABLES AND STANDARD DEFINITIONS

2.1 In this section we consider first the key variables that will be needed to assess the level of tourism activity during a given period (and which can then be rolled forward to look at changes over time). Some standard definitions are suggested here, including to build comparability with the statistics for the UK and other EU Member States now being compiled under the tourism statistics Directive. The second part of this section looks briefly at the measurement of the economic impact of tourism. Tourism may have other effects, such as social and environmental impacts, but these will generally require specialist studies which are outside of the scope of this paper.

Information on tourism activity may be required for a range of purposes, e.g. to assess the economic impact and contribution that tourism makes to the local economy, the environmental impacts of tourism activity or the benefits and disadvantages for local

communities. However, a starting point for considering these specific elements has to be an assessment of the volume and value of tourism activity in the area.

2.2 Volume and value

The volume of tourism in any particular area will depend on the capacity of the area represented by the stock of facilities and infrastructure available to the tourist, and the level of use made by visits (as opposed to local resident use) of that stock. It will be helpful, therefore, to consider the **(supply side)** tourism facilities available at a given point together with the use made of the facilities **(demand side)**. Also on the supply side, it may be helpful to classify the area by type, in order to make comparisons with areas of a similar type. Again, reference to the EU Community Methodology on Tourism Statistics suggests such destination types under four main headings: Urban areas; Resorts (town/village); Countryside; and Sea, lake or river cruises. These are further sub-divided. The Community Methodology includes further variables, which may be relevant to meeting particular user requirements.

Supply side items	Key variables
Stock of tourism accommodation	Number of establishments on reference dates (e.g. open peak/low seasons) Capacity (number of bed places or units) <i>See Appendix 1 for definitions of categories</i>
Visitor attractions	Number open on reference dates <i>See Appendix 2</i>
Tourist services	Number of tourist information centres, information points, hotel booking agencies, travel agencies and tour operators
Resident population	At reference dates; may be used to estimate the number of inbound visits to friends and relatives in the area

Demand side items	Key variables
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Inbound trips	By month of departure from area, length of stay, principle mode of transport used to reach area, transport used within area, main type of accommodation used while in area <i>See Appendix 3 for breakdowns</i>
Domestic trips	By month of end of trip, length of stay away from home, transport used within area, main type of accommodation used while away from home <i>See Appendix 3 for breakdowns</i>
Arrivals at tourism accommodation	By month, type of accommodation; separately for overseas, other inbound and domestic arrivals
Nights spent at tourism accommodation	By type of accommodation; separately for overseas, other inbound and domestic arrivals
Occupancy rates	Separately for hotels (and similar establishments) and for other collective accommodation establishments
Tourism spending	In total in the area, and for main components (accommodation, travel, catering, admission charges, other), separately for package trips and for all other trips
Inbound tourists (people not trips)	Profiles such as sex, age, life cycle, socio-economic group <i>See Appendix 4 for breakdowns</i>
Domestic tourists (people not trips)	Ditto

2.3 Economic Indicators

Indicators of the economic effects of tourism activity in the local area are likely to include estimates of local income, jobs and business linkages.

The direct measurement of tourism activity, especially of tourism expenditure, presents only a partial picture of the economic impact of the tourism activity in an area.

The gross *direct* economic impact of tourism is the total value of tourism spending in the area. This covers the ‘front-line’ effects, looking at tourism spending in hotels, restaurants, shops, taxis, i.e. any business that receives visitor expenditure

directly. The net direct impact, however, needs to take into account the value of goods and services that are imported into the area in order to supply the tourist with goods and services.

Indirect effects arise from the generation of economic activity by subsequent rounds of expenditure (e.g. as hotels purchase food and drinks from local suppliers and use the services of local laundries, builders, banks, utility companies, etc.) Not all these effects will arise in the local area since some such expenditure will go to suppliers elsewhere in the region or nationally.

Induced effects arise from the spending of income accruing to local residents from wages and profits during the direct and indirect rounds.

Leakages of expenditure out of the local economy: such as savings and taxation, as well as the costs of imports of goods and services from outside the area already mentioned above.

Opportunity costs: to take into account the cost of using scarce resources for tourism as opposed to alternative uses as, for example, spending on the provision of tourist information centres, car parking and other facilities used by visitors, (and when tourism substitutes one form of expenditure and economic activity for another, this is known as the *displacement effect*).

Investment activity arising from capital investment in new facilities for visitors by private or public sectors (which also involve some consideration of opportunity costs.)

2.4 Environmental Indicators

The EU Methodology on Tourism Statistics, when considering tourism and the environment, states,

“The environment is a factor influencing tourism demand. Since demand for tourism products is partly determined by the quality of the related environment, the environment can have a positive or negative influence on tourism. Likewise, tourism can have a positive and negative impact on the environment.”

Increasingly, local authorities and other interested bodies are concerned with measuring the impact on the environment of visitor activities. These impacts can be both beneficial and harmful, and can include:

support from visitors for the conservation and presentation of “heritage” features from historic castles to landscape or nature conservation sites where visitors are charged for entry or other services such as car parking;

damage to sites or footpath networks arising from over use or badly managed use. A recent report from the House of Commons Environment Committee suggested that such damage is often limited in extent and seriousness but, nevertheless, should be addressed where it occurs;

pollution arising from car usage by visitors, litter and pressure on local sewage disposal works.

The EU Community Methodology on Tourism Statistics takes on board the UN definition of four major categories of information relating to the study of the environment:

- a) Social and economic activities, natural events;
- b) Environmental impact of activities;
- c) Responses to the environmental impact;
- d) Stock, inventories and background conditions.

The EU Methodology further presents, “a selection of topics relevant for a statistical description of the interrelation between tourism and the environment.”

The measurement of activity by area and by mode of transport can, therefore, be an essential element in monitoring impact and the effects of policy and management decisions.

2.5 Community Indicators

As with economic and environmental impacts, the effects of tourism activity on local communities can bring benefits and disadvantages. These include:

local employment, both directly and indirectly;

increased range of local facilities and services which would not otherwise exist (see, for example, the recent studies by the Rural Development Commission on the effect of tourism in rural areas);

increased congestion and intrusion arising from visitors, mainly impacting during particular times of the year.

The effects of tourism activity will vary depending on the relative scale of visitor activity vis a vis the normal level of activity generated by local residents and other economic activities. The impact is also likely to vary substantially by season of the year. Monitoring community effects may require additional surveys of residents to ascertain changing perceptions of tourism activity and impacts over time, which can be related to changes in the actual level and pattern of tourism activity.

3. THE EU TOURISM STATISTICS DIRECTIVE

3.1 Introduction

In November 1995, the Council of the European Union adopted a directive ‘On the collection of statistical information in the field of tourism’ (Council Directive 95/57/EC published on pages L 291/32 - L 291/39 of the Official Journal of the European Communities, 6 December 1995). This section outlines the aim of the Directive, how it will operate across the EU and how it is being implemented within the UK.

The Directive places a requirement on national governments of the member states of the EU to provide a regular set of specific tourism statistics. These statistics are mainly at national or regional levels. There are no direct obligations on local authorities or on tourism businesses as a result of the way in which the Directive is being implemented in the UK. However, local authorities and, especially, hotels and other tourism accommodation establishments will be the primary source for some of the data needed to compile UK tourism statistics.

The preamble to the Directive gives a number of reasons for setting up such a system, including to improve knowledge of the volume and characteristics of tourism and tourists within the EU, to support the development of tourism policies and to meet the needs of users in the private as well as the public sector. Tourism is recognised as ‘a tool of development and socio-economic integration’, for which better statistical information is required, notably at regional level.

3.2 What statistical information is included?

There are three main kinds of topics required under the Directive (and specified in an annex to the Directive, reproduced here):

- a) the capacity of *collective tourism accommodation* (hotels, campsites etc.), for which data is required annually and down to around county level or equivalent (i.e. NUTS level III, in the nomenclature des unites territoriales statistiques, see following Section. The UK NUTS is in the process of being revised, details of which are also given later);
- b) *guest flows* at these collective accommodation establishments, showing arrival and nights spent in different broad types of accommodation. Most information is again required annually, with data down to NUTS level II (which are larger counties or groups of counties under the present formulation of the UK NUTS). Some information, on arrivals, nights spent and occupancy rates, is required monthly for the country as a whole;
- c) *tourism demand* among residents of the country, showing, for example, the number of trips for which the main purpose is holiday, recreation or leisure involving at least one night spent away from home. Annual information is required on longer holiday, recreation or leisure trips (breaks of four nights or more) and quarterly data on 1+ night trips. Quarterly data is also required on 1+ night business trips. This part of the Directive covers the volume and characteristics of trips and the number and profile of people taking trips. Tourist spending is also required. Generally this part of the Directive also requires separate figures for domestic tourism (i.e. tourism within the UK by UK residents) and outbound tourism (tourism trips outside the UK made by UK residents).

3.3 How is the Directive being implemented in the UK?

The UK already has good national surveys and sources of tourism statistics (e.g. the UK Tourism Survey and the International Passenger Survey). These have been fine-tuned to provide the additional information required under the Directive. A UK Occupancy

Survey has been developed, building on occupancy surveys conducted by regional and national tourist boards. Information on the stock of tourism accommodation will be based on the stock known to or registered with the tourist boards.

The Department for Culture, Media and Sport (DCMS), which has policy lead on tourism, is co-ordinating the UK implementation and will be responsible for transmitting the information to Eurostat, and for publishing it within the UK. Concordats or memoranda of understanding are being prepared between DCMS and the national tourist boards, and between DCMS and the Office for National Statistics, in order to ensure the continued flow of reliable data with the required deadlines.

3.4 NUTS

Some of the statistical data required under the Directive is specified in terms of NUTS areas. This 'nomenclature of territorial units for statistics' is the European Commission's classification of sub-national areas for statistical purposes, and is managed by Eurostat. The UK Government Statistical Service has drafted a new NUTS structure for the UK which takes account of Government Office regions and local government reorganisation. The Office for National Statistics, which co-ordinated a consultation exercise on changes to NUTS in the UK, has submitted proposals to Eurostat for their consideration. The Appendix 6 summarises the current and proposed new structure of NUTS in the UK.

There is a target date of April 1998 for implementing these proposals in terms of submitting data to Eurostat, until when the present NUTS is being used. DCMS is preparing the ground to shift to the new NUTS for the tourism statistics directive.

3.5 Developments to the tourism statistics directive

The European Commission is required under the Directive to report to the European Parliament and other EU bodies on the experience acquired in the work carried out under the Directive after data have been collected over a period of three years, that is in the year 2000. At that stage, we will also consider whether the scope of the Directive needs to be adjusted to meet user needs more effectively. One possible such development might be to explore needs for more local data across the EU than will be generated by the present Directive and the revised NUTS. However, such a development would only be considered after a thorough examination of user needs and taking into account the costs and benefits of extending the Directive along these lines.

4. MEASURING THE LOCAL IMPACT OF TOURISM AND MODEL APPROACH

4.1 Worldwide, from a supply-side perspective, no country has a Standard Industrial Classification which encompasses tourism as a single category. This is because tourism is a demand led activity whose influence pervades a number of industrial sectors. The closest it is possible to come to a definition of the tourism industry from the supply-side is to identify those sectors of the economy that are "tourism-related". This being the case, the established modelling approach to assess the economic impact of tourism within a locality is to build an input-output table of local economic transactions so as to trace through the effects of tourist spending.

4.2 Given modern computer power, the modelling of an input-output table is relatively simple. The difficulty, however, lies in the fact that input-output tables are demanding in their use of data. To build a local input-output table without any prior information requires three quantitative surveys to be undertaken:

- Survey of tourist expenditure;
- Survey of business purchases;
- Survey of local consumer spending.

It will be readily appreciated that not only is the above data gathering extensive, it is also expensive, with the result that model building of this kind only takes place occasionally. However input-output models do provide a wealth of statistical information as can be found in the Scottish Tourism Multiplier Study.

4.3 What is tourism anyway?

There is no such thing as a tourism industry. It does not have a discrete form and no single concept of the industry has been developed and accepted by all industry participants. This contributes to the difficulties encountered by tourism users and researchers when trying to build solid information bases at all level of the economy.

Within the tourism industries - transportation, accommodation, entertainment, retail, catering, and other activities - each has developed its own definitions, classifications and methodologies for data collection. The result is that there is little commonly understood or commonly usable communication of tourism statistics. Most attempts at the defining of tourism have revolved around the definition of the user - the so-called "tourist". Each industry again describes the tourist user differently as guest, customer, passenger, visitor, client, and so on. This, too, has not succeeded. Furthermore, in each of these industries tourism represents only part of the use of available capacity.

Because of this lack of understanding tourism, the value and volume of its demand is often underestimated and can limit the full analysis of demand potential and consequent development.

4.4 Tourism data is not considered credible

Historically, estimates of tourism activity and its impact on the economy have differed significantly. While much worthwhile work has been done, this lack of consistency and standards in measuring tourism has helped to contribute to the impression that all numbers are suspect. It must be said with good reason.

Individual tourist destinations have had little hard information to counter potential investors' views that tourism in The UK's destinations is, at best, a ninety day phenomenon and more likely only sixty days.

This lack of availability in tourism statistics has not encouraged industry or political leaders at local levels to give the industry the serious attention it deserves.

- 4.5** The need for local area information is not unique to tourism. The options available to provide local tourism data mirror what is done in other subject areas in order to build a local information system. Such systems call on a range of sources and experiences during their development and operation. They may involve building a ‘model’ of the subject of interest in the local economy, to produce estimates out of the statistical information that is available. Some data to feed the model may be derived locally, from surveys or other sources, including local administrative records. We might want to concentrate on collecting local data, rather than building a model, as the way of compiling the information needed for a local tourism action programme.
- 4.6** Sections 1 and 2 set out “**User Requirements**”, “**Key Variables**”, and “**Standard Definitions**”, which are supplemented by Appendices 1 to 6. Professor Stephen Wanhill, of Bournemouth University/Bornholms Forskningcenter, describes a model as, “Best likened to a jigsaw puzzle in which some pieces are missing completely, some are unclear and others are well defined. The object is to complete the picture in the jigsaw by using the evidence available and making deductive leaps, from qualitative assessment, in order to bridge the gaps created by the missing pieces.” Appendix 7 summarises some of the key points of needs of local area statistics and model specification.

5. AN INTRODUCTION TO THE SCARBOROUGH TOURISM ECONOMIC ACTIVITY MONITOR (STEAM)

5.1 Background

The genius of STEAM lies in questions being posed in the early seventies by local tourism organisations internationally - “What is tourism? What are its impacts? What are its costs?” As is discussed earlier, tourism is essentially a micro industry with macro impacts. Then, and to a lesser extent, now, information was not available locally to guide the development of tourism policy, tourism strategy, investment, management, operations, marketing and training.

In addition to these questions, another underlying pervading challenge exists, which is the gap between tourism academics and the tourism practitioners. The gap can be expressed in a number of ways, perception of needs, ability to communicate, inadequate financing of tourism research, and the general insufficiency of relevant and recognised education.

In The UK, the Association of District Councils, the relevant National and Regional Tourist Boards, and Government, started to address the lack of local area statistics in the seventies. This, in the main, was addressed by disaggregation of nationally gathered statistics.

5.2 Methodology and Sources

STEAM is not designed to provide a precise and accurate measurement of tourism in a district, but rather to provide an indicative base for monitoring trends. This statement forms the background to the objectives of the study and the methodological processes used to evaluate STEAM. The model has already been likened to a jigsaw puzzle in

which some pieces are missing, some unclear, others well defined. The object is to complete the jigsaw puzzle.

Any attempt to quantify the economic impact of tourism will incorporate assumptions and depend upon extrapolation. Precision is not possible.

STEAM is designed to work at district level and above; the latter by amalgamation of districts. **It aims to quantify the economic impact of tourism, from both staying and day visitors, in terms of:**

- **Tourist expenditure/revenue**
- **Employment generated by tourism**
- **Tourist numbers and tourist days** (holiday and business sub-division
dependent upon input data availability)
- **Traffic generated by tourists**
- **Trends**

STEAM proceeds from a base of factual data. Assumptions are used to extend this data. These assumptions are derived from research or corroborated by the local knowledge of tourism officials and the private sector.

STEAM is not a statistically estimated model in the manner of an input-output table or an econometric model of the local economy. It is a spreadsheet model, which is more of a process in which the values of the relationships or equations defined on the spreadsheet are specified at each stage by the user. Thus, although the logic of the model is constant, the nature of data input will alter from area to area depending on the amount of survey material available and qualitative expert opinion concerning the structure of the tourism sector in the local economy. Set out below is a data checklist which is used to drive the STEAM model and process.

5.3 Data Availability Checklist

Stock of Tourist Accommodation

When available, use can be made of National or Regional Tourist Board listings of all known establishments. These listings usually are in the form of computer print-outs showing the name and address of each establishment and its number of rooms and beds. There are separate reports for self-catering and camping establishments and for group accommodation such as youth hostels and university residences. The computer print-outs are incomplete and require to be checked against tourist guides, Yellow Pages in some cases, and any information available for local tourism executives and TIC's. The establishments require to be categorised according to size and type so as to identify business use, special characteristics such as coach parties or patronage by golfers, or grading scheme classification. The analysis is then extended to encompass months of opening so that the seasonal pattern of bed stock availability is clear. [No comprehensive list of accommodation is universally available; therefore, you need to consult all sources to ensure that your local list of accommodation is as comprehensive as possible. This should be done at least annually.]

Occupancy Percentages

Occupancy percentages are obtained from Regional or National Boards which run the occupancy surveys. These should be discussed with the Boards, when necessary, to ensure that distortions are avoided. The occupancy percentages can be applied to the bed stock each month to establish the tourist nights, which can be done for each category of accommodation.

VFR (Visiting Friends and Relatives)

The size of the local population needs to be established and its ethnic and other characteristics considered. National surveys, such as UKTS and Scottish Tourist Board research, can be used as a guide to the pattern of VFR, but the attractiveness of the District as a leisure destination must be taken into account when setting the incidence of VFR visiting at the District level.

Day Visiting

Extensive listings can be accessed of all known tourist attractions and events, including sporting events and festivals. Traffic count data can be obtained from highway authorities and other organisations, such as the National Parks, which can contribute to the overall day visitor analysis. Past surveys should be obtained and comparison made with similar surveys elsewhere. Special features of a District must be considered. Any other sources of information should be sought, such as trends in enquiries at TIC's. On the basis of the above, estimates of day visiting can be made. Wherever possible, figures for one District should be compared and corroborated by comparison with the results of other Districts of like nature. Preferably, day visitor numbers should be reviewed monthly. It must be noted that the production of estimates of day visitor numbers at the local area must be treated with the utmost care because of the nature of this type of visitor and the wide use of varying definitions.

Tourist Days and Tourist Numbers

Length of stay is relevant in order to estimate numbers of tourists. This information can be gleaned from occupancy surveys. Comparisons can be usefully made with national surveys for benchmarking.

Rates of Daily Expenditure

Tariff information can be obtained from tourist guides and checked by telephone research so as to establish levels of discounting from rack rates. In some cases it is vital to consider the use of different tariffs for weekdays and for weekends. Assumptions regarding expenditure by tourists on food and drink, leisure and recreation, shopping and transport, can be made on the basis of local research, where known. Figures can be compared with national surveys and corroborated by comparison with assumptions for different districts. There are different rates for each category of tourist. In addition, propensity to spend time outwith the District should be considered and the rates of daily expenditure reduced so as to avoid double counting revenue. Inflows of day visitors and their attendant expenditure levels also require to be considered.

Indirect Revenue

Indirect and induced revenue are gauged by the use of multipliers. These multipliers are derived from research undertaken either within the district concerned or in comparable

districts elsewhere. Research is required to synthesise multiplier studies so as to ensure that multipliers applied to a particular district are as close a match as possible.

Multipliers

The concept of the multiplier is based upon the recognition that the various sectors which make up the economy are interdependent. That is, in addition to purchasing primary inputs such as labour or imported goods, each sector will purchase intermediate goods and services produced by other establishments within the local economy. Thus, any change in the level of tourist expenditure, by visitors from outside the local economy, will not only affect the industry which produces that final good or service, but also that industry's suppliers, the supplier's suppliers, and so on. It must be noted that the use of "multipliers" is not a precise science, and it is recommended that, where used at the local level, they should be listed separately.

Traffic Implications

Methods of transport must be considered for each type of tourist. These assumptions can be drawn from national survey work and local surveys, where available. Party size is obtained from survey work in order to establish approximate numbers of people per car.

Employment

For accommodation, reference should be made to the numbers and types of accommodation establishments. From surveys the numbers of core staff per type and size of establishment can be calculated. In most models, programmes can be set to adjust the core staff in accordance with occupancy percentages above certain thresholds. This takes account of the times when temporary or part-time staff will be required. Employment deriving from tourist expenditure upon food and drink, recreation and leisure, shopping and transport, can be based upon multipliers. Again, reference should be made to multiplier studies undertaken elsewhere. However, these multipliers must be adjusted in accordance with local wage rates, levels of rent, and other factors pertinent to the district in question. At the end of the year, employment figures should be reviewed in total for the year so as to take account of the fact that tourist expenditure in peak months will subsidise, to some extent, the level of employment out of season. In addition, comparison can be made with figures available from a number of sources, e.g. NOMIS (National Online Management Information System) which will require careful and selective interrogation, and use.

6. STEAM DEVELOPMENT AND VALIDATION HISTORY

The Scarborough Tourism Economic Activity Model is derived from a model developed by David James and Frank Hart in the process of developing a ten year tourism policy for the province of Saskatchewan, Canada, in 1981. This was followed with work focused on the city of Edmonton, Alberta, Canada, and became the first attempt to develop the effective use of supply-side generated data drawing on the model developed in Saskatchewan in 1981.

Encouraged by the successful experiment in Edmonton, the outputs of which were accepted by Edmonton City Council and its Convention and Tourism Authority, a part

experiment followed focused on the City of Toronto's convention business. This experiment provided much needed data for the Toronto Convention Bureau, but it remained for Scarborough to develop the full potential of supply-side modelling at the local area.

In 1993, given the need for third party validation, Professor Stephen Wanhill of the School of Consumer Studies, Tourism and Hospitality Management Division, University of Wales, was commissioned by the Jictours Local Area Statistics Working Group to examine STEAM in detail to ensure it fulfilled the objectives set for itself. Professor Wanhill's report was received by the Working Group in December 1993, and his overall conclusions were that:

“STEAM is mathematically acceptable as a model of tourism flows. It can never be, and does not pretend to be, a statistically robust measurement of tourism in the manner of randomly drawn sample surveys of visitors”, and:

“STEAM is not designed to provide a precise and accurate measurement of tourism in a district, rather to provide an indicative base for monitoring trends.”

The Jictours Local Area Statistics Working Group gave its endorsement of STEAM at its 23 February 1994 meeting.

It is believed that STEAM now allows over eighty local authorities in the United Kingdom to be able to generate information at the local level more appropriate to their needs than through the use of disaggregated, nationally generated, demand-side information.

Following the initiative of the British Resorts Association and later involvement of the Association of District Councils, the model is now extensively in use in Scotland, where Scottish Enterprise, since 1995, has supervised pilot programmes in its thirteen Local Enterprise Companies, culminating in full implementation in lowland Scotland.

In 1997, STEAM was evaluated by the Danish Ministry of Business and Industry through a Danish Tourist Board supervised application of STEAM in four Danish municipalities. Following the successful completion of the project, the Bornholms Forskningcenter is commencing the implementation of the programme throughout Denmark, initially in the Jutland Peninsular.

The most recent international venture for STEAM will be in Southern Africa on behalf of The Maputo Development Corridor Company. The company is operating a five-nation Strategic Development Initiative on behalf of the Governments of South Africa, Mozambique, Botswana, Swaziland and Zimbabwe. It has started the process necessary to implement a comprehensive array of tracking programmes in the Maputo Corridor and related areas.

7. STEAM AND THE EU METHODOLOGY ON TOURISM STATISTICS

Given the articles of the **EU Council Directive on the collection of statistical information in the field of tourism**, STEAM outputs can reflect, where appropriate at the local level, those tourism categories adopted for statistical purposes by member states. Clearly, STEAM is focused totally on inbound travel and its economic impacts. In economic impact terms, STEAM can presently operate at **NUTS Level 4**, and, where satisfactory input data has been available, **NUTS Level 5**. The adoption of the EU Methodology on Tourism Statistics now permits models such as STEAM, which have the capability to be internationally transferable, to produce statistics at **NUTS Level 4**, which are compatible and comparable across member state boundaries.

8. ACKNOWLEDGEMENT

The authorship of this paper draws heavily on the experience and support of Professor Stephen Wanhill, John Bentley-Smith, Frank Hart, Bernard Campbell, Geoff Broom, Victor Middleton and Paul Allin. The successful implementation of the STEAM concept in areas of England, Scotland and Wales, and latterly in Denmark, is due, in no small measure, to the commitment of Scarborough Borough Council to the project.

9. PREPARED BY DAVID J. JAMES, MANAGING DIRECTOR, GLOBAL TOURISM SOLUTIONS (UK) LTD. 26 February 1998

10. THE MATERIAL IN THIS PAPER DREW FROM A NUMBER OF SOURCES INCLUDING:

Gilchrist and White, (1998), "Modelling Local Area Tourism Statistics: a report to the Department for Culture, Media and Sport and the UK National Tourist Boards"

James, (1997), "STEAM Background and Methodology"

Luxembourg: Office for Official Publications of the European Community, (1998), "Community Methodology on Tourism Statistics", ISBN 92-828-1921-38

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OJ No. L291, (1995), "Council Directive 95/97/EC on the collection of statistical information in the field of tourism", pages L291/32-L291/39"

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UN and WTO, (1994), "Recommendations on Tourism Statistics"

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APPENDIX 1: ACCOMMODATION CATEGORIES FOR STATISTICAL PURPOSES

This listing is based on the list used in the EU Directive on tourism statistics and may, therefore, provide a framework for the comparison of data when a breakdown by type of accommodation is required (e.g. of stock, arrivals, visitor nights, occupancy rates)

1. Hotels and similar establishments:

- 1.1 Hotel/motel
- 1.2 Guest house
- 1.3 Farmhouse or other private house offering at least bed and breakfast

2. Tourist campsites:

- 2.1 Camping site (exclusively or predominantly tents)
- 2.2 Site for touring caravans

3. 'Holiday dwellings' (European phrase) meaning:

- 3.1 Holiday camp (self-catering/service)
- 3.2 Holiday village
- 3.3 Site with static caravans (owned by operator)

4. Other collective accommodation:

- 4.1 Youth hostel
- 4.2 University/school offering tourism accommodation
- 4.3 Marina
- 4.4 Establishment reserved for specified types of visitor (workers, students, etc.)
- 4.5 Specialised health care or religious/spiritual establishment

5. Private accommodation:

- 5.1 Rented self-catering accommodation
- 5.2 Secondary residence (houses, caravans, pitches and moorings)
- 5.3 Homes of friends or relatives
- 5.4 Other types of accommodation

Note that private accommodation is not usually measured on the supply side. Tourism arrivals and occupancy rates will invariably only be available at most for hotels, campsites and holiday dwellings. Bed spaces are taken as four to a camping pitch.

APPENDIX 2: CATEGORIES FOR VISITOR ATTRACTIONS

The UK national tourist boards use the following breakdown:

Historic houses and monuments
Gardens
Museums & galleries
Wildlife attractions
Country parks
Leisure parks
Steam railways
Workplace attractions
Conference and exhibition centres and venues for special events
Miscellaneous attractions

APPENDIX 3: CATEGORIES TO DESCRIBE ASPECTS OF TOURISM TRIPS

Length of stay: The EU Directive requires some data by:

- Same day trips
- 1-3 nights
- 4-7 nights
- 8-14 nights
- 15-28 nights
- 29-91 nights
- 92-365 nights

Main mode of transport used: The EU Directive requires some data by:

- Air
 - Sea
 - Railway
 - Bus, coach (regular and tourist)
 - Private and hired vehicles
 - Other land transport
- (Further breakdowns of a number of these categories can be made)

APPENDIX 4: TOURIST PROFILES

Age breakdowns in EU Directive are

0-14 years (optional to include in Directive data)

15-24 years

25-44 years

45-64 years

65 years and over

Socio-economic group breakdown used in UKTS are those of the Institute of Practitioners in Advertising:

AB (Professional and managerial)

C1 (Clerical and supervisory)

C2 (Skilled manual)

DE (Unskilled, state pensioners, etc.)

Life cycle breakdown used in UKTS is:

15-34 single with no children under 15

15-34 married with no children under 15

15-34 single or married with children under 15

35-54 married or single with no children under 15

35-54 married or single with children under 15

55+

APPENDIX 5: THE TOURISM RELATED INDUSTRIES

The UK Office for National Statistics (ONS) publishes quarterly statistics covering employment in the following industries:

Standard Industrial Classification (1992) Class

55.1 Hotels

55.2 Camping sites and other provision of short stay accommodation

55.3 Restaurants

55.4 Bars, public houses and nightclubs

63.3 Travel agencies and tour operators

92.5 Library, archives, museums and other cultural activities

92.6 Sporting activities

92.7 Other recreational activities

(Note: Other countries include further industries in this list, especially those industries in the transport sector)

APPENDIX 6

**THE CLASSIFICATION OF UK AREAS
FOR EUROPEAN PURPOSES
(Nomenclature of Territorial Units for Statistics - NUTS)**

INTRODUCTION

This Appendix* contains a proposed revised UK structure for the Nomenclature of Territorial Units for Statistics (NUTS), which aims to provide a single, uniform breakdown of territorial units for producing regional statistics across the European Union.

SUMMARY

2. The proposed NUTS structure for the UK, together with the current structure, is fully described in Appendix A, and generally follows the scheme given below.

	PROPOSED STRUCTURE				EXISTING STRUCTURE	
	Type of area					
NUTS Level	England	Scotland	Wales	Northern Ireland	Type of area	
NUTS 1	Government Office Regions	Country	Country	Country	Standard Statistical Regions	
NUTS 2	Counties (some grouped)	Groups of Unitary Authorities or LECs	Groups of Unitary Authorities	Country	Groups of counties	
NUTS 3	Upper tier authorities	Unitary Authorities	Unitary Authorities or LEC/part UA	Unitary Authorities	Groups of districts	Counties
NUTS 4	Lower tier authorities		Unitary Authorities or LEC/part UA		Districts	Districts
NUTS 5	Wards	Wards	Wards	Wards	Wards	

In addition, it is proposed that Gibraltar should be a NUTS level 1 unit, with no further sub-division at levels 2, 3 or 4. No proposal is made at this stage for level 5.

**Proposals for the UK Nomenclature of Territorial Units: the classification of UK areas for European purposes”, is available from the Office for National Statistics.*

APPENDIX 7: KEY POINT SUMMARY

1. *LOCAL AREA STATISTICS*

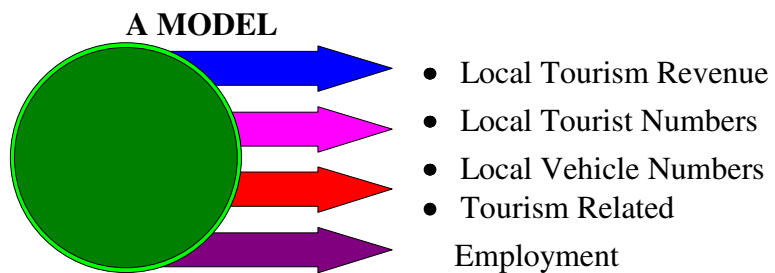
- Data
- Rich
- Information
- Poor
- Syndrome

2. *TODAY'S SITUATION*

- Lots of surveys are carried out
- Much information is gathered
- Lots of national statistics about here and there
- Gives a good feel for the state of tourism
- Nothing concrete and solid (*A good feel but difficult to pin down*)

3. *DATA MUST BECOME INFORMATION*

- Counters
- Attendances
- Surveys
- Statistics



4. *INFORMATION MUST BE*

- Credible
- Comparable
- Compatible
- Timely
- Measurable (Margin of error)
- Accurate (Fitness for purpose)
- Actionable
- Affordable (No quick fix)

(Standard definitions and standard concepts are desirable though not always obtainable)

5. *WHY TOURISM RESEARCH?*

- Advocacy, Planning and Public Awareness
- Marketing
- Investment, Operations and Management
- Manpower, Education and Training

6. *WHY DO WE NEED A MODEL?*

- Planning
- Marketing
- Investment

- Manpower

7. *MODELLING TOURISM?*

- Why?
- Who wants to know?
- What do they want to know?
- We already know all there is to know

8. *WHAT MUST A MODEL DO?*

- Measure tourism and its impact on an area
- Make comparisons from one time period to another
- Make comparisons from one place to another
- Be credible at national and international level
(Comparability with other sectors desirable, but difficult)

9. *TOURISM IMPACT ON AN AREA*

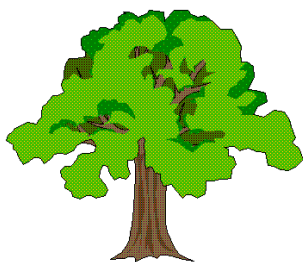
- Revenue generated from tourism
- Tourist days and tourist numbers
- Employment supported by tourism
- Traffic generated by tourists

10. *WHAT SHOULD A MODEL DO?*

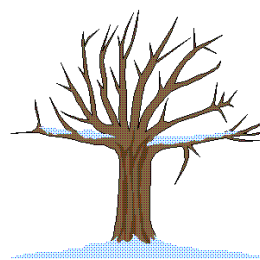
- Monitor trends
- Reflect the nature of local tourism
- Identify local peaks/troughs
- Help decision making and forecasting
- Evolve with local tourism industry

11. *REFLECTING LOCAL TOURISM*

Local Tourism



The Model



12. *CREDIBILITY*

Local Area Statistics are used to support

- Grant applications to EU, Lottery and Government
- Local tourism budgets
- External investment projects
- Planning applications
- Local Plan formulation

- Police and Fire Brigade budget submissions