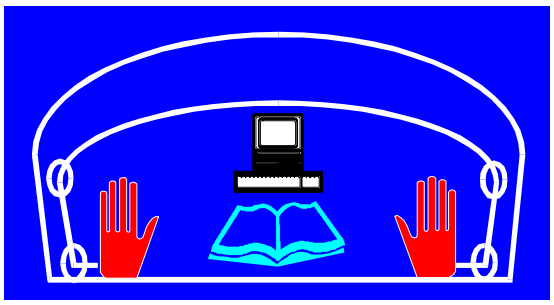

A Review Of Provincial Resident Travel Studies & The Cts - A Discussion Paper

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A Review Of Provincial Resident Travel Studies & The CTS: A Discussion Paper

Presented To:

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Presented By:

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CONCLUSIONS AND RECOMMENDATIONS

A national survey to capture domestic travel volume and value data would be the optimal means of overcoming definitional and methodological differences among provincial studies and the existing Canadian Travel Survey.

Based on current information, we recommend that a one month recall be utilized in the new national study.

Any new national study must address potential users' volumetric data needs (i.e., number of trips/dollars). Consideration should be given to whether or how market intelligence needs (demographic profiles, "heavy" versus "light" travellers, etc.) can or should be met by this vehicle.

There is also a need to carefully review and rationalize expenditure allocation rules with particular reference to carrier costs. Should these very sizeable expenditures be allocated to origin or destination?

If the Labour Force Survey sampling frame is utilized for a new national domestic tourism study, diary data collection should be considered as a potentially cost-effective mechanism for collecting more reliable trip and particularly value estimates than might be obtained with a recall/telephone data collection approach.

Further exploration of the U.S. data on recall periods should be undertaken in advance of the "bounded recall" experiment to determine whether it can guide the design of the experiment.

In addition to providing further information on an appropriate recall period, the proposed bounded recall experiment in 1992 could provide important information on the representativeness of provincial survey samples. Careful scrutiny should also be given to the recently completed Newfoundland resident study to determine its contribution to the recall period debate.

If a partnership among federal and provincial tourism research buyers is to be reached, each buyer will have to review his/her needs with respect to survey content, frequency, and sample size.

If a partnership cannot be reached, the Ontario Travel Monitor Survey remains a viable option for meeting Ontario's travel data needs. At the same time, greater controls over the implementation process and some experiments might add to the overall value of this project.

SUMMARY OF KEY ISSUES

- provincial estimates -- generated by a wide variety of private suppliers using more or less rigorous approaches to data collection and handling -- vary dramatically (one to the other and to CTS estimates).

- No study examined is without its limitations. Ideally, an amalgam of provincial and CTS components would produce the most appropriate and consistent vehicle for measuring domestic tourism volume and value.

- As information needs and data collection costs continue to escalate, there is a clear requirement for uniformity of approach and definition among the provinces and between the provinces and the federal government. Duplication is no longer an affordable alternative.

- The components that should be retained from various studies to yield the "ideal" methodology-are summarized below:

  - Sample frame, size and response rate from the CTS.
  - Weighting and projection procedures from the CTS.
  - Recall period from provincial studies (one month).
  - Customized data handling/editing procedures from some provincial studies.
  - Mechanisms for excluding "background" expenditures from some provincial studies.
  - Level of responsiveness to client needs from some provincial surveys.

- The CTS is conducted under the provisions of the Statistics Act and is, therefore, not voluntary on the part of the respondent. This *mandatory* requirement is not available to private research companies and constitutes an insurmountable shortcoming of studies conducted by private sector suppliers. For example, the CTS can achieve a response rate on the order of 8-in-10 whereas private suppliers achieve rates of between 2-in-10 and 3-in-10 . . . and the higher the response rate, the more reliable the data.

- Although not covered in detail in this review, there is evidence to suggest that the quality of the Labour Force Survey sample, and by extension, the CTS sample, is higher than those used by private research suppliers. There are fewer exclusions in the LFS sampling frames than in "seeded" telephone samples.

- Conversely, the CT'S cannot overcome fundamental credibility concerns about its volume and value estimates without reducing its recall period.

- Although no "definitive" study was found to demonstrate the extent of underestimation of both trip volume and value with a three month recall compared with one month recall, the literature and a major U.S. tourism study clearly support the contention that the shorter the recall period, the more accurate the memory. Experiments by academic researchers and comparisons of CTS and provincial data suggest that the quarterly recall period be shortened to one month.

- "Small" data collection and handling decisions can have dramatic impacts on survey estimates. Topics such as the following require careful scrutiny when comparing output from one study to the next:

  - "outlier" definitions and reviews;
  - the 8 trip maximum in the CTS (only 8 unique trips are recorded for any one respondent}
  - number of callbacks made before abandoning a potential sampling point (ranging from 3 in Alberta to 6 in Ontario);
  - definitions of expenditure categories;
  - proportion of "total only" versus category expenses provided by respondents and the mechanisms used to allocate "total" dollars to specific categories; etc.

- The level of scrutiny data are given prior to processing seems to differ widely from supplier to supplier. The extent to which such handling has an impact on estimates is unknown, but can be assumed to alter estimates. CTS adopts a fairly mechanical approach to data, and claims not to recontact respondents for verification of unusual or apparently contradictory responses once data entry has taken place (data entry occurs in the field offices but outlier reviews that would highlight "unusual" occurrences are mnducted in Ottawa). This procedure differs from case-by-case reviews and respondent re-contact undertaken by some, though not all, private research suppliers.

- The realities of weighting and projection techniques necessary to obtain trip estimates are such that they preclude provision of standard "market intelligence" measures such as incidence, profiles of various types of travelers and non-travellers, etc. When considering the future of the CTS and/or independent provincial surveys, serious thought should be given to trying to meet some of these information needs. Some suggestions for meeting market intelligence data needs include the following

  - Development of an additional weighting/tabulation plan that permits tabulation on a respondent basis. Cumulation of data from month to month would have to be taken into account in such a plan; and/or

  - Identification of "bell weather" or "typical" travel periods to stand for "summer travelers", "shoulder travelers" and "winter travelers" and the provision of profile data for these typical time periods.

- Provincial governments need to examine the quality of the data they are obtaining from the add-on components of traditional volumetric studies. Low completion rates and the inability to adjust for differences between responders and non-responders on attitudinal or travel characteristics must be closely scrutinized to determine how valuable such add-on components are. There is also a need to review respondent burden.

- Is a diary format a real alternative to telephone data collection based on recall? The answer is "no" so long as provincial tourism studies are to be conducted within the private sector because of the high placement costs and potentially low response rates. Personal installation of diaries is a very costly exercise. Alternatively, response rates to self-completion components of travel studies recruited at the end of a telephone interview (as in the case of add-on self completion components) raise major concerns about the efficacy of telephone recruitment for a diary study.

  Such concerns might be reduced if the telephone recruitment for a travel diary were undertaken under the conditions of the Statistics Act. Alternatively, consideration might be given to an "installed" diary during the initial rotation of the Labour Force Survey (face-to-fare personal interviews).

  From an academic perspective, diaries Have advantages over recall for tourism data, but real people do not necessarily conform to academic standards of performance. From a pragmatic perspective, tourism researchers need to answer the following questions:

  - From a financial perspective, are we in a position to transform the entire data collection method used federally and provincially (from telephone recall to diary recording) for unknown gains in accuracy?

  - Also from a financial perspective, are we in a position to mount a sufficiently large experiment to determine the gain in accuracy of data that might be generated by a move from a telephone recall to a diary format?

- The quality of provincial tourism studies varies widely. Major provincial tourism studies are outside the ken of most market research companies. They are more methodologically complex, they are of longer duration (e.g., 12 months), and they demand a different level of precision at all stages than does the standard advertising tracking study or product teat.

- There is a high 'turnover" rate among private sector suppliers and senior researchers who undertake large scale provincial tourism studies. Discussions with representatives of several of these firms indicate that:

  - the profit margins are considerably lower than those experienced with more standard market research projects;

  - staff "bum out" because of the complexity and duration of the projects;

  - those companies that successfully complete these types of projects are not necessarily interested in undertaking them again.

  The loss in expertise when senior staff leave a project or when a supplier does not continue with the project, a follow-up study generates costs to the research buyer. A new supplier must be trained -- often a frustrating and time consuming activity for both the supplier and the buyer.

- On the positive side, the private sector is highly responsive to clients' information needs. Because of the competitive environment in which they operate, private sector suppliers must attempt to satisfy their clients in a way that a quasi-monopolistic institution such as Statistics Canada has not had to. Although Statistics Canada now competes directly against the private sector for contracts and has introduced "profit centres" within its structure, these are recent developments. Responsiveness to client needs and interests does not seem to have percolated through all parts of the organization. Perhaps the very fact that this review is being undertaken suggests that such responsiveness is being embraced by those managing the CTS.

- To collect essentially the same information, the CTS spent almost $1.3 million while three provinces spent an additional $900,000 (combined) in a year. Given the wide disparity of estimates across the CTS and various provincial surveys, it does not seem that the $2 million or more spent in a single year by various governments is the wisest use of ever-scarcer research dollars.

- How would costs be reassigned for a redesigned CTS? Currently, Tourism Canada accounts for 80% of annual costs, with the balance assigned to participating provinces. The provincial and federal governments would likely have to reassess this funding scenario and arrive at one that is equitable and affordable for all parties.

- The price of the learning curve and the comparatively low response rates achieved within the private sector must be balanced against CTS shortcomings. The private sector will never be in a position to ensure the continuity of personnel, the level of specialized expertise, or the response rates generated by a legal obligation that are available to Statistics Canada.

  All of these factors suggest that the quality of the provincial estimates will fall below those achieved by Statistics Canada. Conversely, unless Statistics Canada responds to provincial and academic concerns about the recall period, it will continue to produce estimates of high reliability but perhaps low validity and/or credibility because it uses a dubious recall measure.

- Based on this review, the minimum requirements of a new national survey (or a "New" CTS) from Ontario's perspective would appear to include the following

  - a monthly recall period;
  - abolition of the 8 trip maximum;
  - development of a mutually satisfactory mechanism for capturing expenditure data (i.e., definitions, rules for allocation to category and to locations);
  - review of the high "total only" rates in the CTS expenditure data (this may decline appreciably as a result of the shorter recall period);
  - review of the potential for generating "respondent-based" market intelligence data from the volumetric (trip) data file (e.g., a secondary weighting/projection plan using a respondent rather than trip base);
  - annual implementation, though samples could be alternated between "large" and "maintenance" sizes.

- If a redesigned CTS could meet the conditions described above, this reviewer believes that it would be a more beneficial alternative to independent provincial studies because:

  - Definitions and units of measurement would be consistent from province to province;
  - Data collection methods and procedures would be consistent from province to province;
  - A higher response rate than could be achieved by any private sector firm would be assured, lending greater stability to the estimates.

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L INTRODUCTION & BACKGROUND

The purpose of this review of domestic travel studies is to provide guidance to the emergence of more unified and efficient approach to the collection of domestic travel volume and value data. As such, it has as its focus the methodologies of the following studies:

- Canadian Travel Survey (CTS),
- 1988/90 Ontario Travel Monitor Survey (OTMS),
- 1989 British Columbia Resident Travel Study,
- 1991 Alberta Resident Travel Survey, and
- 1991 Newfoundland Resident Travel Study[1].

The review, requested and funded by the Ontario Ministry of Tourism and Recreation, was designed to present an objective assessment of the Ontario Travel Monitor Survey and to review areas of convergence, divergence and issues of relevance to domestic travel surveys in Canada for the ITS/CTS Task Group. Because of the limited time available, it is not comprehensive.

Telephone discussions were held with representatives of each of these studies to obtain their impressions of the strengths and weaknesses of the process, costs, and output of the surveys (see appendix for a list of the individuals interviewed). Materials on the various survey and analysis procedures were collected from many sources and were reviewed by the researcher. The subject of this review has been considered from a variety of perspectives in the past, and by individuals and groups with greater methodological depth than this reviewer. Thus, this review is not meant to supplant or replace the efforts of those who made a substantial contribution to the *National Task Force On Tourism Data* (March 1989). Instead, this paper is designed to review Ontario's recent domestic travel survey and others conducted across Canada. As such, this effort augments the Task Force's Final Report, and *The Canadian and International Travel Surveys Needs, Expectations, Use and Options (Terry* Cheney, March 1991) prepared for Tourism Canada.

[1]Still awaiting information.

The reader will note that the reviewer has included a seemingly odd assortment of topics for consideration. Some pose major questions (recall period, primary data collection methodology) and some raise often overlooked questions such as how outliers are defined and documented in domestic tourism studies. The general and specific topics included in this review are of special interest to the Ontario Ministry of Tourism and Recreation because it funds a large scale domestic travel study. To other readers, the specific areas of discussion may result in one or all of the following

- Provide a review of the methodological issues;
- Demonstrate the enormous complexity of studies such as the CTS or OTMS;
- Accentuate the constraints on finding easy answers about the future of domestic travel surveys in Canada; and/or
- Provide direction for further inquiries into methodological issues if changes are to be made in the way we collect domestic travel data.

This review is organized around major "hard" topics such as volume and expenditure estimates and procedures and "soft" topics such as market intelligence. An overview of the content is provided below:

VOLUME ISSUES

Trip definition is examined extensively because it has such a significant impact on the comparability of trip estimates from one study to the next;

Survey design and procedures that have a major impact on overall volume estimates are also reviewed. These discussions include a review of the recall period, telescoping, response rates, outlier reviews and other related topics.

VALUE ISSUES

Data capture procedures for expenditure information, including differences in response categories, definitions and the like are reviewed;

Mechanisms used to obtain final value estimates, including allocation procedures for both direct and prepaid dollars are described and compared.

MARKET INTELLIGENCE

Self-completion components of major tourism studies are examined from the perspective client information **needs, respondent** burden and **reliability;**

Implications of "respondent" versus "trip" data are also explored.

DOLLARS & SENSE

Costs per interview and the **implications** of **these costs** are discussed. This chapter also provides a hypothetical **scenario** for a new **national** *tourism* data collection vehicle.

REVIEW OF **THE** ONTARIO TRAVEL MONITOR SURVEY

This chapter **focuses specifically** on the **OTMS. As** such, it assesses this study using **much** of the comparative analysis presented in other sections of this document.

Throughout this review, the reader **should** consider whether history is a burden or a boon for **domestic** tourism data. One reason commonly tendered for retention of the **CTS** in its existing form is its historical value. One of Cheney's principal conclusions was:

> *The surveys (ITS/CTS) provide the only comprehensive baseline national data on Canadians' travel: the data provide for consistent study of travel characteristics between provinces and over time, and allow for study by the provinces and industry users as well as Tourism Canada.*

This conclusion **loses** some of **its** force when contrasted with a subsequent point in **Cheney's summary:**

> *Significantly more effective use of the CTS vehicle could be obtained by modifying the recall period for which data are collected. . .*

To change the recall period from three months to one month would signal the end of "baseline national data". No longer **could comparisons** from year to year be made **within** the **CTS.** How willing are users and **funders** such as Tourism Canada to relinquish this "baseline" and historical data?

What are the implications for further survey refinements once the recall period has been reduced from three to one month? If this essentially massive change is made, would this not create the opportunity to make other alterations to the survey instrument and data handling procedures that might make the final output more useful to provincial tourism departments?

How willing would Statistics Canada be to dismantling the existing structure of the CTS so that the largely "mechanical" approach to data is altered to better reflect the subjectivity of reported travel data? In turn, how willing would the provincial governments be to adopt the more mechanical procedures utilized by Statistics Canada?

The facing chart was prepared to demonstrate how different the estimates of domestic tourism really are. Are differences of the magnitude shown here acceptable to the tourism research community in Canada? How can these differences be explained? Which one, if any, is "right"? In short, these variations, and their implications for the tourism research community constitute the focus of this document.

Hopefully, the following discussion will shed some light on these critical questions.

IL VOLUME ISSUES

A Trip Definition

A critical issue vis-à-vis domestic tourism studies pertains to the operational definition of a "trip". The most appropriate definition has been the subject of great debate and will not be considered in detail here. In general terms, data users must come to some consensus on what a "tourism" trip is. Does it include reference to distance, duration, main purpose, destination, etc. The *National Task Force On Tourism Data, Final Report,* (March *1989)* recommendation that a common trip definition -- that meets the needs of provincial and federal tourism planners --be found remains an essential and urgent task for the Canadian tourism community. At the present

time, provincial surveys use a different definition than does the CTS, rendering direct comparability impossible. Provincial definitions also differ -- one province to the next.

Retention of different definitions by provincial and federal authorities not only calls into question comparability of data from studies currently underway, but makes it difficult to consider a synthesis of federal/provincial efforts for the future. To maintain the long term "tracking" benefits of the CTS, one could argue that the CTS trip definition must be retained. But if the definitions used by this study are inappropriate for inter-regional analysis within a province (i.e., *80 km* distance on same day trips) and/or the time frame is not trusted (i.e., 3 month recall), provincial support for the CTS will remain problematic.

A-1 Reporting Unit

As is evident from the Trip Definition Chart (facing), different travel studies utilize different "units" of measurement. The ability to share information in an increasingly cost conscious tourism research environment is severely hindered by what seem to be small differences from one study to the next.

From a statistical perspective, these "small" differences can be extremely significant . . . to the point that methodologists rightfully refuse to attempt comparisons. It is the proverbial fruit bowl -- trying to compare apples, oranges, peaches, and bananas.

A-la Household Or Travel Party

From observation, we know that people travel in parties that are independent of "household" boundaries. Why then, would we not measure travel behaviour of parties rather than household members?

Advantages to utilizing a randomly selected household member and including only other household members on the trip as the primary unit of analysis include:

- the known size and distribution of both households and individuals in each tourism region/province of Canada. The probability of selection can be calculated and accurate projection to the population can be undertaken as a result of existing population statistics. No such data are available for travel parties.

- there is no "double counting". If travel parties represent more than one household, a trip has a chance (unmeasurable) of being reported by more than one selected respondent/household.

The statistics associated with the unit (household/party) are relatively complicated and are not provided in detail here. Documentation of this issue is available, and generally supports reliance on a randomly selected household member in a randomly selected household (both with known probabilities of selection).

It will be interesting to see how the "combination" approach adopted by the Alberta Resident Travel Study will be utilized at the projection/tabulation stage. Clearly, to this province considerable value was attached to obtaining both "person-trip" and "party trip" data. One concern that emerges prior to data analysis pertains to the potential confusion on the part of the respondent. In some portions of the questionnaire, he/she is asked to use a "party" unit, and in others is asked to refer only to behaviour of him/herself and other household members.

To arrive at a unified approach to tourism data bases, it may be necessary to determine how "party" data can (or should) be collected, or whether a "party" measure is too difficult or expensive to capture accurately.

A-lb Age Of Respondent

Who should report on travel? Clearly, travel researchers have not yet decided. The CTS and Ontario studies rely on the memory and capabilities of Canadians 15 years of age and over; 16 year olds are the youngest respondents in the Alberta study; in British Columbia, the respondent must be at least 18.

The ability of the teenager to report his/her own trips does not seem to raise serious concerns in the literature, but there are concerns about the accuracy of household demographic (eg., income

of chief wage earner) and/or expenditures on the trip when reported by young people. Expenditures are more problematic for the teenager because they cover the expenses of all household members on the trip. Will the 15 or 16 year old know how much money was spent on gasoline or a hotel since these types of expenses are unlikely to be paid for by the respondent? To the reviewer's knowledge, this issue has not been tested, although an experiment could be designed to test the accuracy of teenager's expenditure information. As discussed in the Value Chapter of this paper, however, the issue of expenditures is so fraught with concerns that under or over-reporting by the comparatively few young people who may fall into a travel survey is unlikely to be deemed a pressing issue.

It should be noted that because it utilizes rotations from the Labour Force Survey (LFS), the CTS does not request demographic data from the selected respondent. This information is collected during the LFS's initial interview and is stored on the file for use in other surveys (including the CTS). Consequently, even if a teenager is the selected respondent for the CTS, he/she will not be required to supply household demographic data.

A-1.c Reporting Period/Reference Period

The "recall period" or "time frame" has been one of the most contentious issues surrounding the CTS estimates. Statistics Canada acknowledges that there is significant under-representation of same day trips as a result of the three month recall period, but claims that the "shortfall" in overnight trips is not particularly significant. Representatives of this organization suggest that if a one month recall period were adopted by CTS, they would be "very surprised if volume estimates increased by any more than 10% to 15%".

Utilization of different recall periods in the provincial studies and the CTS, along with other definitional differences, make direct comparisons unreliable. Nonetheless, the following chart (see next page) depicts the extent of the differences between provincial and CTS estimates.

	Ontario Person Trips[1] 1988 (000)	1990 (000)
Total		
CTS	44,928	44,992
OTMS	102,042	103,689
Same Day		
CTS	19,041	18,646
OTMS	47,871	40,646
overnight		
CTS	2s,887	26,346
OTMS	54,171	63,043

These radically different trip estimates indicate that:

- Each survey process maintains internal integrity. That is, each study yields consistent trip levels from year to year.
- The CTS captures between 40% and 46% of the same day trips reported in the OTMS, reinforcing the high level of under-representation of same day trips associated with three month recall; and
- The CTS currently captures less than one-half the overnight person trips reported in the OTMS.[2] Based on these findings, the under-reporting of overnight trips in the CTS could be appreciably higher than Statistics Canada's methodologists expect.

These comparisons would seem to suggest that a move from the three month to a one month reporting period is going to exceed the 10% to 15% estimate of Statistics Canada personnel -- but as Wallace Stevens, the poet wrote, *Let* "be" be *the finale of "seem"*. In other words, the final proof will be found only in the adoption of a one month recall period for the CTS. Only by keeping all other variables constant and altering the recall period will we be in a position to ascertain the impact of a one or three month reference period.

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[1] Ontario data have been adjusted to exclude same day trips under 80 km in order to compare to CTS 80 km minimum distance requirement on same day trips. All trips originate and have a main destination in Ontario.

[2] Because there is no "minimum" distance in the CTS for overnight trips but the 40 km one way distance requirement is in effect in the OTMS, one might expect the OTMS to be somewhat conservative.

D.K. Shifflet (Maclean, Virginia) conducts a monthly travel survey within the U.S. market. In response to questions about differing recall levels posed by the reviewer to Donna Teboe of D.K. Shifflet, a special tabulation was run to demonstrate the impact of one month, two month and three month recall[1]. Although collected on a different basis than CTS data, these findings provide valuable insight into the "recall" issue.[2]

	Length Of Trip			
	Same Day	One Night	Three Nights[3]	Four-Six Nights[3]
Proportion Of Trips Reported When Recall Period Is . . .				
One Month	100%	100%	100%	100%
Two Months	87%	88%	74%	97%
Three Months	79%	80%	84%	92%

In other words, as the reporting period increases, there is a significant decline in the number of trips reported for the same time period. The tabulation supplied by D.K. Shifflet is appended to this document and suggests that as trip length increases, the "loss" in volume is less dramatic.

These findings support the belief that the "most memorable" (i.e., longer) trips are most apt to be documented by the traveller. Further exploration of the Shifflet datafile may be useful in determining the impact of recall period on volume measures. The Shifflet analysis, indicating that three month recall underestimates trip recall by approximately 20% does not, in itself, explain the differences between the OTMS and CTS figures for 1988 and 1990.

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[1]The reviewer is highly concerned about the appropriateness of the Shifflet methodology since it relies on a sample of pre-recruited panel members - albeit, demographically matched to U.S. population statistics. Despite this reservation, it might be possible to examine patterns of reporting within the study to determine, to the satisfaction of both the federal and provincial governments, the differences in volume estimates for different recall periods.

[2]The survey instrument is distributed monthly to capture past three month travel (recorded by the "main traveller" for all household members). The self completion questionnaire is distributed to 15,000 households each month. Taking response rate into account, Shifflet estimates that the total number of households reporting on travel for any one month period is 30,000.

[3]The measurement unit in the study is 'overnight stays" on trips of X nights away from home. Same day and overnight trips of one night are exactly coincident to "volume of trips" and are, therefore better direct comparisons to Canadian trip data.

There is other evidence to suggest that three month recall is "inaccurate", although the extent or direction of the inaccuracy has not been clearly demonstrated. The following quotation refers specifically to "expenditure" rather than "volume" but the import of the comments is equally relevant to both types of data.

> *The results of this research confirmed expectations that travel spending recall is inaccurate over an extended (three months) period of time. However, the direction of error was quite unexpected. Rather than finding that the magnitude of underestimation became more pronounced over the three-month period as found in previous studies, these data showed that subjects during the second measurement period significantly exaggerated their expenditure estimates. . . It is evident that the pattern of response error is dramatically affected by elapsed time considerations. Travellers providing spending estimates as the trip occurred were found to underreport actual expenditures, while subjects reporting on the same travel experience three months later over-reported their actual trip expenditures.*

> *As Frechtling (1987) points out, 'It is difficult to believe the traveller can remember each of the cash or non-cash purchases he makes, and the amount as well." Evidence suggests that most decay of memory occurs soon after learning (Mcquire, 1976). Such findings lend credence to Frechtling's (1987) admonition that with respect to travel expenditure surveys the recall period should be limited to the previous* 24 *hours.* (Howard, Havitz, Dimanche, 1990)

Most researchers would likely agree that "shorter is better" for recall of both expenditures and trip volume. At the same time, little definitive work has been undertaken to determine the optimal time period or data capture method. Studies such as those cited herein provide some guidance, but are small scale experiments or require further review.

Because of long-standing concerns about under-reporting in the CTS, provinces that initiated their own domestic tourism studies have adopted a one month recall period. This seems to be a compromise position based on the practicality and cost of implementing even shorter recall periods.

Recall period is not the only explanation for the wide variation in travel estimates. Other factors, including the following, determine the stability of the estimates:

- sample size;
- selection procedures;
- number of callbacks;
- response rates;
- data handling issues including outlier reviews, the CTS "ceiling" on eight trips, and the like.

Each of these topics is discussed in subsequent sections of this review.

A-1.d Telescoping

The concept of "forward telescoping" is commonly mentioned as an unmeasurable, but biasing influence on travel data based on the traveller's memory. Do traveller's stretch the recall period, even if it is bounded by specific dates, and include trips that were completed prior to the reporting period? If they do, to what extent does this phenomenon occur? The literature hints at the need to take forward telescoping into account, but little direct measurement of it or its impact on tourism statistics has been undertaken. At the same time, the types of experiments undertaken to determine the accuracy of expenditure recall data would suggest that there is an "accuracy impact" and it may be in the direction of exaggeration (as per expenditures) as the distance from the event increases. Based on this argument, one would expect that forward telescoping would be more likely to result in an overstatement of trips with a three month recall period than it would with a one month recall period.

This position is supported by Peter Dick's comparison of the 1982 CTS and the Ontario Travel Survey (the CTS methodology was effectively the same as it stands, whereas the Ontario study

was a two-month diary data collection survey of households in Ontario). He concluded that each survey could be subject to the following biases:

> *The OTS would have a fatigue factor for respondents completing their diaries. This factor would produce a tendency to undercount total trips and manifest itself as a lower reporting in month two.*
>
> *The CTS is primarily subject to the following biases:*
>
> - *a possible undercounting of shorter, more routine trips due to recall problems; and*
> - *a possible overcounting of longer, more memorable trips due to a tendency to telescope trips from a previous quarter into the CTS time frame.*
>
> (See National Task Force On Tourism Data, Final Report, March 1989, Appendix A, A Summary Of Analytical Comparisons of Data from the Canadian Travel Survey (CTS) and Other Sources).

These comments could be interpreted to suggest that a lengthy recall period might have the effect on increasing forward telescoping of especially memorable trips.

The opposite position is adopted by Alvin Satin of Statistics Canada. In a written review of the B.C. Resident Travel Survey, he comments as follows:

> *Although both the CTS and B. C. resident travel surveys are subject to the effects of forward telescoping. . . the effects are likely more pronounced for the B. C. survey in light of it using a one month rather than a three month reference period. Trips which end just prior to the reference month and/or memorable trips which end even earlier could be telescoped forward into the reference period resulting in an overstatement of trips.*
>
> *Previous studies such as one on victimization and a survey on renovation activity in the US. suggest that the extent of such telescoping can be considerable. The effect of forward telescoping depends of course on the particular subject matter and is difficult to estimate in the case of such a travel survey. While a one month reference period certainly reduces the extent of undercounting resulting from recall bias (particularly for shorter less memorable trips), it also increases the potential for considerable forward telescoping (particularly for longer and more memorable trips).*

The differences in perspective on telescoping evident here may need to be explained in greater detail by Statistics Canada personnel so that the apparent discrepancy is resolved. Based on the inform ation this reviewer has examined, it would appear that until the direction and extent of

forward telescoping are tested under different recall regimes, it is impossible to determine its impact on tourism statistics or to state with any certainty the direction of the impact on volume estim ates as the recall period increases.

A-1.e Trip Distance

As is evident from the Trip Definition Summary, the tourism research community has not yet adopted a universal distance criterion for "qualifying" trips:

- CTS uses an 80 km minimum on same day trips, but no minimum on overnight trips;
- Ontario uses a 40 km minimum on all trips, and excludes those that may meet the 40 km minimum but are contained (origin/destination) within the boundaries of Metropolitan Toronto (CMA);
- The 1991 Alberta Resident Travel Survey uses a 40 km minimum on same day trips but no minimum on overnight trips;
- The 1989 Resident Travel Study initiated by British Columbia used yet a different distance requirement: 50 km one way for same day trips and no distance requirement for overnight trips. Direct comparisons of same day data from the CTS with the B.C. survey is further implicated by the fact that in B. C., only "personal or pleasure" same day trips were admissible.

In light of the lack of consensus within the tourism research community on this issue, it might be prudent for any new or experimental efforts in domestic travel surveys to adopt a trip definition that could be made directly comparable to existing CTS and provincial data at the analysis stage.

For example, if the 40 km minimum one-way distance requirement is appropriate for Ontario, but the 80 km distance is necessary to achieve comparability with historical CTS data, a 40 km unit should be considered, with a "filter" at the analysis stage to review volume estimates of only trips that meet the 80 km requirement. Similarly, if no distance requirement is in place for overnight trips in the CTS, but provincial studies utilize the 40 km minimum, the broader of these two definitions should be adopted (i.e., no distance requirement). Again, at the analysis stage, appropriate filters could be imposed to permit direct comparisons from one year to the next.

This "flexible" definition has been adopted in the Alberta Resident Survey currently underway. Its success has yet to be determined because output from this study is not available.

Suggestions for a broad distance definition are predicated on a desire to retain comparability with historical CTS and/or provincial data. They do not address the more fundamental issue of establishing the most *appropriate* distance definition. Should the distance be 40 km, 80 km or some other distance? The answer to this question is largely dependent on the type of trips travel researchers want included in domestic tourism studies and the level of inter and especially intra - regional analysis they want such studies to support.

A-1.f M a i n _

Only the CTS and Ontario are using the same fundamental trip exclusions based on the purpose of the trip. Both these studies exclude the following:

- a trip taken as a member of an operating crew;
- a trip taken for purposes of commuting to school or work, and
- a trip taken for purposes of moving to a new residence.

The Alberta Resident Study utilizes the first two exclusions listed above, but does not exclude moving trips. And, as stated previously, only same day trips taken for "personal or pleasure reasons" qualify as same day trips for the B.C. Residents Survey.

Experience in examining detailed trip records in the 1988 and 1989 Ontario Travel Monitor Study provided the reviewer with first hand understanding of how straightfoxward the qualifying trip definition sounds, and yet how it can be the subject of interpretation on the part of the traveller and the interviewer. Take for example, a person who moonlights. He/she may only count their regular job as "commuting to work" trips but would report any trips taken to meet moonlight job obligations as bona fide trips. This type of information is found only by direct examination of the trip record (i.e., questionnaire) and a verifying callback to the respondent. How significant an impact is this type of information likely to have on total estimates? In itself,

the impact may not be great but all these "small" opportunities for interpretation on the part of the respondent must be acknowledged. In other words, the researcher and data user cannot assume that the respondent understands the intent of questions and/or responds in a manner consistent with the designer's expectations.

B. "Nuts & Bolts" - Sample Size And Response Rate

Three inter-related components of survey design have a dramatic impact on the stability and overall quality of survey results:

- the quality of the sample;
- the total size of the sample; and
- the proportion of the known universe the "sample" constitutes (i.e., response rate).

B-1 sample Quality

While sample quality is not explored in detail here, key differences among the domestic travel surveys' sample frames are detailed below

CTS "Rotations" of the Labour Force Survey sample, constructed on the basis of a random selection of EA's across Canada, listing of dwellings, random selection of dwellings within the designated EA's and random respondent selection within a household.

OTMS "SEEDSAM" computer generated random telephone numbers from live "seeded" exchanges. Independent monthly telephone samples are drawn for each of Ontario's twelve travel regions.

Alberta *As the 1991 Alberta Resident Survey is not yet complete, no formal documentation on the details of the sampling procedure has been made available for dissemination. A general overview of the sampling procedure was provided by Gallup Canada, in conjunction with Alberta Tourism, and will now be outlined. Seven digit telephone numbers were sampled from telephone directories in proportion to the quota for completes for each of Alberta 's fourteen tourism zones. The digits within the telephone num hers were randomized in order to produce a random sample. The full*

sampling frame was drawn just prior to executing the study and random "replicates" are drawn on a monthly basis.[1]

B.C. The sample is instructed of listed telephone directory numbers only.

Unlike any of the provincial surveys, the CTS incorporates households with no telephone within its sample frame. As such, it is the most complete and systematic of the studies examined in this document. As Statistics Canada noted when reviewing the British Columbia Residents Study

> *Although households not having phones account for less than 2% of the population, about 10% of households with phones are unlisted. Further, households with unlisted numbers are not evenly spread throughout the province. If the travel patterns of such households differ from the rest of the population some bias will be imparted to the travel statistics. The direction such a bias might have, however, is not possible to assess.*

B-2 Number Of Attempts To Reach A Respondent

Common sense dictates that the more frequently a person travels, the more difficult it will be to find that person at home "when an interviewer arrives or calls. For this reason, travel researchers must be especially cognizant of the value of a multiple callback design so that the more frequent traveller is given ample opportunity to report his/her trips.

In the Ontario Travel Monitor Survey, a minimum of six calls is made to a telephone number before it is abandoned. Once contact has been made in the household, and a random respondent selection procedure has determined the "designated respondent", no substitutions are allowed and additional calls will be made in an attempt to find this person at home (appointments for callbacks).

A different selection principle was utilized in British Columbia, and the survey details are unclear about the number of calls made before abandoning a number and about the potential for respondent substitution.

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[1]Provided to Ruston/Tomany & Associates Ltd. by Gallup Canada, September 3, 1991.

In the Alberta Resident Travel Survey, only three calls (original and two callbacks) are made prior to abandoning a listing.

Minimum Number Of Attempts To Reach Respondent			
CTS	OTMS	Alberta	B.C.
"Unlimited"[1]	6	3	Unknown

In the CTS, this issue is less of a problem because recruitment into the LFS entails a mandatory period of cooperation with Statistics Canada surveys for a period of six months. The CTS constitutes but one of the surveys (in addition to the LFS itself) that could be administered over this time period. No information was available to the reviewer about the impact on CTS results of:

- the sequencing (the order in which a respondent is asked to complete various Statistics Canada's surveys during their six month "stint"); or
- the impact of the number of such surveys in which a respondent is asked to take part.

It might be prudent to examine topics such as these to determine what, if any, impact they have on the quality of responses to the CTS.

It is also worth noting that while the CTS is assumed to utilize telephone data collection, there are instances in which personal interviews are used for data capture. This surprising fact became evident to the reviewer in reading the interviewer instruction manual for the CTS. According to CTS personnel, personal interviews occur very rarely (if a household has no telephone and/or if requested by a respondent). According to Statistics Canada, 6% of the CTS

[1] According to CTS methodologists, interviewers are provided with a fixed period of time (e.g., ten days) to reach respondents. Multiple callbacks are made at different times of day/days of week but no maximum number of calls is pre-established within the survey design. Once contact is made in the household, up to three appointments are made in an effort to complete the CTS interview with the selected respondent.

base sample for 1990 was conducted in a personal interview format. To the reviewer's knowledge, the extent to which the data collection technique (personal or telephone) has an impact on CTS estimates has not been explored.

B-3 Sample Size

There is not complete uniformity in the way survey documentation reports "sample size". For Ontario, the primary reporting unit is the number of "travelers", although interviews are conducted with non-travellers as well as travellers. Since the stability of the data depends on the total number of interviews conducted rather than on a subset of this universe, the reviewer has attempted to supply comparable estimates for the four studies:

	CTS '90	OTMS '90	B.C.'89	Alberta '91
Ontario	9,940	11,099[1]	NA	NA
British Columbia	2,900	NA	14,825	NA
Alberta	9,580	NA	NA	17,5002

One of the reasons individual provinces have launched their own domestic travel surveys is their need for intra and inter-regional travel data and the perceived inability of the CTS to provide such data. Given the 1990 CTS sample size for Ontario, it is difficult to understand why such regional data could not be supplied by the CTS if the study were to redress the pervasive concerns about the accuracy of estimates based on three month recall. The especially large sample in the Alberta Resident Study is likely a reflection of this province's interest in output at the municipal level.

---

*4244 Ontario travelers, 1246 non-Ontario travelers, 5609 non-travellers.

[2]Approximation.

By using a Standard Geographical Classification coding scheme (which may already be in place for the CTS), it would seem that sample size alone would not constitute a valid justification for questioning the CTS instrument's ability to yield viable intra and inter-regional information to individual provinces. Please refer to the Cost per Interview section of this review for more discussion of this issue.

Apparently a provincial concern about reliance on the CTS pertains not only to sample size but to frequency. Monthly output throughout each year seems a *sine qua non* for Ontario. Such frequent output may not be as critical to Alberta or B.C. given the infrequency of their indigenous resident surveys.

B-4 Response Rates

The reliability of estimates is highly contingent on the representativeness of the universe under study. Thus, response rate is a critical element in determining the overall stability and reliability of estimates. On this important component, the CTS is the winner by far. As is evident from the following chart, the fact that participation in the Labour Force Survey and its 'trailer" surveys (including the CTS) is *mandated* under the Statistics Act yields a level of cooperation no private-sector study can approach.

	CTS '90	OTMS '90	B. C.'89	Alberta '91
Response Rate	84%[1]	22%	Not Included In Documentation	19%[2]

[1] 94.6% average response rate (4 quarters) to the LFS • 89% response rate to the CTS (figures provided by Statistics Canada).

[2] Available response rates calculated from total diallings, excluding numbers not in service, fax machines, business numbers, and duplicate numbers are as follows

	Feb	Mar	Apr	May	June	July
Response Rate	22%	24%	21%	21%	18%	17%

Because of the very different sample sizes from month to month, monthly data were summed to yield a five month total response rate (19%).

The contrast between an 84% and a 19% completion rate is stark and very meaningful. Is a difference such as this known to most data users? The reviewer anticipates a negative response, and suggests that this information is not widely recognized because:

- Data users are not necessarily survey experts. They don 't always read the fine print of technical documentation. Furthermore, technical documentation is often incomplete or issued separately from the main study findings so that even if they were interested in ascertaining a survey's completion rate, they might not be able to do so easily;

- Survey results are "projected" to the full universe under study, regardless of the response rate. Thus, the CTS is projected to all Canadian households (with minor exceptions); the Ontario and Alberta Residents Surveys are projected to the respective populations of these provinces. In other words, a study capturing the behaviour of 19% of the population projects these findings to the same 100% of the universe as does a study that is capturing 84% of behaviour.

There is no clear indication of whether heavy travelers are more or less apt to volunteer for travel studies than are light or non-travellers. Without this knowledge, it is difficult to know how biased provincial samples are. Without this knowledge, it is difficult to determine the representativeness of 19% of the population, but it is fair to say that a study with an 84% response rate is considerably more representative.

The extreme variation in response rate is likely a result of two factors.

- A "mandatory" versus "voluntary" respondent.

Private research companies do not have the weight of the law (i.e., the Statistics Act and threat of prosecution for non-cooperation, unused but available for the CTS) on their side. Thus, when they attempt to obtain cooperation from a respondent, private research suppliers must rely on the respondent's good nature and minimal "incentives" (eg., lottery tickets, travel posters, etc.).

- The "callback" procedures adopted in the survey.

The difference between the Alberta and Ontario response rate may evaporate once Alberta calculations are based on the full year. It is worth noting however, that the

difference between a three call and six call design does not seem to produce dramatically different response rates. Is a 3% increase in response rate worth the extra field effort? Only an analysis of travel patterns of respondents reached at different callback points can answer this question.

- Is the respondent reached on the first call more likely to be a "couch potato" (i.e., low frequency traveller) than the one reached on the third call?

- How many trips does the third call traveller take compared to the traveller reached after five or six attempts?

Since 'volume of trips' is the primary output from resident surveys, an apparently small difference in response rate from a three call to a six call design could yield much greater differences in volume estimates.

Is there a way to explore this issue on a less hypothetical plane? Statistics Canada sets no maximum for attempts. Consequently, its datafile could be used to provide "hard data" on the volume impact at different callback rates.

C Trip Estimates (Or, What Happens Behind The Scenes)

As is well documented in the Task Force analyses of domestic tourism studies, there are major methodological differences among studies that render comparisons among them dubious if not specious. Not only do these "gross" methodological differences make the subject a cumbersome one, but there are many small, often unpublished details that render comparisons even more problematic. Some of these are detailed below.

C-1 Unique Trip Maximum On CTS

Even if the CTS respondent has taken more than 8 unique (i.e., non-identical) qualifying trips in the past three months, only the first 8 unique trips are recorded. This limit could explain why provincial estimates are consistently higher than the CTS for both same day and overnight trips.

No such limit exists in the Ontario domestic travel studies, and there do not appear to be such limits in those conducted by B.C. or Alberta. Special analysis of provincial data could determine the proportion of travelers who might exceed the CTS 8 trip maximum and provide guidance as to the impact of this "ceiling" on CTS trip estimates. The on-going Alberta data might be the most appropriate vehicle for such an analysis since it utilizes a trip definition that can be made largely consistent with the CTS (see Trip Definition Chart for differences).

C-2 Outliers

Always a contentious issue, the method of defining and handling outliers seems to be a highly subjective exercise. The literature provides minima] help in understanding what an outlier is or how one should be handled in a data file. Generally, however, this type of record is one which deviates dramatically from the norm. From a statistic] perspective, this imprecise definition leaves researchers with two options:

- ignore outliers (i.e., retain them in the sample);
- create a set of rules by which to exclude or reduce the impact of the outlier.

Here are two examples of how outliers are handled:

OTMS '88/'89

- Researchers at Ruston/Tomany & Associates who conducted the 1988/89 OTMS, after consulting with Statistics Canada methodologists, examined monthly trip data to determine the percentage contribution each trip was making to the total Ontario (destination) estimate. High contributions could be a result of the household/person weight assigned to the record and/or the number of children (<15) on the trip and/or the number of identical trips taken. The method of determining just how high a record could be and still remain within the sample was dependent on the sample size and distribution of weights in each month.

  In each instance that a record was flagged as a potential outlier, the actual paper and pencil questionnaire was examined by project staff to determine whether the trip was reasonable (i.e., had a reasonable chance of occurring as described). If any infor-m ation looked extremely unusual, the respondent was recontacted to verify the information on the questionnaire. Post verification, a decision was made to exclude the whole trip and/or to accept the unique occurrence of a trip and delete the "identical"

trips from the data file and/or to remove the file from potential outliers as a result of inform ation received during the verification process.

As is evident from this description, considerable time and judgement were devoted to the outlier review. Because sample sizes varied from month to month over the two years of the study, this review had to be undertaken on a monthly basis.

CTS

- CTS representatives describe a more numerical and less content-oriented approach to outliers for this study. Pierre Foy maintains that no re-contacts to respondents are made once the data have been keyed in for processing. All decisions about outliers are made from a review of the record as entered. Upper limits are established *a priori* and applied to the data. The upper/lower five to ten records in each cell are evaluated to see why they account for as much or as little of the estimate as they do. This evaluation is deemed to be subjective, and undertaken without recourse to the respondent to verify the information. Mr. Foy describes various classes of outlier outcomes:

  1) The record is deleted from the file;

  2) An inconsistency in the record is corrected;

  3) The sampling weight is too high and the record is deleted/adjusted to lower the weight (can include dropping all identical trips but retaining the unique trip).

The high degree of subjectivity involved in outlier reviews results in a grey area that may have to be accepted as a necessary step in the data processing task for tourism studies. However, these steps, and the proportions of trips or dollars that are excluded as a result of outlier reviews should be better documented in descriptions of survey methodology. At present, descriptions of the CTS methodology do not address the fact (much less the proportion of excluded or outlier data removed from the survey) that such an activity is an integral part of the data handling.

It is important to document an outlier review because the review itself is part of the survey process and has an impact on the reliability of the estimates. In short, such reviews result in a non-measurable impact on estimates that ought to be indicated in all documentation. It should also be noted that outlier reviews in travel studies are asymmetrical in their impact. They only result in a reduction of estimates but never in an increase (because the minimum number of trips is always zero).

Information on the handling of outliers was not available for the British Columbia or Alberta resident studies.

III. VALUE ISSUES

D-1 Data Capture Methodology

Is recall *post facto* a less accurate method of capturing expenditure data than recording of expenditures as they occur (i.e., diary)? The answer is probably yes - greater accuracy is obtained by asking respondents to keep track of their expenses as they occur:

> *Estimator subjects reported total trip expenses which were significantly less than the actual expenditures accounted for by (their) paired recorder subjects. The finding that travelers tend to underestimate trip spending corroborates the previous work of Mak et al. (1978) and Stynes and Mahoney (1989).* (Howard, Havitz, Dimanche, 1990)

At the same time, the costs of diary recording are considerably higher than recall if a personal interview is required to install the diary. How much more accurate is the reported expenditure? Is it worth the additional cost? How will non-response to the diary portion of a study influence the accuracy of the output? Which agency or institution can afford to fund experiments of sufficient scope to answer these questions definitively?

Is it possible that such an experiment could be incorporated into the longitudinal (bounded recall) experiment being considered for the 1992 CTS? Since the initial interview in the Labour Force Survey (LFS) is conducted personally, could this opportunity be used for installation of an expense recording system for travel? Alternatively, could Statistics Canada methodologists review a study such as the one undertaken by Philip White of the Social Survey Division of OPCS in England? This study was designed to assess "retrospective" and diary methods for capture of same day leisure travel information to determine whether the results are sufficiently definitive to use as the basis for selecting the appropriate method for future data collection. (White, 1987)

Other issues related to the potential benefits of combining diary/telephone data collection in travel studies are described in the attached article prepared by the writer (Rogers, 1991).

Category by category or total. Even though solid arguments have been made to support the hypothesis that estimates of expenditures are more accurate if respondents provide them on a category by category basis than if they are asked to provide a "total" figure only, the reality is that the proportion reporting detailed expenditure is worrisome, particularly with a three month recall period.

As is evident from the following chart, the Ontario (88/89) and Alberta experience (based on only one month of preliminary data) differ dramatically from the CTS.

	Proportion of Household Trips Reporting "Total" Only
OTMS '88	12%
OTMS '89	6%
OTMS '90 (Average Jan/Feb/Mar)	3%[1]
Alberta '91 (May Only)	8%[2]
CTS '88	58%
CTS '90	60%

These differences suggest that the CTS three month recall period may contribute to the difficulty respondents have in remembering their expenses in any detail.

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[1]Only the first three month average is shown here because of an error in the skip pattern when the study was moved from "paper & pencil" to a CATI system. According to the consultant directing the 1990 OTMS, the directives/skip patterns made it *"too easy for the interviewer to use the "total", and did not encourage the respondent to try to answer by category"*. Once the high level of "total" response was queried, the directive was changed and the "total" rate decreased dramatically. Figures for 17 months of data collection are appended.

[2]Preliminary data runs (unedited) for the first 6 months of the Alberta study average 8% reporting "total" and range from a low of 5% to a high of 12%.

D-3 Assigning Dollars To Categories

D-3a Total Dollars

How valid is the procedure of assigning total dollars to categories on the basis of those travelers who supply category expense? In the CTS, category expenses are provided in a "reported" and in a "reallocated" format so that the user can opt for the method in which he/she has greatest faith. While this "menu" approach to expenditure data maybe more methodologically sound because both the "true" and "manipulated" data are presented than is the OTMS approach in which only allocated expenditure figures are provided, it is necessary to ask what the user implications are. Take, for example, 1988 CTS accommodation expenses:

	1988 CTS Accommodation Expenditures
As Reported	$753 million
Reallocated	$2,081 million

What figure is the hotel owner or planner going to select? How can information such as this be used by unsophisticated tourism planners?

Procedures for assigning total dollars to categories require their own review. Nonetheless, it is important to query how valid any assignment to categories is if, as in the case of the CTS, such assignments are based on the spending patterns of those with category expenditures. In 1990, such assignments to category were based on only 40% of trips. In light of the potentially high total reporting of expenditure, it would seem prudent to collect incidence of specific expenditure categories. For example, knowing that a traveller had accommodation expenses or not would help assign total dollars to categories more accurately. This type of incidence data (even if the respondent cannot estimate an amount) is currently not collected in the CTS or in the OTMS '90 fieldwork. This omission in the '90 OTMS has been rectified in 1991.

D-3.b Repaid Dollars

Expenditures are divided between 'prepaid" and "direct" dollars at the data collection stage. The method of capturing this information and the way it is assigned to category and location differ:

CTS: All prepaid dollars are captured as a 'unit' without an indication of which components these costs cover (e.g., accommodation, meals, transportation, etc.)

Prepaid dollars are allocated as follows:

- *Redistribute expenditures of the "prepaid packages" category*

  The procedure examines detailed expenditures on those questionnaires which did not report any expenditures on prepaid packages. These were further divided into four groups: same day trips - using private or public transportation, and trips of one or more nights - using private or public transportation. The percentage distribution of these groups becomes the guide for reallocating all prepaid package expenditures[1]

OTMS: '88/'89 Travelers are asked to indicate the incidence of prepaid spending, components revered by prepaid dollars, and the total amount spent.

Prepaid dollars are assigned to categories based on the ratios of relevant direct category expenditures for analogous trips with only direct expenses[2].

B.C: Only "total" expenditures are obtained in B.C. telephone survey instrument, although a total prepaid/package category is included in the diary portion[3].

The CTS method has an advantage of simplicity at data collection and processing, but has the disadvantage of assuming that all expense categories are utilized by all travelers who report any prepaid expenditure. .

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[1] CTS Methodology write-up provided by Pierre Hubert.

[2] For details, see OTMS '88 Technical Appendix.

[3] Key value estimates in the B.C. Resident Survey were taken from the telephone rather than the diary portion of the interview. Value estimates and allocations were performed on diary data but the rules for these procedures were not provided to this reviewer.

Conversely, the OTMS method requires considerable manipulation and is predicated on the questionable assumption that prepaid dollar distributions are identical to analogous direct payments. Such an assumption is questionable because it is known that dismounting is a common feature of travel packages. Can it be assumed that airfares are discounted in the same proportion as room rates, ground transportation, etc. in these packages?

While travel researchers tend to agree that prepaid dollars must be included in the data capture, their accuracy and a mechanism for utilizing the information such that it provides credible category data remain topics of debate.

D.4 Definitions Of Expenditure Categories

D-4.a At The Interviewing Stage - Interviewing Instructions

Definitional discrepancies between provincial and national studies make expenditure category comparisons impossible. The following examples demonstrate the difficulties inherent in any attempt to compare such data:

CTS Interviewer's Manual (p.3-15)

> "Transportation to and from destination including expenditures for gas"
>
> Includes ticket fares for aircrafts, boats, etc. For trips where an automobile was the main method of transportation, the cost includes all expenditures for gas, etc.
>
> "Local transportation (it, taxis, bus, etc.)
>
> Includes the cost of taxis, bus fares, subway fares, etc. Local transportation will also include the rental of a car and such things as bus tours in the locale of the destination.

OTMS '88/'89 Interviewer's Instructions (pp. 25,26)

"Automobile expenses including gas, oil and any rentals"

Includes both gasoline and maintenance costs incurred while on the trip, or any car rental costs. Do not include any expenses incurred in preparation for the trip.

"Local transportation, such as taxis, public transit, etc."

Includes any costs of transportation within the local area of any of the places stopped at during the trip. Such expenses include bus, subway or taxi.

"Any fares paid for commercial transportation"

Includes the cost of any air, bus, rail, ferry or ship fares. Do not include expenses pre-paid as part of a package or tour in this category.

Using CTS instructions, where would the respondent who rented a car at home for use on the trip volunteer these rental costs? Where would the interviewer record them?

Since direct category comparability cannot be achieved if, as in this example, car rental is included in "local transportation" for CTS but is included in "automobile expenses" for OTMS, tourism researchers need to identify the most appropriate location for car rental. Are car rental costs more analogous to taking a taxi or municipal bus or to driving the family car?

Other questionnaire and interviewer instructions for these studies suggest that the types of exclusions/inclusions expected of respondents differ widely. The extent to which a respondent can read the interviewer's mind and the extent to which the interviewer refers to instructions through the interviewing process (i.e., the level of precision of definitions in the actual administration of the interview) are, of course, unmeasurable. In the following examples, the

differences and relative complexity of three "Interview Instructions" are depicted for "Food & Beverages":

- **CTS**

  Food and Beverages: Includes the total amount spent to buy groceries, meals in restaurants, drinks, etc., during the period of the whole trip. Also includes amount spent on food and beverages purchased for the trip, prior to departure.

b Alberta Resident Survey

  Meals and refreshments bought in restaurants and hotels: breakfast/lunch/dinner including any alcoholic beverages consumed during meals or any other time.

  Groceries purchased for use on the trip: any grocery items purchased either before or during the trip which were consumed on the trip.

  Regular household grocery shopping: grocery items purchased on a regular routine (i.e., weekly, or monthly grocery shopping).

- Ontario Travel Monitor '88/'89

  Groceries Purchased During Trip For Use On Trip: includes any groceries, alcohol or other beverages purchased while away from home on trip and bought to be consumed while away from home. Thus, the traveller who buys groceries on the way to or at the cottage for use at the cottage should include these groceries in this category.

  Other food/beverage expenses, including restaurants, snacks, etc.: includes drinks (alcoholic/non-alcoholic) and food bought in restaurants, bars, fast food outlets, etc. while on trip.

  Regular household grocery shopping: includes the routine grocery shopping expenses that sustain the household and that are purchased for use at the permanent residence.

D-4.b "White Noise" Expenses

Certain dollars are expected to be excluded from tourism expenditure calculations. Traditionally, these include regular household expenses such as groceries, appliances, etc. How do tourism studies ensure that the respondent knows to exclude these expenses?

In the Ontario study, a separate category for household groceries was included among the expenditure categories to ensure that such expenses were isolated and excluded. A similar isolation of these costs is included in the Alberta study[1]. 'I'he CT'S, however, neither makes provision for this as a separate entry nor reminds the interviewer to be alert to the possible inclusion of such expenses in food/beverage or other expenses.

In Ontario, any individual item resting more than $300 is isolated for review prior to tabulating retail expenses. This provision is agai$_n$ a way of ensuring that expenses such as major household appliances are excluded from the tourism expenditure category. The Alberta questionnaire requests values for specific retail expenditures (clothing, arts/crafts, sporting goods, electronic equipment) in addition to a general question about "retail purchases including souvenirs"[1].

Are these types of checks to remove the "white noise" expenditures from real tourism expenditures necessary? The answer depends in large part on the type of use to which expenditure information (both in total and by category) is to be put. More data handling, as in the case of the Ontario study, is more expensive than less data handling (e.g., CTS). How much impact do non-travel related expenses (such as groceries, household appliances, etc.) have on overall estimates? Are they likely to significantly increase such estimates if inadvertently included? The answer to these questions could be obtained by conducting tests with matched samples. In turn, the decision about whether such tests are warranted largely depends on user expectations of the reliability of value estimates. Are expenditure data used to provide global or precise information about tourism spending? Are supply-side data taken into account in assessing the reliability of survey data?

As noted previously and attested to by the types of issues just discussed, the manner in which expenditure data are handled by domestic tourism studies is a review unto itself. The complexity

*The manner in which this information will be used is unknown because allocation rules have not yet been developed for the study.

of whether (and how) dollars should be assigned to trips that did not report any (i.e., 'don't remember") and where dollars are assigned on a regional/domestic/international basis are tremendous, and are not discussed in detail here. Suffice it to say that any further experimentation with a uniform national domestic travel study must examine how expenditure data are currently handled within data files, what definitions are currently used and what user expectations are of the output.

D-5 Expenditure Estimates

D-5a Total Expenditures

Despite the differences between data capture and handling assumptions among studies, comparisons are provided here and suggest a vast difference in value estimates:

	Intra-Provincial Value Estimates
CTS '88	
Reallocated Expenditures Spent By Ontarians In Ontario	*$3,885* million[1]
OTMS '88	
Allocated Total Dollars Spent In Ontario (80+ km Trips Only)	$9,560 million

It should be noted that the OTMS survey covers expenditures for considerably more Ontario-origin trips than does the CTS (see page 8). The differences between these value estimate could also be a function of any or all of the following

- differences in recall period (one month/three month), completion rates, interviewer procedures and other fundamental survey differences;

*"Domestic Travel Account Balance, by Province, 1988" (Cl's). *To* make OTMS & CTS dollar values somewhat more comparable, an additional $1.9 million should be added to the $3,885 million figure (dollars spent on trips outside Canada but assigned to Ontario -- including all carrier costs for these trips. See document provided by Statistics Canada -- Attachment C, appened).

- definitions of expenditure categories;

- the dramatically different manner in which carrier expenses are allocated.

Although the different manner in which carrier expenses are allocated does not fully explain the above discrepancies between these OTMS and CTS figures, it is worth reviewing these differences.

The CTS assigns all transport costs to origin regardless of type of earner (foreign/domestic) or trip destination. All domestic carrier costs are assigned to origin in the OTMS and all foreign carrier costs are assigned to a main destination outside Canada.

Once allocated, domestic carrier costs in the OTMS '88 account for 20% of all expenditures within Ontario ($2.2 billion) whereas foreign carrier costs account for 5% of expenditure outside Ontario ($().5 billion). In effect, about $2.7 billion dollars or 13% of all tourism spending are at stake in Ontario[1] in the allocation of carrier costs. With such large dollar values in the balance, it would seem important to ensure a consistent and unified approach to these dollars. With discrepancies as great as the ones depicted here, it might also be valuable to review supply side estimates for carrier with those obtained in both the provincial and federal studies.

D-5.b Category Expenditures

Despite differences in definitions, procedures and allocation rules, some light maybe shed on the comparability of provincial resident surveys and CTS estimates by an examination of the distribution of expenditures by category. Because of the many methodological differences, the reader is urged to review these figures with extreme caution (see next page):

1,988 estimates (all trip distances) - total "in Ontario" $11.2 billion
- total "outside Ontario" 10.2 billion

	CTS '88[1]		CTS '88[2]		OTMS '88[3]		B.C. '89[4]
	Reallocated Total Canada		Reallocated To Ontario		Allocated To Ontario		Allocated
	Total	Overnight	Total	Overnight	Total	Overnight	Total
	%	%	%	%	%	%	%
Public/Private Transportation	40	39	48	47	37	40	26
Accommodation	16	18	12	15	9	12	18
Food and Beverages	24	24	22	22	27	27	26
Recreation/ Entertainment	8	8	7	8	12	12	5
Other/Retail[5]	12	10	11	8	15	10	25

As is evident from these tables, the distribution by category shows relative stability from one survey to the next. The difference between the CTS and OTMS proportions for transportation likely reflects the different mechanisms for allocating "earner" dollars.

Iv. MARKET INTELLIGENCE VERSUS VOLUMETRIC DATABASES

E. Self-Completion Components To Tourism Volume Studies

How much information do tourism planners want from the respondent? How much information can we expect the "average" Canadian resident to provide about a trip? Is it limited to the industry standard of twenty to twenty-five minutes talking time in a telephone interview?

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[1]Source: CT'S, Table 48, Touriscope, 1988, page 92.

[2]Source: CTS, Table 54, 1988 pub. 87-504. Spending by residents of Ontario in Ontario.

[3]Source: OTMS '88, Table 51-2.

'Details of allocation rules and procedures were not available for B.C. Survey. Source: Exhibit 9, page 45 *Resident Travel in British Columbia.*

'Includes "shopping" in B.C.

Recent travel studies clearly suggest that provincial information objectives tend to exceed the limits imposed by telephone data collection. The desire for trip planning, destination evaluation, and detailed attitudinal/behavioural data drives the demand for mail back components to studies such as the Rocky Mountain National Parks Exit Survey, the Alberta Exit Survey, and both Alberta's and British Columbia 's resident surveys. While these self-completion components require more extensive review, this brief analysis raises some concerns about them.

Issue 1 **High information needs, low budget and the high** cost of reaching **a** respondent put tremendous pressure **on surveys** to "maximize" the quantity of information **collected.**

One of the key reasons for "piggy-backing" extensive self-completion **questionnaires** on traditional telephone studies **likely** pertains to cost. A significant portion of data collection costs is **consumed** in **simply finding** the **right** (and cooperative) **respondent.** With these "fried" **costs already** covered, the temptation to add to the demands made on the respondent seems too great to be resisted. **The** unasked question, however, is often "How good is the output?" from these additional study components.

Issue *2 If* information needs **are so** great that a **self-completion** questionnaire must be appended to a twenty or **twenty-five minute** telephone **interview,** is the **survey process** asking too much of a **respondent?**

Using the Alberta **self-completion** questionnaire as an example, the **co-operative traveller** is sent a "basic" and up to two additional "site" questionnaires to complete and return. In the basic version of the questionnaire, there are at least 200 items for the respondent to answer.

How valuable are responses to this type of questionnaire? With what level of certainty can the **researcher** state that the person who was the "designated **respondent"** for the trip portion of the **questionnaire** actually **filled** in the **self-completion** portion? **This** reviewer would have serious reservations about applying the same expectations of

interview, in global terms, are shown on the following table and must be interpreted with extreme caution:

CTS		B.C. Resident Survey		
1990		19s9		
Sample Size:	70,520	Sample Size: Telephone Screening	*14,825*	
Up To 8 Trips Per "Traveller" Recorded/Processed Shared sampling Costs (LFS)		Trip Record For One overnight Trip ("Last")	*6,720*	
		Diaries Mailed		*7,884*
		Diaries Returned		1,500
Total Cost	$1,260,000			
Approximate Cost Per Interview	$18.00'	Approximate Total Cost	$125,000	
		Approximate Total Cost . . . Per Screening Per Trip Record	*$8.00* *$19.00*	

Ontario Travel Monitor Survey		Alberta Residents Travel Study	
1990		1991	
Sample Size: 4,244 Ontario Travelers 1,246 Non-Ontario Travelers 5,609 Non-Travellers	11,099	Sample Size 14,000 Travelers 3,500 Non-Travellers	17,500
No Limit On Trip Records Monthly Tabulations		No Limit On Trips Mail Out/Self-Completion Component For Travelers Annual Tabulations Only	
Approximate Total Cost	$250,000	Approximate Total Cost	$600,000
Approximate Cost Per Interview	$23.00	Approximate Cost Per Interview	$34.00

[1]Average cost per interview is total cost/total interviews (regardless of the differing levels of contribution by Tourism Canada and participating provinces).

	Larger Sample	Smaller Sample
National Sample	210,000 records (3 times current sample)	70,000
Total Cost	$3.0 Million	$1.3 Million
Disproportionate Sampling In Ontario At 20% of Total	42,000 records annually 3,500 records monthly	14,000 records annually 1,100 records monthly

If the assumptions in this scenario are even close approximations, an alternating large/small plan could be quite cost efficient for Ontario. Not only might the province obtain more value for its research dollar by using a new national survey than if it maintained its own study, but such a plan could yield better data because of the higher response rate achievable within the CTS framework.

The funding scenario for a national monthly tourism study is likely to include a significant contribution by Tourism Canada since the data would be more useful to this institution than is the current quarterly data (provided the experiment reveals an improvement in the recall levels when the quarterly period is replaced by a monthly one).

If Tourism Canada is content with a biennial study and Ontario is committed to annual data bases, this would have to be taken into account in arriving at an appropriate funding formula.

Other provinces, such as Alberta, might not gain as much as Ontario by supporting a national monthly data collection process via the CTS since so much additional information is requested of Alberta travelers. Consideration would have to be given to how, if at all, such extra data could be provided within a national study. For example, Alberta and other provinces interested in self-completion data from travelers to specific destinations could undertake these studies separately, using a respondent rather than trip base. Alternatively, a province might be able to contract separately with Statistics Canada to undertake this add-on component of the study. On the other hand, Statistics Canada would have to review whether it could process returns

quickly enough to a self completion component, and consider its willingness to undertake this type of study (respondent burden, etc.).

VI. REVIEW OF THE ONTARIO TRAVEL MONITOR SURVEY

Many of the points presented in this chapter as either strengths or weaknesses of the Ontario Travel Monitor Survey have been covered in a comparative context in other sections of this review. The purpose of this discussion is to provide an overall appraisal of this study and guidance for the future of the Ontario survey.

J. Overall Survey Design

J-1 Sample Design

Utilization of a telephone survey based on computer generated random telephone numbers from live exchanges across the province is an acceptable survey technique for collection of tourism data. Specific strengths of the SEEDSAM sampling approach include the following:

- inclusion of unlisted and new listings;
- inclusion of all households with telephones (i.e., does not exclude populations on Indian reservations or military installations} and
- reduction in "dead" number diallings that would result from a "pure" random digit dialling system (RDD), and consequently, a more cost efficient data collection process.

Potential weaknesses of the SEEDSAM sample, and any telephone sample include:

- potential to miss new exchanges if the computer system is not updated on a regular basis;

- exclusion of the survey population that does not have a telephone (estimated by Statistics Canada to be about 2% in B.C.).

J-2 Sample Size/Disproportional Sampling

The OTMS in 1988, 1989 and 1990 produced tourism volume statistics that met the Statistics Canada requirements for publication using coefficient of variation calculations based on three post sampling replicates. These samples sizes differ dramatically - from a high of over 4000 travelers in 1990 to a low of 1,500 travellers in 1989. Thus, it can be assumed that sample sizes were adequate to supply stable data on annual province-wide trip volume (same day and overnight) and value data. Statistics for the more populous regions are also viable on an annual basis for 1988 and 1990.

Two types of disproportionalities are used in the OTMS sampling plan:

- monthly disproportionalities; and

- regional disproportionalities.

In discussions with Mike Sheridan and Alvin Satin during a review of the 1988 OTMS methodology, each of these two forms of disproportionality was raised as a possible source of bias (extent unknown) in the overall estimates.

Why are monthly disproportionalities built into the OTMS? Are they necessary? Historically, the heavy travel months (i.e., summer months) have had larger samples assigned to them than have other months. Theoretically, this boost will assure the province of more reliable data for these key holiday months and will provide samples that will support greater regional analysis. On a total person trip basis, however, data for 1988 and 1990 suggest that even low sample size months yield viable estimates (see table, following).

	Sample Size (Ontario Travelers)	Ontario Person Trips (000)	Coefficient Of Variation	Class Of statistic
1988				
July	*502*	16,271	1.1	C
August	*598*	15,978	2 8	D
October	*176*	11,519	0.1	A
November	*151*	8,691	3.1	D
1990				
July	842	17,264	2 2	C
August	849	18,782	3.4	D
October	324	10,882	1.5	c
November	281	11,523	1.3	c

It should be noted that the CTS and the Alberta Resident Study also boost the summer samples. From a cost/benefit perspective, this process has clear advantages. Cost estimates are based on completions with *travellers.* Since the incidence of travelers is highest during the third quarter, the cost of finding appropriate respondents is considerably lower (on a per interview basis) than is the case in the low travel months. This same argument, in reverse, constitutes a significant disincentive to equal sample sizes across the twelve months of the year. At the same time, it might be prudent to examine how much benefit Ontario really derives from the very large monthly sample sizes in the third quarter.

Traditionally, Ontario has desired viable data for each of its 12 tourism regions. In a province with such vast differences in population density from region to region, a proportional sampling approach across the 12 regions would not produce viable estimates for any one of the seven northern regions, and potentially would not meet the requirements of publishable statistics even for the seven northern regions combined. For these reasons, the OTMS has adopted disproportionate regional sampling.

While such oversampling in the northern regions is the only viable means of ensuring even minimally adequate statistics for the sparsely populated areas of the province, it can add to the

generation of outliers in the data because the *highly populated regions* are *undersampled*. That is, a high population region respondent in the survey has to carry more weight for his/her region because fewer respondents are available to share the full regional weight than would be the case if the sample were proportional.

On balance, the utilization of disproportionate monthly and regional sampling seems to constitute neither a strength nor a weakness of the OTMS - it is a necessity that addresses *a priori* provincial interests in the critical holiday season and in regional data in a cost efficient manner. It would be appropriate, however, to assess the following

1) How extensively utilized is third quarter data? Do the sample sizes in these heavy travel months have to be as large as they are to meet the province's analytical requirements?

2) How much impact does disproportionate regional sampling have on outliers? To answer this question, a relatively simple experiment could be undertaken. It could commence with an examination of who outliers are. Are they more heavily concentrated in highly populated regions? This analysis could be undertaken using existing data from the on-going OTMS.

J-3 Other Outlier Issues

The OTMS seems to have come to terms with the outlier issue reasonably well. General guidelines have been developed which can be implemented to ensure consistency in handling this grey area on a month to month basis. At the same time, application of the guidelines seem to vary from research supplier to supplier.

Complete consistency in this area is unlikely to be obtained but could be furthered by additional codification of procedures. For example, guidelines might be developed to cover the following:

- In what types of outlier scenarios is a respondent re-contacted to verify information?

- In what instances are all identical trips excluded but the unique trips retained?

- In what instances are all trips excluded?

K Number Of Calls And Response Rates

Compared to other provincial tourism studies, the OTMS maximizes its reach by requiring a minimum of six calls to a number prior to abandoning it. While this procedure does not necessarily net the study a substantially higher completion rate than is obtained in other studies, it does increase the probability that frequent travellers will be included in the sample. In other words, additional calls may have a more significant impact on *volume* estimates than on completion rates.

To test the impact of each attempt, a simple exploration of existing data could be undertaken. By running trip volume estimates according to when the respondent was reached (i.e., first call, second, fourth, sixth, etc.), the volume impact of each additional attempt could be assessed.

Is a 22% response rate acceptable for the OTMS? Clearly, it is not as representative of the provincial population as is an 84% response rate (CTS). At the same time, it is likely consistent with most tourism market intelligence studies conducted by private research suppliers for provincial governments. In other words, private companies will encounter a "refusal before screening" (an uncooperative respondent as soon as the interviewer introduces him/herself) ranging from the low twenties to forty or fifty percent. A further loss is automatically encountered because of language problems, because the randomly selected respondent is not cooperative or unavailable after repeated callback attempts, etc.

Are completion rates on the order of one-fifth of the population acceptable for advertising tracking studies but not for the OTMS? In some respects, the answer is "yes". The difference lies in the manner of presentation and use of data.

For studies such as an advertising tracking study, data are presented for the population of respondents. That is, if 700 interviews were conducted in a tracking study, the tabulations would

display frequency distributions and proportions based on these 700 people. While the tacit expectation is that these 700 people are representative of the universe under study, they are not presented as *equivalent* to this universe. In the OTMS, on the other hand, the weighting and projection procedures transform the surveyed population into the full provincial population. In other words, the surveyed population is made *equivalent* to the universe under study in the O-f'Ms.

Furthermore, a tracking study does not yield volumetric data. Such studies operate in a looser statistical framework, are utilized differently and are not expected to yield the same level of precision as are studies such as the O'I'MS.

An opportunity may exist to test the representativeness of the OTMS's respondent base if the CTS bounded recall experiment is conducted in 1992. Since the two studies would be collecting essentially the same information in the third quarter of '92, comparisons of trip estimates, demographic and travel characteristics of Ontario travelers could be undertaken for the eighty-odd percent completion rate CTS data and the twenty-odd percent completion rate for the OTMS data. By conducting such an examination, Ontario would learn:

- who it is currently missing in the OTMS sample;
- whether those not covered in the sample differ appreciably from those who are; and
- what impact the excluded universe in the OTMS would have on trip and dollar estimates.

This study would be invaluable to all provincial governments who have or might consider mounting resident travel surveys. Since the current OTMS contract ensures that this study will be undertaken in 1992, perhaps discussions with Statistics Canada personnel and the OTMS supplier can be initiated in time to synchronize the studies so that direct comparisons can be made between them.

M-1 The "Activity" Question

The reviewer does question the introduction of a long series of activities initiated in the 1990 OTMS questionnaire. How useful is such information to the province, particularly when it is reported on a trip rather than respondent base? Can recreation planners, destination developers and the like really apply information such as *200,000 person trips included swimming or visiting museums?* Would they be more capable of using the following types of activity data

- X% of travelers engaged in swimming and Y% visited museums while on a trip;
- demographic profiles of travelers who did/did not participate in various activities.

If there is no direct evidence to suggest that for a given party size all traveling members of the same household do not participate in the same activities on a given trip, then perhaps, the person-trip demand measure is perfectly valid. At the same time, the overall usefulness of the person or household trip formulation remains questionable.

The placement of the activity question *within* the questionnaire is also a point of concern. To maintain direct comparability of a study from year to year, it is important that questions remain identically worded and identically situated in relation to one another. In 1988 and 1989, no activity question was included in the study. In 1990, the activity question was inserted at a critical juncture -- just before the respondent is asked to report expenditures. It would have been more appropriate to position the new question at the end of the trip record rather than in its current location. At this time, no evidence exists as to the impact of the activity question preceding the expenditure one but it is possible that this could affect the incidence rate of itemization, or irritate the respondent to the point of giving a total expenditure only or no expenditure estimate at all.

The jury is still out on comparisons of 1988/1989 and 1990 expenditure volume estimates (1990 estimates are not yet available), but the insertion of the activities question just prior to this critical portion of the trip record could have an impact on direct comparability.

M-2 Expenditure Categories

Also to its credit, the OTMS has taken into account "white noise" expenditures to ensure that they can be isolated and excluded. For example, regular household grocery shopping is requested of the respondent as a separate category to ensure that it is not inadvertently included in other food categories or in retail expenses. By "getting it out of the way", analysts can have confidence that food/beverage dollars reported by the study do not include the household's regular grocery shopping expenditures (dollars spent on regular household activities are not considered to be tourism expenditure).

Similarly, individual retail items with price tags of $300 or more are recorded verbatim on the questionnaire. This information is assessed on a case-by-case basis to exclude non-tourism expenditures such as household appliances, livestock, etc.

While such procedures require a higher level of data handling than would be the case in a study that does not include them, they provide the data user with a higher level of assurance about just what kinds of dollars have been included in various expenditure categories and in the total value estimates.

M-3 "Incidence Of Expenditure"

Should travel surveys attempt to extract category expenses from travelers? There are arguments for and against such reporting, particularly in a recall situation over the telephone. If such data are deemed sufficiently valuable to tourism planners, then the OTMS has adopted a relatively simple data capture plan for it. Not only does it request comparatively simple expenditure information, but it also requires that the *incidence* of expenditure in a given category be collected for respondents who may not be able to provide the actual dollar amount.

Thus, when "total trip dollars" are assigned to categories for a respondent, they are not assigned in an across-the-board fashion. Instead, the respondent 's total dollars are assigned only to categories in which it is known that money was spent.

It should be noted that while the questionnaire and data handling procedures are designed to accommodate these important expenditure issues, they are not necessarily implemented in an appropriate fashion. For example, in the 1990 OTMS, considerable data loss was experienced at the data capture stage because procedures were not followed. A mechanism for redressing this loss is currently being examined. Thus, the strength of the OTMS is in providing a sophisticated mechanism of checks and balances to generate more reliable category expenditure. The weakness is in not ensuring that the mechanism is utilized.

M-4 The "Identical Trips" Issue

In 1988, the OTMS included an experiment to determine whether the "identical trips" question yielded a different trip estimate than a method that required a trip record to be completed for each trip taken (August, 1988). No significant differences were found between the two recording techniques.

While this finding was equally applicable to 1988 and 1989 OTMS data, it may not apply to activity information collected in 1990 and 1991. A weekend cottage trip may regularly involve the same dollars for gas, food, etc.; household members; main purpose and the like, but it may involve different activities from weekend to weekend. This issue should be explored in the 1990/91 data.

N. Quality Control Procedures

N-1 Monthly Tabulation As A Form Of Quality Control

The OTMS is a very complex study to implement. Consequently, it must be carefully monitored. For example:

- It requires regular checks on the fieldwork to ensure consistency in questionnaire wording and recording by interviewers.

- It requires monthly outlier reviews to determine how many and what type of outliers are extant in the data.

- It requires a host of editing decisions by senior field and/or client service personnel to determine whether respondent clarification (via a callback to the individual) is required (such clarification must be timely because memory fades quickly).

- It requires regular comparisons of key incidence and volume levels to ensure that the weighting/projection processes are being consistently applied.

In recognition of design and implementation complexity, the OTMS has rightfully insisted that tabulations be provided on a monthly basis. By requiring the research supplier to produce results on each month 's data soon after it is collected, the OTMS has a built-in quality control process. Differences in interpretation, editing, interviewing procedures, etc. that might occur for a variety of reasons (change in personnel, etc.) can be caught by either the supplier or the client as a result of the provision of final monthly tabulations.

Issues regarding expenditures in the 1990 study suggest, however, that more careful scrutiny be given to the monthly output -- by the supplier and the client. Perhaps a running tally of key indicators could be included in the monthly data set, showing figures for all preceding months and the current month. This process would not entail significant costs for the supplier and would signal problems as soon as they occur.

N-2 Weighting/Projection Quality Control

A strength of the OTMS is the adoption of the CTS respondent definition and the weighting/ projection procedures used by the federal study. Even though adjustments had to be made to the CTS weighting scheme (because the CTS is predicated on dwelling selection in the LFS and the OTMS is a telephone sample), use of this schema in the OTMS ensures that a sophisticated and tested weighting/projection process is used in the study.

At the OTMS's inception in 1988, Statistics Canada experts could provide support for the weighting scheme and ensure that it was adjusted and applied appropriately. During this same year, Ruston/Tomany & Associates engaged an independent review by York University to ensure that the results of the study were replicable. Thus, after the growing pains of 1988, the study has had a viable and consistent weighting and projection plan.

0. The Amount Of "Hand Holding" Required

Because data capture and handling are not straightforward tasks in the OTMS, the study requires constant surveillant. In the three years of its history, it has revealed a host of issues that require decisions. It has never been completely trouble free. For this reason, the province needs to monitor the study regularly and carefully.

Is such a monitoring requirement a strength or a weakness? From the provincial perspective, it is likely a weakness. A research supplier is contracted to conduct the study, and in theory, has the wherewithal to do so to the specifications and satisfaction of the client. Why should provincial personnel have to be involved in the "nitty gritty" of it? Are expectations of output and data handling procedures not adequately communicated to suppliers at the outset of the project? Is the study too complex? How can the province communicate to prospective suppliers that a different level of control and precision is required of the OTMS than of the standard projects most market research companies conduct?

These subjects must be addressed if the study is tendered again. In the meantime, it would be appropriate for the province and its supplier to set up more regularized controls to check for consistent from month to month. Additionally, a more extensive "paper trail" of issues and their resolution ought to be implemented. Each *ad hoc* decision made can have an impact on the final estimates, and on the comparability of data from year to year. Consequently, such decisions must be recorded and provided in the study's technical documentation.

P. Does The OTMS Meet Provincial Data Needs?

Throughout its history, the OTMS has been asked to provide data in a form that is simply not appropriate to the methodology. For example, every few months, a request is heard for "profile" data on Ontario travellers (e.g., Do high income Ontarians take more trips than do lower income Ontarians?). The OTMS cannot provide such information on an annual or "overall" basis. For the person who needs this type of data, the methodological constraints imposed by the OTMS design are clearly a weakness of the study.

There is no simple resolution to this problem. It must be truly frustrating to potential data users to see hundreds of thousands of dollars spent and pages of output provided -- for a study that cannot provide simple profile data! Some solutions to this issue are discussed in other sections of this document, but if the volumetric and "trip" orientation of the study is to be retained, there are no easy answers.

The question also arises as to whether the terminology used in the OTMS is a bit too arcane for most users. Is the concept of a "person visit" a viable tool for tourism planners? Does the day-today user understand the difference between a "trip" and a "visit"? These questions should be reviewed by provincial users to determine whether simplification in terminology and reporting units might not enhance the usefulness of the data.

Q. Compared To Other Provinces . . . Some "Soft" Comments

The OTMS is a highly sophisticated tourism study. It takes much of its structure from the CTS, thus capitalizing on the extensive experience of that study. It has introduced refinements that provide cleaner expenditure data than the CTS, a recall period that should reduce memory loss both for volume and for value estimates, and a less mechanical data handling process (e.g., outlier reviews, etc.). As noted previously, however, the OTMS is at a distinct disadvantage relative to the CTS in terms of response rate.

The Alberta Resident Travel Survey is patterned on the OTMS and has yet to produce any volume or value estimates. For this reason, only theoretical comparisons can be made. From such a perspective, it would seem that the OTMS may have certain advantages over the Alberta study:

- more attempts to reach a household;
- simpler questionnaire with only one reporting unit (traveller and other household members on trip rather than this and "party" members]
- shorter trip record; and
- less respondent burden because of the shorter telephone questionnaire and the absence of a sizeable self-completion component.

The OTMS has several advantages over the design used in the B.C. Resident Survey. These include:

- computer generated telephone sampling rather than telephone book sampling
- clarity of respondent definition and reporting unit;
- greater detail on expenditure information.

APPENDICES

- Interviews/Discussions.
- Bibliography.
- *A Non-Technical Perspective On Data Collection Methodologies for Travel Survey: A Discussion Paper*. Journal of Travel Research, pp. 43-47.
- "Total" Expenditure Reporting Levels:
  - OTM '90
  - CTs '88,'90.
- D.K. Shifflet Data On One, Two, Three Month Recall.
- Description Of Carrier Allocations, Statistics Canada -- Attachment C.

INTERVIEWS/DISCUSSIONS

Ontario Ministry of Tourism and Recreation

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- 4: *A Proposed Integrated Framework for Demand-side Tourism Data Collection in Canada.*
- 4 Appendix A: *A Summary of Analytical Comparisons of Data from the Canadian Travel Survey (CTS) and Other Sources.*
- 4 Appendix B: *Methodological Options for Improving and Wanting the Measures Produced from the Canadian Travel Survey (i) and the International Travel Survey (ITS).*
- Appendix C *Review of Sub-Provincial Data Quality Using the Labour Force Survey (LFS) and Random Digit Dialling (RDD) Methodologies.*
- 4 Appendix D: *Methodological Options for Measures of Travel Less Than one Night Away from Home.*

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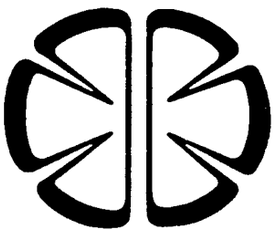

Research Notes & Communications

The purpose of this section is to carry shorter articles and short notes on pilot studies, innovative or exploratory research It is hoped that this section will (1) introduce new research techniques and result in greater experimentation, testing, and implementation (2) serve as a communication vehicle for reader comments on various articles, book reviews, etc. and(3) wherever possible, summarize the results of other meetings which have dealt with tourism and recreation

A Non-Technical Perspective On Data Collection Methodologies For Travel Surveys: A Discussion Paper

JUDY ROGERS

This** article **discusses the appropriateness** Of **methodologies for certain kinds of travel research. Constraints** Of **telephone interviews are explored and research alternatives are examined.

Each year, major travel industry buyers spend thousands of dollars researching the travel behavior of various groups of individuals. The Canadian Tourism Research Institute and the U.S. Travel Data Center conduct regular telephone monitoring of samples of the respective countries' populations. The Canadian Travel Survey conducted by Statistics Canada, provincial resident travel surveys undertaken by provincial governments, and a variety of other studies by various transportation, recreation or hospitality sectors of the travel industry are also on-going.

The majority of these studies using telephone data collection techniques based on recall of specified time frames. A respondent is selected in a household unit and asked to report on his or her travel over the past calendar quarter, past month, or past week. This form of data collection has, to a large extent, superseded a diary approach to travel behavior in which the randomly selected potential traveler is interviewed and instructed to record details of each trip during or immediately after the trip has been completed.

Other travel studies focus on decision-making paths, future travel intentions, evaluations of destinations, and other attitudinal or motivational issues. These topics were commonly explored in a face-to-face interview with a random selection of the target market. Today, such studies are more apt to use several focus groups to define the issues and a follow-up telephone quantitative survey to identify key market segments.

The more telephone studies are used, the greater normative value they assume. Their volume estimates become the "standard" by which travel trends are monitored, and on which travel industry planners base projections and expectations for future travel.

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Given the level of expertise that has undoubtedly been brought to bear on the issue of appropriate data collection methodologies. the reader might wonder why anyone would raise questions about the basic soundness of the technique. Who but a fool would ask that the evolutionary process from diary to telephone data collection be re-addressed for behavioral travel information? And who but a fool would ask why face-t-face interviews are being abandoned to focus group/telephone survey combinations for attitudinal and motivational data collection?

Researchers who have conducted large-scale behavioral travel surveys using both diary and telephone methodologies end attitudinal/motivational studies using face-to-face and telephone data collection approaches know the difficulties inherent in each. We also know that the longer a methodology survives, the greater its tenacity, end the less willing we are to ask fundamental questions about its usefulness. "We've always done it that way" becomes truer and truer.

The purpose of this article is to re-open debate about the appropriateness of methodologies for certain kinds of travel research. Perhaps once the dust settles, we will continue to collect information over the telephone, but at least we will have reminded ourselves of some of the pitfalls and constraints inherent in this approach. At the same time, perhaps we will develop more appropriate techniques that will allow us to take the evolutionary process further.

Before examining issues, the reader must be mindful of the fact that this discussion is a pragmatic one rather than an academic one, about real problems faced in survey design, implementation, and analysis by a research supplier who has spent years meeting travel clients' needs in an increasingly complex and cost-conscious business.

AVAILABLE DATA CAPTURE TECHNIQUES

Researchers have limited means of reading the public pulse. These are summarized below, with major benefits and liabilities noted.

Focus Groups and Depth Interviews

These have the benefit of face-to-face discussion, yielding insight into complex behavior, vocabulary of the public, and attitudinal and motivational constructs, but they are not amenable to generalization or projection.

Personal Interviews

Again a major benefit is face-to-face discussion using a pre-structured questionnaire, establishing direct contact (rapport) with the respondent, and establishing at least minimal control over the interview environment. Control over the environment and the rapport established with the interviewer foster more serious consideration of the research topic by the respondent. Provided the sampling is suited to projection, results can be quantified and generalized to the surveyed population. These studies tend to be quite expensive, particularly if travel to non-urbanized areas is required.

Telephone Interviews

Interviews by telephone are a cost-efficient method of reaching a defined market, with a greater chance of including apartment dwellers and those who are unlikely to open their doors to an interviewer. The intrusiveness of the technique and the lack of control over the research environment combine to reduce the extent of "considered" opinion and the ability of the respondent to respond to complex and detailed questions. Industry guidelines recommend that the talking time not exceed 25 minutes.

Self-Completion Questionnaires

Questionnaires provide an impersonal but cost-efficient method of collecting information that allows the respondent to choose the time and place for completion. If the survey is conducted without adequate controls and incentives, completion rates can be a problem with self-completion studies. Because the environment is not controlled, this method is not suitable for unaided measures.

Current Practices

Currently, qualitative techniques, including focus group discussions and individual depth interviews, are playing an increasingly important role in problem definition for attitudinal and motivational studies. While they are ideally suited to developing hypotheses about complex motivational and attitudinal issues, they are not amenable to projection to the population under study. Thus, while they provide "depth" of response, they do not provide researchers or travel planners with adequate tools for the development of marketing objectives, plans or strategies.

Often these qualitative techniques are used in combination with telephone surveys. The former are designed to provide input for the quantitative phase. This combination, while useful in many respects, has the liability that a telephone interview must rely on simplified measures if the respondent is going to be able to transform his or her opinions or feelings into five- or ten-point rating scales. How does the researcher combine the rich discussion of a focus group with the average ratings on computer tables? What happens to the interactions among variables, and to all the "soft" information that simply cannot be captured in a telephone survey? This subject and its pertinence to travel research are discussed in greater detail below.

Personal interviews are among the most expensive techniques available, but they can yield quantifiable information on relatively complex subjects because they are conducted in a face-to-face situation with a trained interviewer. The degree of attention a subject is given and the richness of replies to open-ended questions can be greatly enhanced by the presence of this interviewer and the rapport he or she develops with the potential respondent. Reading body language, establishing comprehension or lack of comprehension of a measure, and the like are most likely to occur in this personal situation. Much travel research depends on either relatively complex behavioral questions (e.g., recall of the details of trips taken in the past) or decision-making paths (e.g., reasons for destination choice). Consequently, the personal interview would seem to be an optimal way of focusing respondent attention, providing a reflective environment to foster accurate descriptive data and considered opinion on motivational and attitudinal variables.

Telephone interviews, to a greater extent than any other data capture method, are used to collect spontaneous awareness and incidence information. Ideally, these interviews should not require excessive concentration on the part of the respondent, nor are they likely to result in behavioral or attitudinal information that is as accurate or as clearly considered as is a personal interview format Telephone interviews clearly have a significant role to play in travel research — for simple, straightforward behavioral and attitudinal information. They are not, however, necessarily appropriate for many of the questions we ask. Several examples of the problems inherent in this technique are discussed in subsequent sections of this article.

Self-completion questionnaires, if used in isolation from other data-collection techniques, can pose problems of non-response that are anathema to statisticians. The representativeness of the sample understudy is often raised as a flaw in the approach—a flaw that is only manifest if the controls are not in place to ensure response by a significant proportion of the sample. Despite the drawbacks, the concept of having a respondent sit down with written and/or pictorial materials, reflect on the subject, and provide his or her "best shot" at stating past behavior, current feelings and motivations, impressions, and future plans has considerable appeal for many of the complex information needs that plague travel researchers. The diary format for obtaining detailed trip information is an obvious example, and one which is explored further in this article.

In light of the options available to travel researchers, why are telephone interviews increasingly popular, and why are personal and self-completion approaches to data capture declining?

DOLIARS VERSUS DATA

Large sample sizes are the order of the day. Regardless of the geographical entity under discussion, travel research buyers are increasingly interested in statistics that can provide direction for sub-units. For example, a province no longer is satisfied with provincial estimates. Instead, it requires sufficient sample size to allow analysis at a travel region, metropolitan area, city or town level. To generate data bases suitable for analysis at both the micro and macro levels requires increasingly large samples.

Although the following statement is self-evident, it bears mention the larger the sample, the more expensive the research is to conduct. When travel research buyers assess their budgets and their''wish lists" for information from macro and micro components of their client group, many may already

find themselves in the position of having to say, "Sorry—there simply are not sufficient research dollars to meet the information demands." This scarcity situation puts increasing pressure on travel research buyers to maximize the yield of each research dollar.

It is also self-evident that the cost of sending trained interviewers out to private dwellings throughout the geographical area under study is considerably higher than the cost of having these same interviewers telephone homes throughout the area In fact, if non-urban areas are included in the sample frame, the per-unit cost of a telephone completed interview looks like the bargain basement price when compared to the cost per completion of a door-to-door study.

Both of these factors support the move toward telephone data collection versus personal interviews so evident in the travel industry.

DATA REQUIREMENTS

Information requirement never seem to get smaller. The demands to know everything are likely further reflections of the cost of data collection. The thinking is often, "As long as we are talking to people, we may as well find out" where they traveled in the past, how much they spent, how they planned their trip, what radio station they listened to, what route they took to get there, how they decided on the destination, where they plan to go in the future, how they will plan this trip, what radio station they plan to listen to next week, when they "usually" take vacations, what they think of three different Carner companies and 10 different destinations, and so on.

To put the matter in its simplest form, a policy of less-is-best cost and a most-is-best information may create research demands that are impossible to meet. While costs and information needs drive the data collection methodology and the questionnaire content from the buyer's perspective, issues related to accuracy of response and the ability of an individual to provide the volume and detail of information requested in some surveys are not getting the attention they require.

In the next few paragraphs, some of the information issues are addressed. No study is isolated for scrutiny here. Instead, common types or sequences of questions are presented as illustrations of the problems that may result from complex or overly extensive information demands.

Complex Information Requirements: Resident Travel Surveys

Travel research buyers and suppliers think in terms of person-trips, overnight person-visits and the like. For example, we measure expenditures by category, separating food and beverages bought for use ott a trip from those that constitute part of the normal household grocery shopping, We measure distances traveled in a linear rather than temporal fashion. We separate money spent before the traveler leaves home (prepaid) from money spent during the trip (direct).

Do we ever ask ourselves whether''ordinaty people" think in these terms? In fact, do we ever try to dissect our own travel behavior in the way we often ask respondents to reply? Following is a simplified version of the type of mental gymnastics we are known to aslc

(1) Think about the past three months of your life.

(2) Hold that time period in one part of your consciousness.

(3) Think about what 40 kilometers means.

(4) Create an imaginary circle around your home with a 40 kilometer radium.

(5) Put that information in another portion of your consciousness.

(6) Think only about trips you took that *ended* within the three months and which took you outside the radius of your circle.

(7) Before you say anything, subtract any trips that were taken for the purpose of commuting to work or school,

(8) Divide the remainder of non-commuting trips in the three month period that took you outside the 40-km radius into those that kept you away from home overnight and those that were completed in the same day.

These eight steps in a "typical" resident travel survey only *define the unit of examination* for the remainder of the interview! For each trip mentioned, the respondent is asked to recall who accompanied him or her on the trip (excluding individuals who are not members of the household), and then goon to provide destination, distance, main purpose, details of overnight stops, expenditures by category, etc.

Today, this series of questions is commonly administered over the telephone. So, while the reader has had several hundred words of this article to get acclimatized to the subject, the respondent has not. He or she is unlikely to have been cogitating on recent trips of40 kilometers when the telephone rings and a stranger starts asking questions. In fact, when that telephone rings, he or she may be trying to get children bathed and bedded down for the night, be in the middle of a gripping television movie or novel,. or be catching up on household accounts.

Given the nature of the questions and the unknown context in which they are asked, just how accurate can we expect the responses to be? How certain are you of your own estimates of number of trips? How confident would you be of the accuracy of trip details you might provide in this circumstance? In part, this example is no more than the standard thorny question we must regularly ask of all survey research: what can we really expect of "recall" data? At the same time, the extensiveness of the detail required and the number of constrains we ask the respondent to apply before responding may put this type of study into a class all its own.

Trip by trip descriptive data have also been collected via a diary approach. With a diary, the respondent is "sensitized" to his or her travel behavior at the diary-installation phase. In theory, trips are then recorded as they take place. While this method is not designed to be recall-based, for those travelers who put the blank diary away until minutes before it is to be collected, it can result in a recall situation. Despite the problems the lazy or recalcitrant traveler has in keeping the diary up-to-date, the respondent's sensitivity to the measures and the availability of printed support materials (definitions, maps, examples, the diary record), our experience with the two methods suggests that this sensitivity to topic and support materials contributes to greater internal consistency in the data provided, and may yield more accurate information than does a telephone data-collection method.

Why have we abandoned the diary? Well, we have and we have not. Personal (door-to-door) interviews for diary placement were deemed too expensive, particularly in light of the need for greater sample sizes generated by the demands for more micro regional data These cost and information concerns led to the demise of the diary method, but unfortunately did not lead to a change in amount of information requested of the respondent. Instead, we abandoned the form, but not the content, when we moved to a more cost-efficient data collection methodology-the telephone. What have we gained? Sample size. It is considerably less expensive to call potential travelers than it is to visit households across a country, province or state. Thus, for the same research dollars, we can increase our regional coverage considerably.

What have we lost? A level of reflection on the part of the respondent that permits more internal consistency and accu-

racy in the details reported. The intrusiveness of the telephone interview may simply require that we severely cutback on the amount and complexity of data we extract from the respondent. The writer is not the only one to recognize that there are problems in this area. In fact, experiments are regularly being done, both to alter the recall period (quarter, month, week) and to simplify question (total expenditure instead of breakdowns by category, main destination instead of main destination *and* location of each overnight stop, etc.) in order to increase the accuracy of the information collected.

While these experiments are welcome, they do not necessarily minimize the pressures of cost and information demands. For example, when clients are accustomed to having trip expenditures segregated by category, you do not gain in popularity when you tell them that from now on, they can only have "total expenditure." Tourism research buyers often have constituents in the hospitality industry who want figures for their specific category, and who are accustomed to getting them. When the trend is moving toward more and more detail and specificity of information, it becomes an increasingly difficult trend to buck.

Complex Issues: Destination Selection and Trip Planning

How do *you* plan your vacation? How do *you* decide where to go? Compared to questions such as these, behavioral travel data collection seems like a piece of cake. Needless to say, advertisers have been trying for years to establish viable means of measuring the impact of advertising. We may be sneaking up on the problem, but we are not there yet. Similarly, individual and social psychologists have been trying for years to figure out how people make simple decisions. There are many models, but few would work for you or me when trying to makeup our minds about which car to buy or which destination we ought to select for the next holiday.

-Given the complexity of these decision and planning processes, I am amazed to see the widespread adoption of telephone data-collection techniques for researching them. Here is another example:

(1) Think about where you intend to go for your next holiday.

(2) How likely are you to actually go there? (Is it a dream or have you already paid for your ticket?)

(3) What external factors had an impact on the choice of destination?

- Only time you can take time off work?
- Only time your children have holidays?
- Coincides with someone's birthday (which may mean that you want to be out of town to avoid it or that you are going to visit to spend it with him or her)?
- Are you the kind of person who takes inexpensive holidays for a couple of years while saving for a major trip in the future? Is so, where are you in your cycle? Did you just take the major one, or is it the next holiday?
- Are there rumors of layoffs at your company?
- What advice did your doctor give you the last time you had a physical?
- Where do you have friends and relatives who would be happy to put you up for a few nights?

The list of external or situational factors goes on and on. None of these factors is easily researchable, partly because people may not readily identify them as partial explanations for their destination choice. Situational variables also pose major problems for researchers because they tend to be highly idiosyncratic, and therefore do not necessarily fall into tidy sectors or correlate highly with demographic and behavioral data. Instead of exploring the role of situational factors in the destination decision-making process, most research tends to focus on behavioral, demographic, and expectational variables, supported by relatively simple awareness and image components. In other words:

- Where did you goon holiday last year? The year before?
- How old are you, where in the life-cycle are you, and how much money do you have to contribute to holidays?
- Where do you plan to spend your next holiday?
- Which destinations come to mind and what are your impressions of specific destinations?

The tendency to avoid examination of situational factors may derive from the inherent difficulties of such an examination. At the same time, avoidance may also be encouraged because much destination/decision-making research is conducted over the telephone. The technique is no less intrusive for the potential respondent if the series of questions pertains to past travel behavior or to thoughts and feelings about travel plans and destination choices/images. You may be dealing with a respondent who is not only preoccupied, but also is not able to bring serious reflection to the topic while talking on the telephone. The result can often be superficial or glib responses to a complex decision-making process.

In fact, the absence of control over the interview environment is an even more salient concern for awareness and image-related issues than it is for measures that require the respondent to consider his or her past behavior. In the case of destination related questions (awareness, image of specific destinations, etc.), the nature of the interruption could be quite significant The respondent could have been reading the travel section of the daily newspaper; a commercial or television program could be displaying footage of the ocean and beach or of the Rockies or Alps, etc.

ALTERNATIVES

Our options are limited. We do not have unlimited resources. We do not have unlimited techniques, and we do not have unlimited goodwill on the part of the public. In view of these pragmatic constrains, what can we do to maximize the value of the information we are collecting? The following suggestions may be helpful.

(l) If we continue the move toward telephone data collection, we should begin examining means of reducing the quantity and complexity of our information and output demands. This suggestion requires that the number and complexity of items included in questionnaires are curtailed. Simpler measures, and the recognition that data may yield internal inconsistencies, would have to be accepted in the output provided.

(2) We should implement more personal interview studies. Given the scarcity of travel research dollars and rising information demands, this scenario is unlikely to be very attractive. It might become more attractive if various public- and private-sector client groups pooled their resources for joint studies. Given the proprietary nature of many travel research buyers, such pooled research is also unlikely to be more than a dream.

(3) We should use a combination of telephone and self-completion data-capture methods. Each of these methods is relatively cost-efficient and, in combination, could redress some of the problems inherent in each. Such combinations could entail a telephone screening or short interview and a mailed self-completion questionnaire to the telephone sample.

Of the quantitative techniques available to us, the personal interview is the most likely to yield information on situational variables. Why? Because the relationship between the interviewer and the respondent can foster serious discussion of the

topic and allow for probing that takes the respondent beyond the superficial. It should be noted, however, that measurement of these situational variables may be an intractable problem—the complexities of the human mind may simply not be amenable to quantification.

Because of the cost implications, it is unlikely that we will see considerable growth in personal interview studies. Instead, we will likely have to move forward with options (1) and (3). The former depends, at least to some extent, on the reader's reaction to the examples of mental gymnastics provided earlier. Are you comfortable with question sequences such as these? Is the level of accuracy sufficient to meet your expectations? Are you content to measure planning and image issues knowing how many situational variables you are not covering and the level of superficiality that maybe at play in respondents?

The combination of telephone and self-completion approaches may not have had sufficient testing to allow us to know if it would meet our cost and information requirements. It has, however, an intrinsic appeal that makes it worthy of further consideration.

In fact, we already use this combination in travel research for the collection of lifestyle/attitudinal data for segmentation analysis (e.g., VALS). Apart from the very significant cost savings vis-a-vis personal interviewing other benefits to this two-pronged approach to data capture include the following

(1) It allows for key incidence and unaided responses to be collected during a relatively short telephone interview. Basic demographic characteristics could also be collected, thus allowing an extensive analysis of non-response to the self-completion portion of the study.

(2) Weighting and projection procedures could be designed to incorporate non-responders into the survey findings, if required.

(3) Respondents could complete the self-completion portion of the questionnaire at their leisure, selecting a time and place most conducive to accurate recall and/or reflection on the decision-making process, image factors, etc.

In the case of extensive behavioral surveys such as resident travel studies, the telephone/self-completion approach would allow us to collect the level of detail possible with a diary format without incurring the costs of a personal placement. Even if two telephone interviews per respondent were required (an initial one and one after the materials have arrived, to insure their arrival and to explain them to the respondent), we could abandon the problems of telephone recall of trip details without an exorbitant price tag.

By using a telephone screening, we could even overcome some of the problems of access that plague door-to-door studies (e.g., apartment buildings with security guards). To the writer's knowledge, this combination of telephone screening and self-completion diary has not been implemented on a large-scale travel study. Before anyone adopts the methodology, we should examine more closely what we would gain and lose in terms of *existing* weighting and projection procedures and existing data files.

While there is the chance that comparability with previous studies will prove so important that no substantive methodological change can be adopted, is it not at least incumbent upon us to examine the issues, and even go so far as to pre-test the design to see whether it will be successful?

It is at least as important to explore the role this dual methodology could play with attitudinal and motivational research on destination selection and the like as it is for behavioral travel studies. By collecting key awareness measures in an unaided context on the telephone, and allowing respondents the time and space to reflect on the reasons for their opinions and behavior, we have to be further ahead than we are if all this information is being requested over the telephone.

CONCLUSION

We are all prey to needs and demands. Travel research buyers have clients or constituents who require more and more detailed and complex information within the tight budgets. In turn, research suppliers must be responsive to the demands oftheir clients-the research buyers. Are we relying on research designs that do not quite meet our needs because they meet our price? By responding to information and cost needs in set and predictable ways, are we also forgetting that there are limits to the patience, graciousness, generosity, and capability of ordinary people to do what we ask of *them?*

Before we have completely worn out our welcome on the telephones and in the living rooms of these people, perhaps we should examine issues and "alternatives such as those raised here.

Articles On International Themes In The *Journal Of Travel Research*

G. W. BURNETT, MUZAFFER UYSAL AND UTE JAMROZY

The Journal of Travel Research ***is one of the outstanding journals in the area of travel and tourism studies. Its national and international accomplishments have been considerable since the early 1970s. This study examines articles on international themes from 1973 through 1989 published in the*** Journal of Travel Research. The ***study examined whether international coverage has increased in the journal and how these articles were distributed in their discussion of the world's regions and nations, and where the authors of the*** articles ***resided at the time the articles were produced***

The number of journals devoted to the study of travel/tourism has risen during recent years, and these journals have varied orientations. As an example, the ***Journal of Travel Research (JTR) serves*** as a medium to exchange ideas and keep abreast of the latest developments pertaining to travel/tourism research new techniques, creative views, generalization about travel/tourism research materials (Goeldner 1980). The journal favors manuscripts that deal with market-

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Direct Expenditures On Ontario Destination Trips

Thompson - Lightstone

	Any Direct %	By Category %	In "Total" Only %
1990 . . .			
January	%.3	94.6	1.7
February	95.4	91.7	3.7
March	%.7	92.9	3.8
April	90.3	72.6	17.9
May	95.4	61.9	33.5
June	95.6	46.6	49.0
July	95.0	30.0	65.0
August	%.8	25.6	71.2
September	%.9	39.6	57.3
October	%.3	29.5	67.0
November	%.6	35.0	61.6
December	98.5	28.3	70.5
1991 . . .			
January	95.4	71.9	23.5
February	88.2	55.8	32.4
March	94.9	94.6	0.3
April	%.3	%.3	-
May	98.9	98.9	.

Date: August 09, 1991.

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Subj ect: Canadian Travel Survey

Additional information requested this week:

1. Is CTS mandatory? Yes. Is it enforced? No.

2. How is the CTS administered? By phone.

3. Proportion of trip records reporting by expenditure categories:

	1986	1988	1990
Number of trip records	62,453	46,917	65,392
Zero or "no exp" reported	6 %	6 %	6 %
"Total" only reported	55	58	60
Reported under "category"	39	37	34
Total	100 %	100 %	100 %

4. Update to the percentage stated in 87-504, 1984 ed, page 68, I.E. Proportion of expenditures reported as "total" only:

1982 = 37 %
1984 = 46
1986 = 56
1988 = 62
1990 = 64

Note:
- Before 1986, the respondent was reporting only his/her expenditures. However, this method lead to an overestimation of expenditures.
- Since 1986, the respondant reports the expenditures of all members of the household on the trip.
- Possible explanation: In the first instance, it was probably easier to provide one own expenditures by category than in the second instance.

Information supplied by D.K.SHIFFLET, August, 1991

Effect of Trip Length on Three Month Recall

	LENGTH OF TRIPS							
RECALL	0	1	2	3	4-6	7-13	14+	TOTAL
One Month	754	985	1053	643	859	701	207	5282
Two Month	561	751	895	506	803	638	319	4473
Three Mth	465	617	770	481	700	605	328	3986
TOTAL STAY	1780	2353	2718	1630	2362	1044	934	13721
SHOULD BE	2262	2955	3159	1929	2577	2103	964	15846
UND EST	21 .3%	20,4%	14.0%	15.5%	8.3%	7.6%	5.1%	13*4%

Stay types most affected:

Repair/Sefvice	26.5%
Convention	16*6%
Other Business	14.2%
Other Group Meeting	12.7%
Getaway Weekend	23,0%
Special Event	23.5%
Group Function	21 .0%
Stopover En-Route	16.7%
See Friend/Relative	16.3%

Table 1. Spending by Ontarians when Destination = Canada. (1988 CTS)

Total Spending:	**4,967.6 mil $ (868.5)***
In Ontario	**3,884.7 (868.5)**
In **Other Provinces**	**1,083.0 (all)**

Table 2. **Spending** by **Ontarians when Destination** = US and **Other Countries. (1988 CTS)**

Total Spending:	**4,764.4 mil $ (1,823.3)***
Spending in US & **Other Countries:**	2,817.5 (Ail)
Spending in Canada:	**1,947.1 (1,813.3)**
Spending in Ontario:	**1,921.4 (1,813.3)**
Spending in Other Provinces:	**25.5 (nil)**

*** Spending on Public Transportation when Mode = Air.**