



DEPARTMENTAL
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Texas
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Research Summary
Report

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EXAMINING THE VALIDITY OF THE TEXAS AUTO VISITOR PROFILE

PROBLEM STATEMENT

Travel-related industries have emerged as a vital part of the Texas economy. Information regarding traveler characteristics and spending patterns is critical to effective management of the tourism industry. Because one of the few data sources on Texas auto visitors is that compiled by the Travel and Information Division of TxDOT, the information generated by the survey needs to be accurate. This auto visitor survey has a long history and is the only one of its kind in Texas repeated annually. However, over the past decade, questions have been raised concerning the accuracy of the auto visitor survey results.

OBJECTIVES

The Texas Transportation Institute (TTI) conducted study 1299, "A Preliminary Validity Study of the Texas Auto Visitor Profile," in cooperation with the Texas Department of Transportation (TxDOT) and the Federal Highway Administration (FHWA) to investigate the degree to which the socioeconomic, demographic, and travel-related characteristics of the respondents to TxDOT's survey accurately represent the general population of auto travelers visiting the state. Specifically the study looks at two sources of potential bias:

- 1) *Non-response Bias*. Bias resulting from systematic differences in characteristics between respondents and non-respondents to TxDOT's survey.
- 2) *Sampling Bias*. Bias resulting from systematic differences in characteristics between visitors that stop at the Travel Information Center(s) and those visitors who do not stop.

The target respondents were out-of-state auto visitors traveling into Texas along Interstate 35 (at Gainesville) and Interstate 10 (at Orange) during November-January of 1989-1990 and May-June of 1990.

FINDINGS

Both non-response and sampling biases were found on many items of the Texas Auto Visitor Profile. The most important source of bias was that from travelers from the neighboring states of Oklahoma and Louisi-

Because visitors from adjacent states rarely provided survey data, their under-representation caused severe bias in the dataset.

ana. When compared to other out-of-state travelers, they were not only less likely to stop at the Travel Information Centers, but when they did, were less likely to respond to TxDOT's survey. Thus, the TxDOT dataset severely underestimated the proportion of auto travelers from the adjacent states and overestimated the proportion of travelers from more distant states. This was a consistent finding across both time periods and locations of the study. The severe bias on point-of-origin of auto travelers influenced the magnitude and direction of bias on most other variables.

Other significant biases that were consistent across the two time periods and locations included the following:

- The TxDOT survey overestimated the proportion of travelers from the senior age bracket (55 & older) and underestimated the proportion in the younger age brackets.
- The TxDOT survey overestimated the proportion of travelers on vacation/leisure and underestimated the proportion on a day trip.
- The TxDOT survey underestimated the proportion of travelers in the lower mileage brackets and overestimated the proportion in the higher mileage bracket.
- The TxDOT survey overestimated travelers' expenditures.
- The TxDOT survey overestimated travelers' advance planning

time for their trip to Texas.

- The TxDOT survey overestimated the proportion of travelers participating in, and enjoying, historical sites and museums.

Detailed statistics in each of these areas are provided in the report.

CONCLUSIONS

For the time periods and locations of this study, the survey did not accurately portray the general population of out-of-state auto visitors into Texas. Two basic questions regarding research objectives need to be thoroughly addressed. These two questions are both directed at identifying and describing the end user of TxDOT's information:

Who is in need of information on out-of-state travelers?

What information is needed?

Following investigation of these two questions, the remaining question for the Travel and Information Division would be:

What types of information on auto travelers is TxDOT in a position to efficiently and accurately obtain?

Researchers offer both short and long run recommendations based on their interpretation of results. To correct the sampling bias problem, in the short run, it was recommended that TxDOT implement a sampling regime follow-up. Such a method could improve the repre-

sentativeness of the Auto Visitor Profile, and in particular, it would more fully capture the characteristics of the adjacent state visitor. Since the conclusion of this research, TxDOT has changed their research techniques to account for the response bias problems.

In the longrun, clearly delineated research objectives need to be established for the Auto Visitor Profile. Current and potential end-users of the Auto Visitor Profile should be identified, and their information needs regarding auto visitors assessed. It is likely that different types of end-users have different information needs regarding auto visitors. For example, RV-park operators in South Texas may be more interested in winter auto travelers and their "mode of transportation" than Six Flags (primarily a summer-time attraction in North Texas).

A comprehensive examination of end-users also would suggest changes regarding items on the TxDOT questionnaire. The information needs could differ between various types of end-users, and these differences could be translated into modification of the items on the questionnaire.

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The information described in this summary is reported in detail in TTI Research Report 1299-1, "A Preliminary Validity Study of the Texas Auto Visitor Profile," William P. Stewart, Chi-Chuan Lue, and B. Scott Anderson, November 1991. This summary does not necessarily reflect the official views or policies of the FHWA or TxDOT.

