



# CTPP 2000 Status Report

October 2000

U.S. Department of Transportation  
Federal Highway Administration  
Bureau of Transportation Statistics  
Federal Transit Administration  
In cooperation with the TRB Census Subcommittee

## CTPP Outreach Program

One of the goals of the CTPP 2000 program is to provide good communication with potential CTPP data users. We are now developing an outreach program which will include a brochure, video, and an electronic guidebook. A contractor has been selected, but the contract is not yet established. While the video will be aimed at higher level managers and executive directors, the brochure and the electronic guidebook will be written for hands-on planners. The applications discussed in the brochure and the electronic guidebook will be integrated to provide a structured approach to this outreach program. We plan to include examples of using the data for demographic analyses, population forecasting, corridor

analyses, travel demand forecasting, environmental justice analyses, transit route analysis and planning, bicycle, and pedestrian path planning. The guidebook will be a computer-based self-instructional CD with interactive exercises.

In the video, we want to highlight three organizations which can showcase how they plan to use the data, with each organization discussing more than one application of the data. One example might be a State DOT who will be using it for: statewide planning, corridor analyses, and assisting smaller MPOs with travel demand models. Please send an email to [ctpp@fhwa.dot.gov](mailto:ctpp@fhwa.dot.gov) if you have any ideas or if your agency would like to be considered for the video.

## Meet the CTPP 2000 Working Group!

Outreach is a key component of CTPP 2000. Many of the members of the CTPP Working Group will be attending several conferences. The following is a list of conferences where CTPP is included in the agenda for October 2000 – January 2001.

1. Kentucky Statewide Modelers Group Meeting in Louisville, KY ; October 17, 2000.
2. TRB Performance Measures Conference in Irvine, California; October 29, 2000
3. IPG Meeting in San Diego; November 5 - 7, 2000.
4. 80th Annual Meeting of the Transportation Research Board in Washington DC, January 7- 11, 2001.

Please plan to meet the CTPP Working Group members to share your ideas and concerns if you are planning to attend any of the meetings listed above.

## More about PUMS

by Elaine Murakami, Federal Highway Administration

The July 2000 CTPP Status Report (<http://www.mcs.com/~berwyned/census/news/sr0700.html>) included a summary of issues related to the Public Use Microdata Sample (PUMS) for Census 2000.

Since then, the Census Bureau assigned Phil Salopek to work with the U.S. Department of Transportation (USDOT) to address the concerns that were presented to Dr. Kenneth Prewitt, Director of the Census Bureau by Dr. Ashish Sen, Director of the Bureau of Transportation Statistics (BTS).

To protect individual confidentiality, the Census Bureau is generally using two approaches to reduce the chance of disclosure for continuous variables. These are:

1. For continuous variables, choose the top-coded value so that the category contains at least 0.5% of the total US population. and;
2. For categorical variables, grouping values if there are fewer than 10,000 cases nationwide in any specific category.

The USDOT has now submitted to the Census Bureau a specific proposal for categories for travel time and departure time. They are:

**Travel time:** individual minutes between 1 and 89 minutes; and  
a top code of 90 minutes or more.

**Departure time: (military time)**  
2400-0259 30 minute intervals  
0300-0459 10 minute intervals  
500-1059 5 minute intervals\*  
1100-2359 10 minute intervals  
\*(AM "rush")

Collapsing intervals may be necessary if there are too few cases.

We thank those of you that responded to the CTPP listserv. We hope that our suggestions are taken into account when the final decisions for the PUMS file are made.

## GET TO KNOW YOUR STATE DATA CENTER!

### PUMA definition

The Public Use Microdata Areas (PUMAs) for the State-level PUMS will be areas of at least 100,000 population. The State Data Centers (SDCs) will be defining Public Use Microdata Areas (PUMAs) in spring or early summer of 2001, using TIGER/Line 2000. We highly recommend that you work closely with your State Data Center to make sure that transportation needs are considered in the definition of these areas. We plan to send all the CTPP contacts a copy of the letter that is mailed to the SDCs from the Census Bureau, so that you will know what the status of this project is. **WE RECOMMEND THAT YOU ESTABLISH A WORKING RELATIONSHIP WITH YOUR SDC AS SOON AS POSSIBLE.** To find the State Data Center closest to you, please visit <http://www.census.gov/pub/sdc/www/sdctxt.html>.

## Using CTPP Data in Modeling Vehicle Availability

By Earl Ruiter, Cambridge Systematics, Inc.

### Introduction

Over the past 30 years, many MPOs have enhanced their regional travel forecasting process by including models of auto ownership or vehicle availability (the latter designation is increasingly being used because it matches Census terminology, accounting not only for autos owned, but also for 'company cars' and leased vehicles). As disaggregate (individual- or household-based) modeling methods have increasingly been adopted in the place of methods based on aggregate or zonal data, the standard information source for these models has become household survey data.

Many MPOs, however, have continued to find that CTPP data enhances their vehicle availability forecasting process. The CTPP information can aid in developing, validating, and applying vehicle availability models. For more detail and background on vehicle availability modeling, the reader is encouraged to read the report, "Vehicle Availability Modeling" prepared by Cambridge Systematics, Inc. for FHWA in May 1997. (<http://www.bts.gov/tmip/papers/surveys/vam.pdf>).

### **Substitute where disaggregate (individual/household data) are not available**

Many early models on vehicle availability were developed from Census data at the small-area level; these types of models can still be developed for regions which do not have a recent travel survey to provide data on individual households. Using CTPP data and regression procedures, average vehicle availability by zone can be related to zonal

average values of variables such as household income, number of persons, and number of workers. With the addition of acreage of TAZs, these models can also be extended to include population, household, and/or worker density variables.

Alternatively, the dependent variables can be the shares of households in a zone which have a specified number of vehicles available – the shares of households, for example, with zero, one, two, and three or more vehicles. Models of this type cannot reflect the unique behavior of individual households, but may be sufficient in regions with highly homogenous populations, or as preliminary models until detailed recent household survey data are obtained.

### Accessibility Measures

CTPP can provide zonal characteristics that are used in combination with individual household data for vehicle availability models. Some examples of zonal characteristics are population density and employment density. Using a Geographic Information Systems (GIS), these variables can be transformed into accessibility measures when combined with a transportation network.

### Categorical Data Beyond Averages

The CTPP is valuable because it can provide not just the average vehicle availability for a zone, but the shares of households with 0, 1, 2, 3, 4+ vehicles. This is critical information for regions that need to have trip generation or mode choice models for each category of vehicle availability.

### Model Validation

CTPP data becomes the most valuable for the validation step of vehicle availability modeling. By comparing predicted vehicle availability shares and averages with CTPP

data, model developers can determine the accuracy and sensitivity of their models, and identify the need for additional model variables. Tabulations of the model results for individual households by income level, household size, and numbers of workers, for example, can be compared directly with CTPP tables for the entire region and for selected subareas. Variations between the predicted and observed data help to identify the need for additional model variables or for revised forms of variables – an example would be changing from a simple household income variable to a logarithmic form to

reflect the reduced importance of changes in income levels as household income increases. Comparisons can also be made of observed and predicted information by zone or district to identify biases related to geographic factors not accounted for in candidate models. The CTPP data allows these types of validation checks to be made more readily, since the longform sample of 1 in 6 households nationwide is much greater than that of MPO’s household travel surveys (generally less than 1 percent of households).

### Not Just the Journey to Work

by Nancy McGuckin, consultant  
(nancy.mcguckin@fhwa.dot.gov)

The Nationwide Personal Transportation Survey (NPTS) has provided a snapshot of daily travel from a sample of U.S. households since 1967. The data provided by the NPTS covers **all trips** made by **all members** by **all modes** and for **all trip purposes** in a single travel day. The survey includes questions similar to the U.S. Census about the respondent’s ‘usual’ journey to work, and allows us to look at how people interpret the question about their

‘usual’ mode to work, and how they actually travel to work on a specific survey day.

The reported variation between a commute on a ‘usual’ day and any specific day is not great for people who usually commute by private vehicle. However, for those who usually use transit or walk to work, over twenty percent are likely to use a private vehicle to commute on any particular day. This shows that using transit for work trips reflects an increasing proportion of workers for whom transit is used as a choice, and they are not captive to it.

Mode of Travel on Travel Day for Workers Making a Commute Trip Compared to “Usual Mode” (Compiled using 1995 NPTS)

If “Usually” Take ↓	Then On Travel Day, Percentage of Those that Took:					
	Single Occupant Vehicle ↓	Carpool ↓	Transit ↓	Walk ↓	Bike ↓	No Report/Other ↓
Private Vehicle	81.8	15.3	0.3	0.5	0.1	2.0
Transit	11.5	10.8	65.6	7.4	0.2	4.5
Walk	13.5	9.0	3.2	50.8	0.3	23.3
Bike	9.4	11.9	0.3	4.9	68.7	4.9

(From Nancy McGuckin, Elaine Murakami, Mary Ann Keyes, “Work, Automobility, and Commuting,” in **Travel Patterns of People of Color**, USDOT Publication FHWA-PL-00-024, June 2000). This report is available at: <http://www.fhwa.dot.gov/ohim> under “Publications.”

### **Improvements for the 2000 Survey**

One of the goals for the 2000/2001 survey is to improve the data on both short trips (walk and bike) and mid-range distance trips (50 to 100 miles). We are asking people to remember trips 50 miles or more over the last month in addition to a 1-day travel diary.

We have also added questions on telecommunications, because it is important to understand how these technologies are influencing our daily travel. The NPTS pretest found that over 30 percent of the households had more than one telephone line, and 58 percent percent of the households had at least one cell phone.

### **Add-on Fever**

The add-on program allows local jurisdictions to purchase additional samples of the NPTS in their area. To date, three States and eight MPOs have expressed serious interest in purchasing add-on samples—adding almost 60,000 households to the sample. In the 1995 NPTS, the State of New York and the Commonwealth of Massachusetts, and 4 MPO add-ons, represented an additional 21,000 households to the sample.

Some States and MPOs do not have the time and resources to develop, contract, and manage a household travel survey. This project allows States and MPO to use State Planning and Research (SP&R) or Planning (PL) funds and waives the requirement of local match. The additional samples are compiled, geocoded, and edited and weighted to represent the participating region.

In addition to the traditional travel diary, a vehicle-based GPS component is also an option with the add-on program. So far, two areas are considering this option. The GPS unit would stay in the vehicle for a week or two, overlapping the one-day diary. Such a concurrent data collection allows the number of trips counted by the machine to be compared to the number reported by telephone respondents, and to compare GPS-measured VMT to reported VMT. Using a 7-14 day survey period will also provide data to analyze the daily variation in travel, examination of travel speed along routes, and has the potential for sophisticated route-choice analysis.

**For more information,** please visit the NPTS website at:  
<http://www-cta.ornl.gov/npts>

## **TRB Subcommittee: Message from the Chair**

Since the last issue of the "Status Report" we have received news that both research projects we developed are still alive and under consideration. In August, I learned that the proposed NCHRP project, "Use of the American Community Survey Data in Transportation Planning" was submitted by several states and is in the review process. From there it will be up to all the 50 states to vote on it along with all the other projects submitted. Needless to say, I hope the states' will give it a favorable vote. The project description can be found at <http://www.mcs.com/~berwyned/census/notes/nchrp012000.html>.

The other research-oriented project, that we thought was dead, actually is alive and kicking. It was submitted to TCRP in May and this past July a group of transit professionals met and screened over 120 proposals. Our project, "Census Data for Transit Planning" made it through the screening process and will go before the TCRP Oversight and Project Selection Committee for consideration. The project scope can be found at <http://www.mcs.com/~berwyned/census/notes/tcrp052000.html>

This past August, our parent committee, the Committee on Urban Data and Information Systems held its mid-year meeting in Madison, Wisconsin. At that meeting we

discussed plans for a presentation session at the TRB Annual Meeting in January 2001. Our session will consist of four presentations on the application of Census data products for transportation planning. Presentations are tentatively slated on the American Housing Survey, use of the decennial census Public Use Microdata Sample (PUMS), the American Community Survey, the North American Industry Classification System, and an update on the CTPP. Check the TRB web site for further details, <http://www.nas.edu/trb/>

In Madison we also discussed what, if anything, could be done to encourage those states and MPOs with American Community Survey (ACS) test counties to begin looking at their ACS data. This will become especially important as decennial census products begin to be released. Remember that the reason for the three-year test cycle of the ACS was to be able to benchmark the ACS data against the decennial data. To find out if you have a test ACS site area near you go to the ACS website at <http://www.census.gov/acs/www/> or you can go directly to the ACS test sight listing at [http://www.census.gov/acs/www/html/meth\\_doc/overvw99.htm](http://www.census.gov/acs/www/html/meth_doc/overvw99.htm)

See you in January at the TRB Annual Meeting (January 7-11, 2001). (Subcommittee meeting and conference session date and time tbd)

Ed Christopher,  
Chair, TRB Subcommittee on Census Data  
for Transportation Planning

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Note: In the spirit of expanding our horizon on transportation data sources, we are trying to have a series of articles on TRB data committees in future CTPP Status Reports.

## **TRB Committee on Travel Survey Methods (A1D10)**

*by Elaine Murakami, FHWA*

I chair the TRB Committee on Travel Survey Methods. I am particularly interested in the use of new technologies to improve the quality of data, especially geographic, in transportation surveys. Of course, the decennial census "long form" is the largest sample survey that we have on travel behavior in the United States. However, for travel behavior data, it is limited to the "usual" journey to work. This committee addresses surveys and survey methods that may be needed to collect relevant data other than from the decennial census, for State and MPO purposes. While one of the most fun current topics is the use of GPS (Global Positioning Systems) in combination with personal travel surveys, other issues of concern to this TRB Committee include on-board transit surveys, truck surveys, employer-based and visitor surveys, and external station surveys.

For basic information about travel surveys, I recommend the Travel Survey Manual (FHWA-PL-96-029), completed in 1996 through the Travel Model Improvement Program (TMIP). To order a copy, please FAX your request to the FHWA Report Center at 301-577-1421 (phone number 301-577-0818). Please be sure to include the FHWA publication number, and your full mailing address and phone number.

NHI course, "Development and Implementation of Travel Surveys" is now available. The course is currently scheduled for November 14-16 in Des Moines, Iowa; and December 4-6, in Las Vegas, Nevada. Please use the TMIP webpage, under "Courses" for more information: [www.bts.gov/tmip/tmip.html](http://www.bts.gov/tmip/tmip.html)

Conference proceedings from an International conference on Transport Survey Methods held in 1997 were just released on the TRB webpage: [www4.nationalacademies.org/trb/onlinepubs.nsf/web/circular](http://www4.nationalacademies.org/trb/onlinepubs.nsf/web/circular)  
This is an excellent document which addresses many issues which perplex transport surveys in the United States and around the world, and provides ideas on improving the quality of these surveys.

The committee is sponsoring a Roundtable on Personal Travel Surveys. The objective of the Roundtable is to bring together people from the survey methods and transportation communities to provide the USDOT with ideas about research to improve national surveys on personal travel behavior. This group convened, for the first time, on September 21, 2000.

For more information about TRB Committee A1D10, please see the committee webpage at: [www.fhwa.dot.gov/ohim/trb/trbpage.htm](http://www.fhwa.dot.gov/ohim/trb/trbpage.htm)

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### Some Important Websites:

**CTPP Website:**

<http://www.mcs.com/~berwyned/census/>

**American Community Survey (ACS):**

<http://www.census.gov/acs/www/>

**Census Bureau Journey to Work data site:**

<http://www.census.gov/population/www/socdemo/journey.html>

**Public Use Microdata Sample (PUMS) 2000 Taskforce:**

<http://www.ipums.org/~census2000/>

**Metropolitan Area Standards Review Project (MASRP):**

<http://www.census.gov/population/www/estimates/masrp.html>

**North American Industrial Classification System (NAICS) website:**

<http://www.census.gov/epcd/www/naics.html>



