CTPP Status Report

Census Transportation Planning Products (CTPP) Consolidated Purchase

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The CTPP Oversight Board has now been established under the auspices of the AASHTO Standing Committee on Planning (SCOP). Kent Cooper from the Nevada Department of Transportation will chair the CTPP Oversight Board, with Jonette Kreideweis from Minnesota Department of Transportation as the vice-chair.

The CTPP Oversight Board will provide strategic direction, overall guidance, and monitoring of on-going tasks and activities related to the Census Transportation Planning Products (CTPP) consolidated purchase. Some of the key tasks of the Oversight Board are to:

1. Recommend a five-year (2008-2012) CTPP work plan and budget to SCOP that identifies emphasis areas and estimated uses of consolidated purchase funds;
2. Oversee, guide and direct the implementation of specific CTPP work plan activities and tasks;
3. Authorize, monitor, and track expenditures for tasks undertaken as part of the CTPP work plan; and
4. Review and approve contracts negotiated with the Census Bureau for specific census data products.

Other members include:

States
Mel Adams, Vermont (Region I)
Ahmad Jaber, Idaho (Region IV)
Nathan Erlbaum, New York (Region I)

The Next CTPP: SCOP Census Data Work Group Activities

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The AASHTO Standing Committee on Planning (SCOP) Census Data Work Group created a table definition subgroup last year, and they completed their work in early 2008. The subgroup's proposed table list and variable classifications are posted at: http://trbcensus.com/acs/tables.html. The Census Bureau's Disclosure Review Board (DRB) has replied to this request and recommended additional restrictions on the release of these custom tabulations beyond those imposed on the CTPP2000. Because the DRB has recommended more restrictions, the tables are still under negotiation.

Another subgroup was established to focus on software specifications to access the next CTPP data. While the details of the specifications are still under discussion, some of the preferences identified so far include:

- Simple methods to extract and export the data are the most important feature, and fancier analytic functions should be left for users to conduct in their own GIS or other software;
- There should be both a map-based and a list-based method to select geographic areas of interest;
- There should be a web-based (and, possibly both web and desktop) system to download data in several export formats, including .shp; and
- The system should allow browsing data from:
  - CTPP using ACS three-year summary (2005/2006/2007) for geographic areas with a minimum residence population of 20,000 (Counties and Places);

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Hui Wei Shen, Florida (Region II)
Phil Mescher, Iowa (Region III)
Ayalew Adamu, California (Region IV)

Metropolitan Planning Organizations (MPO)
Mell Henderson, Middle America Regional
   Commission
Guy Rousseau, Atlanta Regional Commission
Steve Gayle, Binghamton MPO
Jerry Duke, Las Vegas MPO
Kuo-Ann Chiao, New York Metropolitan
   Transportation Council
Arash Mirzaei, North Central Texas Council of
Governments

Ex Officio Members
Steven Polzin, University of South Florida
Alan Pisarski, Consultant
DeLania Hardy, Association of Metropolitan
   Planning Organizations (AMPO)
Elaine Murakami, FHWA
Ed Christopher, FHWA
Jim Ryan, Federal Transit Administration
Nanda Srinivasan, Transportation Research
   Board
Alison K. Fields, Branch Chief, Journey to
   Work and Migration, Census Bureau

For more information, please contact me at
(202) 624-5807.

The Next CTPP (continued from page 1)

– CTPP using ACS five-year summary
   (2006/2007/2008/2009/2010) for
   geographic units as small as census
   tracts and TAZ; and

– CTPP2000 from the decennial census
   2000 "long form."

Since we expect the first CTPP using ACS to be
a three-year summary (2005/2006/2007), the
software will need to be modified over time to
incorporate additional CTPP files. Some limited
1990 CTPP data at the county level might also
be desired.

Timeframe for TAZ Delineation for the CTPP with Five-Year ACS Records
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This is to remind the MPO and state CTPP
partners who are interested in creating their own
Traffic Analysis Zones (TAZs) for CTPP data
products and for inclusion in the Census
Bureau's TIGER to make sure that they have
staff time programmed for Spring 2009.
According to our best estimates, the TAZ
definition time period will begin around April
2009 and end with a successful submission
about three months later. If any agency plans to
submit TAZs they need to make sure that there
are staff hours in the agency's work program for
the 2009 calendar year.

How long the process will take agencies can
vary, because of these potential situations:

• May use CTPP2000 TAZs as a starting point
   with very few modifications;

• May use this as opportunity to start over with
   TAZ delineation;

• May not have TAZs from CTPP2000 and
   need to start with census polygons; or

• May have a defined zone system that just
   needs to be folded in.

Please review the discussion about TAZs from
January 2008 posted on the CTPP list serve at
http://www.chrispy.net/pipermail/ctpp-news/2008-
January/001647.html. The details of the TAZ
definition process are still being discussed.
However, for the software there is a strong
commitment to a GIS-based approach. Currently
we are awaiting the installation of the AASHTO
CTPP Oversight Board to help finalize any
contracts, software specifications and staffing.

Also, there is no firm decision about the number
of different TAZ layers. At a minimum, there
will be two: base TAZs (small TAZs like the
ones that agencies had in the past); and larger
TAZs for future three-year ACS data

tabulations. The larger TAZs would be in the neighborhood of 20,000 people per area to satisfy the Census Bureaus requirement for three-year ACS tables   There is also some support for a medium-TAZ similar to a census tract (residential population of 4,000 persons) and a "super-sized" TAZ of 65,000 persons that would allow for annual data tables.

Look for further discussions on this topic on the "CTPP-news" list serve. To join the List Serve go to (http://www.trbcensus.com/maillist.html).

2007 ACS Scheduled Release
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Results from the 2007 ACS are scheduled for release in Fall 2008. The ACS standard tabulations include many "journey-to-work" tables, including tables for residence geography, and for workplace geography. http://www.census.gov/acs/www/ Products/users_guide/

This year will be the first time **multiyear** statistics will be released from the ACS, to include data years 2005 through 2007. These multiyear tables are currently scheduled for release at the end of 2008.

The three-year standard data products for journey-to-work information will be the same as the one-year tables, with the exception that there will be no three-year ranking tables (R0801-R0805). The geographic summary levels for the three-year products will remain unchanged. However, while the geographic area population threshold is 65,000 or more for single-year data, the threshold for the three-year estimates will be lowered to areas with population 20,000 or more. This will allow for the release of data for more geographic areas, such as principal cities. For further information on types of geographic summary levels and the estimated number of areas at each level that will receive three-year and single-year data products, see Table 5 and pages 14-17 of the 2006 Data Users Handbook: The American Community Survey, available at: http://www.census.gov/acs/www/Downloads/ Handbook2006.pdf.

Use of Census PUMS Data in Activity Based Models
A Case Study with the ARC Population Synthesizer
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The activity-based travel models being used in practice in the United States all rely on microsimulation as a method of application. In microsimulation, the decisions of individual travelers are carried through the model stream, rather than aggregate zone-to-zone matrices of trips by category. Microsimulation is advantageous in several ways: it avoids aggregation bias; it provides a computationally efficient way to include more variables in the models; and it allows the model results to be queried along any number of dimensions.

The Census 2000 Public Use Microdata Sample (PUMS) serves as the foundation for the microsimulation process by providing a source of disaggregate household and person records used to create a synthetic population whose travel decisions are modeled. The Atlanta Regional Commission (ARC) recognized the importance of this process, so ARC's first step towards an activity-based travel model was to invest in the development of a flexible tool to create synthetic populations from Census 2000 PUMS data.

The ARC population synthesizer allows the user to specify zone-level control totals for the number of households with certain attributes. The control totals can include any of the aggregate tables from Standard Census products or custom tabulations such as the CTPP, or other demographic information that an agency may have available. The control totals can be changed when creating future-year populations. For example, if demographers predict an aging population, a synthetic population can be created to match the future-year distribution of households by age of householder.

ARC took its population synthesizer a step further and deployed it within its trip-based model in trip generation. The revised trip generation program now receives as input from the Population Synthesizer a multidimensional distribution of households. The Population Synthesizer generates the five-dimensional (household size, household income, number of workers, number of children and auto ownership) distribution by synthesizing a population and then aggregating it in the appropriate five dimensions.

For population synthesis, the Population Synthesizer now uses 88 categories, simpler than the original 316 categories, but slightly more complex than the original 52 categories. The 88 categories consist of the feasible combinations of four variables:

1. Household income (0-20K, 20-50K, 50-100K, 100K+);

2. Household size (1, 2, 3, 4, 5, 6+);

3. Number employed (0, 1, 2, 3+); and

4. Number children under age 18 (0, 1+).

The new ARC process distributes households in all five dimensions simultaneously, first for the base year using Census 2000 data, and then modifies this distribution for the forecast year using input available from the current DRAM/EMPAL land use model, soon to be replaced by PECAS. In the base year, the Census 2000 data provide a very accurate four-dimensional distribution by all dimensions except number of children, and a separate distribution by presence or absence of children. The population synthesizer generates the five-dimensional distribution so as to match both of these distributions while departing from the observed Census 2000 PUMS sample distribution as little as possible. The result is as accurate as possible five-dimensional distribution for the base year that captures differences across subareas within the region.

Guy Rousseau at the ARC has been actively involved in the table definition for the new CTPP which will use the ACS. He has recommended the addition of a new household variable called "(household) Lifecycle" which includes family

size, age of householder (under or over age 65), and presence or absence of persons under age 18.

ARC's investment already has paid benefits to modeling efforts elsewhere. Due to its reliance on widely available Census data and its flexible design, the ARC population synthesizer readily can be adapted for use in other regions. It recently was adapted for San Francisco Bay Area, and is shared by the activity-based models in use at the San Francisco County Transportation Authority and in development at the Metropolitan Transportation Commission. In application, its availability is important to an ongoing congestion pricing study, where using a synthetic population allows the models to track individual values of time and to track whether or not a traveler already has paid an area-pricing fee.

The Census 2000 PUMS data are easily tabulated using the IPUMS at the Minnesota Population Center at the University of Minnesota (http://usa.ipums.org/usa/sda/). The Census Bureau has published PUMS from 2005 and 2006 ACS survey years (http://factfinder.census.gov/home/en/acs_pums_2006.html).

The transportation modeling community is fortunate to have such a useful tool as the PUMS available.

Using Census Data to Analyze Limited English Proficiency (LEP) Populations for Transit Applications

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In May 2007, the Federal Transit Administration (FTA) finalized "Title VI and Title VI-Dependent Guidelines for Federal Transit Administration Recipients," Circular FTA C 4702.1A (http://www.fta.dot.gov/documents/Title_VI_Circular_4702.1A.pdf). The Circular details Title VI requirements for transit agencies, Metropolitan Planning Organizations and state Departments of Transportation. The purpose of the Circular is to provide guidance and instruction to recipients of FTA financial assistance so that they may comply with Title VI regulations. Included in the updated Circular are requirements to provide meaningful access to Limited English Proficiency (LEP) persons by developing a Language Implementation Plan and to promote their involvement in the public participation process. LEP populations are defined as those individuals who have a limited ability to read, write, speak, or understand English.

Regulations specific to LEP were promulgated as a result of Executive Order 13166, "Improving Access to Services for Persons With Limited English Proficiency", signed by President Clinton on August 11, 2000 (http://www.usdoj.gov/crt/cor/Pubs/eolep.htm). The Executive Order required Federal agencies to develop and implement a process to ensure that LEP persons have meaningful access to Federally funded services. Pursuant to the Executive Order requirements, the U.S. Department of Transportation (U.S. DOT) published, "Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons", in the Federal Register on December 14, 2005 (http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-23972.htm). The two sets of factors mentioned in the U.S. DOT guidance document are:

- Four factors for Federal grant recipients to consider when determining the extent of their obligation to ensure meaningful access by LEP persons; and

- Five elements that comprise an effective implementation plan on Language Assistance for LEP persons.

What these regulations mean for transit agencies is that they must develop "a process" to ensure that LEP persons are not discriminated against due to their language abilities. As a result, a transit agency may need to install additional signage, retain on-call translation services, or implement additional training modules for staff. To help transit agencies determine what actions they need to take to comply, the FTA Circular suggests that a Language Implementation Plan be developed that follows the outline provided in the U.S. DOT December 14, 2005 guidance.

The first step is to collect data and understand the population. Key elements include the need to identify the languages spoken, the LEP groups' ability to speak English, the locations where these populations are concentrated, and what proportion of the population they represent. The 2000 Census provides this information down to the tract level in Summary File 3 (SF3). Some of the pertinent tables in SF3 include:

- **P19 –** Age by Language Spoken at Home by Ability to Speak English;

- **P20 –** Household Language by Linguistic Isolation; and

- **PCT10 –** Age by Language Spoken at Home.

More recent data is provided in the current American Community Survey ACS but only for geographic areas with 65,000 people or more. Pertinent tables in the ACS include:

- **B16001 –** Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over;

- **B16004 –** Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over; and

- **B16002 –** Household Language by Linguistic Isolation.

By the end of Calendar 2008, the same tables will be available from the three-year ACS data (surveys accumulated from 2005, 2006, and 2007) for areas of 20,000 people or more. Specific to transportation, the ACS standard data products also provide a cross-tab with means of transportation to work in tables:

- **B08113 –** Means of Transportation to Work by Language Spoken at Home and Ability to Speak English (**for Resident Geography**); and

- **B08513 –** Means of Transportation to Work by Language Spoken at Home and Ability to Speak English **for Workplace Geography**.

The Census Transportation Planning Package 2000 (CTPP2000) contains information on work flows and provides demographic information at both the home and work ends of commuter trips. Unfortunately, the CTPP2000 did not include tables on language or linguistic isolation. However, future CTPP data products currently plan to include at least two relevant tables; Linguistic Isolation by Language Spoken at Home **for Resident Geography** and another table **for Workplace Geography**.   The first CTPP data products are planned to be available sometime in the second half of 2009 and will use three-year ACS data. At this time it is uncertain what tables will be available in future CTPP data products as the needs of the user community greatly could influence future data products.

The current SF3 tables and those available from the ACS are available for download from the American FactFinder web site located at http://factfinder.census.gov/.

Guidebook Using ACS for Transportation Planning
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NCHRP Report 588 "A Guidebook Using American Community Survey Data for Transportation Planning" is now available.

This practitioner guidebook provides approaches to incorporating ACS data into the transportation planning processes at national, state, metropolitan, and local levels. The guidebook evaluates ACS data and products and demonstrates their uses within a wide range of transportation planning applications. The Principal Investigator was Kevin Tierney of Cambridge Systematics.

Web Site (for PDF Version):
http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=924.

2008 National Household Travel Survey
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In March 2008, the Federal Highway Administration's National Household Travel Survey (NHTS) Program began data collection for the 2008 NHTS. Since 1969 this national survey has been collecting information on travel by the American public, including detailed information on mode use, trip rates, vehicle occupancy, and trip purpose, time of day, and distance distribution. The 2008 NHTS includes the participation of 20 States and metro areas through the NHTS Add-On Program.

Sample size for the national study is 25,000 while the Add-On sample is set for 125,000 households bringing a total of 150,000 households to participate in the study. New data items included for 2008 are hybrid/alternative fuel vehicles, residential deliveries, travel to school, interstate use, updated work at home data, tolling, and flexibility of work schedule. Please look for the public release of the data in late 2009.

Please visit the NHTS web site at: http://www.fhwa.dot.gov/policy/ohpi/nhts/index.htm.

CTPP Hotline – 202/366-5000
ctpp@dot.gov
CTPP Listserve: http://www.chrispy.net/mailman/listinfo/ctpp-news
CTPP Website: http://www.dot.gov/ctpp
FHWA Website for Census issues: http://www.fhwa.dot.gov/planning/census
CTPP 2000 Profiles: http://ctpp.transportation.org
1990 and 2000 CTPP downloadable via Transtats: http://transtats.bts.gov/
TRB Subcommittee on census data: http://www.trbcensus.com

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CTPP Listserve

The CTPP Listserve serves as a web-forum for posting questions, and sharing information on Census and ACS. Currently, over 700 users are subscribed to the listserve.

To subscribe, please register by completing a form posted at:

http://www.chrispy.net/mailman/listinfo/ctpp-news

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