



# *CTPP Status Report*

January 2008

U.S. Department of Transportation  
Federal Highway Administration  
Bureau of Transportation Statistics  
Federal Transit Administration  
AASHTO Standing Committee on Planning  
In cooperation with the TRB Census Subcommittee

## **Census Transportation Planning Products (CTPP) Consolidated Purchase**

*Ron McCready, AASHTO, [rmccready@ashto.org](mailto:rmccready@ashto.org)*

For the last few decades the transportation planning community has come together to support development of products and applications for incorporating decennial census results into transportation planning and decision-making. The Census Bureau has replaced the decennial census long-form with the American Community Survey (ACS) which provides both challenges and opportunities for input into transportation planning at all governmental levels.

Census data on demography, travel by different geographies, and journey to work flows are key inputs used in transportation planning at the state, metropolitan, and local levels. They also are critical to corridor and subarea studies, environmental analyses, project evaluation and analysis, financial and economic analyses, and operations and management.

In late 2006 the American Association of State Highway and Transportation Officials (AASHTO) committed to a new multi-year Census Transportation Planning Products (CTPP) consolidated purchase to begin incorporation of ACS data into transportation planning practices. The states and some MPOs have committed to a \$5.9 million program through the AASHTO Standing Committee on Planning in order to cover the CTPP program costs between 2008 and 2012. The funding from the states will support a program of activities including:

TAZ definition for the next suite of products, data tabulation for transportation planning by the Census Bureau, on-demand technical assistance, training, research and best practices sharing, and program oversight. Nearly all of the states have committed their funding to the CTPP and initial technical planning work has begun. In addition, the Census Bureau is in the process of gearing up to carry out its responsibilities associated with the program.

In early 2008, the AASHTO SCOP will establish an Oversight Board to provide direction, guidance, and program monitoring to activities and tasks associated with the CTPP consolidated purchase program. Committee membership will include state DOT and MPO policy, planning, and technical representatives. The Board members will also be joined by ex-officio members from involved Federal agencies, associations, academia, and consultants. Over the next several months the Oversight Board will prepare and approve a 5-year work program and budget to further focus the CTPP activities, tasks, and schedules.

For additional information on the status of this program, please contact Ron McCready at AASHTO at 202-624-5807 or [rmccready@ashto.org](mailto:rmccready@ashto.org).



**CTPP Staff Changes** (continued from page 2)

We understand that Alison will be posting a CTPP Coordinator position at the Census Bureau very shortly.

In April, the American Association of State Highway Transportation Officials (AASHTO) brought **Ron McCready** on board to fill Dave Clawson's position but more importantly take the CTPP through its transition from a single data package to a total set of products. We know that CTPP is only one of Ron's many responsibilities and we hear that he will be looking for CTPP help early in 2008. You can reach Ron at (202-624-5807, [rmccready@aaashto.org](mailto:rmccready@aaashto.org))

**Stephanie McVey** is the new FTA representative to the CTPP Technical Advisory Group. Stephanie is a community planner with a background in Applied Math and demographics. Stephanie can be reached at (202-366-2573, [stephanie.e.mcvey@dot.gov](mailto:stephanie.e.mcvey@dot.gov)).

Thank you to **Nanda Srinivasan** for eight years of dedicated service to the CTPP, and best wishes to him as he embarks on his new career at NCHRP. We know that Nanda will be missed by the CTPP users but at NCHRP he is still very part of the community. Nanda's contact information at NCHRP is (202-334-1896, [nsrinivasan@nas.edu](mailto:nsrinivasan@nas.edu)).

Congratulations to **Bob LaMacchia** who recently retired from the U.S. Census Bureau Geography Division. We have appreciated Bob's long relationship with the transportation community and his participation in the CTPP and GIS-T communities.

**Upcoming NCHRP Reports**

Nanda Srinivasan, NCHRP, [nsrinivasan@nas.edu](mailto:nsrinivasan@nas.edu)

The National Cooperative Highway Research Program (NCHRP) is in the last stages of publication of two reports of interest to the transportation data community.

**NCHRP Report 588**, "*A Guidebook Using American Community Survey Data for Transportation Planning.*"

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.

Expected Publication Date: January 2008. Sample copies will be provided at the TRB Census Subcommittee meeting (Wednesday, January 16, 2008 at 2:30 p.m.)

Web site (for PDF version):

<http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=924>

**NCHRP Report 571**, "*Standardization of Personal Travel Surveys.*"

This report highlights aspects of personal travel surveys that could be standardized, resulting in improvements to quality, consistency, and accuracy of the results. The report is aimed at staff who conduct or commission personal travel surveys, analysts who interpret the results, and researchers who strive to improve methods for these surveys. The Principal Investigator was Peter Stopher at the University of Sydney, in Australia.

Expected Publication Date: April 2008.

Web site (for PDF version):

<http://www.trb.org/TRBNet/ProjectDisplay.asp?ProjectID=911>

Hard copies of NCHRP reports can be ordered on-line at <http://gulliver.trb.org/bookstore/>

## ACS Journey-to-Work, American FactFinder and You

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The Census Transportation Planning Package has traditionally used the Decennial Census long-form's journey to work and place of work questions as its data source, and will now use the American Community Survey (ACS). This article provides an overview of ACS journey-to-work and place-of-work data including: the key differences between the Decennial Census and the ACS in terms of data collection methods, releases and products; availability of and ways to access journey-to-work and place-of-work data. This article focuses on the Census Bureau's standard products. One important change is that the standard products now include tabulations at workplace geography. Previously, this was only available in CTPP Part 2. The CTPP is a custom tabulation that is paid for by the transportation community.

### Comparing the ACS and Decennial Census Data

The Decennial Census and the ACS differ significantly in the timing of data collection and the timing of data releases. The Decennial Census collects data over four months, every 10 years, and releases data once a decade. The ACS collects data every month, each year and releases data on an annual basis. The Decennial Census collects and releases data generally down to the block group level. The ACS releases data every year for areas with a population size of 65,000 or more. Beginning with the 2008 data release, and each subsequent year, the ACS will release multi-year estimates. Three-year estimates will be released for places with populations of 20,000 or more (the first release will cover the 2005-2007 collection years). Five-year estimates (the first covering the data collection period 2005-2009) will be released in 2010 at a minimum geography level down to tract.

The ACS also includes an expanded list of standard products compared to the Census. The 2005 data release introduced journey-to-work tables for social and economic characteristics of workers by their workplace geography. There are additional revised products that package commuting data for easy access and comprehension.

But some things have not changed. The specific questionnaire items are still the same for the Census and ACS. The definition of workers is still people 16 years old and over, that is, members of the Armed Forces and civilians who were at work during the week prior to completing the questionnaire. The ACS continues to collect data on means of transportation to work, carpool occupancy, travel time, departure time, and place of work.

### Accessing ACS Data

Here is a step-by-step guide to find and access journey-to-work and place-of-work data from the Census Bureau web site. All ACS data is accessible through American FactFinder.

- First, go to the main Census Bureau page <http://www.census.gov/>.
- Next, find the [American FactFinder](#) link on the left side of the screen.
- On the left side of this screen is a [Data Sets](#) link. A pop-up box shows several data sources. Select [American Community Survey](#).

The data for the current year (2006) is automatically highlighted. The products that have information on commuting are:

- Data Profiles – view detailed social, economic, housing, and demographic information about a particular geography. Journey-to-work data is in the Economic Profile,
- Selected Population Profiles – lets users select a particular race, ethnic, or ancestry group and view a variety of statistics for that group,
- Ranking Tables – ranks states on a given characteristic. Journey-to-work tables begin with “R08,”
- Subject Tables – similar to the decennial census Quick Tables with data on topics for a single geographic area. Journey-to-work tables begin with “S08,”

- Detailed Tables – detailed data on basic characteristics and the foundation upon which the other ACS data products are built. There are two types of tables: base tables (beginning with “B08” for journey-to-work tables) and collapsed tables (beginning with “C08” for journey-to-work tables),
- Geographic Comparison Tables – compares data across similar geographic areas for lower levels of geography. Journey-to-work tables begin with “GCT08,” and
- Thematic Maps – show the geographic patterns in statistical data. Journey-to-work tables begin with “M08.”

To access the products at different geographic levels:

- 1) Select which product you want to view,
- 2) Select your level of geography, and
- 3) Then select your table of interest.

Journey to work products are shown for two types of geography: residence-based (where people live) and workplace-based (where people work).

Workplace geography tables are available below the national level.

### ***Tables for Residence Geography by Product Type***

Data Profiles – Economic Profile

Selected Population Profiles

Ranking Tables – R0810-R0805

Subject Tables – S0801 and S0802

Detailed Tables

- Commuting and Place of Work by demographic characteristics – B08006-B08009, B08011-B08018, B08101-B08113, B08130, B08131
- Commuting by economic characteristics – B08119-B08128
- Commuting by other commuting characteristics – B08132-B08136
- Commuting by housing characteristics – B08137-B08203
- Simple one-way commuting tables – B08301-B08303
- Imputation tables – B99080-B99085
- Geographic Comparison Tables – GCT0801-GCT0805
- Thematic Maps – M0801-M0805

### ***Tables for Workplace Geography by Product Type***

Subject Tables – S0804

Detailed Tables

- Commuting by demographic characteristics – B08406-B08513
- Commuting by economic characteristics – B08519-B08528
- Commuting by other commuting characteristics – B08532-B08536
- *Commuting by housing characteristics – B08537 and B08541*
- Simple one-way commuting tables – B08601-B08603
- Imputation tables – B99086-B99089

### ***PUMS***

The Public Use Microdata Sample (PUMS) contains a 1 percent sample of ACS cases for the year and is useful when trying to create cross-tabulations of characteristics not available in the standard products. PUMS is accessible using this link

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

The Minnesota Population Center, at the University of Minnesota, provides an on-line table generator and statistical tests for Public Use Microdata Samples including the most recent 2006 ACS. The software includes 1-, 2-, and 3-way tables, correlations and regressions and is available at

<http://usa.ipums.org/usa/sda/>

### ***Need More Information?***

One place to start learning about ACS is the American Community Survey Office’s web page <http://www.census.gov/acs/www/>. Here you can find links to the ACS Data Users handbook (for 2006 <http://www.census.gov/acs/www/Downloads/Handbook2006.pdf>), the ACS Design and Methodology paper (<http://www.census.gov/acs/www/Downloads/tp67.pdf>), survey questionnaires (<http://www.census.gov/acs/www/SBasics/SQuest/SQuest1.htm>), and various papers that have been written using the ACS data (<http://www.census.gov/acs/www/AdvMeth/Papers/Papers1.htm>). There is a report and tables comparing Journey-to-Work data for the 2005 ACS, Census 2000, and C2SS available using the papers’ link above. The report was released on June 29, 2007 and is called “Journey to Work ACS Comparison.”

## HAZUS – MH: FEMA’s Software Program for Estimating Potential Losses from Disasters

Margarita Cardona, PBS&J, [mrcardona@pbsj.com](mailto:mrcardona@pbsj.com)

The Hazards U.S. Multi-Hazard (HAZUS-MH) is a standardized methodology and software program that estimates potential losses from earthquakes, hurricane winds, and floods in the United States. Developed by the Federal Emergency Management Agency (FEMA) under contract with the National Institute of Building Sciences (NIBS), HAZUS-MH uses state-of-the-art Geographic Information Systems (GIS) software to map and display hazard data as well as the damage and economic loss estimates for buildings and infrastructure resulting from natural disasters. It also allows users to estimate the impacts of earthquakes, hurricane winds, and floods on populations. In the HAZUS-MH newest version, Maintenance Release 3 (MR3), the Flood Model will run building analyses faster and users will import user-supplied flood maps and flood depth grids. The Hurricane Model boasts an updated and revised historical database that includes storms from 2004 and 2005. New vulnerability functions will permit calculation of additional losses to manufactured housing due to blown down trees. Changes to the Earthquake Model include adjustable population distribution parameters in the casualty module and the elimination of partial ignitions in the fire-following module.

In order to assess and mitigate the impacts of a natural hazard such as an earthquake, flood or hurricane, it is necessary to have an understanding of the potential size of an event (hazard identification) and the characteristics of the population and environment that will be impacted (inventory collection). A unique feature of HAZUS-MH is the national inventory that comes with the model.



Inventory data includes:

- Essential facilities such as police, fire, emergency operations facilities, schools, medical facilities,
- Lifelines include utilities and transportation,
- General building stock include residential, commercial, and industrial (aggregated by square footage), and
- Demographic data which can be aggregated by age, income, sex, households and other attributes that have a direct bearing on vulnerability to disasters.

HAZUS-MH obtains inventory data from multiple sources, being one of them the CTPP 2000. In fact, HAZUS-MH transportation data was produced from the same decennial census transportation tabulations from the CTPP 2000.



The most important advantage that the CTPP 2000 provides is the availability of transportation data in one source from which users can draw the information needed to run particular scenarios in specific study regions.

HAZUS-MH uses the inventories to estimate losses from earthquakes, hurricanes, and floods. The accuracy of loss estimates are greatly improved by accurate and complete inventories. The HAZUS-MH inventory has several potential applications for planners, emergency responders, and decision-makers. Several uses are highlighted below:

1. HAZUS-MH can delineate the boundaries of a hazard and exposure of population and built environment,
2. HAZUS-MH can show the location of essential facilities and lifelines (utilities and transportation) and estimate the potential for loss of functionality in scenario events, and
3. HAZUS-MH can show the location of unreinforced masonry structures (URMs), by far the most vulnerable structure in earthquakes.

The uses mentioned above are just examples of the inventory capabilities of HAZUS-MH and its importance in the planning of emergency response in the United States. The accuracy of the estimations produced by HAZUS depends directly on the accuracy of the inventory data used by the software. Therefore, the CTPP 2000 has been instrumental for the precise production of hazard estimation and potential damages for all of HAZUS modules (earthquake, hurricane, and flood). Ultimately the CTPP 2000 data in HAZUS has helped and continue to assist decision-making at all levels of government, providing a basis for developing mitigation plans and policies, emergency preparedness, and response and recovery planning.

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**CTPP Listserve:** <http://www.chrispy.net/mailman/listinfo/ctpp-news>

CTPP Website: <http://www.dot.gov/ctpp>

TRB Sub-committee on census data: <http://www.trbcensus.com>

FHWA Website for Census issues: <http://www.fhwa.dot.gov/planning/census>

CTPP 2000 Profiles: <http://www.transportation.org/ctpp>

1990 and 2000 CTPP downloadable via Transtats: <http://transtats.bts.gov/>

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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 listserv.

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

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

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