Census Transportation Planning Products program

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Cambridge Systematics, Inc.
12/6/2016
What is the CTPP?

An AASHTO sponsored data program funded by member State transportation agencies

Operates with support from FHWA, OST-R, FTA, Census Bureau, MPOs and TRB

The program includes:

- Data products
- Training and technical assistance
- Research

Designed for the transportation community
Guided by an AASHTO Oversight Board

**MPOs**
- Arash Mirzaei, NCTCOG
- Jim Hubbell, MARC
- Shimon Israel, MTC
- Brian Lasagna, BCAG
- Tom Faella, LAPC
- MaryAnn Waldinger, COMPASS
- Benjamin Gruswitz, DVRPC

**States**
- Laine Heltebride, PA (Region I)
- Greg Slater, MD (Region I)
- Regina Colson, FL (Region II)
- Jessie Jones, AR (Region II)
- Phillip Mescher, IA (Region III)
- Jennifer Murray, WI (Region III)
- Soheila Khoii, CA (Region IV)
- Erik Sabina, CO (Region IV)

**Chair:** Tracy Larkin-Thomason, NV (Region IV)
**Vice Chair:** Guy Rousseau, ARC
**AASHTO Liaison:** Penelope Weinberger

**17 voting members: 9 states and 8 MPOs**

**Ex Officio Members**
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- Ed Christopher, Consultant
- Alison Fields, Census Bureau
- Matt Hardy, AASHTO
- Bill Keyrouze, AMPO
- Brian McKenzie, Census Bureau
- Tom Palmerlee, TRB
- Alan Pisarski, Consultant
- Steven Polzin, USF. CUTR
- Clara Reschovsky, OST-R, BTS
- Erich Zimmermann, NARC
- JJ (Jing Jing) Zang, Technical Adjunct
CTPP Data Products

CTPP data products use data from the US Census Bureau American Community Survey (ACS)

The ACS replaced the decennial census “long form” and requires accumulation of data over multiple years for small area tabulation

1 Year of data for places with 65,000+ people

3 Years of data for places with 20,000+ people

5 Years of data for smaller geographic areas, e.g. Tracts and Block Groups
Applications of CTPP Data Products

- Long Range Planning/TIP
- Performance measurement
- Modal share analysis
- FTA New Starts/Small Starts
- Travel Demand Modeling and Forecasting

- Policy Impact Analysis
- Livability analysis
- Corridor planning
- Air quality modeling
- Trend analysis
- Descriptive statistics
- Title VI
- Environmental justice
- Factoring/Adjusting surveys

23 USC 134; 49 USC 5303; and 23 CFR 450.316-322. MPO mandates
CTPP Data Concepts

Summarized data by
Place of Residence
Place of Work
Flows from Home to Work

Custom Geography (Local TAZs)

Unique Universes (e.g. workers in HHs)
Some Key Data Items Include

• Data on **Households**
  – Size, income, vehicles per household

• Data on **Workers**
  – Age and gender, occupations, earnings

• Data on **Journey to Work**
  – Usual mode to work, commuting time, work departure time

• Data on **Workplaces**
  – Work locations, times of arrival at work
5-year Geography and Flows

- Asymmetrical Flows (in red)
- Small Areas defined by MPOs in MPO areas and States Elsewhere
- Tracts are Defaults for Small Areas
- Default TADs defined by AASHTO
- UZA tables for Part 1 ONLY
- MCD Only States

<table>
<thead>
<tr>
<th>FROM / Residence</th>
<th>TO / Workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>State-County</td>
<td>State-County</td>
</tr>
<tr>
<td>State-County-MCD</td>
<td>State-County-MCD</td>
</tr>
<tr>
<td>State-County-Place</td>
<td>State-County-Place</td>
</tr>
<tr>
<td>MSA</td>
<td>MSA</td>
</tr>
<tr>
<td>State-County</td>
<td>State-Place</td>
</tr>
<tr>
<td>State-County-MCD</td>
<td>State-Place</td>
</tr>
<tr>
<td>State PUMA (2000)</td>
<td>State-Place</td>
</tr>
<tr>
<td>Tract</td>
<td>Tract</td>
</tr>
<tr>
<td>TAD</td>
<td>TAD</td>
</tr>
<tr>
<td>Locally Defined Small Area</td>
<td>Locally Defined Small Area</td>
</tr>
<tr>
<td>TAD</td>
<td>Locally Defined Small Area</td>
</tr>
<tr>
<td>Locally Defined Small Area</td>
<td>TAD</td>
</tr>
<tr>
<td>State-Place</td>
<td>Locally Defined Small Area</td>
</tr>
<tr>
<td>Locally Defined Small Area</td>
<td>State-Place</td>
</tr>
</tbody>
</table>
What we ended up with – for 5 year Tables

Eight Variables crossed with Means of Transportation to work (MOT)

- Age of Worker
- Class of Worker
- Disability Status
- Earnings
- Household Income
- Poverty Status
- Industry
- Occupation
- Length of U.S. Residence
- Minority Status y/n
- Time Leaving Home
- Time Arriving (workplace)
- Travel Time
- Vehicle Availability
- Workers in Household
- Age of Youngest Child

...and
## Collapsing of the Modes

<table>
<thead>
<tr>
<th>Total</th>
<th>Total</th>
<th>Total</th>
<th>Total</th>
<th>Total</th>
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<tr>
<td>Drove Alone</td>
<td>Drove Alone</td>
<td>Drove Alone</td>
<td>Drove Alone</td>
<td>Drove Alone</td>
</tr>
<tr>
<td>2 Person Carpool</td>
<td>2 Person Carpool</td>
<td>3+ Person Carpool</td>
<td>3+ Person Carpool</td>
<td>Carpooled</td>
</tr>
<tr>
<td>3 Person Carpool</td>
<td>4-person carpool</td>
<td>5/6-person carpool</td>
<td>7+ person carpool</td>
<td></td>
</tr>
<tr>
<td>Bus/Trolley Bus</td>
<td>Bus/Trolley Bus</td>
<td>Streetcar, Trolley,</td>
<td>Public Transportation</td>
<td>Public Transportation</td>
</tr>
<tr>
<td>Subway/Elevated</td>
<td>Subway, Elevated</td>
<td>Railroad</td>
<td></td>
<td></td>
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<tr>
<td>Railroad</td>
<td>Ferryboat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferryboat</td>
<td>Bicycles</td>
<td>Bicycle/Walked</td>
<td>Public Transportation</td>
<td>Public Transportation,</td>
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<tr>
<td>Bicycles</td>
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<td></td>
<td>Bicycle/Walked,</td>
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<tr>
<td>Walked</td>
<td></td>
<td></td>
<td></td>
<td>Motorcycle</td>
</tr>
<tr>
<td>Taxicab</td>
<td>Taxicab/Motorcycle</td>
<td>Taxicab/Motorcycle</td>
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<td>Motorcycle</td>
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<td>Motorcycle</td>
<td>or Other Means</td>
<td>or Other Means</td>
<td></td>
<td>or Other Means</td>
</tr>
<tr>
<td>Other Means</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worked at Home</td>
<td>Worked at Home</td>
<td>Worked at Home</td>
<td>Worked at Home</td>
<td>Worked at Home</td>
</tr>
<tr>
<td>18 Modes</td>
<td>11 Modes</td>
<td>7 Modes</td>
<td>6 Modes</td>
<td>4 Modes</td>
</tr>
</tbody>
</table>

- **18 Modes**
- **11 Modes**
- **7 Modes**
- **6 Modes**
- **4 Modes**
So What Did We Do?

NCHRP Web Report 180 ($550K)
Producing Transportation Data Products from the ACS that Comply With Disclosure Rules

5-year CTPP will have two types of tables

Tables that passed Census Rules
Tables with Perturbation done to them

Privacy Protection

Table Summary using 5-year Table list

<table>
<thead>
<tr>
<th>TAZ/BG</th>
<th>Tract</th>
<th>TAD</th>
<th>Place</th>
<th>County</th>
<th>PUMA</th>
<th>State</th>
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</thead>
<tbody>
<tr>
<td><strong>Part 1</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Regular</td>
<td>111</td>
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<tr>
<td>Perturbed</td>
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<td></td>
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</tr>
<tr>
<td><strong>Part 2</strong></td>
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<tr>
<td>Perturbed</td>
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<td></td>
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<tr>
<td><strong>Part 3</strong></td>
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<td>Perturbed</td>
<td>38</td>
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<td></td>
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</tbody>
</table>

Tables Using Perturbed Data Set

- Means of transportation
- Aggregate Vehicles Used
- Aggregate Travel Time
- Mean HH Income
- Aggregate HH Income
- Aggregate Carpools
- Almost all Part 3 Tables
- All Aggregate/Means Tbls
SOFTWARE!

• [http://ctpp.transportation.org/Pages/5-Year-Data.aspx](http://ctpp.transportation.org/Pages/5-Year-Data.aspx)
• Free
• No log in required (but useful and recommended)
• 350GB of data!
• Produced inexpensively…
Next CTPP Data Product

Five year Tables (2012 to 2016)
Same Structure as 2006 to ’10 CTPP
Same Software with Enhancements
No TAZ changes
Available Late 2018
Some Table Changes (additions and subtractions)
Census Bureau Directives

Reduce table request by 66% as compared to ‘06 to ‘10 product

Limit the number of tables at small geography (TAZs and Tracks)

Still needs Disclosure Review Board (DRB) approval
What We Did

Convened a Users’ Subcommittee
Reviewed every table (multiple times)
Solicited community input
Surveyed users
Discussed and debated
Developed proposal
Shipped to Census Bureau
## What We Requested

### The Box Score

### Number of Tables

<table>
<thead>
<tr>
<th></th>
<th>06-10 Data Product</th>
<th>Deleted from 06-10 Data Product</th>
<th>Included in Census Bureau Request</th>
<th>Created by CTPP software</th>
<th>Large Areas Only</th>
<th>All Areas</th>
<th>New Tables</th>
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</thead>
<tbody>
<tr>
<td><strong>Part 1</strong></td>
<td>187</td>
<td>85</td>
<td>104</td>
<td>12</td>
<td>48</td>
<td>56</td>
<td>2</td>
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<tr>
<td><strong>Part 2</strong></td>
<td>116</td>
<td>73</td>
<td>48</td>
<td>9</td>
<td>17</td>
<td>30</td>
<td>5</td>
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<tr>
<td><strong>Part 3</strong></td>
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<td>24</td>
<td>1</td>
<td>11</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>344</td>
<td>176</td>
<td>176</td>
<td>22</td>
<td>76</td>
<td>99</td>
<td>8</td>
</tr>
</tbody>
</table>
What Does this Mean?

The New and Improved Stuff

Added Flows from Places to Counties
Added Several Tables
  Average HH Size (p1)
  Poverty by Mode (p1, p2)
  Class of Worker by [Industry, Time Arriving, Mean TT, Mode] (p2)
Vehicles available by Number of Workers in HH (p3)
Keep you eye out for our 2017 (Fall) CTPP Users Conference

Subscribe to the CTPP Users ListServ

http://trbcensus.com/maillist.html
The ACS compass handbooks

A Compass for Understanding And Using ACS Data

- Set of user-specific handbooks
- Train-the trainer materials
- E-learning ACS Tutorial
- Annotated Presentations

http://www.census.gov/acs/www/guidance_for_data_users/compass_products/
Welcome to our web site. We hope you find this site fun, informative and above all useful. We are organized under the Committee on Urban Transportation Data and Information Systems of the Transportation Research Board. We are very interested in census data matters as they relate to transportation planning. As a result, our focus spans the entire spectrum of census related activities including applied uses of the data, the content of censuses, collection procedures and dissemination programs all within the context of past, present and future censuses. This site was developed to help provide a forum for those with an interest in transportation planning and census data.

What's New

• Most recent CTPP Newsletter (PDF only) [01-May-2013]
• Presentations from 2013 Annual Meeting [27-January-2013]

http://trbcensus.com
CTPP Status Report

The "Status Report" is a newsletter developed by the CTPP Planning Group, friends and anyone else wishing to write about the Census Transportation Planning Products, its use or any other census data for transportation planning issues. Its purpose is to inform the transportation planning community on matters relating to the developments of the CTPP and other census data issues of relevance to their needs.

PDF files can be viewed with the Acrobat Reader.

Index of Articles in the Previous Status Reports

- Current (April 2015) in HTML or PDF (427 KB)
- December 2014 in HTML or PDF (857 KB)
- September 2014 in HTML or PDF (280 KB)
- May 2014 in HTML or PDF (454 KB)
- December 2013 in HTML or PDF (2 MB)
- October 2013 in HTML or PDF (159 KB)
- May 2013 in HTML or PDF (202 KB)
- January 2013 in HTML or PDF (389 KB)
- September 2012 in HTML or PDF (137 KB)
- May 2012 in HTML or PDF (951 KB)
- January 2012 in HTML or PDF (375 KB)

http://www.fhwa.dot.gov/planning/census_issues/ctpp/status_report/

http://www.trbcensus.com/newsletters.html
Census Transportation Planning Products (CTPP) 5-Year ACS 2006-2010

Excel files can be viewed with the Excel Viewer

- MS Excel 110 KB
- Read Me File
- Tabulations -- Part 1, Residence-Based Tables
- Tabulations -- Part 2, Workplace-Based Tables
- Tabulations -- Part 3, Worker Home-to-Work Flow Tables
- GEOGRAPHY Summary Levels and Geo-Components Definitions
- Universe Definitions
- Variable Recode Definitions

http://www.fhwa.dot.gov/planning/census_issues/ctpp/
WELCOME TO THE
CENSUS TRANSPORTATION PLANNING PRODUCTS PROGRAM
CTPP

Census data on demographic characteristics, home and work locations and journey to work travel flows are key inputs to a variety of state, regional and local transportation policy and planning efforts. They also support corridor and project studies, environmental analyses and emergency operations management.

In 1990, 2000, and again in 2006, AASHTO partnered with all of the states on pooled fund projects to support the development of special census products and data tabulations for transportation. These census transportation data packages have proved invaluable in understanding characteristics about where people live and work, their journey to work commuting patterns and the modes they use for getting to work.

- 5-year Info
- 2006 - 2010 Transportation Profiles
- CTPP e-Learning Modules
- TAZ Delineation Webinar from February 25, 2011
- CTPP 3-Year Data Based On 2006 - 2008 ACS
- CTPP Mid Program Report
- Transportation Profiles
- TAZ FAQs and other TAZ Information
- 2005 TRB Conference Census Data for Transportation Planning
- CTPP2000 Training Materials
- Census Transportation Planning Products (CTPP) from the American Community Survey - FHWA Transportation

http://ctpp.transportation.org/
AASHTO CTPP Website

http://ctpp.transportation.org/Pages/trainingresources.aspx

E-Learning

http://ctpp.transportation.org/Pages/elearningmodules.aspx

Recorded Webinars

http://ctpp.transportation.org/Pages/webinardirectory.aspx
CTPP websites

http://www.fhwa.dot.gov/planning/census_issues/ctpp/

http://www.TRBcensus.com

http://ctpp.transportation.org
Penelope Weinberger – pweinberger@aashto.org
2016 NHTS

- Address-based Sample
- Use of emerging modes such as Uber and Lyft.
- Walk and bike from the perspective of health benefits.
- Changed the definition of a complete household to be one where 100% of all household members reported their travel.
- Varying sampling frequency to emphasize weekday vs weekend travel.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHWA starts internal planning process</td>
<td>Jan 2011</td>
</tr>
<tr>
<td>Preliminary planning, investigate using ABS sample</td>
<td>Jul 2011</td>
</tr>
<tr>
<td>Add-on recruitment initiated</td>
<td>Feb 2013</td>
</tr>
<tr>
<td>RFP issued</td>
<td>Jul 2014</td>
</tr>
<tr>
<td>Survey contract awarded to Westat</td>
<td>Sep 2014</td>
</tr>
<tr>
<td>NHTS Add-on Coordination Team Established</td>
<td>Sep 2014</td>
</tr>
<tr>
<td>Preliminary Survey Plan</td>
<td>Nov 2014</td>
</tr>
<tr>
<td>Sample design and Field Materials</td>
<td>Jan - Apr 2015</td>
</tr>
<tr>
<td>OMB package – DOT review</td>
<td>May - Jul 2015</td>
</tr>
<tr>
<td>Finalize Pretest questionnaire</td>
<td>Jul 2015</td>
</tr>
<tr>
<td>OMB package – OMB review</td>
<td>May - Nov 2015</td>
</tr>
<tr>
<td>Develop Internet Retrieval Survey Software</td>
<td>Nov 2015– Feb 2016</td>
</tr>
<tr>
<td>Full Survey</td>
<td>Apr 2016 – Apr 2017</td>
</tr>
<tr>
<td>NHTS Task Force – e-circular summarizing the status, approach and expected content of the new NHTS data</td>
<td>Jan 2017</td>
</tr>
<tr>
<td>Release of 2016 NHTS – full dataset, each add-on</td>
<td>TBD</td>
</tr>
</tbody>
</table>