CTPP Crash Course

Census Transportation Planning Products program

Penelope Z. Weinberger
CTPP Program Manager
AASHTO
7/09/2019
APDU
What is the CTPP?

AASHTO sponsored Technical Services Program funded by member State Transportation agencies

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

The CTPP Program includes:
Data Products
Training and Technical Assistance
Research and Outreach

Designed for the Transportation Community by the Transportation Community
But what does that mean?

• Based on ACS
• Ground truth
• A resource of adequate sample size to compare, validate, calibrate, expand your data/survey/model
• Workplace (daytime) data by demography
• Flow from home to work by mode and demography
• Has error
### MPOs
- Arash Mirzaei, NCTCOG
- Paul Agnello, FAMPOC
- Shimon Israel, MTC
- Ron Chicka, ARDC
- John Sharp, ACOGOK
- MaryAnn Waldinger, COMPASS
- Benjamin Gruswitz, DVRPC

### States
- Laine Heltebridele, PA (Region I)
- Mark Grainer, NY (Region I)
- Thomas Hill, FL (Region II)
- Habte Kassa, GA (Region II)
- Phillip Mescher, IA (Region III)
- Jennifer Murray, WI (Region III)
- Elizabeth Robbins, WA (Region IV)
- Nicholas Deal, CA (Region IV)

### Chair:
- Jessie Jones, AR (Region IV)

### Vice Chair:
- Guy Rousseau, ARC

### AASHTO Liaison:
- Penelope Weinberger

### 16 voting members, 9 states and 8 MPOs

### Liaisons
- Charlynn Burd, Census Bureau
- Ken Cervenka, FTA
- Joseph Hausman, FHWA
- Brian McKenzie, Census Bureau
- Clara Reschovsky, OST-R, BTS

### Technical Adjunct
- JJ (Jing Jing) Zang
- Gabe (Jiangbo) Yu
- Cambridge Systematics

### AASHTO Staff
- Matt Hardy, AASHTO
- Penelope Weinberger, AASHTO

### Subject Matter Experts
- Bill Keyrouze, AMPO
- Tom Palmerlee, TRB
- Erich Zimmermann, NARC
Census Transportation Planning Products

Technical Service Program (2020–2024)

CTPP Proposed Funding by State by Population (at 1.7¢)

<table>
<thead>
<tr>
<th>State</th>
<th>2017 Population Estimate*</th>
<th>CTPP Five Year Fund Commitment</th>
<th>State</th>
<th>2017 Population Estimate*</th>
<th>CTPP Five Year Fund Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>4,874,747</td>
<td>$84,012.02</td>
<td>Montana</td>
<td>1,050,493</td>
<td>$18,104.33</td>
</tr>
<tr>
<td>Alaska</td>
<td>739,795</td>
<td>$12,749.72</td>
<td>Nebraska</td>
<td>1,920,076</td>
<td>$33,090.84</td>
</tr>
<tr>
<td>Arizona</td>
<td>7,016,270</td>
<td>$120,919.31</td>
<td>Nevada</td>
<td>2,998,039</td>
<td>$51,668.59</td>
</tr>
<tr>
<td>Arkansas</td>
<td>3,004,279</td>
<td>$51,776.13</td>
<td>New Hampshire</td>
<td>1,342,795</td>
<td>$23,141.90</td>
</tr>
<tr>
<td>California</td>
<td>39,536,653</td>
<td>$681,379.82</td>
<td>New Jersey</td>
<td>9,005,644</td>
<td>$155,204.44</td>
</tr>
<tr>
<td>Colorado</td>
<td>5,607,154</td>
<td>$96,634.42</td>
<td>New Mexico</td>
<td>2,088,070</td>
<td>$35,986.07</td>
</tr>
<tr>
<td>Connecticut</td>
<td>3,588,184</td>
<td>$61,839.23</td>
<td>New York</td>
<td>19,849,399</td>
<td>$342,087.12</td>
</tr>
<tr>
<td>Delaware</td>
<td>961,939</td>
<td>$16,578.18</td>
<td>North Carolina</td>
<td>10,273,419</td>
<td>$177,053.44</td>
</tr>
<tr>
<td>Dist. of Columbia</td>
<td>693,972</td>
<td>$11,960.00</td>
<td>North Dakota</td>
<td>755,393</td>
<td>$13,018.54</td>
</tr>
<tr>
<td>Florida</td>
<td>20,984,400</td>
<td>$361,647.88</td>
<td>Ohio</td>
<td>11,658,609</td>
<td>$200,925.98</td>
</tr>
<tr>
<td>Georgia</td>
<td>10,429,379</td>
<td>$179,741.27</td>
<td>Oklahoma</td>
<td>3,930,864</td>
<td>$67,745.02</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1,427,538</td>
<td>$24,602.38</td>
<td>Oregon</td>
<td>4,142,776</td>
<td>$71,397.14</td>
</tr>
<tr>
<td>Idaho</td>
<td>1,716,943</td>
<td>$29,590.02</td>
<td>Pennsylvania</td>
<td>12,805,537</td>
<td>$220,692.29</td>
</tr>
<tr>
<td>Illinois</td>
<td>12,802,023</td>
<td>$220,631.73</td>
<td>Rhode Island</td>
<td>1,059,639</td>
<td>$18,261.96</td>
</tr>
<tr>
<td>Indiana</td>
<td>6,666,818</td>
<td>$114,896.81</td>
<td>South Carolina</td>
<td>5,024,369</td>
<td>$86,590.63</td>
</tr>
<tr>
<td>Iowa</td>
<td>3,145,711</td>
<td>$54,213.59</td>
<td>South Dakota</td>
<td>869,666</td>
<td>$14,987.94</td>
</tr>
<tr>
<td>Kansas</td>
<td>2,912,123</td>
<td>$50,205.14</td>
<td>Tennessee</td>
<td>6,715,984</td>
<td>$115,744.14</td>
</tr>
<tr>
<td>State</td>
<td>Population</td>
<td>Road Mileage</td>
<td>State</td>
<td>Population</td>
<td>Road Mileage</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------</td>
<td>--------------</td>
<td>----------------------</td>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Alaska</td>
<td>765,765</td>
<td>$12,460.71</td>
<td>Nebraska</td>
<td>1,529,373</td>
<td>$33,985.14</td>
</tr>
<tr>
<td>Arizona</td>
<td>7,016,270</td>
<td>$120,919.31</td>
<td>Nevada</td>
<td>2,998,039</td>
<td>$51,668.59</td>
</tr>
<tr>
<td>Arkansas</td>
<td>3,004,279</td>
<td>$51,776.13</td>
<td>New Hampshire</td>
<td>1,342,795</td>
<td>$23,141.90</td>
</tr>
<tr>
<td>California</td>
<td>39,536,653</td>
<td>$681,379.82</td>
<td>New Jersey</td>
<td>9,006,644</td>
<td>$155,204.44</td>
</tr>
<tr>
<td>Colorado</td>
<td>5,607,154</td>
<td>$96,634.42</td>
<td>New Mexico</td>
<td>2,088,070</td>
<td>$35,986.07</td>
</tr>
<tr>
<td>Connecticut</td>
<td>3,588,184</td>
<td>$61,839.23</td>
<td>New York</td>
<td>19,849,399</td>
<td>$342,087.12</td>
</tr>
<tr>
<td>Delaware</td>
<td>961,939</td>
<td>$16,578.18</td>
<td>North Carolina</td>
<td>10,273,419</td>
<td>$177,053.44</td>
</tr>
<tr>
<td>Dist. of Columbia</td>
<td>693,972</td>
<td>$11,960.00</td>
<td>North Dakota</td>
<td>755,393</td>
<td>$13,018.54</td>
</tr>
<tr>
<td>Florida</td>
<td>20,984,400</td>
<td>$361,647.88</td>
<td>Ohio</td>
<td>11,658,609</td>
<td>$200,925.98</td>
</tr>
<tr>
<td>Georgia</td>
<td>10,429,379</td>
<td>$179,741.27</td>
<td>Oklahoma</td>
<td>3,930,864</td>
<td>$67,745.02</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1,427,538</td>
<td>$24,602.38</td>
<td>Oregon</td>
<td>4,142,776</td>
<td>$71,397.14</td>
</tr>
<tr>
<td>Idaho</td>
<td>1,716,943</td>
<td>$29,590.02</td>
<td>Pennsylvania</td>
<td>12,805,537</td>
<td>$220,692.29</td>
</tr>
<tr>
<td>Illinois</td>
<td>12,802,023</td>
<td>$220,631.73</td>
<td>Rhode Island</td>
<td>1,059,639</td>
<td>$18,261.96</td>
</tr>
<tr>
<td>Indiana</td>
<td>6,666,818</td>
<td>$114,896.81</td>
<td>South Carolina</td>
<td>5,024,369</td>
<td>$86,590.63</td>
</tr>
<tr>
<td>Iowa</td>
<td>3,145,711</td>
<td>$54,213.59</td>
<td>South Dakota</td>
<td>869,666</td>
<td>$14,987.94</td>
</tr>
<tr>
<td>Kansas</td>
<td>2,913,123</td>
<td>$50,205.14</td>
<td>Tennessee</td>
<td>6,715,984</td>
<td>$115,744.14</td>
</tr>
<tr>
<td>Kentucky</td>
<td>4,454,189</td>
<td>$76,764.07</td>
<td>Texas</td>
<td>28,304,596</td>
<td>$487,805.09</td>
</tr>
<tr>
<td>Maine</td>
<td>1,335,907</td>
<td>$23,023.19</td>
<td>Vermont</td>
<td>623,657</td>
<td>$10,748.19</td>
</tr>
<tr>
<td>Maryland</td>
<td>6,052,177</td>
<td>$104,304.01</td>
<td>Virginia</td>
<td>8,470,020</td>
<td>$145,973.43</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>6,859,819</td>
<td>$118,223.01</td>
<td>Washington</td>
<td>7,405,743</td>
<td>$127,631.54</td>
</tr>
<tr>
<td>Michigan</td>
<td>9,962,311</td>
<td>$171,691.76</td>
<td>West Virginia</td>
<td>1,815,857</td>
<td>$31,294.72</td>
</tr>
<tr>
<td>Minnesota</td>
<td>5,576,606</td>
<td>$96,107.95</td>
<td>Wisconsin</td>
<td>5,795,483</td>
<td>$99,880.11</td>
</tr>
<tr>
<td>Mississippi</td>
<td>2,984,100</td>
<td>$51,428.37</td>
<td>Wyoming</td>
<td>579,315</td>
<td>$9,983.99</td>
</tr>
<tr>
<td>Missouri</td>
<td>6,113,532</td>
<td>$105,361.41</td>
<td>Puerto Rico</td>
<td>3,337,177</td>
<td>$57,513.34</td>
</tr>
</tbody>
</table>

Grand Total: $5,671,000

## Transformation over time

<table>
<thead>
<tr>
<th>Year</th>
<th>Buyers/Users</th>
<th>Direct Cost</th>
<th>Tables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>OMB</td>
<td>???</td>
<td>???</td>
</tr>
<tr>
<td>1970</td>
<td>112</td>
<td>$0.6 M</td>
<td>43</td>
</tr>
<tr>
<td>1980</td>
<td>152</td>
<td>$2.0 M</td>
<td>82</td>
</tr>
<tr>
<td>1990</td>
<td>All States and MPOs</td>
<td>$2.5 M</td>
<td>120</td>
</tr>
<tr>
<td>2000</td>
<td>All States and MPOs</td>
<td>$3.0 M</td>
<td>203</td>
</tr>
<tr>
<td>2005+</td>
<td>AASHTO Consolidated Purchase</td>
<td>$5.8 M</td>
<td>Multiple Products</td>
</tr>
<tr>
<td>2013</td>
<td>Most States</td>
<td>$4.3 M</td>
<td>Robust</td>
</tr>
</tbody>
</table>
The American Community Survey

This booklet shows the content of the American Community Survey questionnaire.

Please complete this form and return it as soon as possible after receiving it in the mail.

This form asks for information about the people who are living or staying at the address on the mailing label and about the house, apartment, or mobile home located at the address on the mailing label.

If you need help or have questions about completing this form, please call 1-800-336-3671. The telephone call is free.

Telefon Service for the Deaf (TDD):
Call 1-800-336-8267. The telephone call is free.

¡MEJORE LA AYUDA! Si usaste esta encuesta, te recibes el marcar para completar su formulario. Si tiene alguna pregunta, puede usar una llamada telefónica gratuita para hablar con un entrevistador que habla español.

Para más información sobre el American Community Survey, visitar nuestro sitio web en http://www.census.gov/www/index.html

Start Here

1. Please print today’s date.
   Month __ Day ___ Year ___

2. Please print the name and telephone number of the person who is filling out this form. We may contact you if there is a question.
   Last Name: ____________________________
   First Name: ____________________________
   Area Code: __________  Phone: __________

3. How many people are living or staying at this address?
   • INCLUDE everyone who is living or staying here for more than 3 months.
   • INCLUDE yourself if you are living here for more than 3 months.
   • INCLUDE anyone else staying here who does not have another place to stay, even if they are here for 3 months or less.
   • DO NOT INCLUDE anyone who is staying somewhere else for more than 3 months, such as a college student living away or someone in the Armed Forces on deployment.

   Number of people: ____________________________

4. Fill out pages 2, 3, and 4 for everyone, including yourself, who is living or staying at this address for more than 3 months. Then complete the rest of the form.

Form: ACS-18INF0(2012)(RE)
Date: 07/2012
A brief history, Pop Quiz

• When did the Journey to Work Question first appear on the Census Form?
  ❖ 1960

• How often is the Census collected?
  ❖ decennially

• How about the American Community Survey (ACS)
  ❖ Continuously!

• Without data you’re just
  ❖ Another person with an opinion
    » W. Edwards Deming
If this person worked last week, answer questions P28 and P29.

P28. What city and county did he work in last week?
   If he worked in more than one city or county, give place where he worked most last week.
   a. City or town..........................
   b. If city or town—Did he work inside the city limits? { Yes □ No □}
   c. County.............................. State...........

P29. How did he get to work last week?
   (Check one box for principal means used last week)
   Railroad □  Taxicab □  Walk only □
   Subway or elevated □  Private auto or car pool □  Worked at home □
   Bus or streetcar □  Other means—Write in: ____________________________
CTPP Data Products

Derived from
US Census Bureau’s
American Community
Survey (ACS)

ACS accumulates data over multiple months and years

Areas over 65,000 people Annual Data
Areas over 20,000 people Supplemental Estimates new in 2016
Tracts and Block Groups 5 Years of data
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)
5-year Geography and Flows

<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>

- 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
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
CTPP Data Products

Commuting In America
1990 and 2000 Small Area Tables
Area Specific Data Profiles
CTPP 5-year Tables (2006 to 2010)

Today’s Focus

https://ctpp.transportation.org/
Applications of CTPP Data Products

- Comparative analysis
- 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
What is in the New Data

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)

<table>
<thead>
<tr>
<th>Number of Tables Deleted*</th>
<th>Number of Tables Retained at Large Geography Only</th>
<th>Number of All Geography Tables Retained</th>
<th>Total number of tables retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>176</td>
<td>76</td>
<td>99</td>
<td>168</td>
</tr>
<tr>
<td>65</td>
<td>48</td>
<td>56</td>
<td>102</td>
</tr>
<tr>
<td>73</td>
<td>17</td>
<td>30</td>
<td>43</td>
</tr>
<tr>
<td>18</td>
<td>11</td>
<td>13</td>
<td>23</td>
</tr>
</tbody>
</table>

The Census Bureau has directed us to request a special tabulation for our next 5-year data product that is one third (1/3) the size of our current special tabulation. Additionally, we are of tables that can include all levels of geography; most tables will be summary levels of place, MCD (for strong MCD states), county, PUMA, principal city), and nation and the TAD custom geography (Large Geographies tables will also be available at Tract and TAZ (All Geographies).

Proposed elimination: tables that had been accessed by CTPP Data Access times or fewer by Oct 6 2015, and had 5 or more recommendations for a subcommittee.

Additionally, any table that did not fail that criteria, but had two or fewer recommendations to act and TAZ) geography was recommended for retention at large geo only.

Deleted includes tables that are to be added back in the software, derivable by your feedback at: pweinberger@aashto.org

Contact me with your feedback at: pweinberger@aashto.org

<table>
<thead>
<tr>
<th>Number of residence number of workplace number of tables retained</th>
<th>Number of tables deleted</th>
<th>Number of tables retained at large</th>
<th>Number of all geography tables retained</th>
<th>Total number of tables retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence Geo Level Number</td>
<td>12*</td>
<td>603*</td>
<td>3221</td>
<td>11958</td>
</tr>
<tr>
<td>Place</td>
<td>29514</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCD</td>
<td>11958</td>
<td></td>
<td></td>
<td>11958</td>
</tr>
<tr>
<td>County</td>
<td>3221</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>693*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal City</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSA</td>
<td>2101</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUMA</td>
<td>3625</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UA</td>
<td>1263</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tract</td>
<td>374</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAD</td>
<td>12087</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAZ</td>
<td>217526</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*includes geo components
WELCOME TO THE CENSUS TRANSPORTATION PLANNING PRODUCTS PROGRAM (CTPP)

The CTPP is a State DOT-funded, cooperative program that produces special tabulations of American Community Survey (ACS) data that have enhanced value for transportation planning, analysis, and strategic direction. Additionally, the program provides universal access to that data, funds and conducts research, and provides training and technical assistance to the transportation planning community, all to increase understanding of the needs of the traveling public in support of policy and programming decision making.

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, 2006, and again in 2014, AASHTO partnered with all of the states 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.

For the latest on CTPP data (2012-2016), click the icon below:

CTPP Status Reports are newsletters developed by the CTPP Planning Group, friends, and anyone else wishing to write about CTPP, its use, or any other relevant issues. Its purpose is to inform the transportation planning communities on matters relating to the developments of the CTPP. Click here to to the inventory of the CTPP Status Reports.

http://ctpp.transportation.org/
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
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
Special Staff and Contacts

Penelope Weinberger
CTPP Program Manager, AASHTO
444 North Capitol Street NW Suite 249
Washington, DC 20001
202-624-3556
pweinberger@aashto.org
https://ctpp.transportation.org

CTPP Technical Support
JJ (JingJing) Zang
jzang@camsys.com

Gabe (Jiangbo) Yu
jyu@camsys.com

Charlynn Burd
CTPP Program BFF
Census Bureau
charlynn.burd@census.gov