CTPP Crash Course

Census Transportation Planning Products program

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AASHTO

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Florida Transportation Data Symposium

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

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Julie Parker, BTS
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Steven Polzin, USF. CUTR
Erich Zimmermann, NARC
and
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

- Performance measurement
- Modal share analysis
- Environmental justice
- FTA New Starts/Small Starts
- Travel Demand Modeling
- Policy Impact Analysis
- Livability analysis
- Corridor planning
- Air quality modeling
- Trend analysis
- Descriptive statistics
- Travel forecasting
- Title IV
- Factoring/Adjusting surveys

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

FROM / Residence	TO / Workplace
State	State
State-County	State-County
State-County-MCD	State-County-MCD
State-County-Place	State-County-Place
MSA	MSA
State-County	State-Place
State-County-MCD	State-Place
State PUMA (2000)	State-Place
PUMA (2000)	POW PUMA (2000)
Tract	Tract
TAD	TAD
Locally Defined Small Area	Locally Defined Small Area
TAD	Locally Defined Small Area
Locally Defined Small Area	TAD
State-Place	Locally Defined Small Area
Locally Defined Small Area	State-Place

- **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**

CT	ME	MA
MI	MN	NH
NJ	NY	PA
RI	VT	WI

I understand there are some important issues to be aware of, in both the Census ACS data and the CTPP, is it true?

You betcha!

Where to begin?

1. Sample Error (90% Confidence)
2. Collapsing
3. Period Estimates
4. Reliability
5. Dollar Values
6. Trend Analysis
7. Change in Weighting
8. Light Rail
9. CTPP Issues

You must heed statistical significance

Sampling Error

To avoid false statements like

City of Flagstaff, AZ Mode to Work	CTPP2000			2005-2007 ACS			Is Change Significant in number?
	Nos.	%	MOE	Nos.	%	MOE	
Total Workers	28,495	100.0	592	34,239	100.0	1,264	Yes
Drove alone	19,790	69.5	574	23,113	67.5	1,446	Yes
Carpooled	4,185	14.7	320	4,649	13.6	707	No
Public transportation	184	0.6	70	438	1.3	247	No
Walked	2,055	7.2	229	2,241	6.5	528	No
Taxicab, m-cycle, bike, oth.	1,275	4.5	182	2,174	6.3	526	Yes
Worked at home	1,010	3.5	162	1,624	4.7	373	Yes

Commutes increase for all modes

"Based upon data from the 2000 Census (CTPP) and the 2005-2007 ACS, the total number workers who live in Flagstaff increased along with the number who took transit to work. During the same time, the number of people who worked at home increased along with those who drove alone and carpooled." *The World Gazette*

What data answers which question?

Part 1, Profile 1 (Resident data)

City of Flagstaff, AZ Mode to Work	CTPP2000			2005-2007 ACS			Is Change Significant in number?
	Nos.	%	MOE	Nos.	%	MOE	
Total Workers	28,495	100.0	592	34,239	100.0	1,264	Yes
Drove alone	19,790	69.5	574	23,113	67.5	1,446	Yes
Carpooled	4,185	14.7	320	4,649	13.6	707	No
Public transportation	184	0.6	70	438	1.3	247	No
Walked	2,055	7.2	229	2,241	6.5	528	No
Taxicab, m-cycle, bike, oth.	1,275	4.5	182	2,174	6.3	526	Yes
Worked at home	1,010	3.5	162	1,624	4.7	373	Yes

Part 2, Profile 1 (Workplace data)

City of Flagstaff, AZ Mode to Work	CTPP2000			2005-2007 ACS			Is Change Significant in number?
	Nos.	%	MOE	Nos.	%	MOE	
Total Workers	35,765	100	554	40,798	100.0	1,577	Yes
Drove alone	25,640	71.7	592	28,930	70.9	1,674	Yes
Carpooled	5,550	15.5	363	5,375	13.2	792	No
Public transportation	160	0.45	65	396	1.0	241	No
Walked	2,190	6.12	236	2,321	5.7	504	No
Taxicab, m-cycle, bike, oth.	1,214	3.39	177	2,152	5.3	511	Yes
Worked at home	1,010	2.82	162	1,624	4.0	373	Yes

Between the reference period what has the number of people <u>who took transit to work in Flagstaff</u> done?

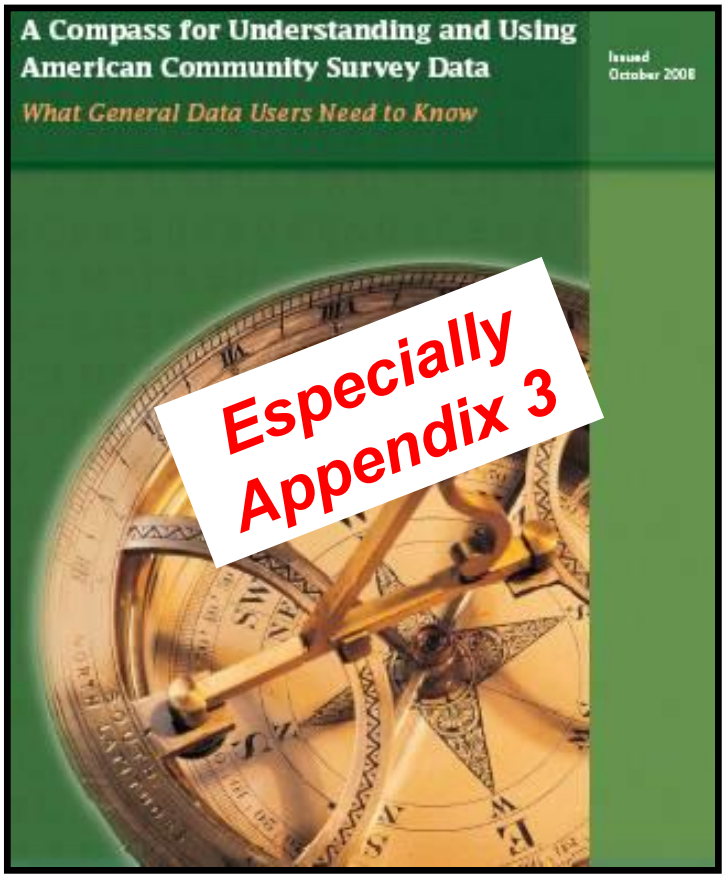
A. Gone Up?

B. Gone Down?

C. No significant Change

Which Table would you use and why?

The ACS compass handbooks

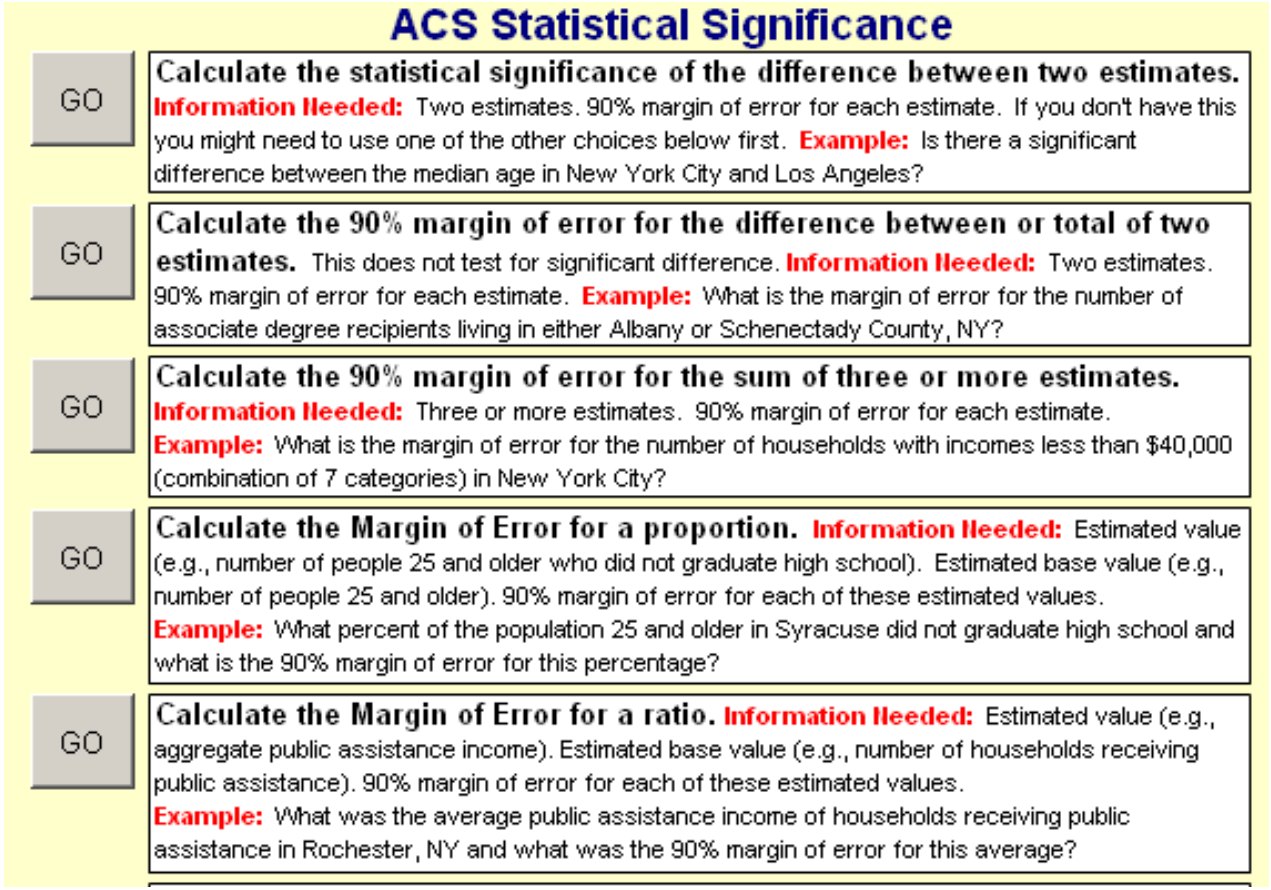


A Compass for Understanding And Using ACS Data

- 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/

NY State Data Center Calculator



http://sdcclearinghouse.wordpress.com/2009/03/03/spreadsheet-to-calculate-acs-margins-of-error-and-statistical-significance-for-sums-proportions-and-ratios/

Understanding the MOE

Part 1, Profile 1 (Resident data)

City of Flagstaff, AZ Mode to Work	CTPP2000			2005-2007 ACS			Is Change Significant in number?
	Nos.	%	MOE	Nos.	%	MOE	
Total Workers	28,495	100.0	592	34,239	100.0	1,264	Yes
Drove alone	19,790	69.5	574	23,113	67.5	1,446	Yes
Carpooled	4,185	14.7	320	4,649	13.6	707	No
Public transportation	184	0.6	70	438	1.3	247	No
Walked	2,055	7.2	229	2,241	6.5	528	No
Taxicab, m-cycle, bike, oth.	1,275	4.5	182	2,174	6.3	526	Yes
Worked at home	1,010	3.5	162	1,624	4.7	373	Yes

Using the MOE

We know the number of workers has changed, but what is the range of that change?

A. 5,744?

B. 5,072 to 6,416?

C. 3,888 to 7,600?

Flagstaff Resident Workers

	CTPP2000	07ACS3	Range
			3,888
Low	27,903	32,975	5,072
Middle	28,495	34,239	5,744
High	29,087	35,503	6,416
			7,600

Two types of Collapsing

Total
Drove Alone
2 Person Carpool
3 Person Carpool
4 Person Carpool
5-6 Person Carpool
7+ Person Carpool
Bus/Trolley Bus
Streetcar/Trolley
Subway/Elevated
Railroad
Ferryboat
Bicycle
Walked
Taxicab
Motorcycle
Other Means
Worked at Home
18 Modes

Standard ACS 3-year Data

Collapsed 10 Modes

Un-Collapsed 18 Modes

Statistical

CTPP 3-year ACS Tables

Univariate 18 Modes

Collapsed 11 Modes

Collapsed 7 Modes

Collapsed 6 Modes

Collapsed 4 Modes

Disclosure

Collapsed table

C08301. MEANS OF TRANSPORTATION TO WORK -

Universe: WORKERS 16 YEARS AND OVER

Data Set: 2009-2011 American Community Survey 3-Year Estimates

	Imperial Beach city, California	
	Estimate	Margin of Error
Total:	10,911	+/-779
Car, truck, or van:	8,989	+/-726
Drove alone	8,047	+/-727
Carpooled:	942	+/-217
In 2-person carpool	697	+/-207
In 3-person carpool	91	+/-73
In 4-or-more-person carpool	154	+/-98
Public transportation (excluding taxicab)	889	+/-319
Walked	305	+/-189
Taxicab, motorcycle, bicycle, or other	461	+/-186
Worked at home	267	+/-150

Source: 2009-2011 American Community Survey 3-Year Estimates

Population = 26,458 +/- 30

Full table not available

Sometimes neither tables exist

And MOEs are greater than estimate

Full and collapsed table

What do you notice about the Table?

Minneapolis city, Minnesota	Table B08301		Table C08301	
	Nos.	MOE	Nos.	MOE
Total:	213,681	4,785	213,681	4,785
Car, truck, or van:	150,461	4,674	150,461	4,674
Drove alone	133,483	4,598	133,483	4,598
Carpooled:	16,978	1,996	16,978	1,996
In 2-person carpool	12,670	1,709	12,670	1,709
In 3-person carpool	1,773	550	1,773	550
In 4-person carpool	1,212	601	2,535	840
In 5- or 6-person	207	176		
In 7-or-more-person	1,116	525		
Public transportation	25,880	2,552	25,880	2,552
Bus or trolley bus	23,553	2,420		
Streetcar or trolley car	592	388		
Subway or elevated	803	324		
Railroad	932	539		
Ferryboat	0	139		
Taxicab	444	442	11,205	1,837
Motorcycle	239	303		
Bicycle	9,688	1,722		
Other means	834	387		
Walked	14,847	1,885	14,847	1,885
Worked at home	11,288	1,737	11,288	1,737

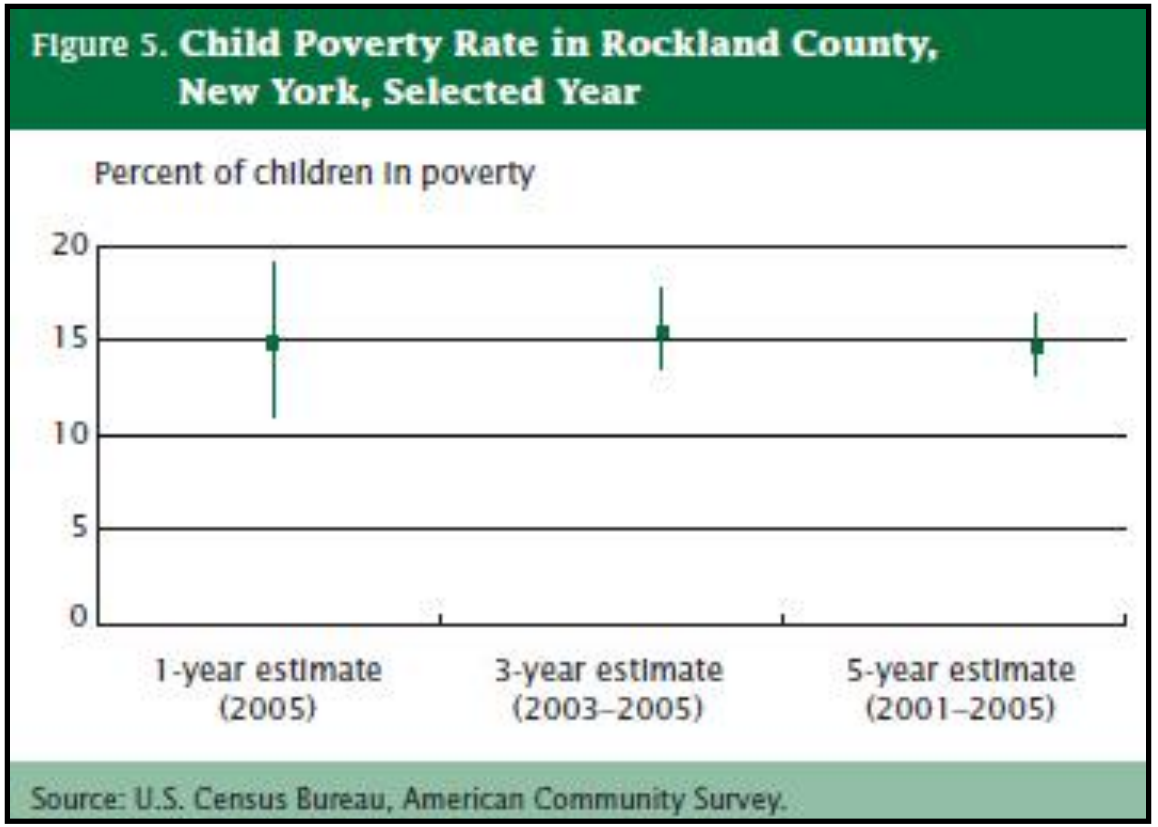
Source: U.S. Census Bureau, 2012 American Community Survey

Population: 392,871 (+/- 48)

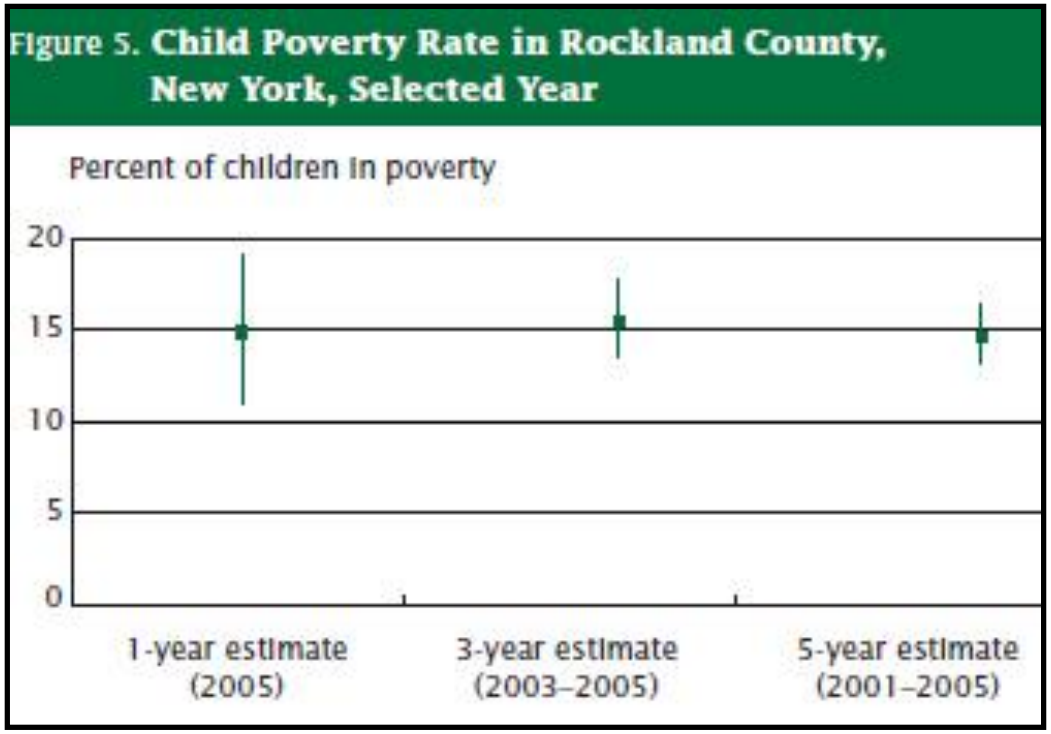
How to think about Period Estimates

What year is the data?

Period Estimate



Reliability/Currency



What data is more reliable?

Which is more current?

San Franciscans who Drove to Work Alone

797,271	Percent	MOE
ACS1	38.9	1.5
ACS3	38.3	0.8
ACS5	38.9	0.6

Berwynites who Drove to Work Alone

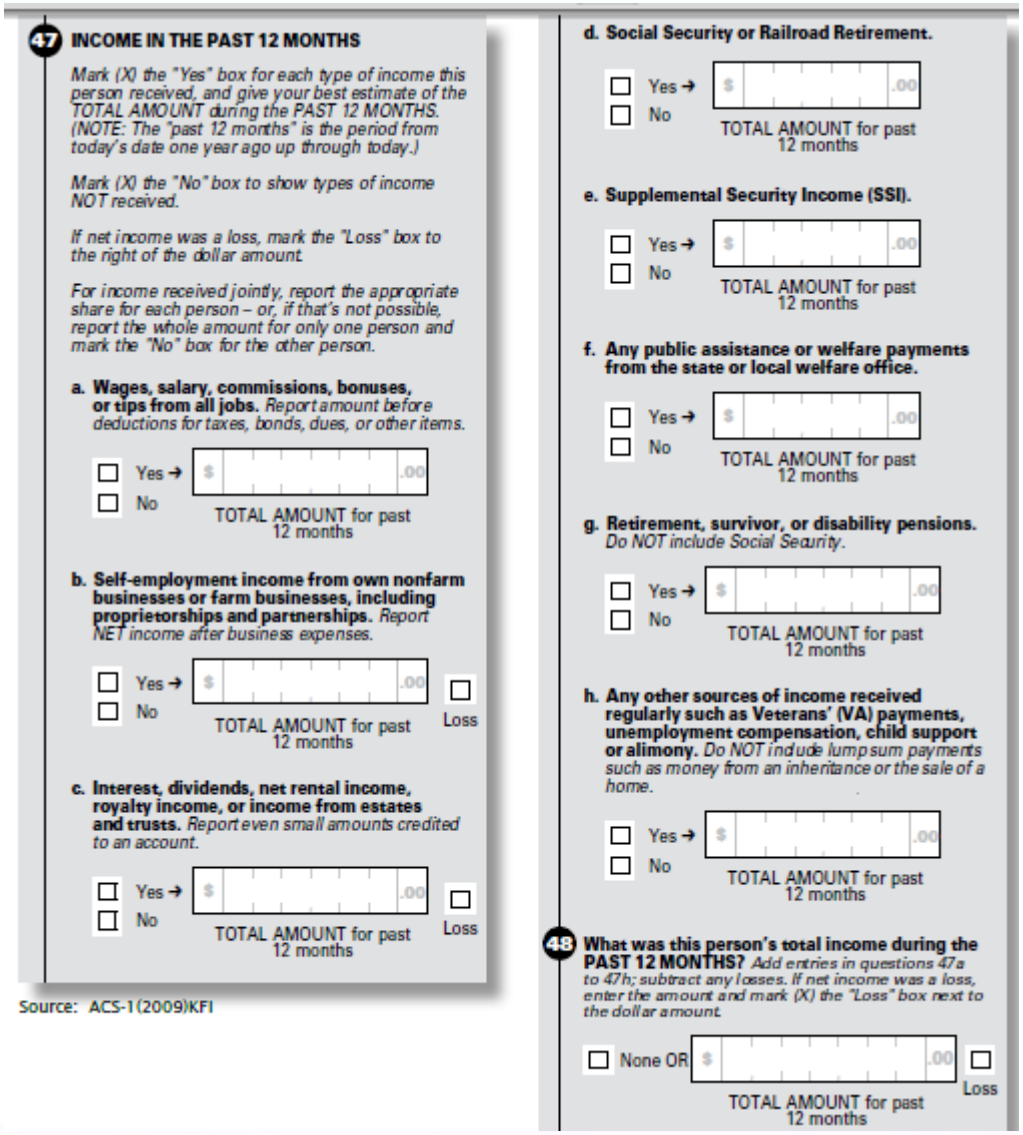
50,053	Percent	MOE
ACS3	69.9	3.7
ACS5	70.8	2.7

Wasilans who Drove to Work Alone

9,616	Percent	MOE
ACS5	67.4	5.2

Source: 2009 ACS products

Dollar Values and Income tables



47 INCOME IN THE PAST 12 MONTHS

Mark (X) the "Yes" box for each type of income this person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS. (NOTE: The "past 12 months" is the period from today's date one year ago up through today.)

Mark (X) the "No" box to show types of income NOT received.

If net income was a loss, mark the "Loss" box to the right of the dollar amount.

For income received jointly, report the appropriate share for each person – or, if that's not possible, report the whole amount for only one person and mark the "No" box for the other person.

a. Wages, salary, commissions, bonuses, or tips from all jobs. *Report amount before deductions for taxes, bonds, dues, or other items.*

☐ Yes → $ .00
☐ No
TOTAL AMOUNT for past 12 months

b. Self-employment income from own nonfarm businesses or farm businesses, including proprietorships and partnerships. *Report NET income after business expenses.*

☐ Yes → $ .00 ☐ Loss
☐ No
TOTAL AMOUNT for past 12 months

c. Interest, dividends, net rental income, royalty income, or income from estates and trusts. *Report even small amounts credited to an account.*

☐ Yes → $ .00 ☐ Loss
☐ No
TOTAL AMOUNT for past 12 months

d. Social Security or Railroad Retirement.

☐ Yes → $ .00
☐ No
TOTAL AMOUNT for past 12 months

e. Supplemental Security Income (SSI).

☐ Yes → $ .00
☐ No
TOTAL AMOUNT for past 12 months

f. Any public assistance or welfare payments from the state or local welfare office.

☐ Yes → $ .00
☐ No
TOTAL AMOUNT for past 12 months

g. Retirement, survivor, or disability pensions. *Do NOT include Social Security.*

☐ Yes → $ .00
☐ No
TOTAL AMOUNT for past 12 months

h. Any other sources of income received regularly such as Veterans' (VA) payments, unemployment compensation, child support or alimony. *Do NOT include lump sum payments such as money from an inheritance or the sale of a home.*

☐ Yes → $ .00
☐ No
TOTAL AMOUNT for past 12 months

48 What was this person's total income during the PAST 12 MONTHS? *Add entries in questions 47a to 47h; subtract any losses. If net income was a loss, enter the amount and mark (X) the "Loss" box next to the dollar amount.*

☐ None OR $ .00 ☐ Loss
TOTAL AMOUNT for past 12 months

Source: ACS-1(2009)KFI

ACS asks-- What was your income during the last 12 months?

Single Year Estimates

12 different periods

Each adjusted to single period (Jan to Dec)

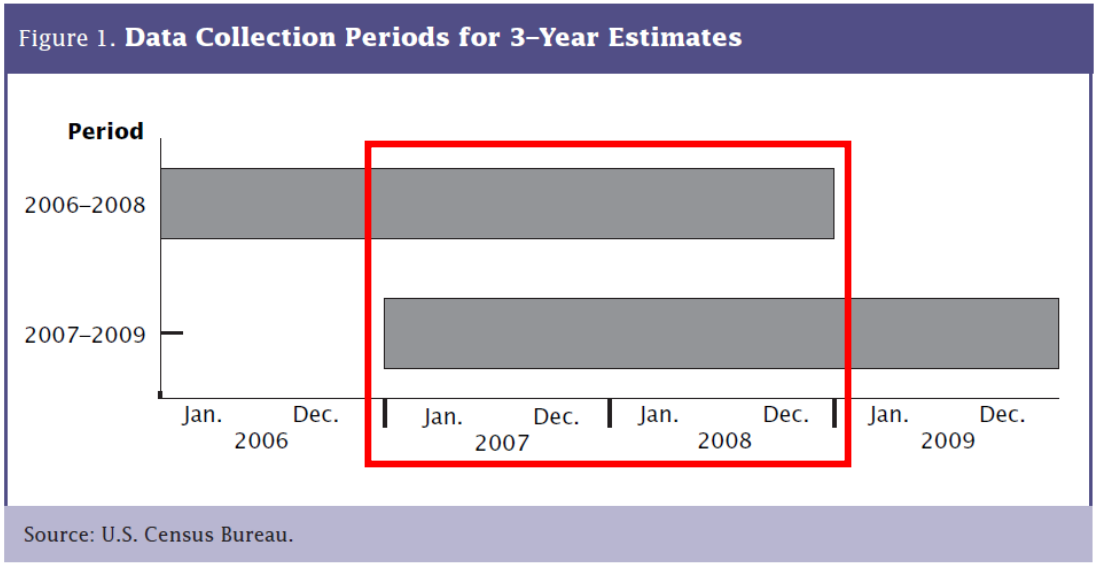
Multiyear Estimates

Each year adjusted to release year

About Trend Analysis

Trend analysis

(overlapping syndrome)



If you are doing trend analysis with multi-year estimates you can not compare successive period estimates due to the overlapping middle years.

Also, you can not compare a 3-year estimate with a 5-year estimate

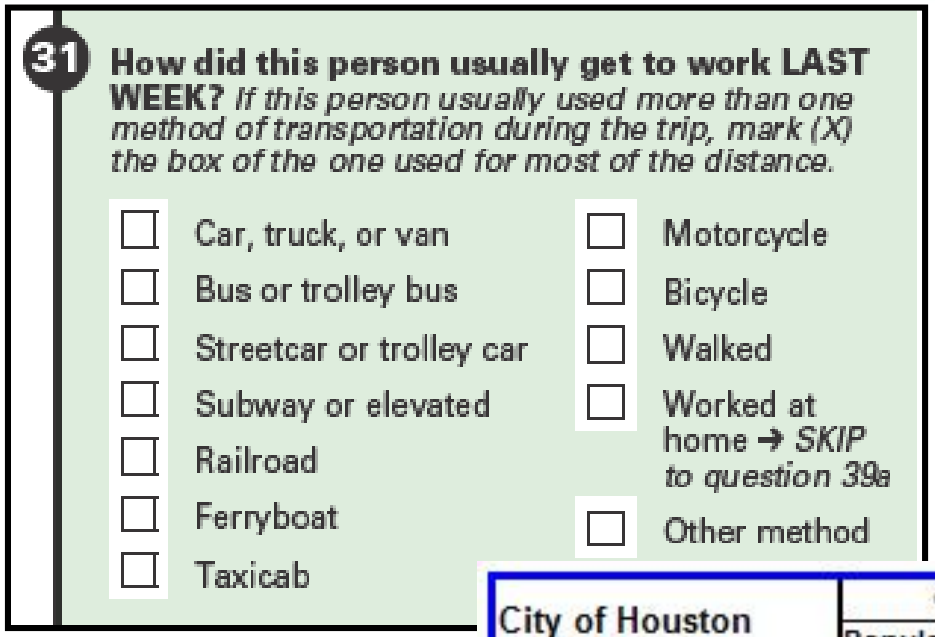
Change in Weighting

In 2009 changed to using sub-county totals as opposed to county totals

Phoenix city, Arizona	2008		2009	
	Nos.	MOE	Nos.	MOE
Total:	1,525,257	26,929	1,593,660	61
White alone	1,224,625	27,017	1,283,185	18,400
Black or African American alone	85,558	7,375	89,123	8,026
American Indian and Alaska Native alone	26,959	4,317	31,409	5,734
Asian alone	36,840	4,811	44,853	5,298
Pacific Islander alone	3,307	1,487	1,709	1,037
Some other race alone	114,965	12,520	106,996	12,386
Two or more races	33,003	4,634	36,385	4,518

Yuma city, Arizona	2008		2009	
	Nos.	MOE	Nos.	MOE
Total:	106,822	5,386	91,116	33
White alone	74,169	5,245	66,254	4,018
Black or African American alone	2,471	1,023	4,484	1,466
American Indian and Alaska Native alone	1,340	935	1,635	803
Asian alone	1,752	526	961	565
Pacific Islander alone	169	286	330	474
Some other race alone	24,852	5,454	15,459	3,508
Two or more races	2,069	957	1,993	1,086

Light Rail Conundrum



31 **How did this person usually get to work LAST WEEK?** *If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance.*

- ☐ Car, truck, or van
- ☐ Bus or trolley bus
- ☐ Streetcar or trolley car
- ☐ Subway or elevated
- ☐ Railroad
- ☐ Ferryboat
- ☐ Taxicab
- ☐ Motorcycle
- ☐ Bicycle
- ☐ Walked
- ☐ Worked at home ➔ *SKIP to question 39a*
- ☐ Other method

Impact of New "Light Rail" systems might not be showing up

Houston Metro Light Rail opened January 1, 2004

City of Houston Mode to Work	CTPP2000 Population = 1,954,848		2005-2007 ACS Population = 2,034,749		Is Change Significant?	
	Number	Percent	Number	Percent	Number	Percent
Total Workers	841,685	100.0	926,921	100.0	Yes	----
Drove alone	604,685	71.8	678,745	73.2	Yes	Yes
Carpooled	133,985	15.9	132,467	14.3	No	Yes
Public transportation	48,255	5.7	47,234	5.1	No	Yes
Walked	19,415	2.3	20,416	2.2	No	No
Other	9,925	1.2	14,069	1.5	Yes	Yes
Taxi, M/B-Cycle	5,715	0.7	5,643	0.6	No	No
Worked at home	19,705	2.3	28,347	3.1	Yes	Yes

Source: 2000 CTPP and 2007ACS3, CTPP Data Profile 1

Now let's focus on the CTPP data

But First a word on Disclosure

DRB Said…"Too many variables" crossed with Means of Transportation (Mode)

Total
Drove Alone
2 Person Carpool
3 Person Carpool
4 Person Carpool
5-6 Person Carpool
7+ Person Carpool
Bus/Trolley Bus
Streetcar/Trolley
Subway/Elevated
Railroad
Ferryboat
Bicycle
Walked
Taxicab
Motorcycle
Other Means
Worked at Home
18 Modes

- Age
- 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 (Part 2)
- Travel Time
- Vehicle Availability
- Workers in Household
- Age of Youngest Child

…makes for micro data record

…and with a micro data record you could identify an individual

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

Total	Total	Total	Total	Total
Drove Alone	Drove Alone	Drove Alone	Drove Alone	Drove Alone
2 Person Carpool	2 Person Carpool	Carpooled	2 Person Carpool	Carpooled
3 Person Carpool	3+ Person Carpool		3+ Person Carpool	
4-person carpool				
5/6-person carpool				
7+ person carpool				
Bus/Trolley Bus	Bus/Trolley Bus	Public Transportation	Public Transportation, Bicycle/Walked, Taxicab/Motorcycle Other Means	Everything Else (incl Worked at Home)
Streetcar/trolley	Streetcar, Trolley, Subway, Elevated			
Subway/Elevated				
Railroad	Railroad/Ferryboat			
Ferryboat				
Bicycle	Bicycle	Bicycle/Walked		
Walked	Walked			
Taxicab	Taxicab/Motorcycle or Other Means	Taxicab/Motorcycle or Other Means		
Motorcycle				
Other Means				
Worked at Home	Worked at Home	Worked at Home	Worked at Home	
18 Modes	11 Modes	7 Modes	6 Modes	4 Modes

Dealing with suppression

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

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w180.pdf

Table Summary using 5-year Table list

	TAZ/BG	Tract	TAD	Place	County	PUMA	State
Part 1							
Regular	111	→	→	→	→	→	→
Perturbed	77	→	→	→	→	→	→
Part 2							
Regular	50	→	→	→	→	→	→
Perturbed	65	→	→	→	→	→	→
Part 3							
Regular	2	→	→	→	→	→	→
Perturbed	38	→	→	→	→	→	→

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**

Also lost average household size

Still left with some Disclosure Rules

For All tables Regular (A) + Perturbed (B)

1. **All Tables Rounded**
   0 = 0, 1-7 =4, 8 or > = nearest multiple of 5
2. **Any number that ends in 5 or 0 stays as is**
3. **Aggregate dollar values rounded to nearest 100**
4. **Aggregate minutes to work and aggregate vehicles use standard rounding**
5. **Totals Rounded independently of cells**
6. **Medians or quintiles not subject to rounding**
7. **Percentages and rates calculated after rounding**
8. **Medians and aggregates must be based on 3 or more values**

sampled

Still left with some Disclosure Rules

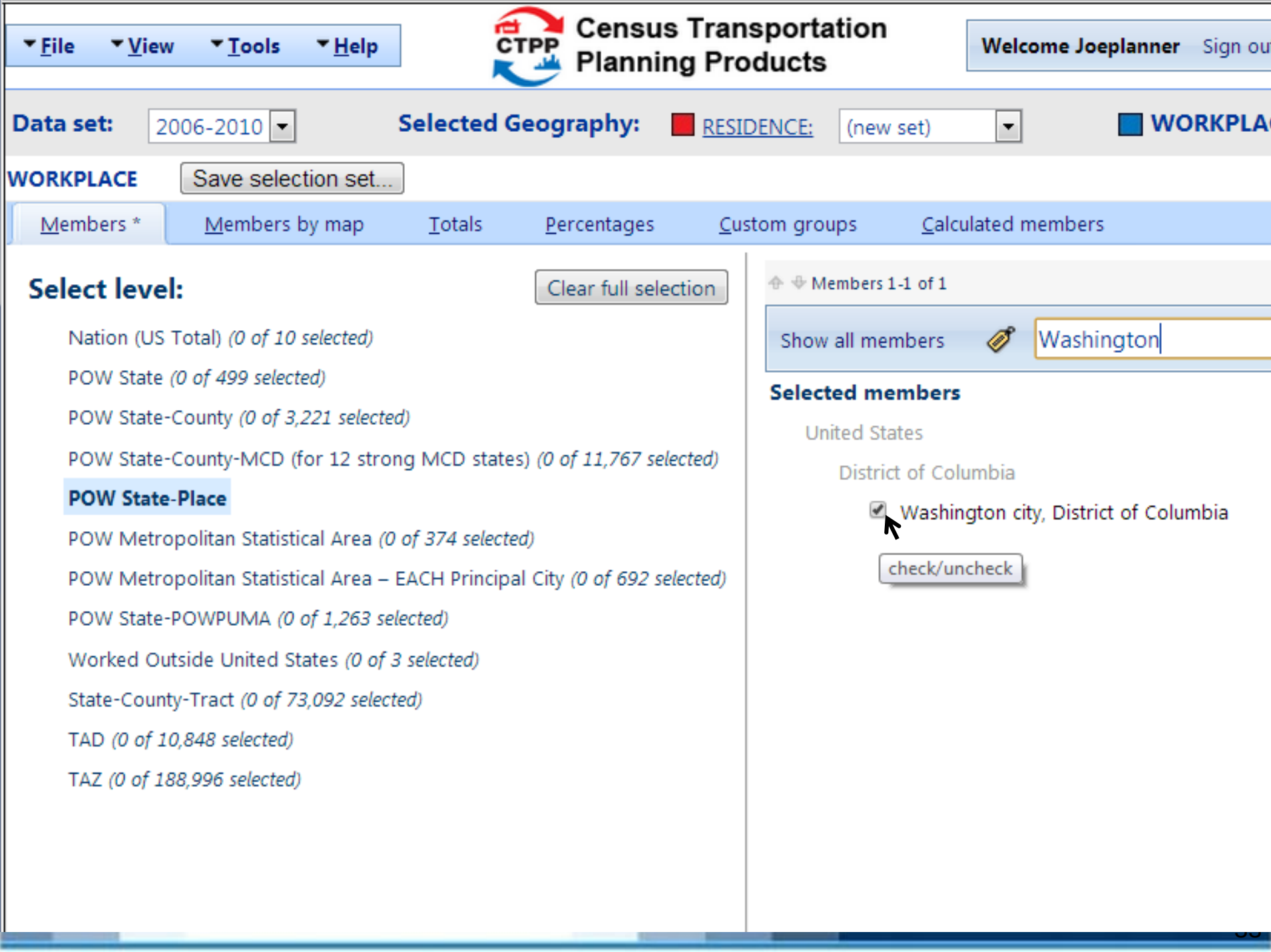
For Regular (A) Tables Only

1. **Cell Suppression:** For Tables 101106 (unweighted sample count of the population), 101107 (percent of population in sample), 110101(total housing units sampled), and 110103 (percent of housing units sampled), there must be 0 or at least 3 or more occupied housing units in sample to show the table

2. **Table Suppression:** Aggregates and Means must have at least 3 unweighted cases to be shown. The policy of the ACS program is that if any one cell in a table is suppressed, the whole table is suppressed

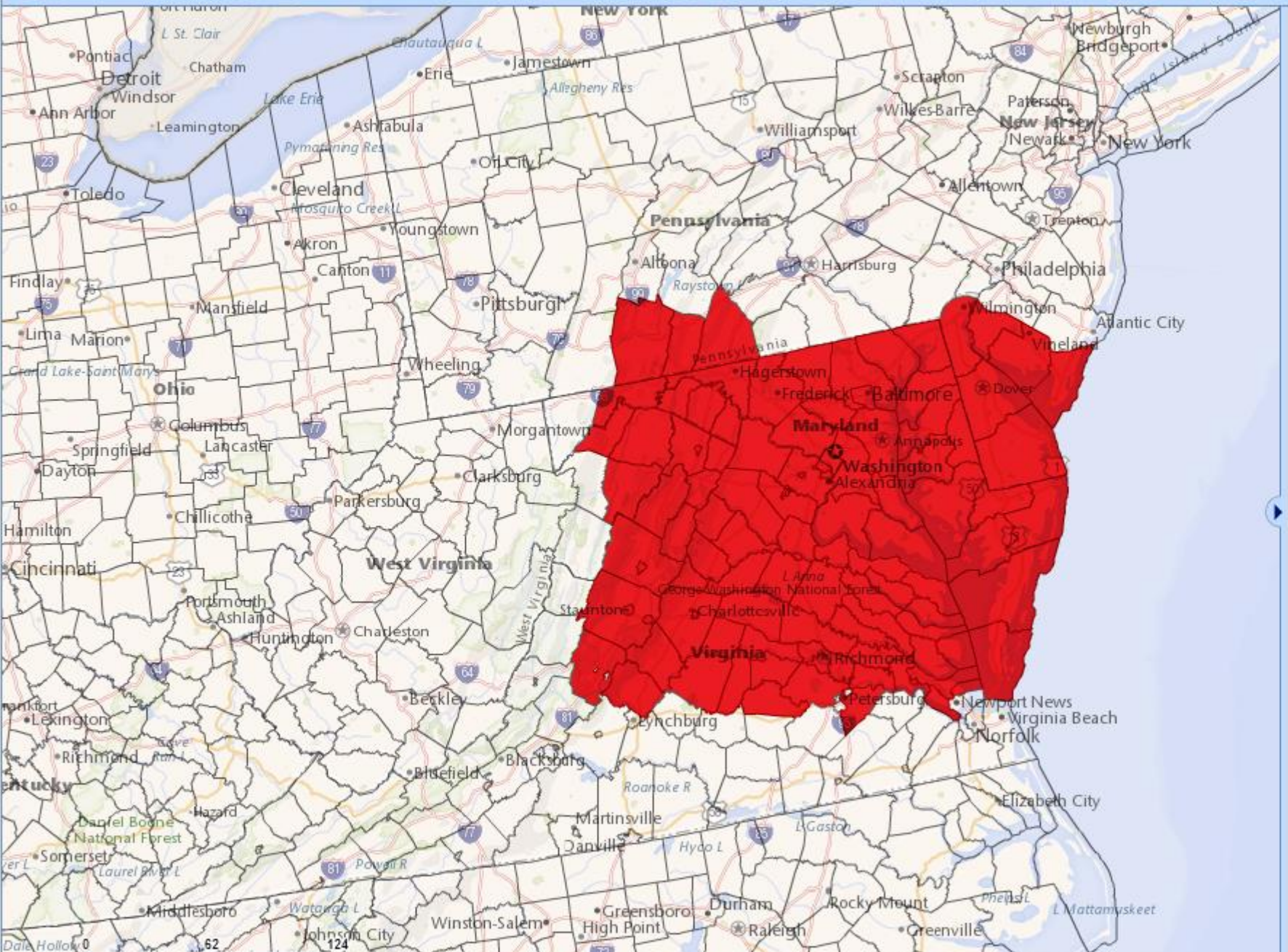
If we have time

- I can show you (screen shots of) the software
- Otherwise, I will skip to resources!


File
View
Tools
Help
CTPP
Census Transportation Planning Products
Welcome Joeplanner
Sign out
Data set:
2006-2010
Selected Geography:
RESIDENCE:
(new set)
WORKPLAC
WORKPLACE
Save selection set...
Members *
Members by map
Totals
Percentages
Custom groups
Calculated members
Select level:
Clear full selection
Nation (US Total) (0 of 10 selected)
POW State (0 of 499 selected)
POW State-County (0 of 3,221 selected)
POW State-County-MCD (for 12 strong MCD states) (0 of 11,767 selected)
POW State-Place
POW Metropolitan Statistical Area (0 of 374 selected)
POW Metropolitan Statistical Area – EACH Principal City (0 of 692 selected)
POW State-POWPUMA (0 of 1,263 selected)
Worked Outside United States (0 of 3 selected)
State-County-Tract (0 of 73,092 selected)
TAD (0 of 10,848 selected)
TAZ (0 of 188,996 selected)
Members 1-1 of 1
Show all members
Washington
Selected members
United States
District of Columbia
Washington city, District of Columbia
check/uncheck

Members * | Members by map | Totals | Percentages | Custom groups | Calculated members

LEVEL: STATE-COUNTY | VALID FLOW | ZOOM TO



ADD:

SELECTION

RESIDEN

STATE-COU

Accomack C
Albemarle C
Alexandria
Allegany Co
Amelia Coun
Amherst Co
Anne Arund
Arlington Co
Augusta Co
Baltimore cit
Baltimore Co
Bedford Cou
Berkeley Co
Buckingham
Calvert Cou
Cape May C
Caroline Cou
Caroline Cou
Carroll Coun
Cecil County
Charles City
Charles Cou
Charlottesvi
Chesterfield
Clarke Coun

Data set: 2006-2010 **Selected Geography:** RESIDENCE: All states WORKPLACE: All states

Public reports | My reports | My selection sets

Show all reports

Search results for: MEANS11 or MEANS18

- A102106 - Means of transportation (18) (Workers 16 years and over)
- A202105 - Means of Transportation (18) (Workers 16 years and over)
- A302103 - Means of transportation (18) (Workers 16 years and over)
- B102201 - Minority Status (3) by Means of Transportation (11) (Workers 16 years and over)
- B102203 - Age of Worker (8) by Means of transportation (11) (Workers 16 years and over)
- B102216 - Time leaving home (17) by Means of transportation (11) (Workers 16 years and over)
- B102217 - Travel time (12) by Means of transportation (11) (Workers 16 years and over)
- B103200 - Presence of Children (3) by Means of Transportation (11) (Workers 16 and over in households)
- B103201 - Number of Workers in household (3) by Means of Transportation (11) (Workers 16 years and over in households)
- B103202 - Median Household Income in the last 12 months (2010$) (1) by Means of Transportation (11) for Workers (Workers 16 years and over in household
- B103203 - Household income in the past 12 months (2010$) (26) by Means of transportation (11) (Workers 16 years and over in households)
- B103206 - Vehicles available (6) by Means of transportation (11) (Workers 16 years and over in households)
- B106200 - Aggregate Travel time (1) by Means of transportation (18) (Workers 16 years and over who did not work at home)
- B106200C - Aggregate Travel time (1) by Means of transportation (11) (Workers 16 years and over who did not work at home)
- B106202 - Mean Travel time (1) by Means of transportation (18) (Workers 16 years and over who did not work at home)
- B106202C - Mean Travel time (1) by Means of transportation (11) (Workers 16 years and over who did not work at home)
- B106203 - Median Travel time (1) by Means of transportation (18) (Workers 16 years and over who did not work at home)
- B106203C - Median Travel time (1) by Means of transportation (11) (Workers 16 years and over who did not work at home)
- B106300 - Aggregate Travel time (1) by Means of transportation (11) by Time leaving home (17) (Workers 16 years and over who did not work at home)
- B106301 - Mean Travel time (1) by Means of transportation (11) by Time leaving home (17) (Workers 16 years and over who did not work at home)
- B106302 - Median Travel time (1) by Means of transportation (11) by Time leaving home (17) (Workers 16 years and over who did not work at home)
- B202200 - Minority Status (3) by Means of Transportation (11) (Workers 16 years and over)

Measures - Workers 16 and Over	WORKPLACE - Washington city, District of C...	Drag dimensions here so they do not show as a row or co							
Means of Transportation 1...	Total, means of transportation		Bus or trolley bus		Streetcar or trolley car		Subway or elev		
Output	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Ma	
RESIDENCE									
District of Columbia, Dis...	215,070	2,748	40,365	1,569	440	189	44,075		
Prince George's County, M...	136,220	2,514	9,795	786	390	160	35,020		
Montgomery County, Maryla...	107,125	2,000	6,570	667	180	91	35,610		
Fairfax County, Virginia	90,205	2,040	3,285	441	250	118	22,100		
Arlington County, Virgini...	47,225	1,257	5,810	740	120	81	18,140		
Alexandria city, Virginia	25,990	943	1,750	310	130	90	8,475		
Prince William County, Vi...	19,415	1,033	3,070	399	65	65	660		
Anne Arundel County, Mary...	17,780	897	1,150	210	0	0	1,540		
Charles County, Maryland	15,120	984	2,735	362	10	16	780		
Howard County, Maryland	9,975	675	1,270	255	0	0	785		
Loudoun County, Virginia	8,780	642	1,390	209	4	20	760		
Calvert County, Maryland	5,335	467	915	189	0	0	25		
Baltimore County, Marylan...	5,005	409	110	79	0	0	175		
Baltimore city, Maryland	4,945	521	275	111	0	0	105		
Stafford County, Virginia	4,720	455	210	71	0	0	30		
Frederick County, Marylan...	4,090	468	125	82	0	0	265		
Spotsylvania County, Virg...	2,560	482	465	148	15	25	25		

A302103 - Means of transportation (18) (Workers 16 years and over)

Current date: 10/15/2013 3:17:20 PM (Eastern Daylight Time)

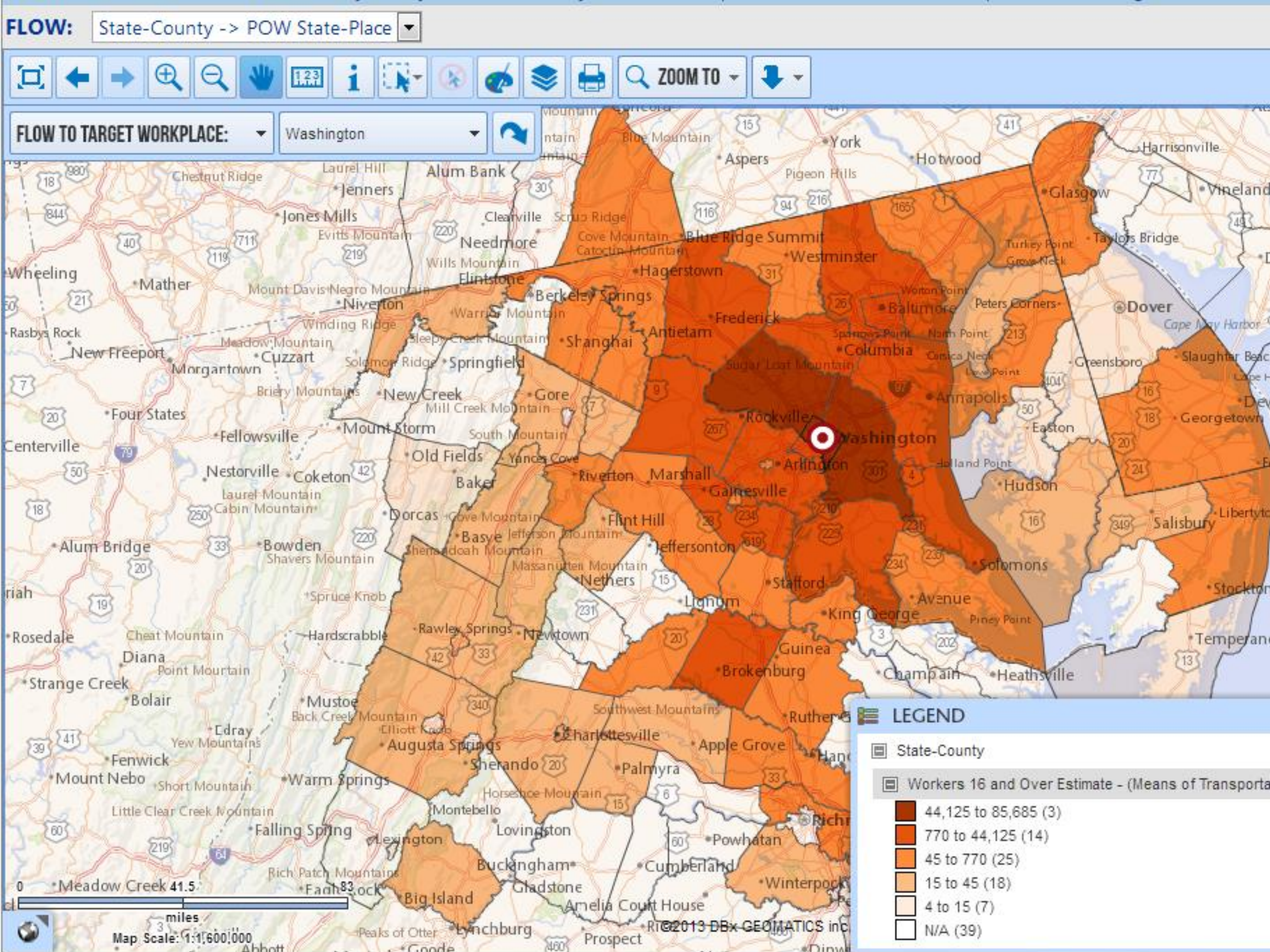
U.S. Census Bureau, American Community Survey 2006-2010 Five-year estimates. Special Tabulation: Census T

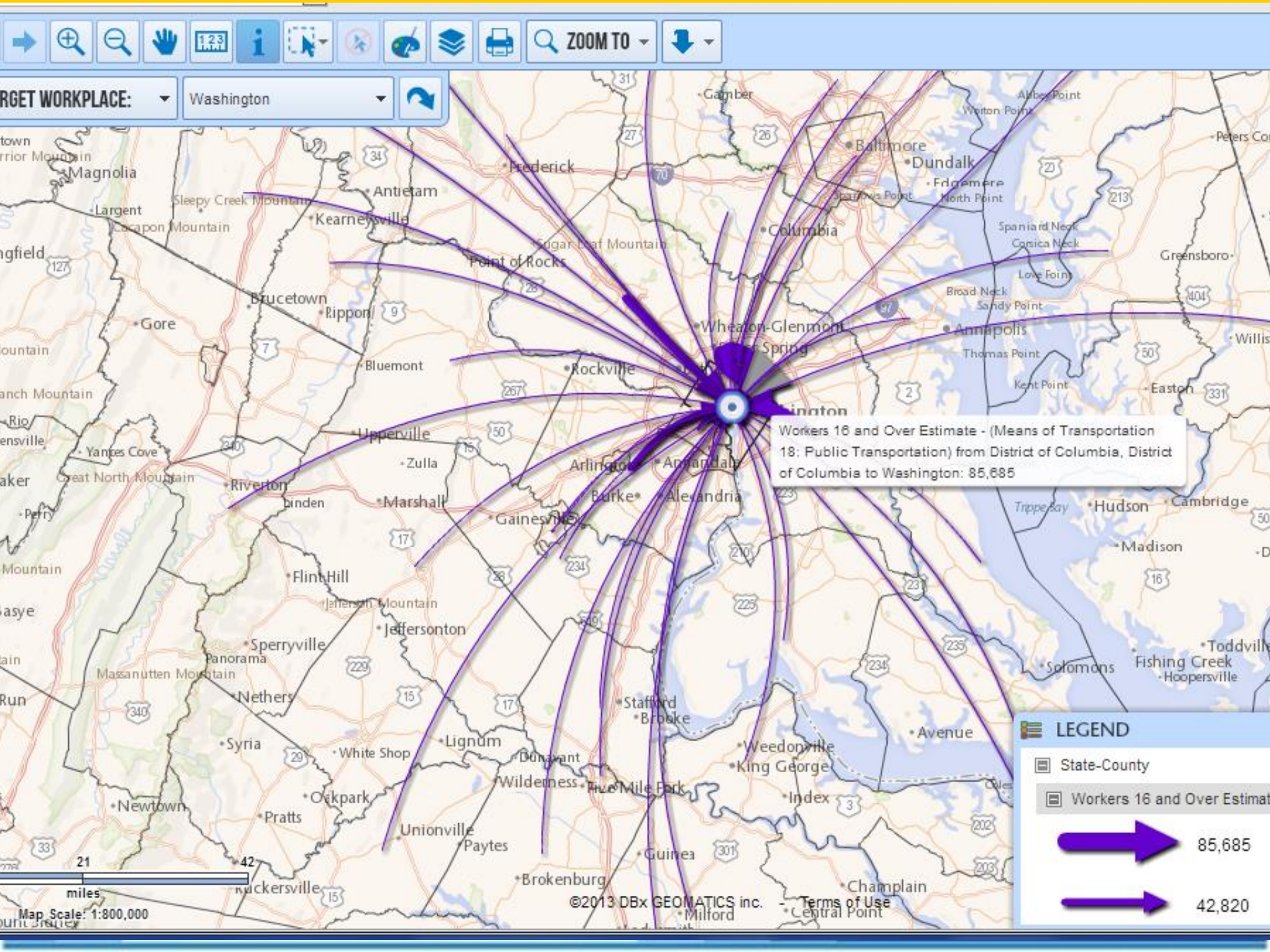
FLOW: State-County -> POW State-Place

Rows 1-100 of 106 Columns 1-4 of 4

Measures - Workers 16 and Over percent of... | WORKPLACE - Washington city, District of C...

Means of Transportation 1...	Total, means of transportation		Public Transportation	
Output	Estimate	Margin of Error	Estimate	Margin of Error
RESIDENCE				
District of Columbia, Dis...	100.00		39.84	0.90
Prince George's County, M...	100.00		34.77	1.06
Fairfax County, Virginia	100.00		30.30	1.12
Montgomery County, Maryla...	100.00		41.19	1.16
Arlington County, Virgini...	100.00		51.34	2.03
Prince William County, Vi...	100.00		28.64	2.24
Charles County, Maryland	100.00		23.68	2.33
Alexandria city, Virginia	100.00		40.25	2.44
Anne Arundel County, Mary...	100.00		27.08	2.50
Loudoun County, Virginia	100.00		25.33	2.76
Stafford County, Virginia	100.00		15.68	3.16
Calvert County, Maryland	100.00		17.62	3.23
Howard County, Maryland	100.00		36.09	3.67
Baltimore County, Marylan...	100.00		34.37	4.59
Carroll County, Maryland	100.00		8.96	4.80
Baltimore city, Maryland	100.00		50.76	5.02


FLOW:
State-County -> POW State-Place
ZOOM TO
FLOW TO TARGET WORKPLACE:
Washington
LEGEND
State-County
Workers 16 and Over Estimate - (Means of Transporta
44,125 to 85,685 (3)
770 to 44,125 (14)
45 to 770 (25)
15 to 45 (18)
4 to 15 (7)
N/A (39)
0
41.5
83
miles
Map Scale: 1:1,600,000
©2013 DBx GEOMATICS inc
Washington
Arlington
Rockville
Frederick
Baltimore
Columbia
Annapolis
Hagerstown
Westminster
Stafford
Charlottesville
Dover
Salisbury


ZOOM TO
RGET WORKPLACE:
Washington
Workers 16 and Over Estimate - (Means of Transportation 18: Public Transportation) from District of Columbia, District of Columbia to Washington: 85,685
LEGEND
State-County
Workers 16 and Over Estimat
85,685
42,820
©2013 DBx GEOMATICS inc. - Terms of Use
Map Scale: 1:800,000
miles
21
42
Frederick
Antietam
Kearneysville
Point of Rocks
Brucetown
Rippon
Gore
Bluemont
Rockville
Wheaton-Glenmont
Spring
Columbia
Baltimore
Dundalk
Annapolis
Greensboro
Easton
Upperville
Zulla
Riverton
Marshall
Gainesville
Arlington
Alexandria
Burke
Hudson
Cambridge
Madison
Flint Hill
Jefferson
Sperryville
Nethers
Syria
White Shop
Lignum
Stafford
Brooke
Weedonville
King George
Index
Avenue
Solomons
Fishing Creek
Hoopersville
Newtown
Pratts
Ockpark
Unionville
Paytes
Guinea
Brokenburg
Champlain
Milford
Central Point
Wilderness
Five Mile Fork
Dunavant
Magnolia
Largent
Sleepy Creek Mountain
Sugar Loaf Mountain
Yankee Cove
Great North Mountain
Massanutten Mountain
Panorama
Jefferson Mountain
Spaniard Neck
Corsica Neck
Broad Neck
Sandy Point
Love Point
Thomas Point
Kent Point
Tripp Bay

CTPP List Serve

Census Data for Transportation Planning

TRB Subcommittee on Census Data for Transportation Planning, ABJ30(1)

Encouraging Research and Innovation in Transportation Since 1920

Site Navigation

- **Home**
- Calendar
- Notes & News
- CTPP Data Products
- Internet Mailing List
- Newsletters
- AASHTO Oversight
- Links
- TRB Publications
- TAZUP / WORKUP

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

“Status Report” newsletter

FHWA → Planning → Census Issues → CTPP

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®

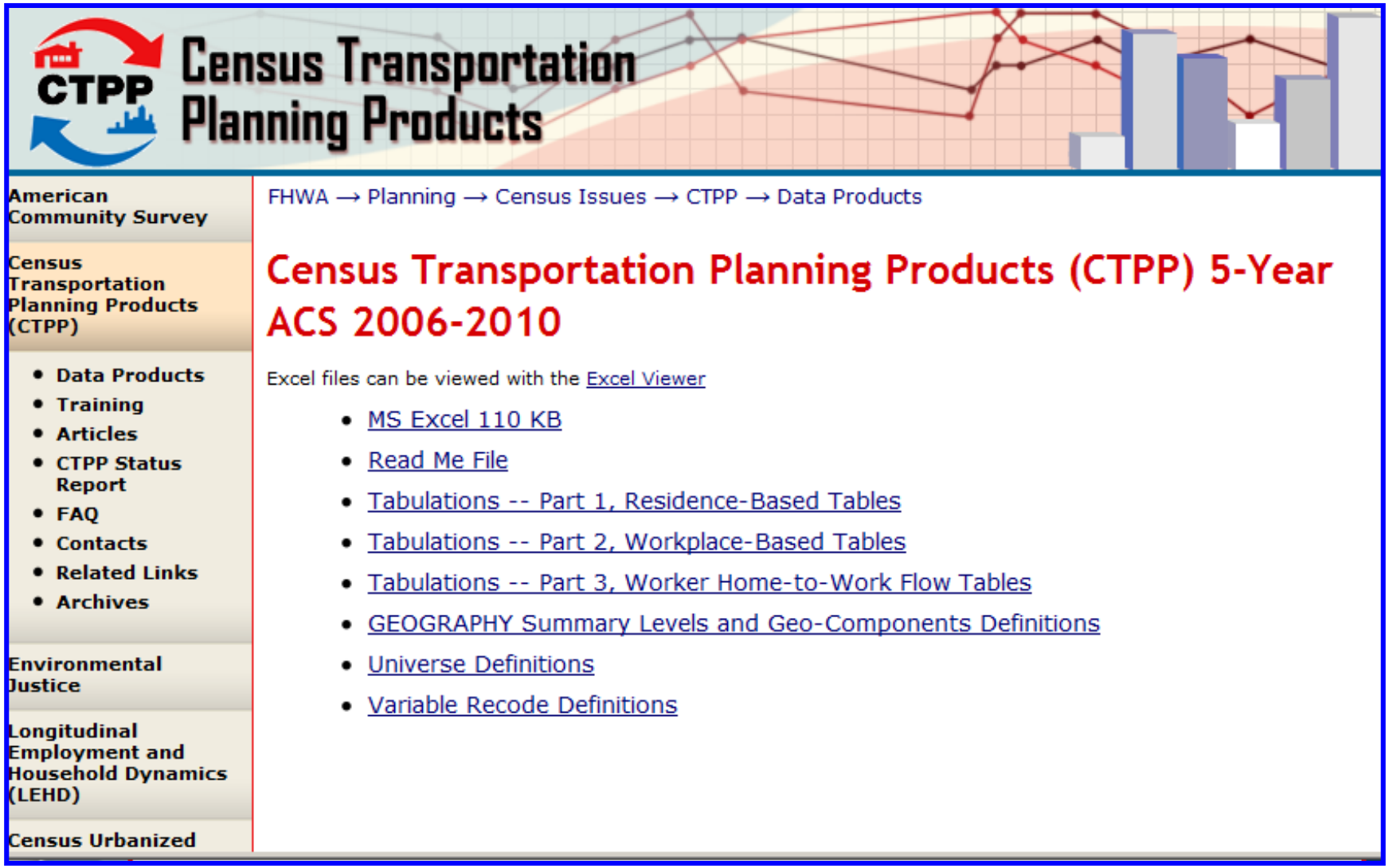
Index of Articles in the Previous Status Reports

- Current (May 2014) in HTML- or PDF (454 KB) New: 5/1/2014
- 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)
- August 2011 in HTML or PDF (3.7 MB)

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

http://www.trbcensus.com/newsletters.html

FHWA website



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

AASHTO website

http://ctpp.transportation.org/

Training Materials

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