



CTPP Guide

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About 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, 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.

The CTPP data product based on 2012 – 2016 5-year American Community Survey (ACS) Data is designed to help transportation analysts and planners understand where people are commuting to and from, and how they get there. The information is organized by residence, workplace, and by the commute from home to work. 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.

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About this Guide

The CTPP web app is cumbersome, unintuitive and slow. The purpose of this guide is to highlight the CTPP web-app's functionality, help users avoid common mistakes and solve common issues, and to provide step-by-step optimized workflows to help users save time and understand the CTPP web app.

Developing a strategy that implements the functions that work well on the website, avoids the ones that don't, and creates the simplest tables with the least number of cells necessary is the end goal. This guide aims to help you do that.

Common Issues with CTPP

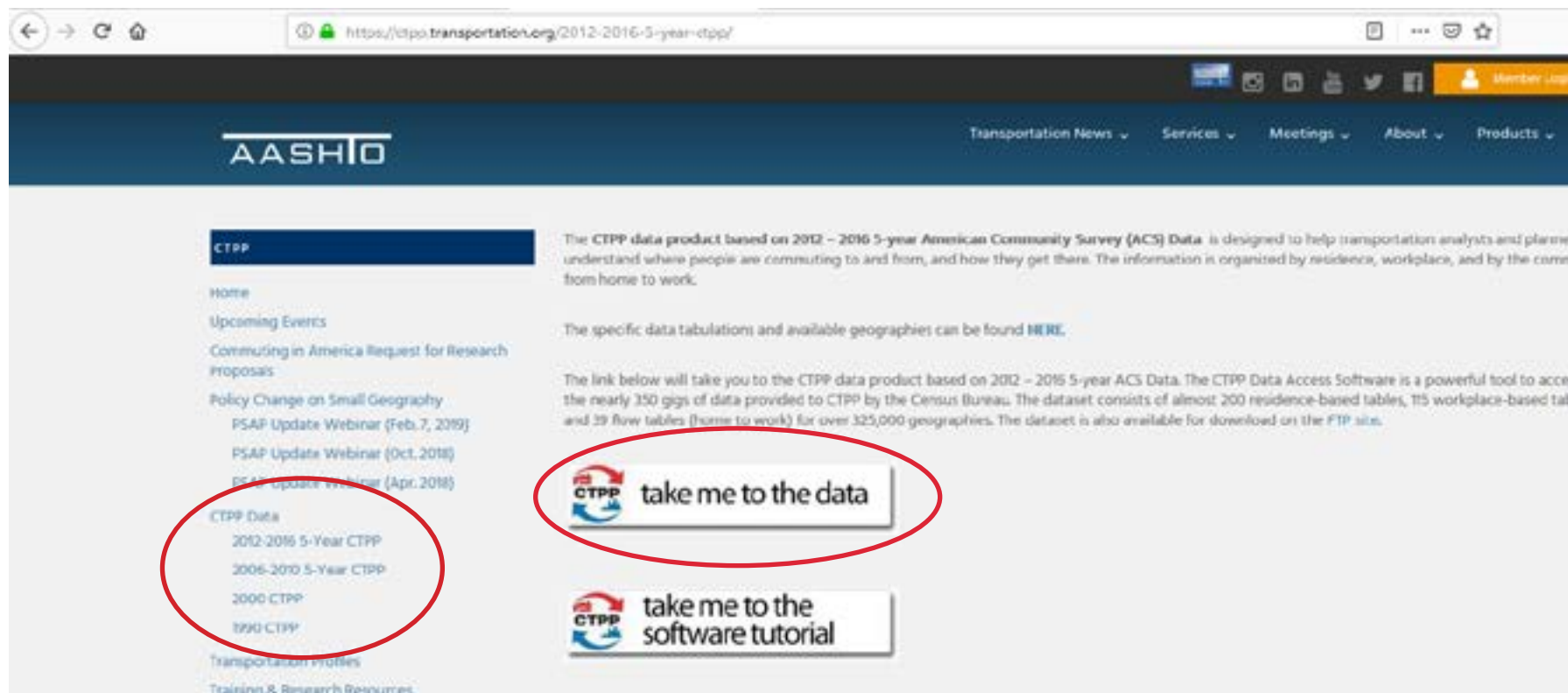
- Large tables may be impossible to download.
 - Timeout error
 - Maximum allowance of 100,000 cells.
- Only certain Residence --> Workplace geographies/commute-flows are valid (see page)
- The system for selecting data and creating custom groups is complicated, slow, and confusing.

CTPP Website

<https://ctpp.transportation.org/ctpp-data-set-information/>

CTPP data links are on the left hand side of the page. The most recent data is 2012-2016 5 yr estimates.

- Once you have selected the data set that you want, click on “take me to the data”, which will take you to the CTPP web application.
- Once in the web app, click “sign in” at the top right and create an account. This will allow you to save Residence and Workplace selections, and create and save custom groups.



Valid Commute Flows

It is important to know that CTPP only allows certain flows, and to know how to address this limitation. For example, In our analysis of commute patterns into and out of the Manhattan CBD (Manhattan below 60th St), a County --> County flow would not work because the CBD is smaller than New York County (Manhattan Borough). Census Tract --> Census Tract are the best option available, but even this choice has a few minor issues. First, the census tracts do not align perfectly with the CBD. This was a minor issue, as the 1 block x 3 avenue area is relatively small. The larger problems are that the resultant table will include results for flows between all census tracts in the CBD, when we want to analyze the CBD as a single district, and that this larger data set will also be either difficult or impossible to compile and download on CTPP's cumbersome system.

The solution is to create a **Custom Group** for workplace, that combines all of the CBD Census tracts into one district. This produces the CBD commute statistics we want, and results in a much smaller workable table.

List of Valid Commute Flows

No valid flows are available for your geographic selections - please modify.

The following flows are valid:

State -> POW State

State-County -> POW State-County

State-County-MCD (for 12 strong MCD states) -> POW State-County-MCD (for 12 strong MCD states)

State-Place -> POW State-Place

Metropolitan Statistical Area - EACH Principal City -> POW Metropolitan Statistical Area - EACH Principal City

State-PUMAS -> POW State-POWPUMA

State-County -> POW State-Place

State-County-MCD (for 12 strong MCD states) -> POW State-Place

State-PUMAS -> POW State-Place

State-County-Tract -> State-County-Tract

TAD -> TAD

TAZ -> TAZ

TAD -> TAZ

TAZ -> TAD

State-Place -> TAZ

TAZ -> POW State-Place

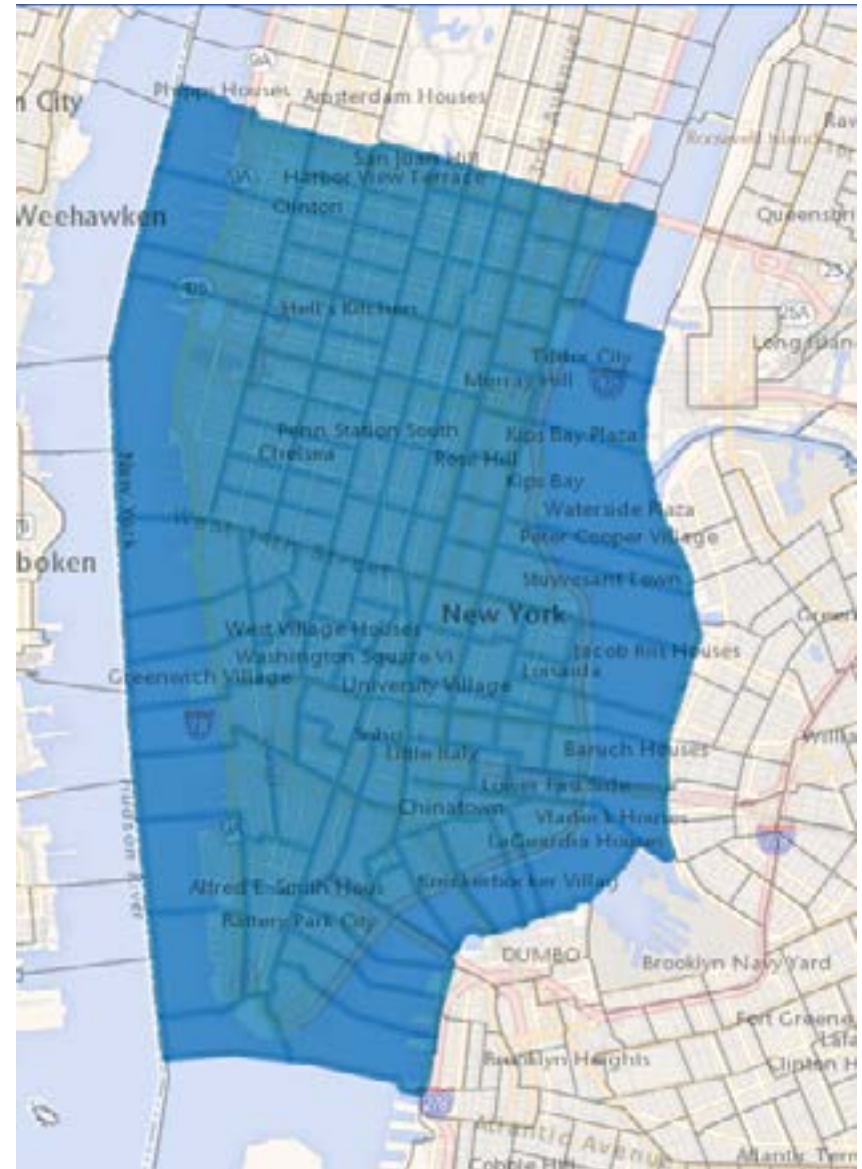
Example: Building the Central Business District in CTPP

The areas in blue represent selected census tracts. We selected all census tracts falling below 60th St. Notice that this is not absolutely ideal, as the census tracts do not align perfectly with the CBD.

Notice that we must select Census Tracts, as these are small enough to build a geography that approximates the CBD. Notice that many census tracts have been selected. This will result in a large table with data for commute flows in and out of each census tract, when what we want is aggregate data for commute flows in and out of the *entire* CBD. The larger table might also fail to load on CTPP's cumbersome system, and might be impossible to download as there is a 100,000 cell maximum allowance, and because even much smaller tables are prone to timeout errors on the system.

The solution to these issues is to combine all of these census tracts into one custom group, which will result in a much smaller and workable table containing the data we want.

It is also important to mention that County --> Census Tract (grouped) is still not a valid flow. We must also create custom groups of census tracts for each county we want to include in our analysis. This way, we have Tract--> Tract flow, which is valid.



We used the Selection Map Feature in the web app to select all the census districts within the CBD.

CTPP Web App Basics

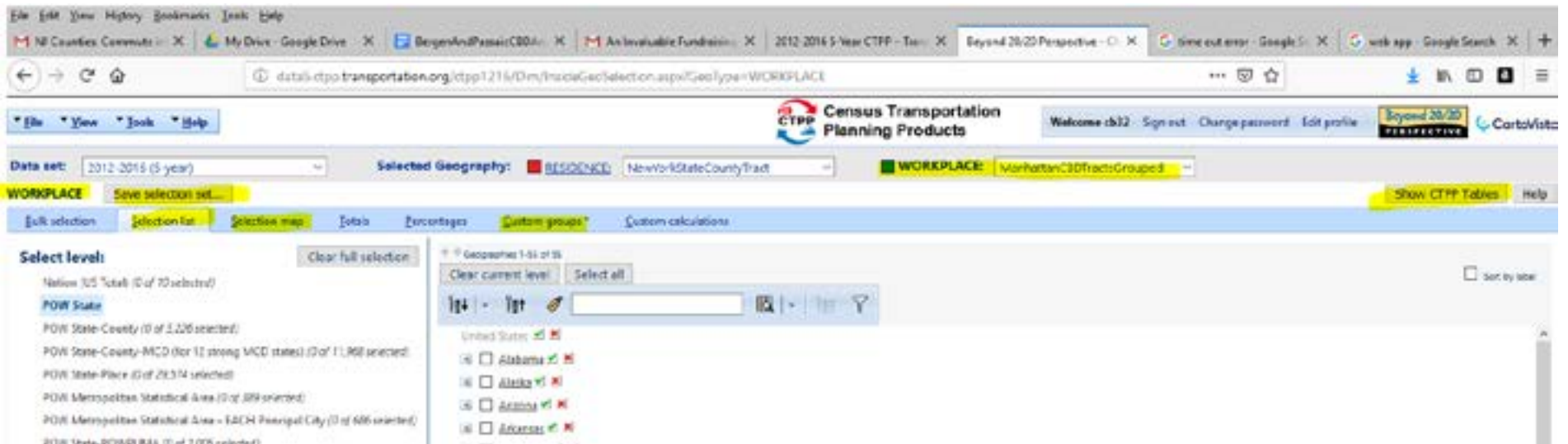
1. Create account and sign in
2. Click on Residence or dropdown to create or choose saved Residence selection
3. Click on Workplace or dropdown to create or choose saved Workplace selection
4. Click on “part 3: Flows” folder to see tables. “Means of Transportation” tables provides transport modeshare data.



CTPP Web App Basics of Creating a Selection

Creating Residence or Workplace selections

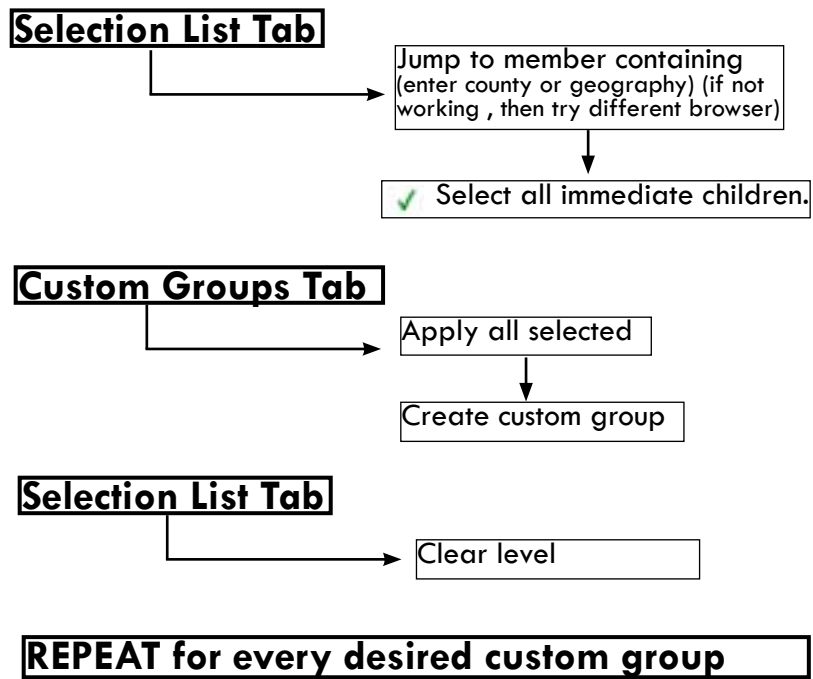
1. Plan: what data you need, what level (county, state, etc), what valid commute flow is best for your analysis, and finally, what kind of custom groups you may need to create to obtain the most condensed and simple data outputs.
2. Click on “Residence” or “Workplace.” The window will reload with various selection tools and options. Notice that “Workplace” or “Residence” is displayed on the left hand side above the geography levels.



Tips for reducing table size

1. **Select less data** - for example, when we created tables for commute data into the CBD for New York, we created two tables - one for NYC, and another for the rest of the state. This made the data outputs much smaller. We also downloaded tables containing fewer modes. - a table only showing numbers of drivers per census tract is much smaller than a table with every mode for every census tract.
2. **Select only the data you need.**
3. **Group data where possible** - for example, if you only need to know how many people take transit into the CBD for a given Residence selection, you can group Bus, Ferry, Train, and Subway into one aggregate group, which you can name “TRANSIT.” This allows you to get the data you need while greatly cutting down on table size and number of cells.
4. **Develop a plan for what data you need, what data can be grouped, and how to best split your project into numerous tables if need be.**

Work Flow for Creating Custom Groups



***Using the “Jump to” feature, the “Select all immediate Children” function, and then clearing the selection after the creation of each group is the fastest way to create groups of smaller geographies that conform to larger admin geographies (ie tracts in counties, or counties in states, etc)

Work Flow for Creating Custom Groups - Walk Through

Once you create your data selections, you can create custom groups.

To create a custom group you will first click on the attributes section that you want to create groups in.

To create a group in workplace geographies, click on “workplace.”

To create a group in residence geographies, click on “residence.”

To create a group in Transportation modes, click on “Means of transport” (shown here)

The screenshot shows the U.S. Census Bureau data tool interface. The 'Data set' is '2012-2016 (5-year)' and 'Selected Geography' is 'RESIDENCE'. The 'View as' options are 'Table', 'Chart', and 'Map'. The title is 'A302103 - Means of transportation (18) (Workers 16 years and over)'. The 'Current date' is '4/8/2019 11:25:53 AM (Eastern Daylight Time)'. The 'U.S. Census Bureau, American Community Survey 2012-2016 Five-year estimates. Special Tabulation: Census of Housing and Population' is noted. The 'FLOW' is 'State-County-Tract -> State-County-Tract'. The 'Rows' are '1-100 of 688,000' and 'Columns' are '1-36 of 36'. The 'Measures' section shows 'Workers 16 and Over' and 'Means of Transportation 18' (highlighted with a red arrow). The 'Output' table has columns for 'RESIDENCE', 'WORKPLACE', 'Estimate', 'Margin of Error', and 'Car, truck, or van -- Drove to work alone'. The 'Output' table lists Census Tracts 2.01, 2.02, 6, 7, 8, 9, 10.01, 10.02, and 12, New York.

Output		Estimate	Margin of Error	Estimate	Margin of Error
RESIDENCE	WORKPLACE	↑ ↓ □	↑ ↓ □	↑ ↓ □	↑ ↓ □
	Census Tract 2.01, New Yo...				
	Census Tract 2.02, New Yo...				
	Census Tract 6, New York ...				
	Census Tract 7, New York ...				
	Census Tract 8, New York ...				
	Census Tract 9, New York ...				
	Census Tract 10.01, New Y...				
	Census Tract 10.02, New Y...				
	Census Tract 12, New York...				

Work Flow for Creating Custom Groups - Walk Through

The window reloads and opens the selection options for “Means of Transport” Click on the “Custom Groups” tab.

The screenshot shows a web browser window with the URL `data5.ctpp.transportation.org/ctpp1216/Dim/dimension.aspx`. The page has a menu bar with **File**, **View**, **Tools**, and **Help**. The **Data set:** is set to **2012-2016 (5-year)** and the **Selected Geography:** is **RESIDENCE: NYStateCountyTractMinusNYCity**. The main heading is **A302103 - Means of transportation (18) (Workers 16 years and over)**. Below this, the **Means of Transportation 18** section is active. The **Select by:** dropdown is set to **Save selection set...**. The **Custom groups** tab is highlighted in yellow, with a red arrow pointing to it. The **Variable categories *** tab is also visible. The **Categories 1-18 of 18** section shows a list of categories with checkboxes. The **Default selection:** is **Total, means of transportation**. A tip at the bottom right says: **Tip: Use "Expand all" dropdown list to expand to a given level**. The list of categories includes:

- ☒ Total, means of transportation (Default selection)
- ☒ Car, truck, or van -- Drove alone
- ☒ Car, truck, or van -- In a 2-person carpool
- ☒ Car, truck, or van -- In a 3-person carpool
- ☒ Car, truck, or van -- In a 4-person carpool
- ☒ Car, truck, or van -- In a 5-or-6-person carpool
- ☒ Car, truck, or van -- In a 7-or-more-person carpool

Work Flow for Creating Custom Groups - Walk Through

Once the custom group options load, select the attributes, columns, or rows that you would like to group.

Here I am creating a “Carpool” group where I combine all of the attributes that involve driving with another person.

Notice that 5 attributes will be grouped into one, creating a much smaller table.

Data set: 2012-2016 (5-year) Selected Geograph

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

Means of Transportation 18

Create custom group

Group name: Carpool

Create custom group Cancel Help

Categories 1-18 of 18

Select/Clear

All Range

Apply current selection

- ☐ Total, means of transportation
 - ☐ Car, truck, or van -- Drove alone
 - ☒ Car, truck, or van -- In a 2-person carpool
 - ☒ Car, truck, or van -- In a 3-person carpool
 - ☒ Car, truck, or van -- In a 4-person carpool
 - ☒ Car, truck, or van -- In a 5-or-6-person carpool
 - ☒ Car, truck, or van -- In a 7-or-more-person carpool
 - ☐ Bus or trolley bus
 - ☐ Streetcar or trolley car
 - ☐ Subway or elevated
 - ☐ Railroad
 - ☐ Ferryboat
 - ☐ Bicycle

Work Flow for Creating Custom Groups - Walk Through

Once you have created the custom group you must return to the “Variable Categories” tab (shown on right) and deselect all of the categories that you have created a group for.

If you do not, these attributes will still appear in your table, along with the groups that you create.

When you are finished creating your groups and modifying your overall selection, click “Show Updated Table” on the righthand side of the screen.

