



Mapping Tutorial

Using Neighborhood Nexus

Comparing 100 Metros Using Weave Map: Overview

<http://www.weaveatlanta.org/weave.html?file=100Metros.weave>

- Map interface that allows users to display and analyze data for 100 largest metropolitan areas in the US
- In addition to maps, tables and charts can be created and modified to display, compare, and analyze data of interest
- Maps, tables, and charts can be printed or exported as an image (.png) or data (.csv) file



Comparing 100 Metros: Available Data

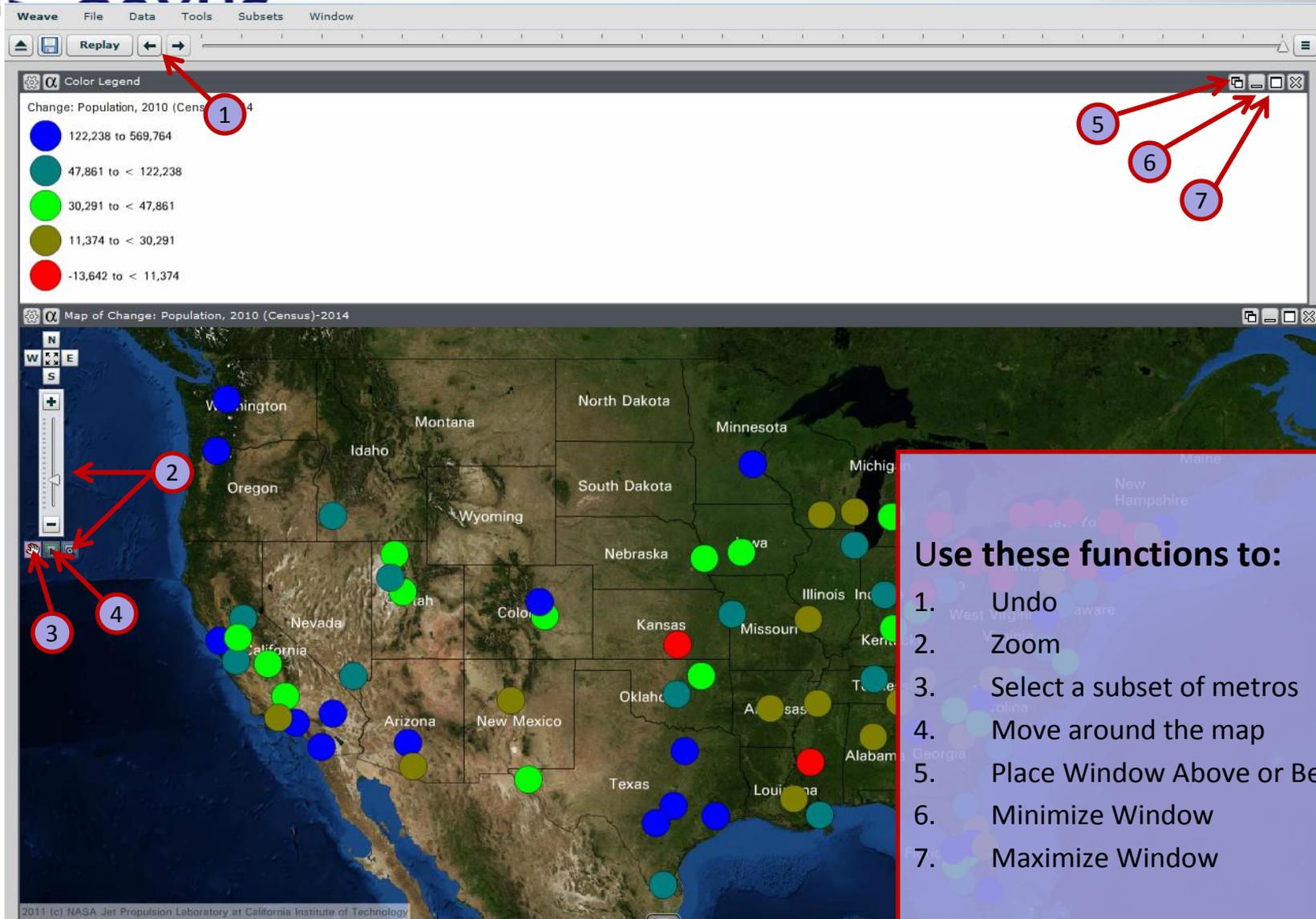
Folder Name	Source	Description
Building Permits	State of the Cities Data Systems	Total and change in number of building permits issued each year through September of 2010, 2013, 2014, and 2015
Commuting	American Community Survey (2014)	Number and percentage of worker's commuting by car, truck, or van (alone or carpooling), those working from home, and the average travel time to work for those commuting
Computer and Internet Usage	American Community Survey (2014)	Number and percentage of people with or without a computer and/or an Internet subscription (dial-up or broadband)
Educational Attainment	American Community Survey (2014)	Number and percentage of people over 25 years having or having not reached certain levels of educational attainment (high school diploma, bachelors degree, or graduate or professional degree)
Employment	Bureau of Labor Statistics	Number (in thousands) of people employed for August and September of 2014 and 2015, the difference and percent change in people employed between September 2014 and September 2015, and the national ranking amongst the 100 Metros based on number of jobs added (1=most jobs added)
Fertility	American Community Survey (2014)	Number and percentage of women (total or unmarried) of child-bearing age (15-50) who gave birth in the past year as well as the number of unmarried women of child-bearing age giving birth per thousand unmarried women
Foreign Born	American Community Survey (2014)	Number and percentage of foreign born individuals (total and naturalized U.S. citizens)
Gross Domestic Product	Bureau of Economic Analysis	Value (in millions of 2009 US\$) of all finished goods and services produced in the metro area for 2008 through 2014 as well as the difference and percent change in value for 2008-2014, 2010-2014, and 2012-2014
Health Insurance	American Community Survey (2013 & 2014)	Number and percentage of individuals (civilian, non-institutionalized) in 2014 with or without health insurance coverage (total, private, or public), those under 18 years of age without coverage (total) in 2014, those with coverage (total) in 2013, and the percentage change in coverage (private or public) from 2013 to 2014
Home Prices	National Association of Realtors	Median sale price (in thousands of US\$) of single-family housing units for 2012, 2013, 2014, 2014 Q2, and 2015 Q2, and percent change in price from 2014 Q2 to 2015 Q2



Comparing 100 Metros: Available Data

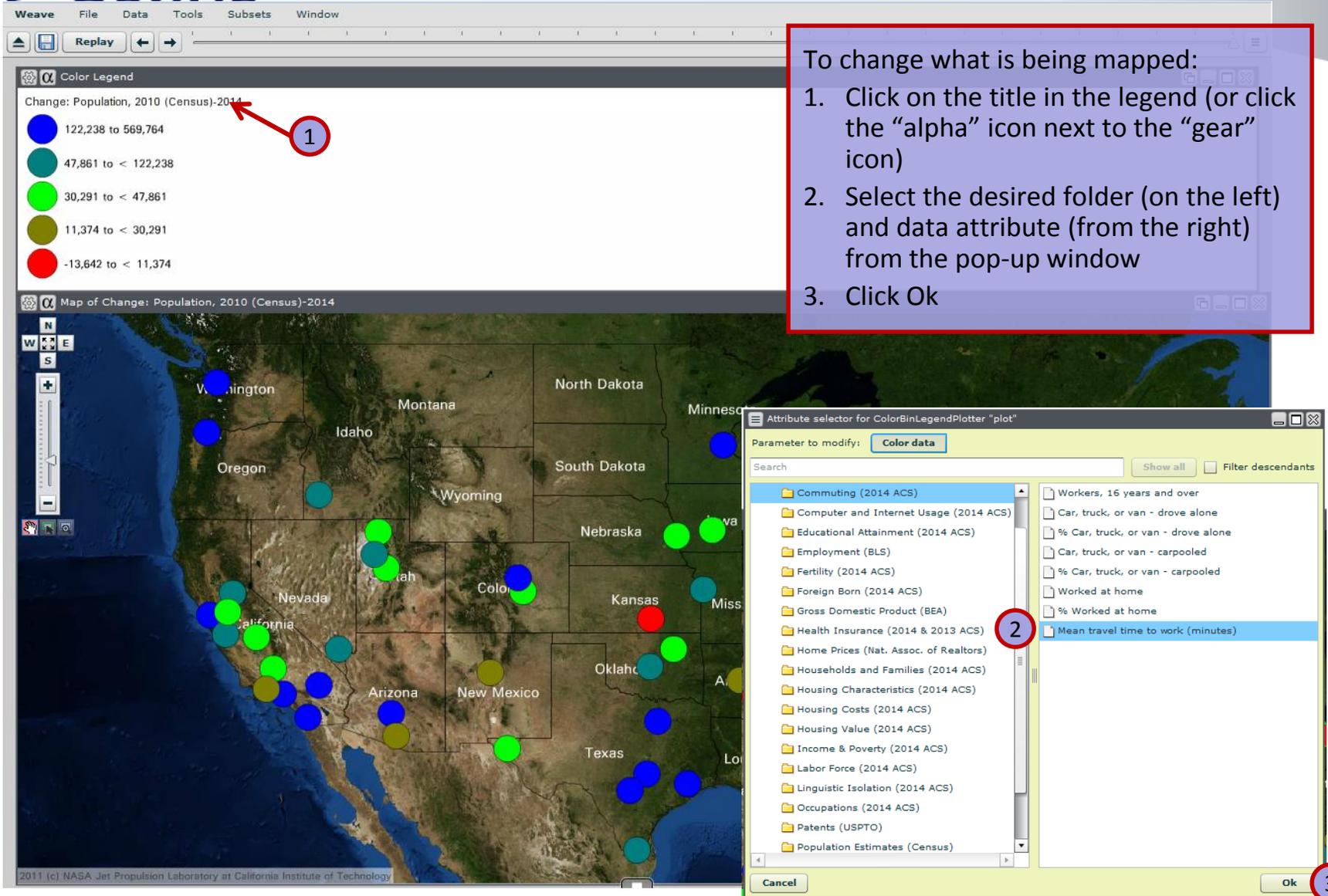
Folder Name	Source	Description
Household and Families	American Community Survey (2014)	Number of households (total or that are families), percent that are families, number of families with own children, percent of all households with own children, number of families with children headed by a female, percent of all households with children headed by a single female, and average household and family size
Housing Characteristics	American Community Survey (2014)	Number and percentage of total housing units built before 1979, built between 1980 and 1999, or built since 2000
Housing Costs	American Community Survey (2014)	Number and percentage of owner-occupied housing units (with or without mortgage used in calculation), rental units, and total units (both owned and rented) with housing costs (mortgage or gross rent) exceeding 30% of income
Housing Value	American Community Survey (2014)	Number and percentage of owner-occupied housing units valued less than \$100,000, between \$100,000 and \$200,000, or more than \$200,000
Income & Poverty	American Community Survey (2014)	Median household income, the number and percentage of households within certain income brackets (less than \$35,000, between \$35,000 and \$74,999, and over \$75,000), and the percent of families and individuals (total, under 18 years old, or 65 years and older) in poverty
Labor Force	American Community Survey (2014)	Number of individuals 16 years and older in labor force (total or civilian) and percent unemployed
Linguistic Isolation	American Community Survey (2014)	Number and percent of population 5 years and older who speak English less than "very well"
Occupations	American Community Survey (2014)	Number and percentage of individuals 16 years and older employed in certain types of occupations (total; management, business, science, and arts; service; sales and office; natural resources, construction, and maintenance; and production, transportation, and material moving)
Patents	United States Patent and Trademark Office	Total number of patents filed overall and for each year from 2000 to 2013, the change in number of patents filed for 2000-2013 and 2012-2013, and the number patents filed per 100,000 people in 2013
Population Estimates	United States Census	Estimates of population based on April 1, 2010 U.S. Census for July 1 of 2010, 2011, 2012, 2013, and 2014, and the estimated change in population for 2010-2014 and 2013-2014
Workers by Type	American Community Survey (2014)	Number and percentage of workers, 16 years and older, who work in private sector, government sector, or are self-employed
Wages	Bureau of Economic Analysis	Average earnings for 2007, 2010, 2011, 2012, 2013, and 2014, the earnings for 2007 and 2010 (adjusted for inflation), and the change in earnings for 2007-2014 and 2010-2014 (adjusted for inflation)

Comparing 100 Metros: Basic functions



- Use these functions to:**
1. Undo
 2. Zoom
 3. Select a subset of metros
 4. Move around the map
 5. Place Window Above or Below
 6. Minimize Window
 7. Maximize Window

Comparing 100 metros: Editing Map



Color Legend

Change: Population, 2010 (Census)-2014

- 122,238 to 569,764
- 47,861 to < 122,238
- 30,291 to < 47,861
- 11,374 to < 30,291
- 13,642 to < 11,374

Map of Change: Population, 2010 (Census)-2014

Attribute selector for ColorBinLegendPlotter "plot"

Parameter to modify: **Color data**

Search:

Show all Filter descendants

- Commuting (2014 ACS)
- Computer and Internet Usage (2014 ACS)
- Educational Attainment (2014 ACS)
- Employment (BLS)
- Fertility (2014 ACS)
- Foreign Born (2014 ACS)
- Gross Domestic Product (BEA)
- Health Insurance (2014 & 2013 ACS)
- Home Prices (Nat. Assoc. of Realtors)
- Households and Families (2014 ACS)
- Housing Characteristics (2014 ACS)
- Housing Costs (2014 ACS)
- Housing Value (2014 ACS)
- Income & Poverty (2014 ACS)
- Labor Force (2014 ACS)
- Linguistic Isolation (2014 ACS)
- Occupations (2014 ACS)
- Patents (USPTO)
- Population Estimates (Census)
- Workers, 16 years and over
- Car, truck, or van - drove alone
- % Car, truck, or van - drove alone
- Car, truck, or van - carpooled
- % Car, truck, or van - carpooled
- Worked at home
- % Worked at home
- Mean travel time to work (minutes)

To change what is being mapped:

1. Click on the title in the legend (or click the "alpha" icon next to the "gear" icon)
2. Select the desired folder (on the left) and data attribute (from the right) from the pop-up window
3. Click Ok

Comparing 100 metros: Printing & Saving

The screenshot shows the Weave software interface. At the top, there is a menu bar with 'Weave', 'File', 'Data', 'Tools', 'Subsets', and 'Window'. Below the menu bar is a toolbar with 'Replay' and navigation arrows. A 'Color Legend' panel on the left shows population change ranges for 2010 (Census)-2014. The main map area displays a map of the United States with colored circles representing population change. A context menu is open over the map, listing various actions. A red arrow points from a note box to the 'Enable dashboard mode' option in the top menu. Another red arrow points from a note box to the 'Print/Export Image of Map of Mean travel time to work (minutes)' option in the context menu. A third red arrow points from a note box to the 'Print/Export Application Image' option in the context menu.

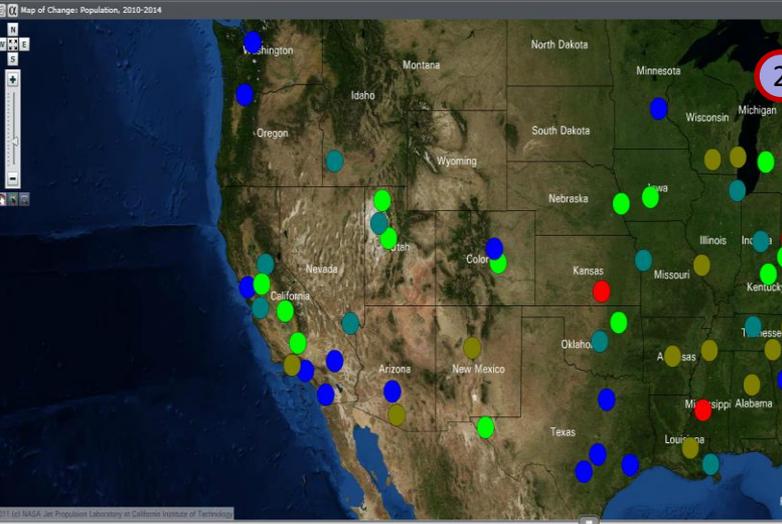
Note: Enable **dashboard mode** to remove function icons and bar at top of windows for a cleaner looking images

To print or save:

1. Right click on object you want to print or save
2. Choose "Print/Export Image of..." for just the map, table, chart, etc.
3. Choose "Print/Export Application Image" for the entire layout as shown on the screen

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Comparing 100 metros: Creating Tables



Table

Mean travel time to work (minutes)	CSBA	Geography	weave_100metros_2015	Population Estimate (as of July 1) - 2014	Geography
20.8	40380	Rochester, NY Me	Geometry(weave_	1,083,393	Rochester, NY Me
21.2	19380	Dayton, OH Metro	Geometry(weave_	800,836	Dayton, OH Metro
21.3	15380	Buffalo-Cheektow.	Geometry(weave_	1,136,360	Buffalo-Cheektow.
21.3	45060	Syracuse, NY Met	Geometry(weave_	661,478	Syracuse, NY Met
21.3	46140	Tulsa, OK Metro	Geometry(weave_	969,224	Tulsa, OK Metro
21.4	42540	Scranton--Wilkes-	Geometry(weave_	559,679	Scranton--Wilkes-
21.5	24340	Grand Rapids-Wy	Geometry(weave_	1,027,703	Grand Rapids-Wy
21.5	49660	Youngstown-Warr	Geometry(weave_	553,263	Youngstown-Warr
21.6					
21.7					
21.8					
22					
22.1					
22.2					
22.2					
22.4					
22.4					
22.5					

Attribute selector for Table

Parameter to modify: Columns

Search Show all Filter descendants

- Income & Poverty (2014 ACS)
 - Median household income
 - # Households with income less than \$35K
 - % Households with income less than \$35K
 - Households with income <=\$35K to \$74,999
 - Households with income >\$35K to \$74,999
 - # Households with income over \$75K
 - % Household with income over \$75K
 - % of families in poverty

Columns

Select all Add selected

Mean travel time to work (minutes) (weave_100metros_2015 -> number)

CSBA (weave_100metros_2015 -> string)

Geography (weave_100metros_2015 -> string)

weave_100metros_2015 (weave_100metros_2015 -> geometry; EPSG:3857)

Population Estimate (as of July 1) - 2014 (weave_100metros_2015 -> number)

Geography (weave_100metros_2015 -> string)

Select all Remove selected

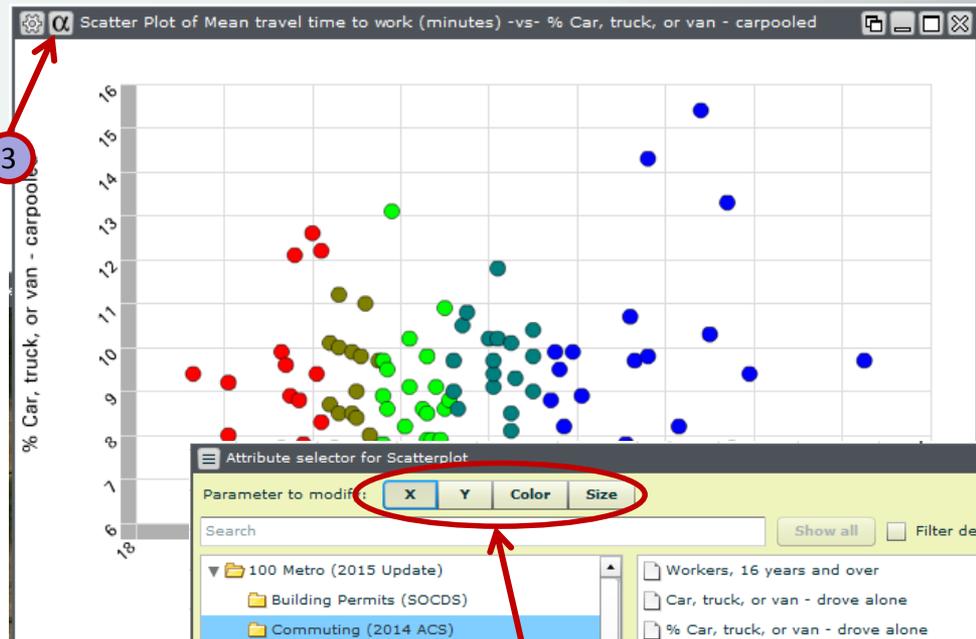
Cancel Ok

- To create a **data table**:
1. Click on box at the bottom of map
 2. Click on α icon
 3. Drag and drop attributes for each column
 4. Click Ok
 5. To export table, simply right-click the table

Comparing 100 metros: Creating Scatterplots



The screenshot shows the Weave software interface. The 'Tools' menu is open, and the 'Scatterplot' option is highlighted. A red circle with the number '1' is around the 'Tools' menu button. Another red circle with the number '2' is around the 'Scatterplot' option. Below the menu, the 'Color Legend' panel is visible, showing a color scale for 'Mean travel time to work' with five categories: 27.4 to 35.8 (blue), 25.2 to < 27.4 (teal), 23.6 to < 25.2 (green), 22.4 to < 23.6 (olive), and 19.3 to < 22.4 (red).



The 'Attribute selector for Scatterplot' dialog box is shown. The 'Parameter to modify' section has 'X', 'Y', 'Color', and 'Size' buttons. A red circle with the number '3' is around the 'X' button. A red circle with the number '4' is around the 'Color' button. The 'Search' field is empty. The left pane shows a tree view of data sources, with '100 Metro (2015 Update)' expanded to 'Commuting (2014 ACS)'. The right pane shows a list of attributes, with 'Mean travel time to work (minutes)' selected. A red circle with the number '5' is around the 'Ok' button.

To create a **scatterplot**:

1. Click on Tools
2. Select + Chart
3. Click on α icon
4. Select attributes for x and y axes as well as color and size of circles
5. Click Ok