Interactive Chart Maker user guide

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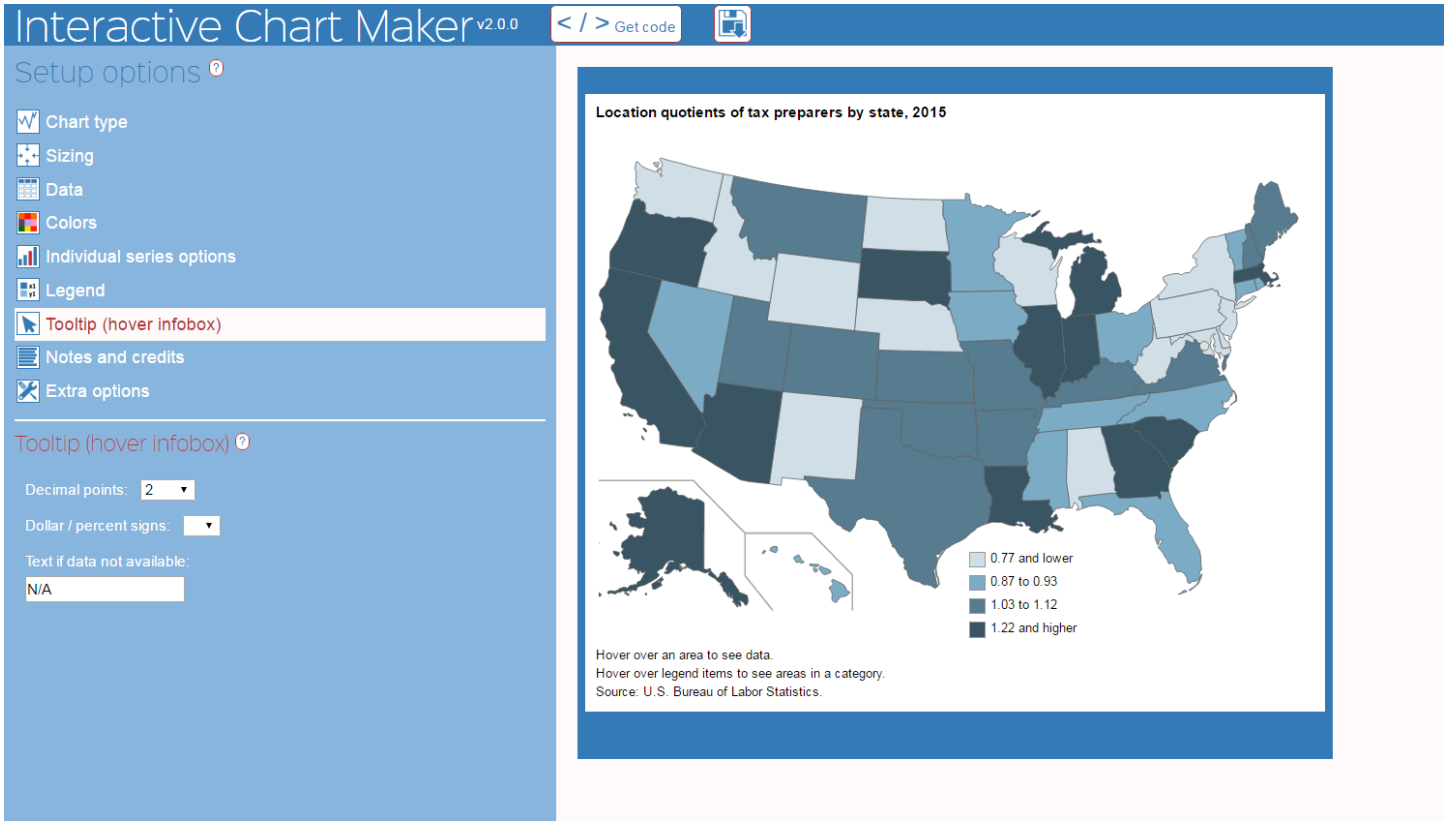
1 ABOUT

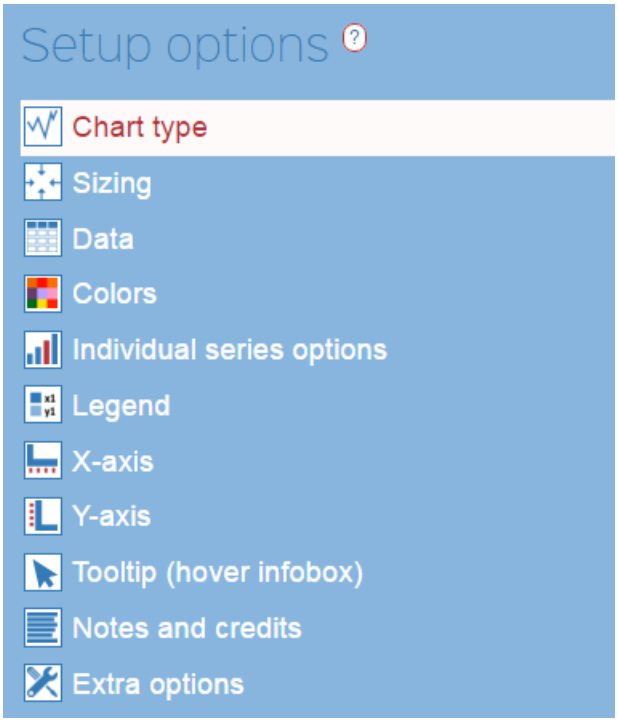
The Office of Publications Interactive Chart Maker was developed to allow users to easily create interactive charts and maps that can be exported for use on HTML pages. The application allows you to customize charts or maps, including their interactivity. Once you are satisfied with the result, you can copy the result code output to your HTML file to display the chart online.



2 GETTING AROUND

2.1 NAVIGATION MENU

Chart setup options are divided into major categories, and can be accessed by the navigation menu on the upper-left side of the screen. The type of chart being made will affect what options are available. When these categories are clicked, the setup options below the menu will change. You can tab between these by using your keyboard's up and down arrows or by pressing the corresponding first letter in the category.



2.2 HINT BUTTONS

Hint buttons are located throughout the application. Click them to reveal useful information about the current area.

2.3 GET CODE BUTTON

The get code button opens up a text box containing the current chart's JavaScript and HTML that the app creates. Clicking it again will hide that area. Clicking the clipboard icons is the easiest way to copy the code to your clipboard. See more about getting a chart onto your Web page in section 16.

2.4 LOAD SAVED CHART BUTTON

The load saved chart button will open up a text box where you can paste a previously made chart's JavaScript and load the chart into the application. See section 17 for more on loading previously-made charts.

2.5 QUICK KEYS

- Clicking in any number box and pressing up or down will adjust the values by increments of 10.
- Press shift and arrow keys to adjust the chart size at any time.
- Adjust margins at any time by using the ctrl/cmd and arrow keys (top and right margins) and the alt + arrow keys (bottom and left margins).
- Navigate the options menu with up and down arrows or by pressing the corresponding first letter in the category.
- You can cycle through the color templates at any time by pressing "c".

2.6 CLICKING ON THE CHART

Certain areas on the chart can be clicked on to quickly navigate to that section's options. You can click on the x-axis and y-axis to bring up those options. Click on a tooltip to bring up that area.

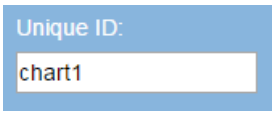
3 CHART TYPES

3.1 CHART ICONS

You can change between chart types by clicking their corresponding icons. If you are unsure of what an icon represents, hover over it for a second to display a text description.

3.2 UNIQUE CHART ID

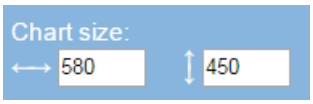
Located beneath the chart type icons is a text input box asking for a unique chart ID. When you place multiple interactive charts or maps on one web page, it is important that each has a unique ID. Otherwise charts may overwrite each other or interfere with each other's functionality.



4 SIZING

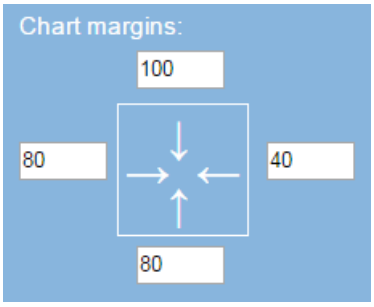
4.1 CHART SIZE

Adjust the height and width of the chart by changing the values here. You can also press shift and arrow keys to adjust the chart size at any time.



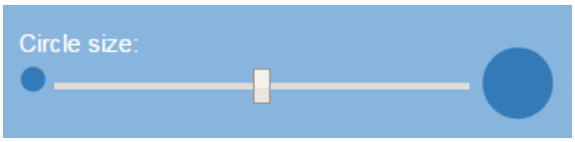
4.2 CHART MARGINS

Adjust the chart's inner margins here. This can be useful to allow space for large titles, legends or X and Y values. Higher values move margins inwards. You can also adjust the margins at any time by using the ctrl/cmd and arrow keys (top and right margins) and the alt + arrow keys (bottom and left margins).



4.3 CIRCLE SIZING (METRO AREA MAPS)

When creating a metro area map, you can adjust the size of the metro area circles in this area using the slider.



5 LOADING DATA

All charts and maps are created from HTML table code. You can easily convert an Excel or Numbers table with the OPUB table wizard.

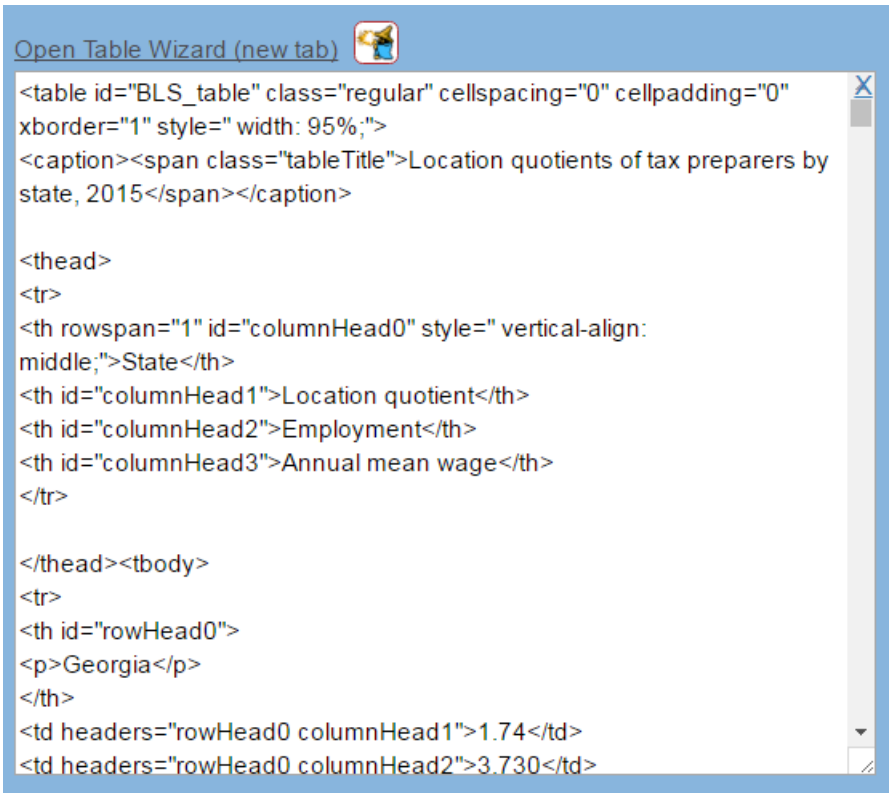
5.1 "LOAD SERIES NAMES FROM" ICONS

For certain types of charts, you have the option to choose whether to load the series names from column headers (selected in image) or row headers. X-axis categories will load from the opposite headers.

5.2 TABLE ENTRY AREA

All charts and maps load their data, including their titles, x-axis categories, series names, and series values, from HTML tables. This is the area that you can paste the HTML source code of a table to have a chart load from that table.

The table also needs to be a properly formatted, 508-compliant table (using thead, tbody, caption, th and td tags where appropriate). It also needs to have a title and be a simple table with only one column header per column and one row header per row. You can convert spreadsheets to 508-compliant tables with the Table Wizard at opubrev08.bls.gov/interactive-chart-maker/better-table-wizard/ (or click the link with the wizard icon to open it in a new tab).



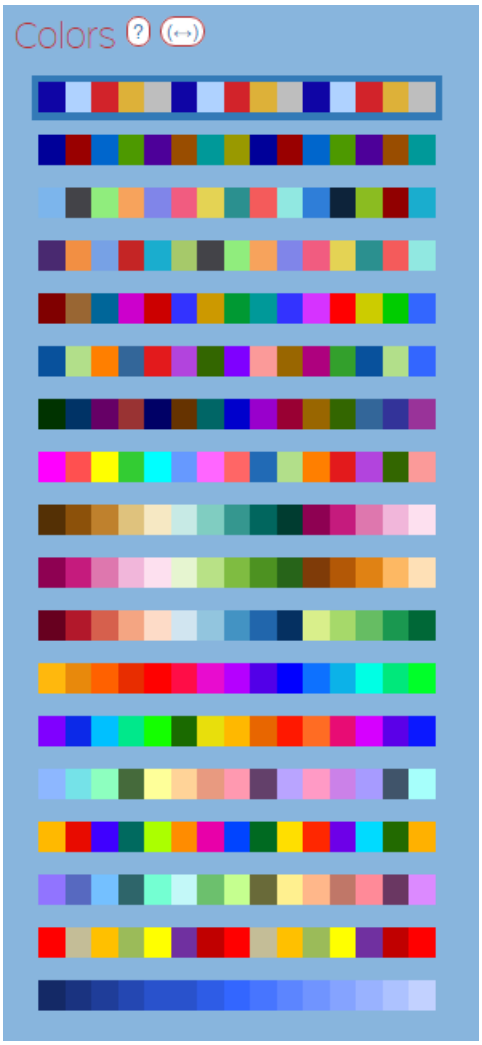
6 COLORS

6.1 COLOR PALETTES

The application comes with several color palettes to choose from. Series will load their colors from the chosen palette left to right.

The first two rows are Beyond the Numbers and Monthly Labor Review colors as defined in their style guides. In maps, areas will be colored from the chosen palette depending on their values.

You can cycle through the color templates at any time by pressing "c". For more color customization, see the "Individual series options" tab.



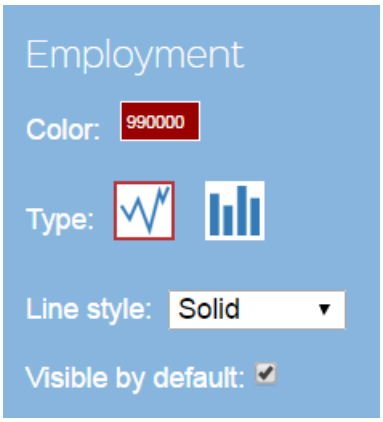
6.2 COLOR BUTTONS

Clicking the reverse icon at the top will reverse the order of the colors in the palettes. Clicking the -/+ buttons (maps only) will subtract or add color ranges to the map.

7 INDIVIDUAL SERIES OPTIONS

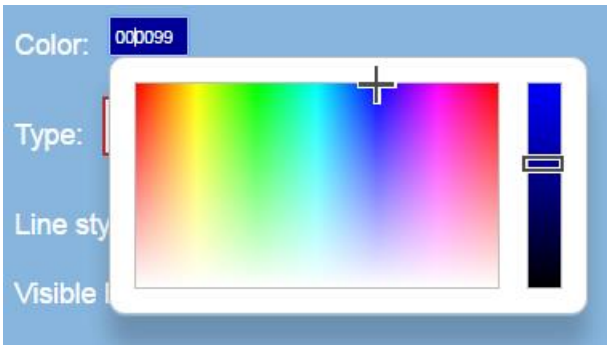
7.1 INDIVIDUAL SERIES OPTIONS FOR CHARTS

Depending on what type of chart you're making, this area will contain different options to manually adjust each individual series.



7.2 COLOR SELECTOR

You can change the color of an individual series with this color selector box. Click inside and select the hue and value of the color you desire. You can also manually enter hexadecimal color codes into the box.

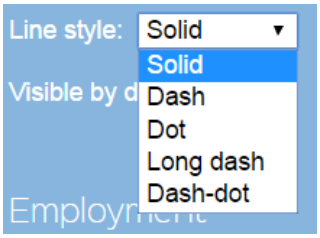


7.3 SERIES TYPE ICONS

The series type icons (available in column and line charts), allow you to change the type of that particular series. This way you can have a chart with both lines and columns in it.

7.4 LINE STYLE

This dropdown allows you to change the line style for that particular line.

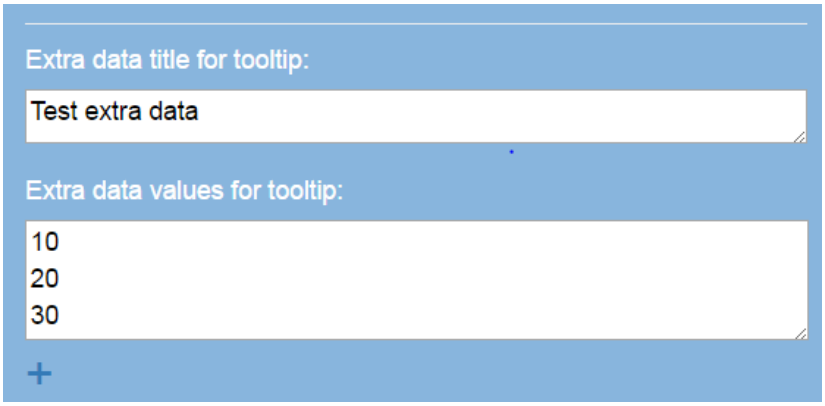


7.5 VISIBLE BY DEFAULT

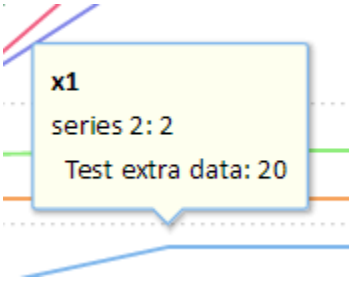
This checkbox allows you to set whether this particular series should be showing when the page loads. When a chart has many series, it's often desirable to only show only a few at once so the chart isn't cluttered.

7.6 EXTRA DATA FOR TOOLTIPS

You can use this area to add extra data for the tooltip for an individual series. Click the plus button to add another extra data area.

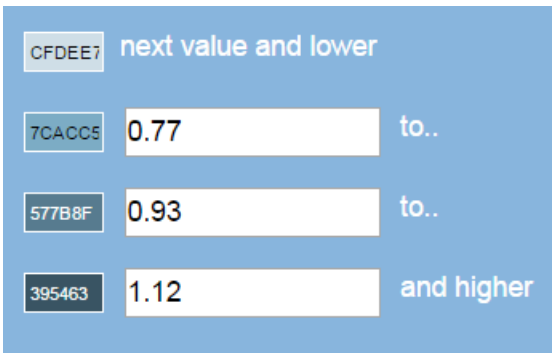


Example:



7.7 INDIVIDUAL SERIES OPTIONS FOR MAPS

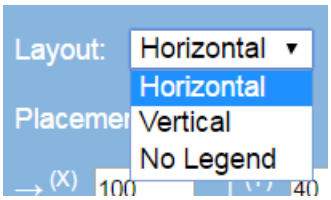
The individual series options area will let you fine tune the ranges and colors that maps use. By default, these ranges are automatically calculated so there are relatively the same amount of areas with each color.



8 LEGEND

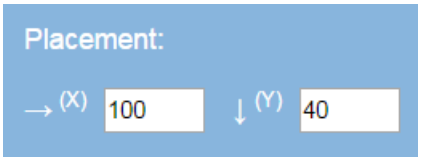
8.1 LAYOUT

This dropdown lets you chose whether you want your chart legend to be horizontal or vertically ordered, or no legend.



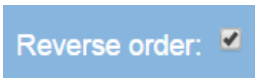
8.2 PLACEMENT

You can fine tune the legend placement here. Greater values in the X and Y boxes will cause the legend to move right and downwards.



8.3 REVERSE ORDER

Checking this box will reverse the order of the series in your legend.



8.4 WHEN A SERIES IS CLICKED, HIDE THE OTHERS

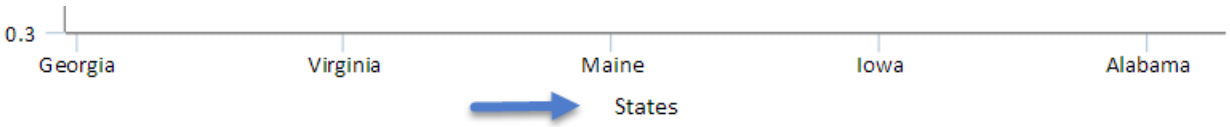
By default, when a legend series is clicked, it will hide or show that series. When you check this box, only one series will show at a time.

9 X-AXIS

This area has options for the x-axis in charts. Note that in bar charts, the x-axis and y-axis are swapped.

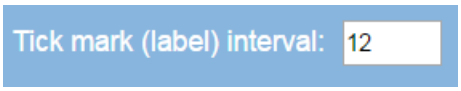
9.1 TITLE

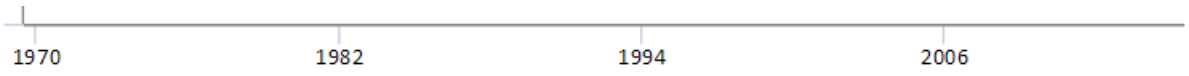
If needed, you can enter an x-axis title in this text box.

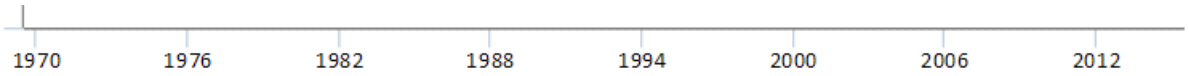


9.2 TICK MARK (LABEL) INTERVAL

You can adjust the interval at which x-axis labels are displayed in this box. The higher the interval, the fewer the amount of labels will show. For example:





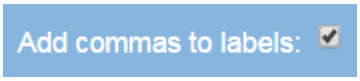


9.3 SHOW ONLY YEARS FOR DATES

Checking this box will make labels like “June 2012” appear as just “2012”.

9.4 ADD COMMAS TO LABELS

Checking this box will add thousand-separator commas to numbers. This is useful in scatter and bubble charts where the x-axis is a value, not a typical label.

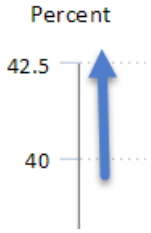


10 Y-AXIS

This area has options for the x-axis in charts. Note that in bar charts, the x-axis and y-axis are swapped.

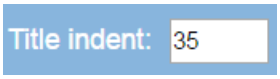
10.1 TITLE

If needed, you can enter an x-axis title in this text box.



10.2 TITLE INDENT

You can move the y-axis title inwards to the right by increasing this value.



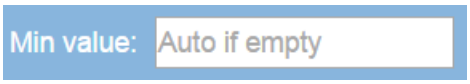
10.3 TICKMARK INTERVAL

Set this if you'd like to change the interval of the y-axis values.

For example, if set to 5, the tick marks will appear like this:

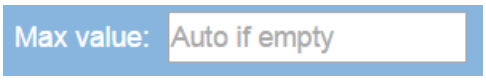
10.4 Min value

This sets a minimum value for the y-axis. For example, set to 0 to force the y-axis to start at 0. Note that the values shown also take into account the tickmark interval.



10.5 Max value

This sets a maximum value for the y-axis. For example, set to 100 to force the y-axis to end at 100. Note that the values shown also take into account the tickmark interval.



10.6 Labels on opposite side of chart

Checking this box will put the y-axis on the opposite side of the chart. This is sometimes helpful when you are making a long vertical bar chart and you'd like the user to see the y-axis at the top.

10.7 Log axis

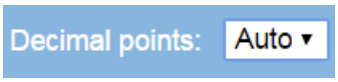
Check this box to use a logarithmic scale on the y-axis. This can be useful when one or more points is much larger than the bulk of the data.

10.8 Dollar / percent signs

With this dropdown you can add dollar or percent signs to the y-axis labels.

10.9 Decimal points

With this dropdown you can force the y-axis label values to appear at a set decimal. For instance, 5 would show as 5.0.



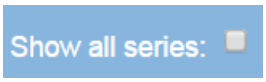
10.10 Divide label value

With this dropdown you can make the label values show as divided by a chosen multiple of 10. This can be useful if you want the y-axis title to say "Thousands" instead of showing the full number for each label.

11 TOOLTIP (HOVER INFOBOX)

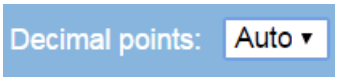
11.1 SHOW ALL SERIES

This will make the tooltip show all of the series instead of just one at a time. Sometimes this is useful to help the user compare values in the chart.



11.2 DECIMAL POINTS

With this dropdown you can force the tooltip values to appear at a set decimal. For instance, 5 would show as 5.0.

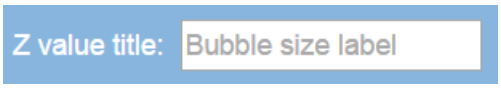


11.3 DOLLAR / PERCENT SIGNS

With this dropdown you can add dollar or percent signs to the tooltip values.

11.4 Z VALUE TITLE (BUBBLE CHARTS ONLY)

With this text box, you can describe in the tooltip what the bubble size (z value) represents.

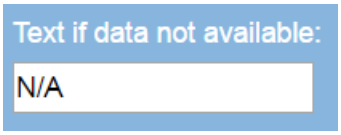


11.5 MULTIPLY VALUES

With this dropdown, you can set the values shown in the tooltip to be multiplied by a multiple of 10. This can be useful when making a chart from a table that shows its values divided by a number (BLS tables often show the values divided by 1,000).

11.6 TEXT IF DATA NOT AVAILABLE (MAPS ONLY)

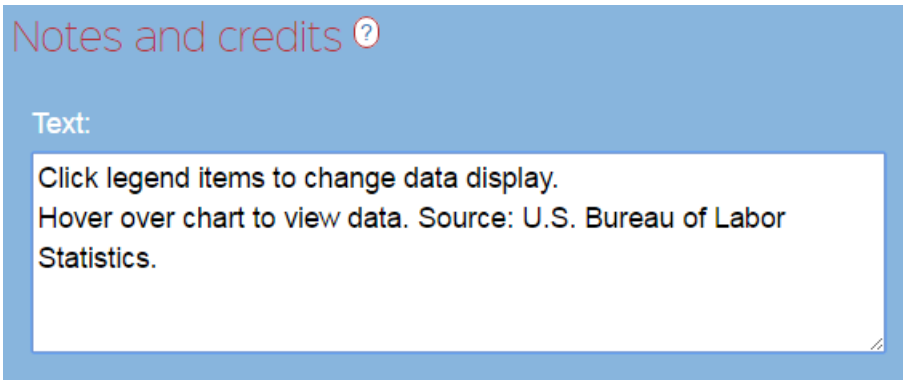
Here you can set the text to display if the data isn't available for that particular area (e.g. "Not statistically significant).



12 NOTES AND CREDITS

In this section you can change the notes text that displays at the bottom of a chart or map. Note that BLS style guides that all charts using BLS data should be attributed to the Bureau of Labor Statistics.

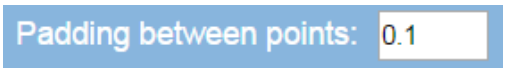
The application will adjust the placement of the text, depending on how long it is, but it won't wrap it – you will have to insert hard returns. You may also have to increase the chart's bottom margin to prevent the chart area from overlapping lengthy credits. If the positioning looks odd, try modifying the text in this box to get the application to recalculate the positioning.



13 Extra options

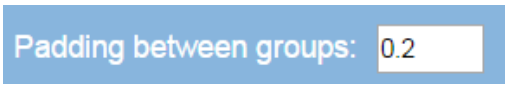
13.1 Padding between points (Bar and column charts only)

Use this box to adjust the space between individual bars or columns. Value is in x-axis units. Make 0 for tightly packed or .9 for loosely packed.



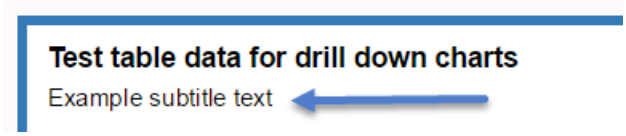
13.2 Padding between groups (Bar and column charts only)

Use this box to adjust the space between groups of bars or columns. Value is in x-axis units. Make 0 for tightly packed or .9 for loosely packed.



13.3 Subtitle

You can insert the chart's subtitle in this text box.

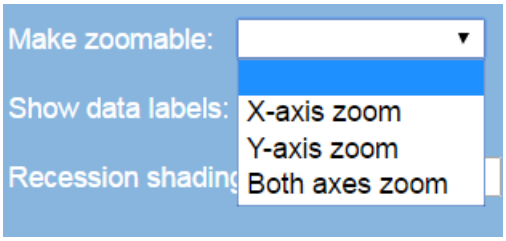


13.4 MLR styles

Check this box if you are making a chart for Monthly Labor Review. It will make some slight adjustments to the chart style. Note that interactive charts won't look exactly like static MLR charts because not all of the MLR fonts are supported in pure HTML.

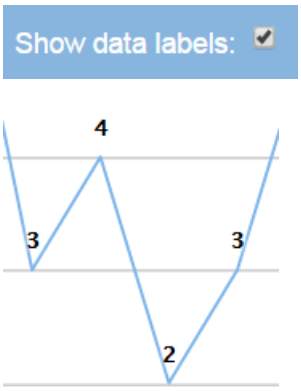
13.5 Make zoomable

With this dropdown menu, you can add zoom functionality to the chart. The most intuitive zoom for line charts is x-axis, or horizontal zoom.



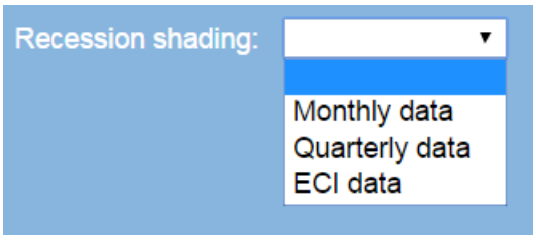
13.6 DATA LABELS

Check this box to show data labels in the chart. Note that in BLS style, data labels are usually not recommended.

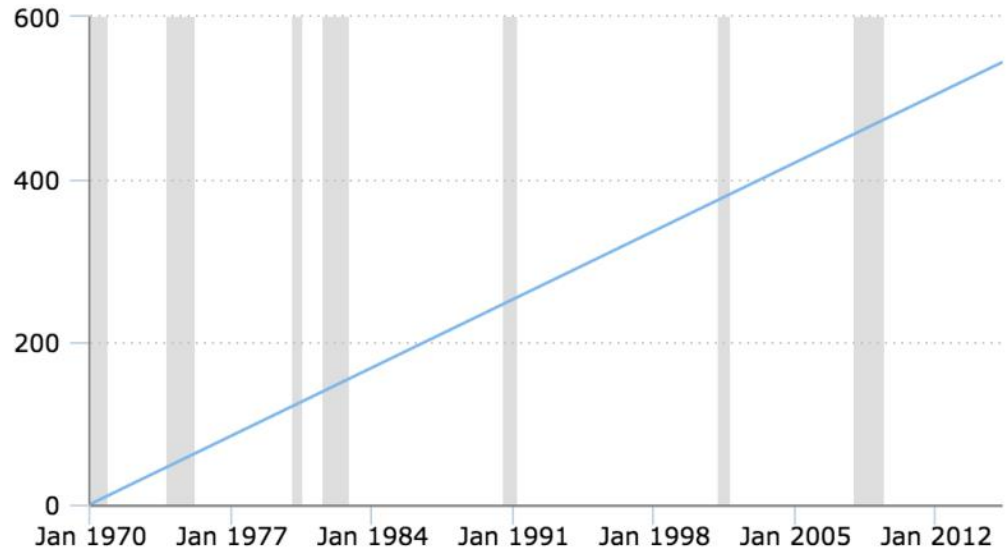


13.7 RECESSION SHADING

Use this dropdown menu to automatically calculate and add recession shading columns to the chart. Note that your x-axis dates need to be in the correct format for this to work.



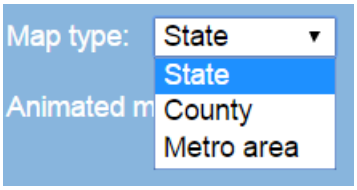
Example using monthly data:



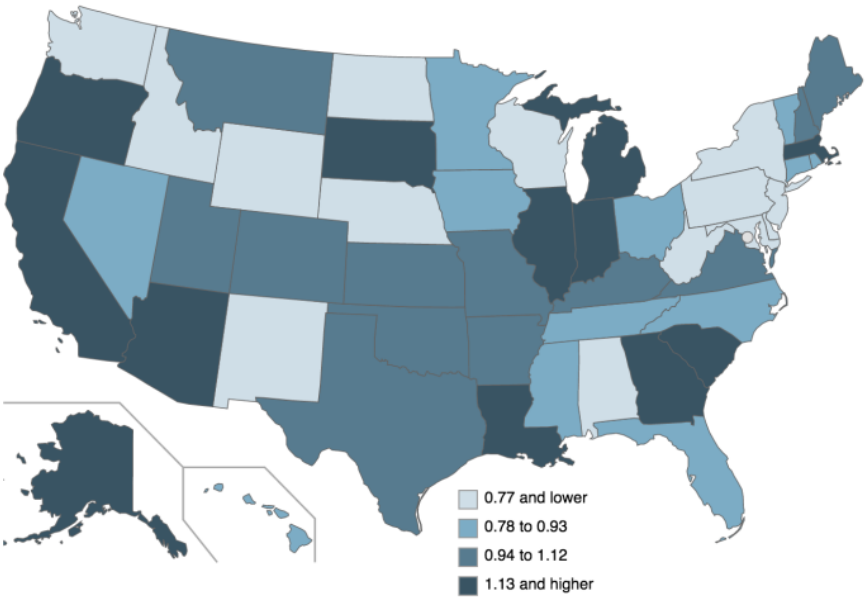
14 MAPS

14.1 MAP TYPES

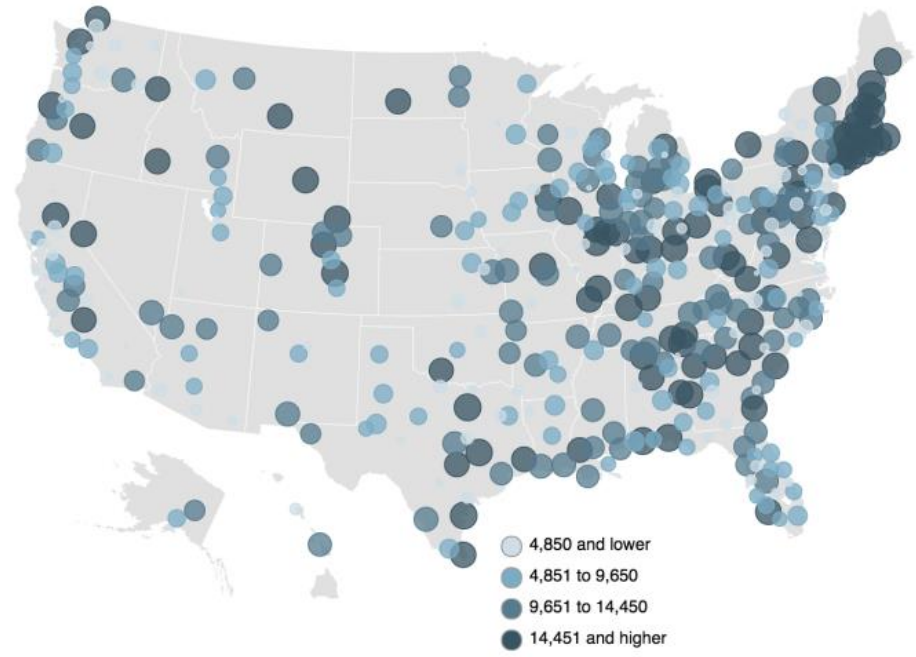
In the Chart type section, you can choose from state, county, or metro area type maps.



State map example:



Metro area map example:



14.2 Loading maps from a table

State or area names should be in the left column and values should be in the next columns. The columns need headers. Areas will be colored by the values in the second column. Extra tooltip data will come from values in any other columns and will include their formatting. With animated maps, each time period will come from each column, and the date will come from the column headers.

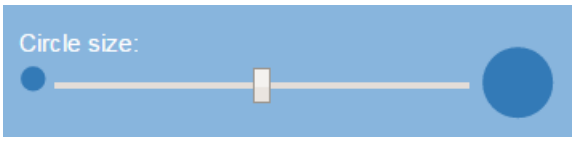
Example table:

Example table for maps

State	Location quotient	Employment	Annual mean wage
Georgia	1.74	3,730	$41,880
Oregon	1.62	1,470	$43,630
Alaska	1.41	240	$54,500
Michigan	1.35	2,920	$40,760

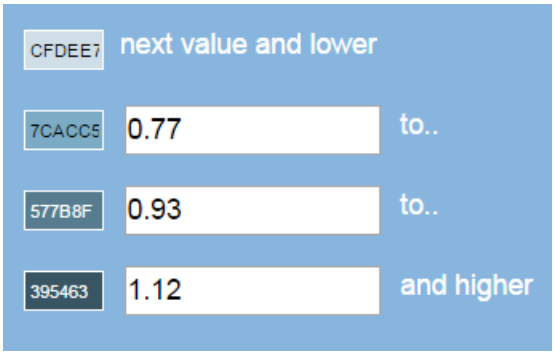
14.3 Circle sizing (metro area maps)

When creating a metro area map, you can adjust the size of the metro area circles in this area using the slider in the Sizing section.



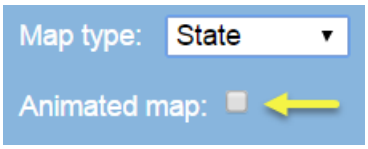
14.4 Individual series options for maps

For maps, the individual series options area will let you fine tune the ranges and colors that the map uses. By default, these ranges are automatically calculated so there are relatively the same amount of areas with each color.



14.5 ANIMATED MAPS

To make a map animated, click this checkbox in the Chart Type section:

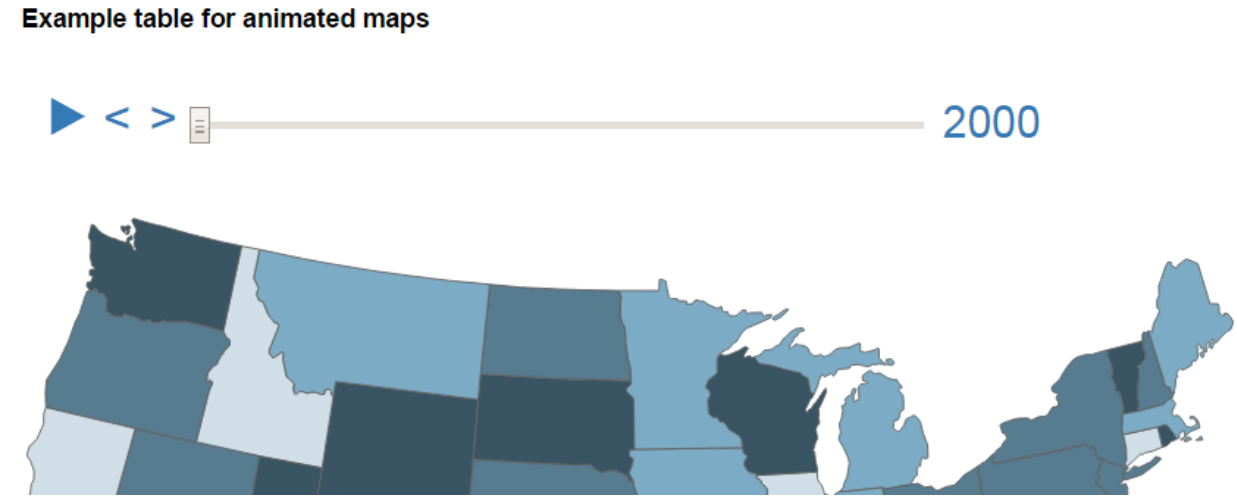


With animated maps, each time period will come from each column, and the date will come from the column headers.

Example table for animated maps

State	2000	2001	2002
Georgia	1.74	1.80	1.90
Oregon	1.62	1.67	1.87
Alaska	1.41	1.65	1.43
Michigan	1.35	1.34	1.67

Your map will now have navigation buttons and a slider:



15 DRILLDOWN CHARTS

15.1 ABOUT

Drilldown charts allow a user to click on a column or row and “drill” deeper into the subcategories for that category.

The drilldown icon:

15.2 LOADING A DRILLDOWN CHART FROM A TABLE

To load a drilldown chart from a table, your table row headers must be indented correctly using BLS style indents of class = "sub1", "sub2", etc. The table wizard will apply these style classes when the cell text is preceded by two spaces or more.

Example table data for drill down charts

categories	value
series 1	1
series 1a	2
series 1b	3
series 1c	4
series 1ci	5
series 1cii	6

15.3 DRILLDOWN TYPES

You can choose between column, bar and bubble drilldown types in the dropdown menu beneath the chart type icons:

15.4 BUBBLE DRILLDOWNS

With bubble drilldown charts, the x-value will come from the second value column, and the z-value (circle size) will come from the third column.

16 GETTING CHART OUTPUT CODE FOR WEB USE

16.1 "GET CODE" BUTTON

When you are satisfied with your chart and ready to use it on your web page, click the "get code" button at the top of the screen to display the HTML and JavaScript that will be used to build the chart. Click this button again to hide the code display.

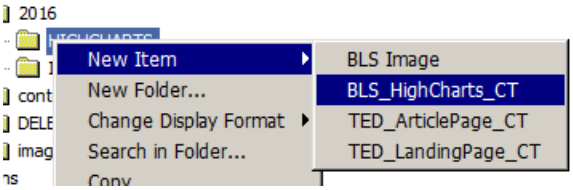
16.2 COPY TO CLIPBOARD BUTTONS

Above each code box is "copy to clipboard" button. Clicking this is a fast way to copy the entire section to your clipboard. A message will display telling you if the copy was successful.

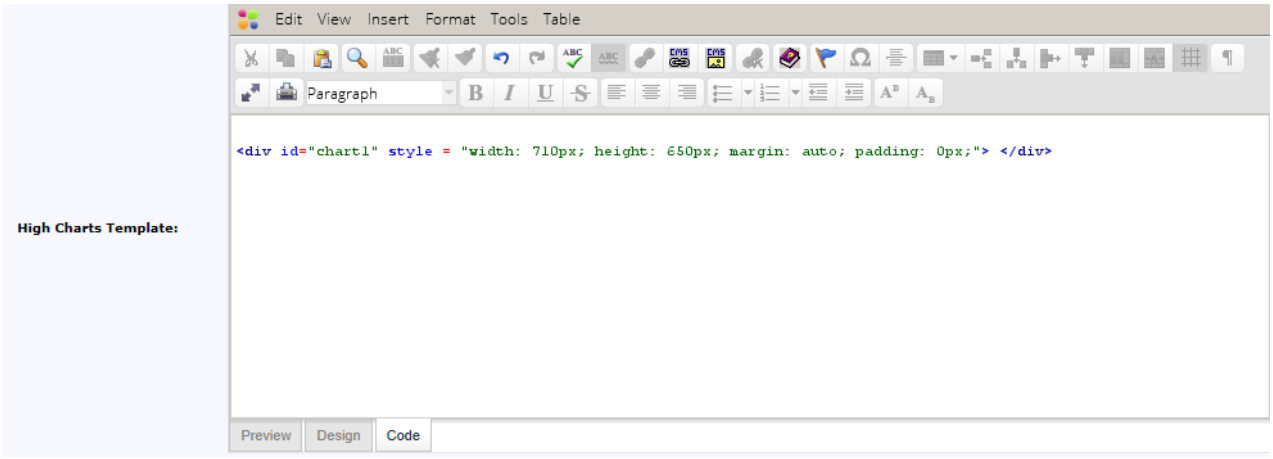
16.3 CHART HTML

The HTML section contains what the BLS Rythmyx CMS calls the "HighCharts Template." This is the box that the chart or map will load into on the page. If you are manually editing the code in an HTML file, you will paste this where you want your chart to appear. Remember that if you plan on having more than one interactive chart or map on one page, you need to give each of them a unique ID.

If uploading your chart **through the CMS**, first, create a new HighCharts Item:



Then you will paste this code inside the "HighCharts Template" box in Code mode.



16.4 CHART JAVASCRIPT

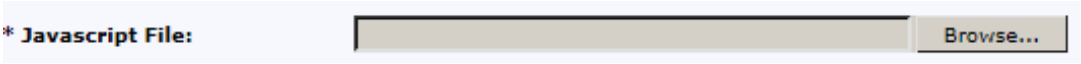
This text box has all of the JavaScript related to your chart or map.

Open any simple text or code editor and copy this into a new file and save it with a .js extension.

If manually editing an HTML file, link to this .js file as so (replacing directory_name and file_name with the actual names):

```
<script src="directory_name/file_name.js"></script>
```

If uploading the chart through the CMS, upload this .js by clicking the “browse” button in the same HighCharts Edit Content window.



16.5 LINKING TO SOURCE FILES

If you are uploading your chart through the CMS for the first time, you should check with DEWS or your coworkers that your web section is set up to support HighCharts fles.

If you are editing an HTML page manually, you’ll need to link to some supporting JavaScript Files in the <head> section of HTML file.

As of June 2016, the most up-to-date source files are:

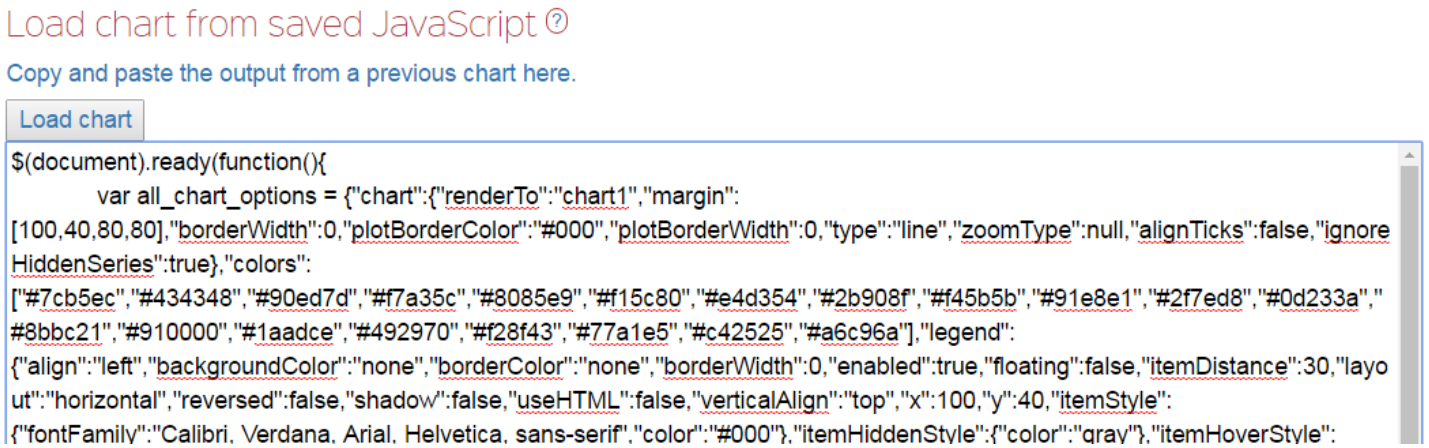
```
<script src="http://www.bls.gov/javascripts/jquery-1.11.0.min.js"></script>
<script src="http://www.bls.gov/assets/highcharts/3.0.10/highcharts.js"></script>
<script src="http://www.bls.gov/assets/highcharts/3.0.10/highcharts-more.js"></script>
<script src="http://www.bls.gov/assets/highcharts/3.0.10/modules/exporting.js"></script>
```

These files are updated by DEWS when needed.

17 LOADING A PREVIOUSLY MADE CHART

The Interactive Chart Maker can load previously made charts so you can pick up where you left off, or load an older chart and modify or update its data.

Click the “Load chart” icon at the top of the screen to open the load screen.



Paste the entire JavaScript code from a previous chart into this box and click “Load Chart”. Note that this is different than version 1 of the Chart Maker, where the user needed to paste in a certain section of the JavaScript.

If the JavaScript was formatted correctly, this will close this screen and load up the saved chart. Note, if the JavaScript was edited outside of the chart maker, this may interfere with it loading the chart correctly.

18 Starting a chart from the Better Table Wizard

An easy way to start a chart is to begin in the Better Table Wizard. You can access the wizard by clicking on the link in the Data section.

18.1 Copy Excel table into wizard

Once you have your Excel table set up, select just the table and copy it into the wizard. Note that charts need simplistic tables with a title, and single row and column headers for each value.

Excel:

	A	B	C	D	E	F
1	Test table for interactive chart maker					
2	Series name	2012	2013	2014	2015	2016
3	Series 1	2	4	6	8	10
4	Series 2	3	9	13	10	2
5	Series 3	5	2	9	3	11
6						

Better Table Wizard:

Paste your table data into the box: **Clear entry box**

```
Test table for interactive chart maker
Series name     2012    2013    2014    2015    2016
Series 1        2       4       6       8       10
Series 2        3       9       13      10      2
Series 3        5       2       9       3       11
```

18.2 Make and check your table

Click the “Make Table” button to create a 508-compliant table:

MAKE TABLE

Result table:

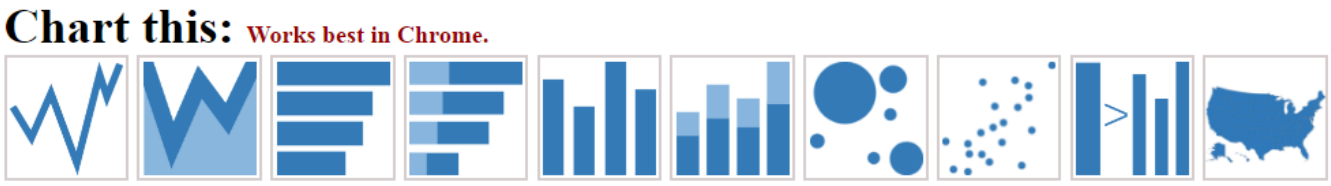
Test table for interactive chart maker

Series name	2012	2013	2014	2015	2016
Series 1	2	4	6	8	10
Series 2	3	9	13	10	2
Series 3	5	2	9	3	11

Double check that everything looks like you intended. Sometimes the wizard doesn't copy over the last row, and you will need to insert an extra return at the end of your copied text and click the button again.

18.3 CLICK THE DESIRED CHART ICON

Once you are happy with how your HTML table looks, click the desired chart type icon that you wish to create.



(This will open the chart in a new window. Some adjustments will likely be needed to complete the chart).

This will load your table into the Chart Maker and make the chart type that you chose. You can then change any of the options, including the type.

Example: