CREATING CHARTS IN EXCEL

CREATING THE PRESENTATION CHARTS IN MICROSOFT EXCEL

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Creating charts in excel is fairly easy. Excel can help you choose the best chart to represent your data. With some practice, you can learn to modify charts and display your data in an eye-catching way. To use this tutorial, you will need data to work with. Recommend entering your organization's audited financial statement data into the document. Otherwise, sample data available in **Table 1: Example Data** and **Table 2: Table Formulas** can be found at the end of this booklet.

CREATING A COLUMN CHART

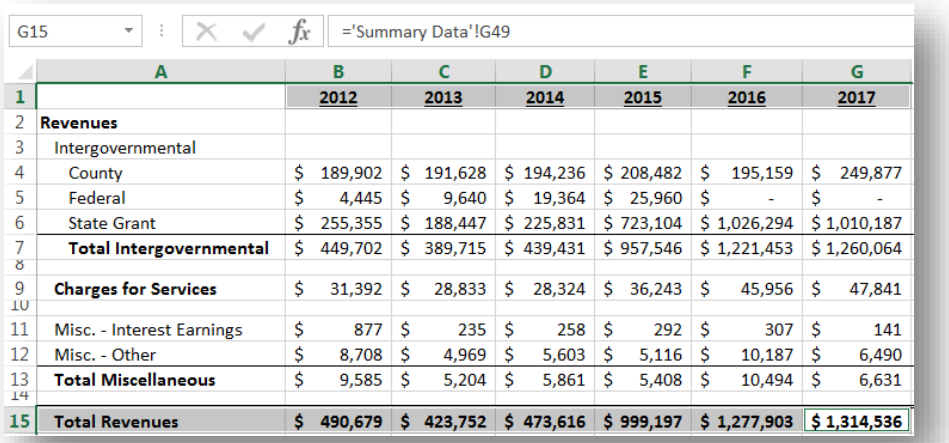
Both the Bar and the Column charts display data using rectangular bars where the length of the bar is proportional to the data value. Both are used to compare two or more values. However, their difference lies in their orientation. A Bar chart is oriented horizontally whereas the Column chart is oriented vertically.

Let's make a simple Column Chart.

CHARTING REVENUES:

CHART THE TOTAL REVENUE FOR 2012-2017 IN A COLUMN CHART.

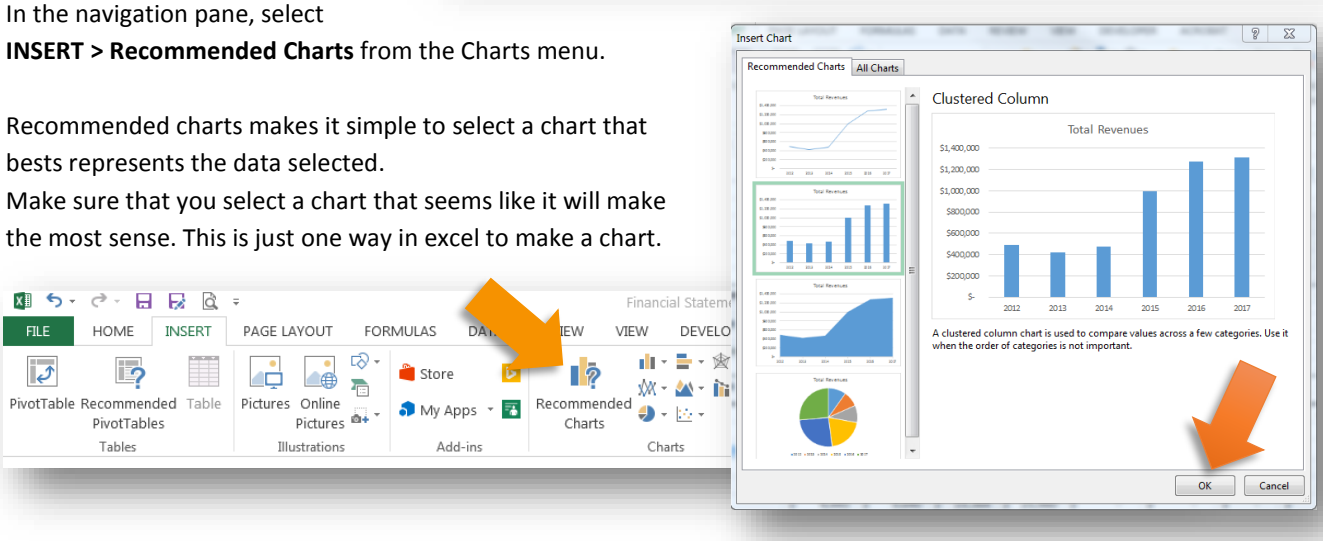
1. Select the data to be displayed in the table.



	A	B	C	D	E	F	G
1		2012	2013	2014	2015	2016	2017
2	**Revenues**						
3	Intergovernmental						
4	County	$ 189,902	$ 191,628	$ 194,236	$ 208,482	$ 195,159	$ 249,877
5	Federal	$ 4,445	$ 9,640	$ 19,364	$ 25,960	$ -	$ -
6	State Grant	$ 255,355	$ 188,447	$ 225,831	$ 723,104	$ 1,026,294	$ 1,010,187
7	**Total Intergovernmental**	$ 449,702	$ 389,715	$ 439,431	$ 957,546	$ 1,221,453	$ 1,260,064
8							
9	**Charges for Services**	$ 31,392	$ 28,833	$ 28,324	$ 36,243	$ 45,956	$ 47,841
10							
11	Misc. - Interest Earnings	$ 877	$ 235	$ 258	$ 292	$ 307	$ 141
12	Misc. - Other	$ 8,708	$ 4,969	$ 5,603	$ 5,116	$ 10,187	$ 6,490
13	**Total Miscellaneous**	$ 9,585	$ 5,204	$ 5,861	$ 5,408	$ 10,494	$ 6,631
14							
15	**Total Revenues**	$ 490,679	$ 423,752	$ 473,616	$ 999,197	$ 1,277,903	$ 1,314,536

2. In the navigation pane, select **INSERT > Recommended Charts** from the Charts menu.

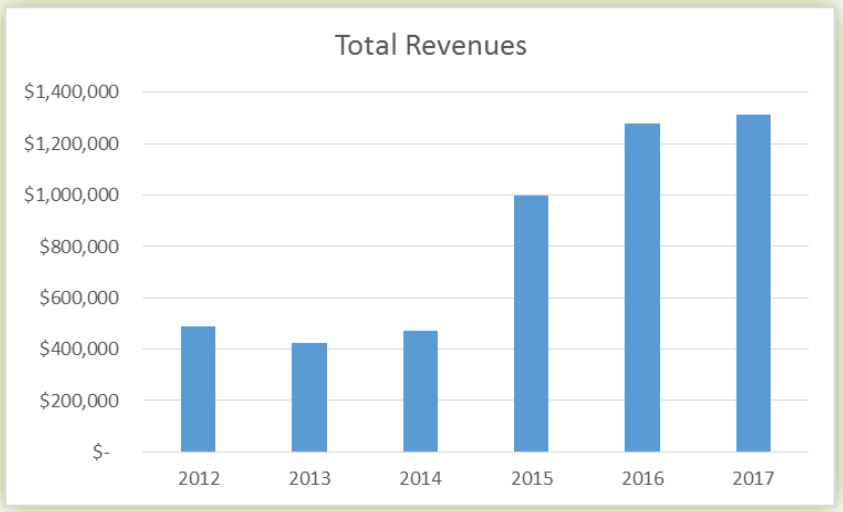
   Recommended charts makes it simple to select a chart that bests represents the data selected.
   Make sure that you select a chart that seems like it will make the most sense. This is just one way in excel to make a chart.



3. Now you have a chart of Total Revenues for the years 2012-2017.

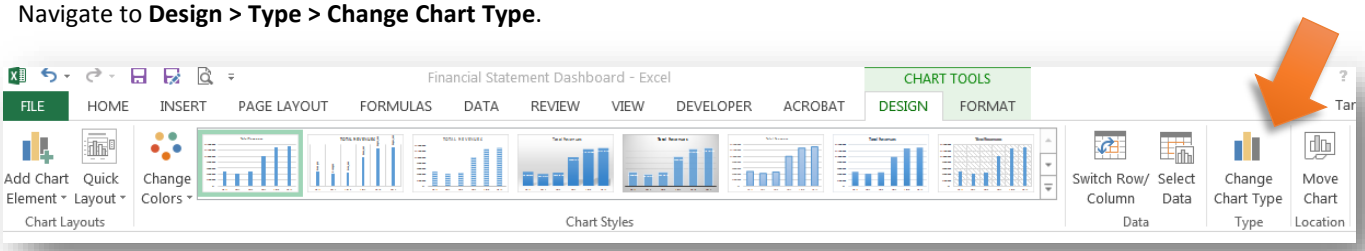
   Excel has many options for formatting to make your information more understandable or better displayed.

   Let's spruce this chart up by making it 3D and adding data labels.

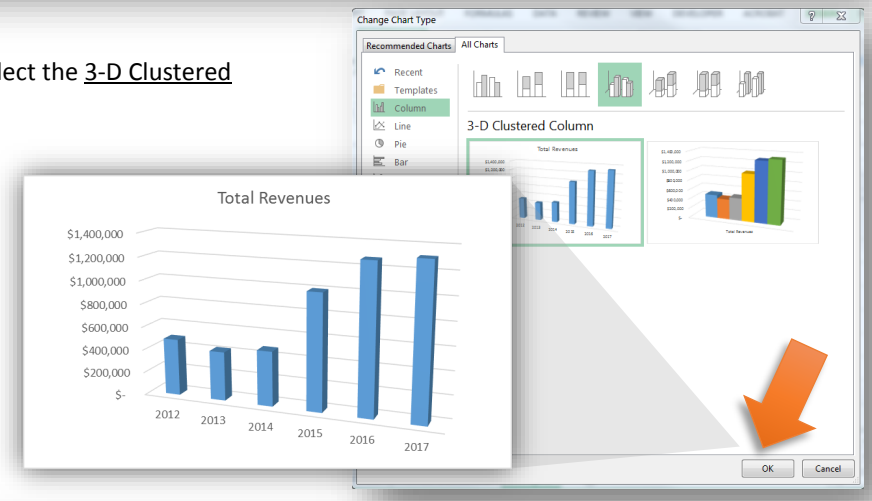


4. Select the chart you just created.

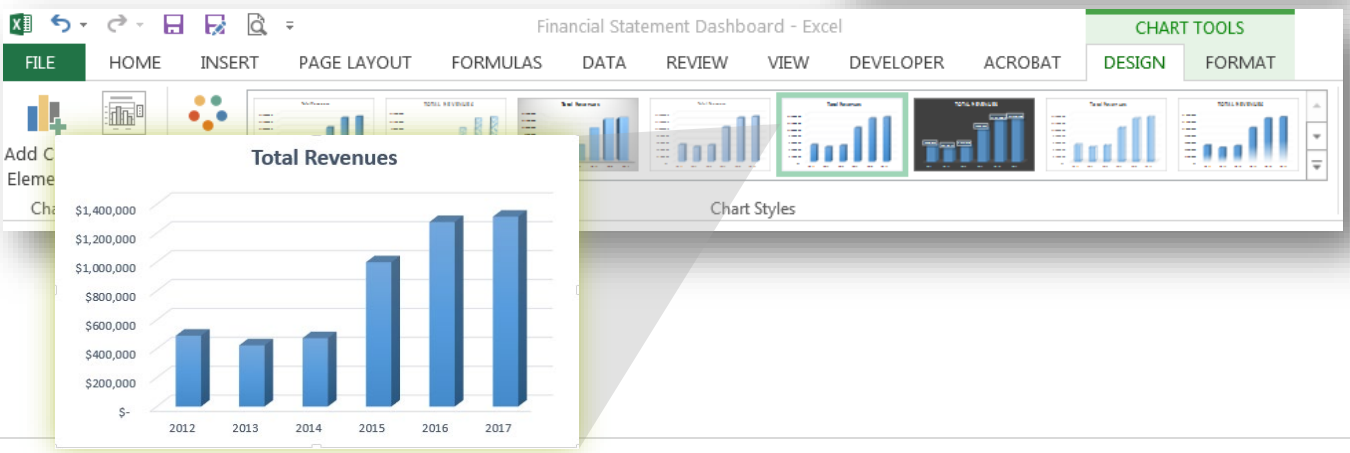
   Navigate to **Design > Type > Change Chart Type**.



   Under the "Change Chart Type" window, select the 3-D Clustered Column option and click "OK".



   You will now have a 3D Chart. To customize it even more, Excel gives options for formatting. Select the format you like.



CREATING A STACKED COLUMN CHART

A stacked column chart, also known as a stacked column graph, is a graph that is used to break down and compare parts of a whole. Each column in the chart represents a whole, and segments in the column represent different parts or categories of that whole.

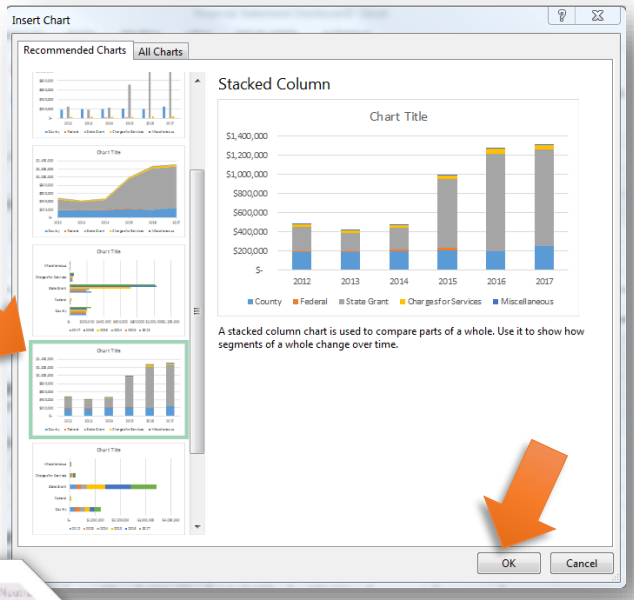
CHARTING REVENUE SOURCES AS PART OF TOTAL ANNUAL REVENUE:

CHART THE DIFFERENT TYPES OF REVENUE FROM 2012-2017 AS A STACKED COLUMN CHART.

1. Select the data you want to chart.

	2012	2013	2014	2015	2016	2017
County	$ 189,902	$ 191,628	$ 194,236	$ 208,482	$ 195,159	$ 249,877
Federal	$ 4,445	$ 9,640	$ 19,364	$ 25,960	$ -	$ -
State Grant	$ 255,355	$ 188,447	$ 225,831	$ 723,104	$ 1,026,294	$ 1,010,187
Charges for Services	$ 31,392	$ 28,833	$ 28,324	$ 36,243	$ 45,956	$ 47,841
Miscellaneous	$ 9,585	$ 5,204	$ 5,861	$ 5,408	$ 10,494	$ 6,631

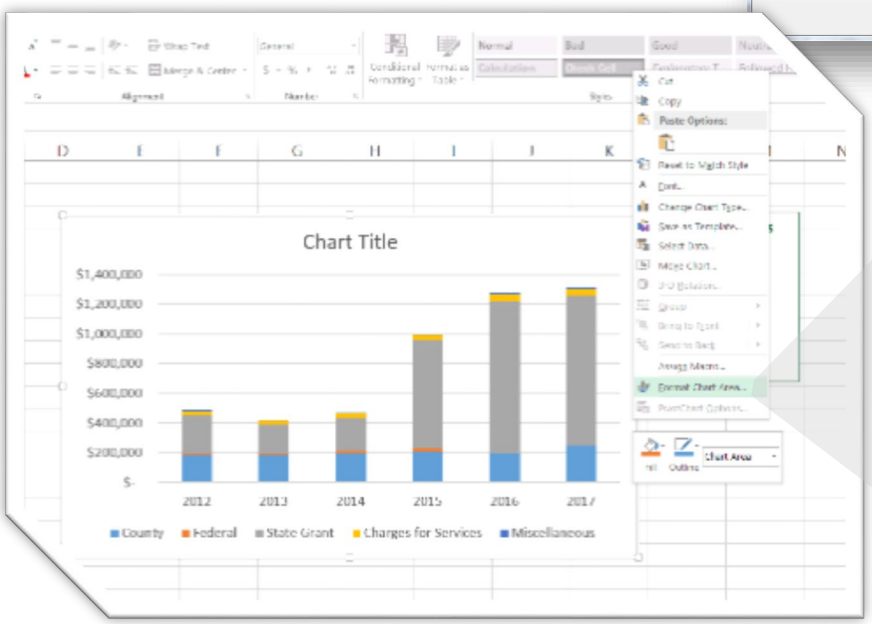
2. Select the "Stacked Column" chart type from the **INSERT > Charts > Recommended Charts.**

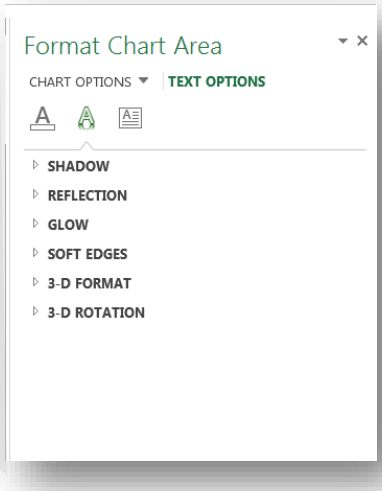


3. You know have a stacked column chart that shows the different categories of revenue for each year.

4. Format the chart however you think the data is best represented.

   You can edit the chart tiles, colors, borders, axis positions, etc. by right clicking on the chart and using the "Format Chart" options.





CREATING A COMBINATION CHART

A combination chart is a chart that combines two or more chart types in a single chart. The combination chart displays the data sing a number of bars and/or lines, each of which represent a particular category.

CHARTING MONTHLY OPERATIONAL COST AND FUND BALANCES

CREATE A CHART THE THAT SHOWS THE ANNUAL DISTRICT OPERATIONAL COST AS A COLUMN CHART AND THE NUMBER OF MONTHS OF SUPPORTING FUND BALANCE AS A LINE CHART FOR 2012-2017.

1. Select the data you want to chart.

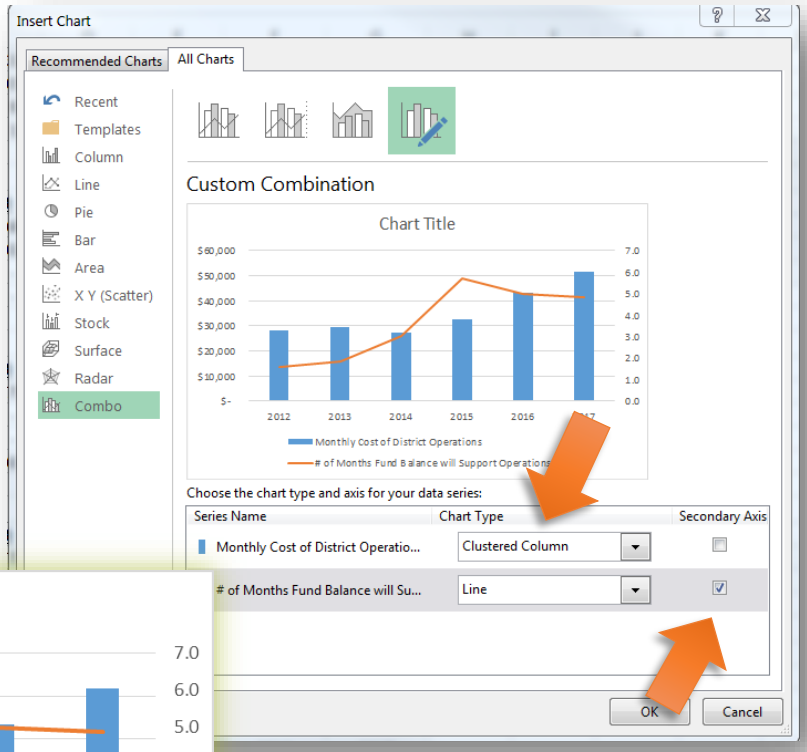
48		2012	2013	2014	2015	2016	2017
49	Monthly Cost of District Operations	$ 28,200	$ 29,726	$ 27,453	$ 32,643	$ 43,372	$ 51,699
50	# of Months Fund Balance will Support Operations	1.6	1.8	3.0	5.7	5.0	4.9

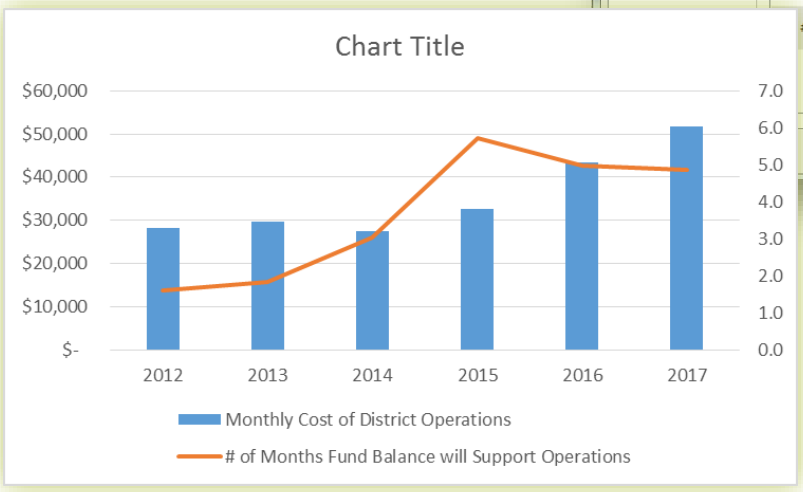
2. From **INSERT > Recommended Charts**, select **All Charts > Combo.**

   Chose the chart type you want to display for each data series. In this example, choose **Clustered Column** for "Monthly Cost…" and **Line** for "# of months Fund Balance…".

   Select **Secondary Axis** for the line chart type. Click OK.

   Now you can see the $'s on the Left Axis and the #'s on the right.





EDITING CHARTS

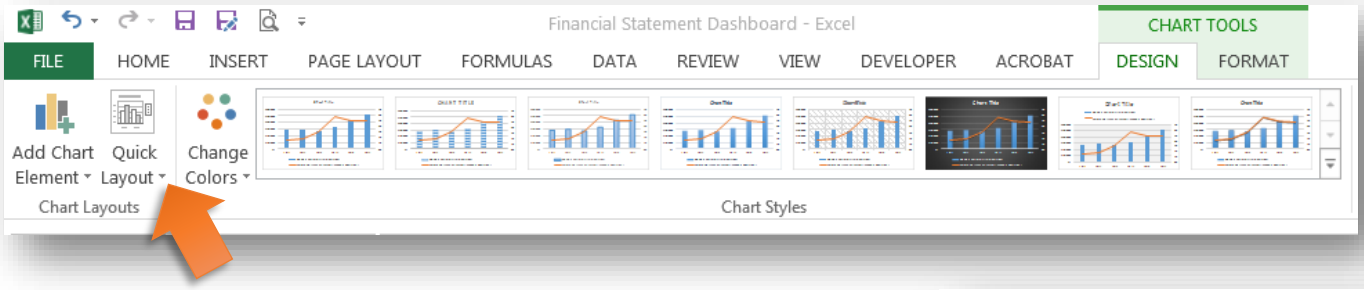
Excel is a great tool. There are many options available to format your charts so that they look exactly how you want them to. Remember these mottos: 1.) if it seems like something you should be able to do, you probably can, and 2.) If you can't figure it out…GOOGLE IT. Google usually spits out the answer of how to change something.

For the sake of these examples, I'm going to show you the most basic ways to edit the look of your charts.

EDITING TITLES, AXIS AND LEGENDS.

EDIT THE COMBO CHART YOU JUST CREATED TO ADD A CHART TITLE, ADJUST THE LEGEND AND MAKE THE TEXT LARGER

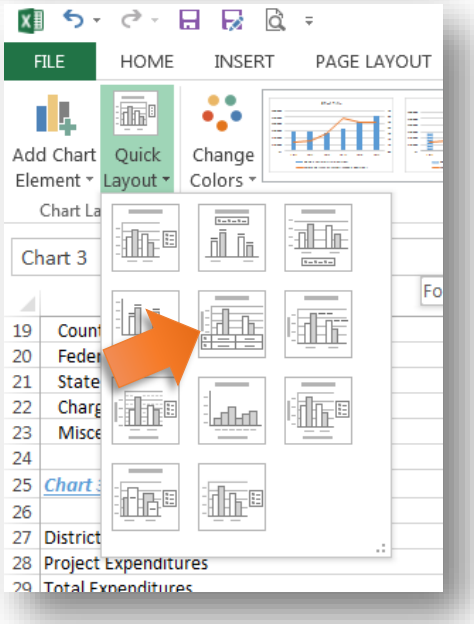
1. Select the combo chart you created in the example above. From the Ribbon, navigate to **CHART TOOLS > DESIGN.**

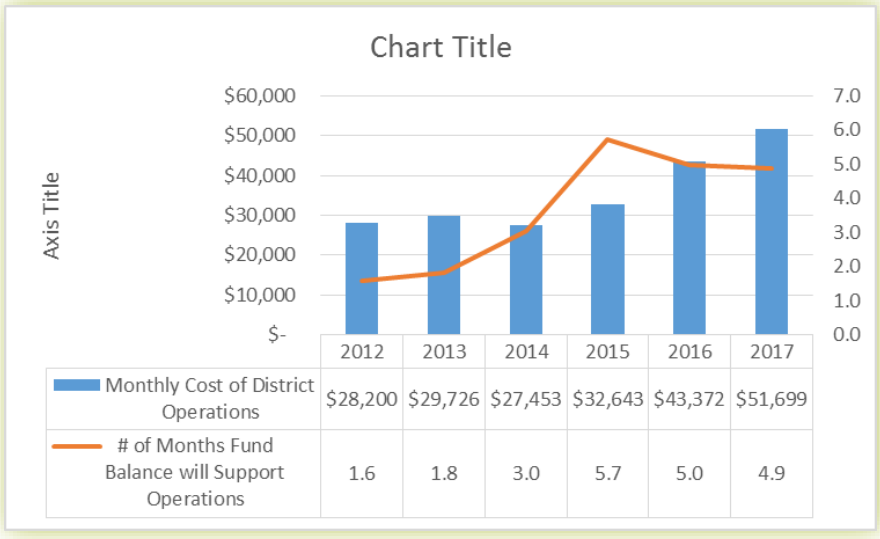


2. Select the dropdown menu arrow next to show the **Quick Layout** options available. This will display all of the ways that you can quickly adjust the chart elements such as the legend, title, and axis.

   For this example, let's choose the layout which displays the information in a tabular legend.

   Now the data is displayed as a graph, but the key points are also summarized in a table below the graph. Best of both worlds.





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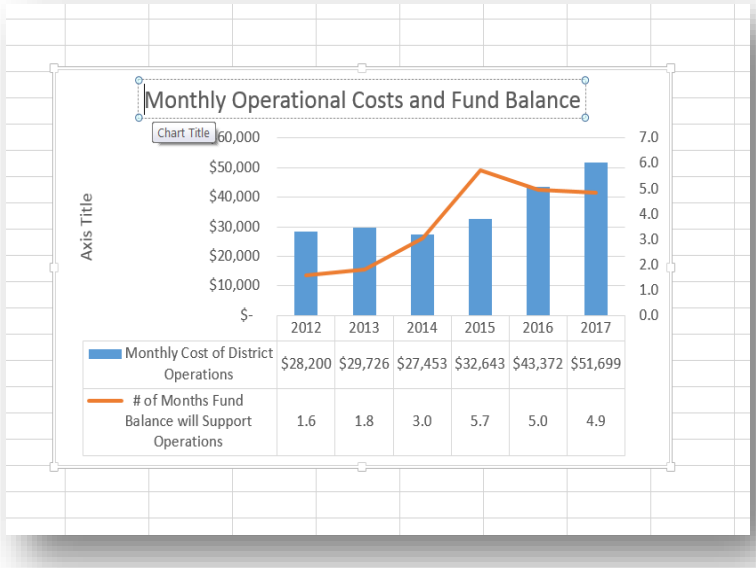
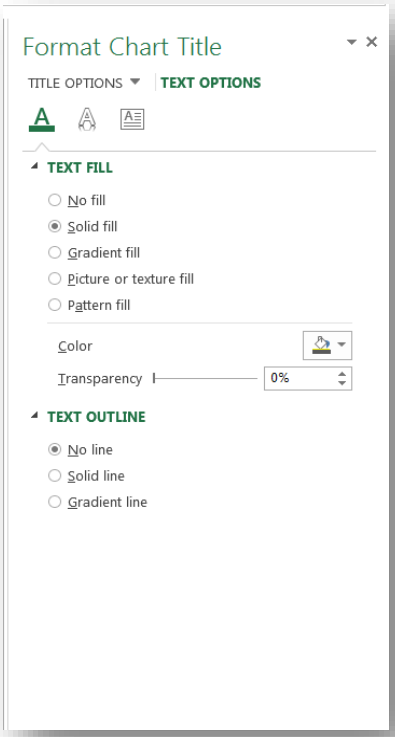
3. Now let's format the chart and axis titles. Select the **"Chart Title" text** box. Click inside the text box again to edit the text and type in a title name.





4. Once completed, right-click the selected text box and select **Format Chart Title.**

5. A formatting menu will pop-up on the right hand side of the screen. You can now see the many options available to recolor, resize, realign or add borders and shape to your chart title.

6. Repeat the process to add a name to the left axis title. Change the formatting of the text using either the **Format Chart** tool or by making edits from the tools located in the ribbon, similar to any Microsoft Word document. It works from either tool.

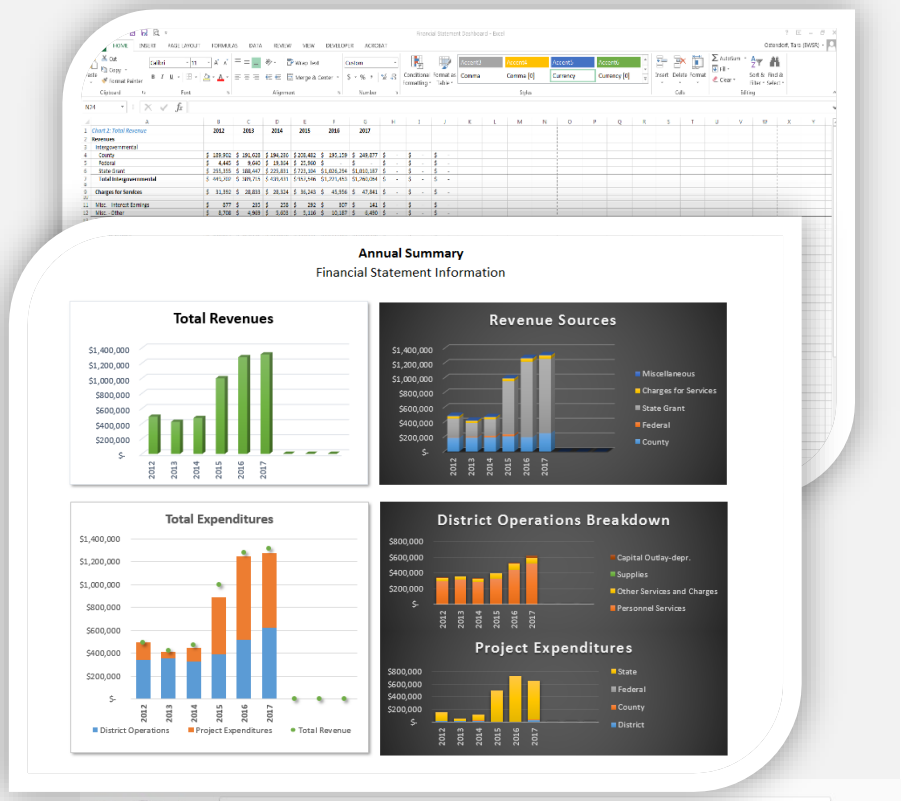
   You can see below, that I have made a number of edits to the original chart to make it more eye-catching for my use in a report.

GETTING MORE EXAMPLE INFORMATION

For the 2018 BWSR Academy session (Foreign Language of Financial Statements), a template workbook using real data examples has been created in excel, which you can use to plan your own financial statement analysis and graphical displays.

The template also has a **Dashboard** template included. A dashboard is a visual representation of relevant information that is updated frequently. It can be a very useful tool to quickly and consistently analyze your data and present it to your district board supervisors for decision making.

The template is intended to be a guide in developing ways to use your own information, and all necessary formulas and tables are labeled and available for you to look at.

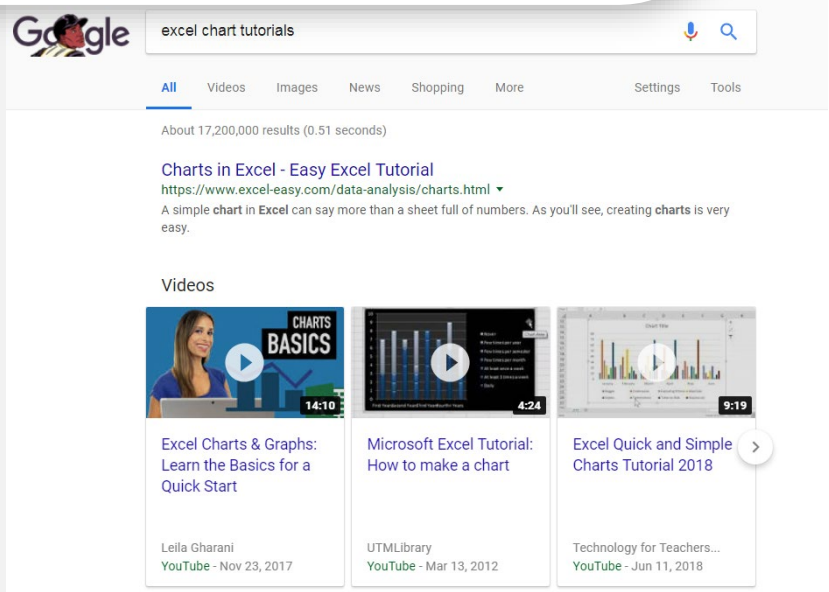


Additionally, there are many, many tutorials online on how to use Excel effectively. You can look up any number of issues through Microsoft Help, Google, or peruse an endless list of YouTube tutorials.

If you get stuck, remember…

"IF IT SEEMS LIKE YOU SHOULD BE ABLE TO DO IT, YOU PROBABLY CAN."

"GOOGLE IT."



TABLES AND EXAMPLE DATA

Table 1: Example Data

BALANCE SHEET	2012	2013	2014	2015	2016	2017
Assets						
Cash and Investments	$236,291	$365,448	$277,421	$218,443	$630,546	$694,405
Due from Other Governments	$40,658	$14,521	$18,812	$254,891	$87,695	$42,898
Accounts Receivable				$2,299	$1,980	$8,399
Accrued Interest	$274					
Inventory	$4,000	$4,000	$4,000	$4,000	$3,000	$913
Total Assets	**$281,223**	**$383,969**	**$300,233**	**$479,633**	**$723,221**	**$746,615**
Liabilities						
Accounts Payable	$763	$920	$1,215	$1,692	$2,690	$10,546
Salaries Payable	$5,214	$5,279	$7,453	$9,571	$14,672	$17,100
Deposit on Sales	$2,688	$1,695	$1,035	$3,120	$19,487	$25,948
Due to Other Governments						$3,377
Unearned Revenue	$215,196	$304,998	$192,408	$258,110	$449,206	$417,796
Total Liabilities	**$223,861**	**$312,892**	**$202,111**	**$272,493**	**$486,055**	**$474,767**
Fund Balance						
Nonspendable - Inventory	$4,000	$4,000	$4,000	$4,000	$3,000	$913
Assigned - Compensated Absences	$8,262	$12,821	$10,857	$16,105	$18,559	$19,879
Unassigned	$45,100	$54,256	$83,265	$187,035	$215,607	$251,056
Total Fund Balance	**$57,362**	**$71,077**	**$98,122**	**$207,140**	**$237,166**	**$271,848**
Total Liabilities and Fund Balance	**$281,223**	**$383,969**	**$300,233**	**$479,633**	**$723,221**	**$746,615**

Unrestricted Fund Balance	**$45,100**	**$54,256**	**$83,265**	**$187,035**	**$215,607**	**$251,056**
Annual Cost of District Operations	**$338,394**	**$356,708**	**$329,434**	**$391,713**	**$520,464**	**$620,392**
Monthly Cost of District Operations	**$28,200**	**$29,726**	**$27,453**	**$32,643**	**$43,372**	**$51,699**
# of Months Fund Balance will Support District Operations	**1.6**	**1.8**	**3.0**	**5.7**	**5.0**	**4.9**

PROFIT AND LOSS STATEMENT	2012	2013	2014	2015	2016	2017
Revenues						
Intergovernmental						
County	$189,902	$191,628	$194,236	$208,482	$195,159	$249,877
Federal	$4,445	$9,640	$19,364	$25,960		
State Grant	$255,355	$188,447	$225,831	$723,104	$1,026,294	$1,010,187
Total Intergovernmental	**$449,702**	**$389,715**	**$439,431**	**$957,546**	**$1,221,453**	**$1,260,064**
Charges for Services	$31,392	$28,833	$28,324	$36,243	$45,956	$47,841
Misc. - Interest Earnings	$877	$235	$258	$292	$307	$141
Misc. - Other	$8,708	$4,969	$5,603	$5,116	$10,187	$6,490
Total Miscellaneous	**$9,585**	**$5,204**	**$5,861**	**$5,408**	**$10,494**	**$6,631**
Total Revenues	**$490,679**	**$423,752**	**$473,616**	**$999,197**	**$1,277,903**	**$1,314,536**
Expenditures						
District Operations						
Personnel Services	$290,676	$315,683	$280,757	$319,564	$434,141	$516,286
Other Services and Charges	$46,468	$41,025	$46,765	$72,149	$81,024	$70,996
Supplies			$224			
Capital Outlay-depr.	$1,250	$0	$1,688	$0	$5,299	$33,110
Total District Operations	**$338,394**	**$356,708**	**$329,434**	**$391,713**	**$520,464**	**$620,392**
Project Expenditures						
District	$22,409	$20,718	$22,419		$2,849	$27,539
County			$1,407	$3,010		$16,597
Federal			$2,126			
State	$138,679	$32,611	$91,185	$495,456	$724,564	$615,326
Total Project Expenditures	**$161,088**	**$53,329**	**$117,137**	**$498,466**	**$727,413**	**$659,462**
Total Expenditures	**$499,482**	**$410,037**	**$446,571**	**$890,179**	**$1,247,877**	**$1,279,854**
Excess of Revenues Over (Under) Expenditures	**-$8,803**	**$13,715**	**$27,045**	**$109,018**	**$30,026**	**$34,682**

Revised: 10/25/19

Table 2: Table Formulas

List of Formulas = Calculated Fields	
Total Assets	=SUM(Cash and Investments + Due from Other Govts + Accts Receivable + Accrued Int. + Inventory)
Total Liabilities	=SUM(Accts Pay. + Salaries Pay. + Dep on Sales + Due to Other Govt + Unearned Revenues)
Nonspendable – Inventory	= (Assets:Inventory)
Unassigned	= SUM(Total Assets – Total Liabilities – Nonspend. Inventory – Assigned Com. Absences.)
Total Fund Balance	= SUM(Nonspendable Inventory – Assigned Comp. Absences. – Unassigned)
Total Liabilities and Fund Balance	= SUM(Total Liabilities + Total Fund Balance)
Total Intergovernmental	= SUM(County + Federal + State Grant)
Total Miscellaneous	= SUM(Misc Interest Earnings + Misc. Others)
Total Revenues	= SUM(Total Intergovernmental + Charges for Services + Total Miscellaneous)
Total District Operations	= SUM(Personnel Services + Other Services and Charges + Supplies + Capital Outlay-depr.)
Total Project Expenditures	= SUM(District + County + Federal + State)
Total Expenditures	= SUM(Total District Operations + Total Project Expenditures)
Excess of Revenues Over (Under) Expenditures	= SUM(Total Revenues – Total Expenditures)
Unrestricted Fund Balance	= SUM(Fund Balance:Unassigned)
Annual Cost of District Operations	= SUM(Total District Operations)
Monthly Cost of District Operations	= SUM(Annual Cost of District Operations / 12)
# of Months of Fund Balance	= SUM(Unrestricted Fund Balance / Monthly Cost of District Operations)