

AP

VIS-

The Associated Press

UAL

Style Guide

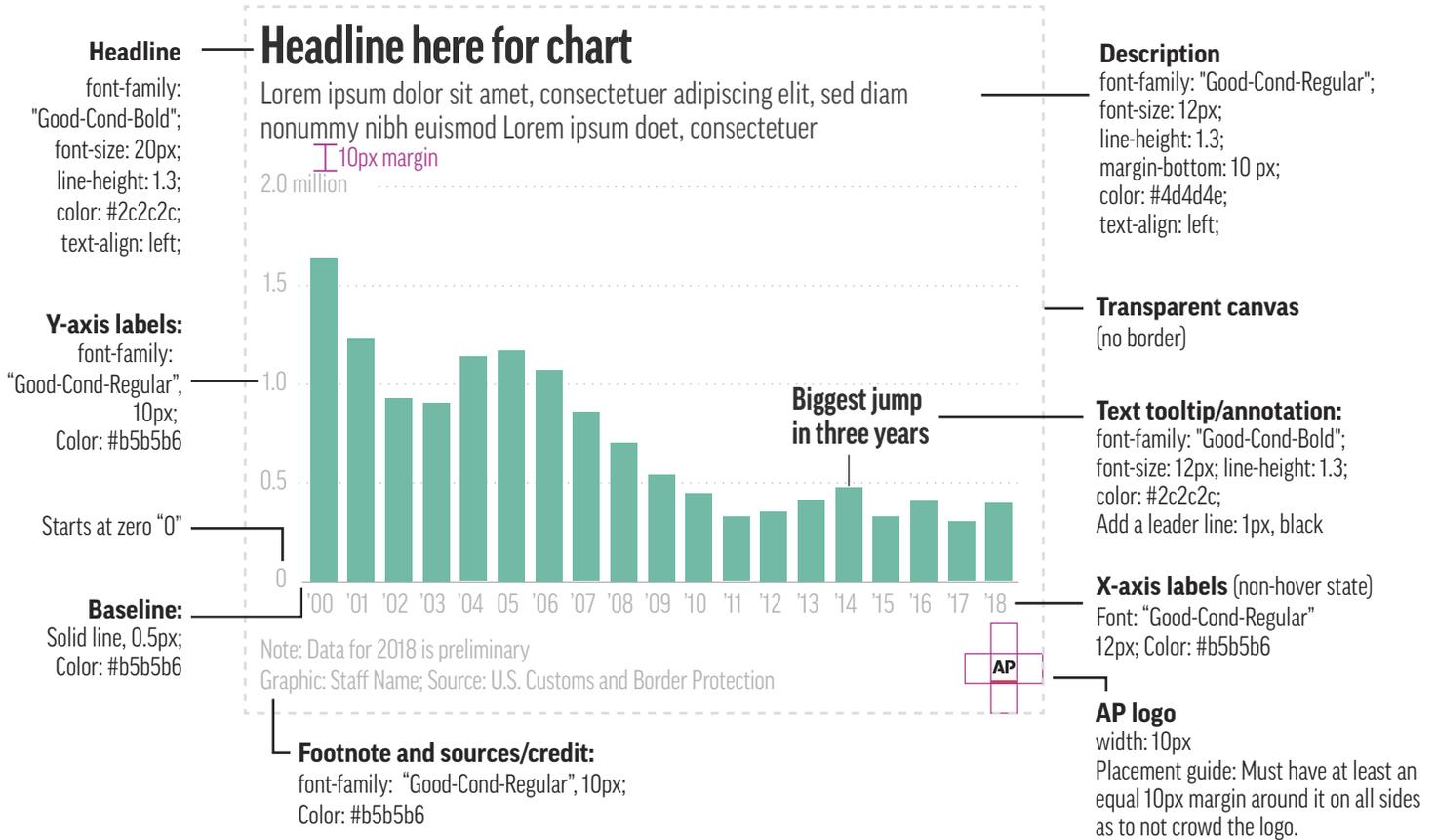
Data visualizations and infographics

by Phil Holm and Kati Perry

DESIGN and COLOR

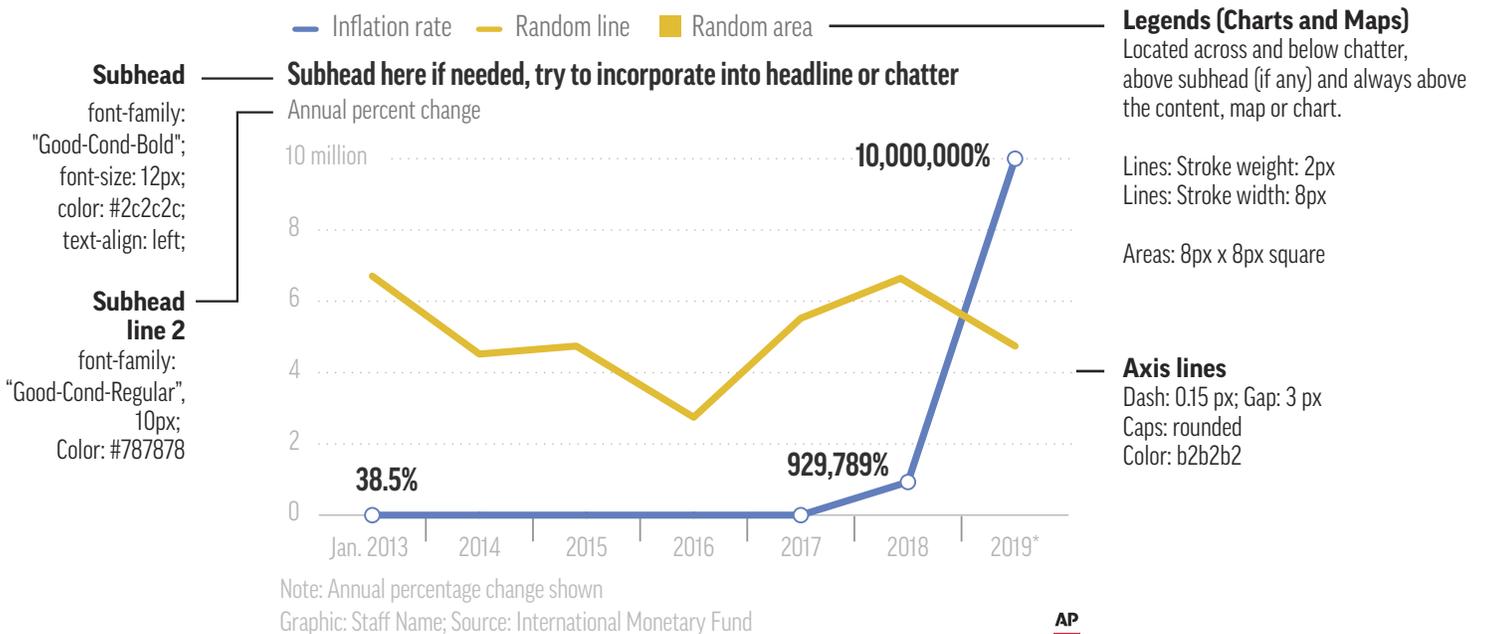
Basic styling around data visualizations and a brief guide on color design

INTERACTIVE DESIGN GUIDELINES

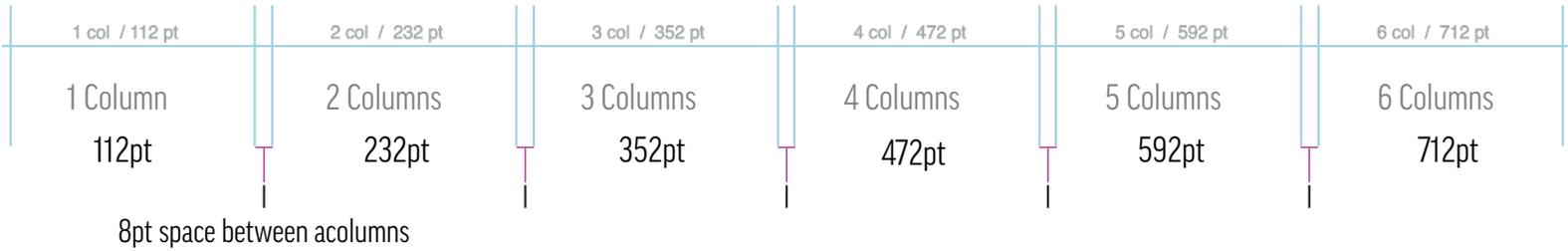


Headline here for chart

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod Lorem ipsum doet, consectetur



CMYK PRINT DESIGN



Headline

font-family

"Arial Narrow Bold"

font-size: 12pt (1col) 14pt (2col)

16pt (3col) 18pt(4col+)

(leading: 1 pt larger than font-size)

color: 100% black

text-align: left

Subhead

font-family: "Arial Narrow Bold"

font-size: 8.5 pt

color: 85% black

text-align: left

Subhead 2

font-family: "Arial Narrow"

font-size: 8.5 pt

color: 85% black

text-align: left

Y-axis labels:

Font: "Arial Narrow"

8 pt

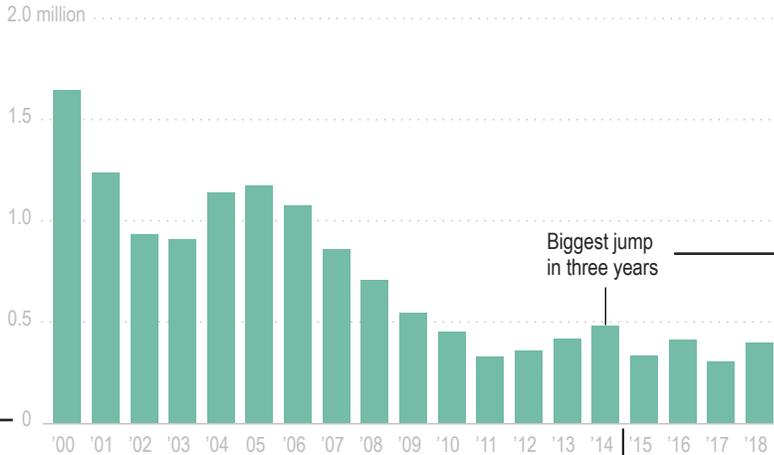
Color: 30% black

Headline here for chart

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod
Lorem ipsum doet, consectetur

Subhead goes here, but try to incorporate into headline and chatter

Secondary subhead here if needed



Note: Data for 2018 is preliminary

Graphic: Staff Name; Source: U.S. Customs and Border Protection

Footnote and sources/credit:

font-family: "Arial Narrow" 8px

Color: 30% black

Description/Intro

font-family: "Arial Narrow"

font-size: 8.5pt (leading: 1pt larger than font size)

color: 85% black

text-align: left

Axis lines

stroke weight: 0.5pt

dashed line: dash=0.15; gap 3pt

color: 30% black

Annotation:

font-family: "Arial Narrow"

font-size: 8.5 pt (leading: 1pt larger than font size)

color: 100% black

Add a leader line: 0.5px, black

X-axis labels

Font: "Arial Narrow"

8pt; Color: 30% black

AP logo

width: 10px

At least an equal 10px margin

around it on all sides

as to not crowd the logo



Baseline:

Solid line, 0.5px

30% black

1 COL.

This is a headline shown on two lines

Legend/key text

font-family: "Arial Narrow"

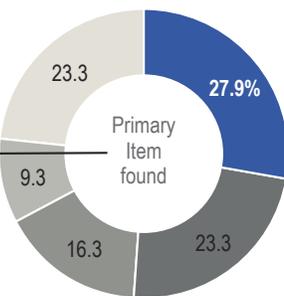
font-size: 8.5pt

leading: 9.5pt

color: 60% black

text-align: center

- Copper
- Zinc
- Arsenic
- Lead
- Other*



*Other contaminants include: mercury, iron, cadmium, cobalt, cyanide and molybdenum.

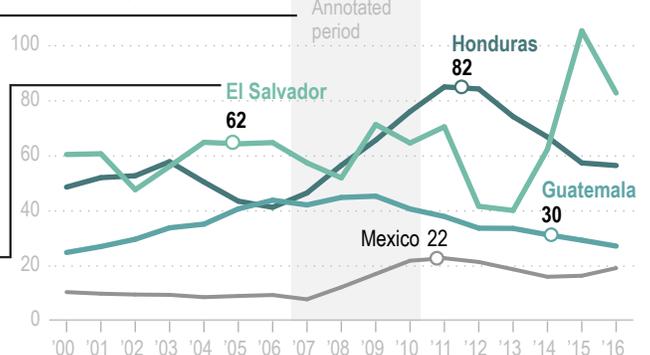
Source: EPA

2 COL.

Headline here

Honduras Guatemala El Salvador Mexico

120 homicides per 100,000 people



Line Chart labels

font-family: "Arial Narrow Bold"

font-size: 8.5px

Using color draws attention to the most important visual elements. Setting the other elements, in this case Mexico's line, to neutral tones and lighter weights will establish visual importance.

AXES GUIDANCE

X-AXIS

Typically the horizontal axis is our time series component to a visualization. However this space can also be categorical when dealing with a specific chart type, like bars for example, in which case this axis could have a single time frame or consolidated range of time. When deciding how to format ticks on an axis, space and necessity are the primary features to consider.

Apostrophes ————— '00 '02 '04 '06 '08 '10 '12 '14 '16 '18
 Shorten years and be sure they have an apostrophe.

Choose labels wisely ————— '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18
 List intervals only to the extent that it helps the reader.

Add detail where helpful ————— Jan. '20 Feb. Mar. Apr. May June July Aug. Sept. Oct.
 If it's helpful to the reader, you can note the year or other details once to ensure reader understanding.

Highlight main points ————— June July Aug. **Sept.** Oct. Nov. Dec. Jan.
 Use text formatting to bring attention to the main message.

Abbreviate months ————— Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct.
 Use AP Style where you can, but it is fine to shorten months as shown here.

Y-AXIS

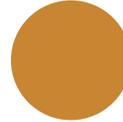
The value axis, where you'll plot the values of your data for analysis. Visualizations should rise above the baseline (zero) for positive values and dip below it for negative values. Pretty straightforward, although there are a few display items to be mindful of:

| YOU'RE ALL SET ✓ | THINGS TO AVOID |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <p>Incorporate units ✓ in top most segment to save space</p> <p>2.0 million</p> | <p>Incorporated units using numerical values in first instance ✗</p> <p>2,000,000</p> <p>1.85</p> |
| <p>Use even breakpoint increments and don't crowd ✓ the axis with too many breakpoints</p> <p>1.5</p> <p>1.0</p> | <p>Uneven breakpoints and spacing ✗</p> <p>1</p> |
| <p>Include the zero ✓ in values less than 1 or on whole numbers</p> <p>0.5</p> | <p>Zeros not included ✗ in values less than 1 or on whole numbers</p> <p>0.5</p> |
| <p>Element positions aligned ✓</p> <p>0 _____</p> | <p>Axis labels not aligned ✗</p> <p>0 _____</p> |

COLOR DESIGN

A full color wheel should be also be available in addition to the drop down menu of colors listed below

RGB

| | | | | | | | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Cerulean | Blue | Turquoise | Green | Yellow | Orange | Magenta | Purple | Red | Red-Pink |
|  |  |  |  |  |  |  |  |  |  |
| #174da1 | #117da5 | #00a3a8 | #78a600 | #d8a538 | #df8600 | #a91e75 | #983794 | #b22a20 | #b23a6c |

Gray values

| | | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Cool Deep | Warm Deep | Warm Rich | Warm Medium | Bright |
|  |  |  |  |  |
| #2c2c2c | #424242 | #878781 | #c3c3b9 | #ece8df |

CMYK

| | | | | | | | | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Cerulean | Blue | Turquoise | Green | Yellow | Orange | Magenta | Purple | Red | Red-Pink |
|  |  |  |  |  |  |  |  |  |  |
| C 90 M 80 Y 0 K 0 | C 84 M 40 Y 23 K 1 | C 78 M 12 Y 38 K 0 | C 60 M 13 Y 100 K 1 | C 18 M 37 Y 87 K 1 | C 11 M 53 Y 100 K 1 | C 39 M 99 Y 16 K 1 | C 52 M 87 Y 0 K 0 | C 21 M 95 Y 98 K 11 | C 28 M 91 Y 36 K 4 |

Gray values

| | | | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Deep | Medium-Deep | Medium | Light-Medium | Light |
|  |  |  |  |  |
| C 0 M 0 Y 0 K 90 | C 0 M 0 Y 0 K 75 | C 0 M 0 Y 0 K 45 | C 0 M 0 Y 0 K 30 | C 0 M 0 Y 0 K 10 |

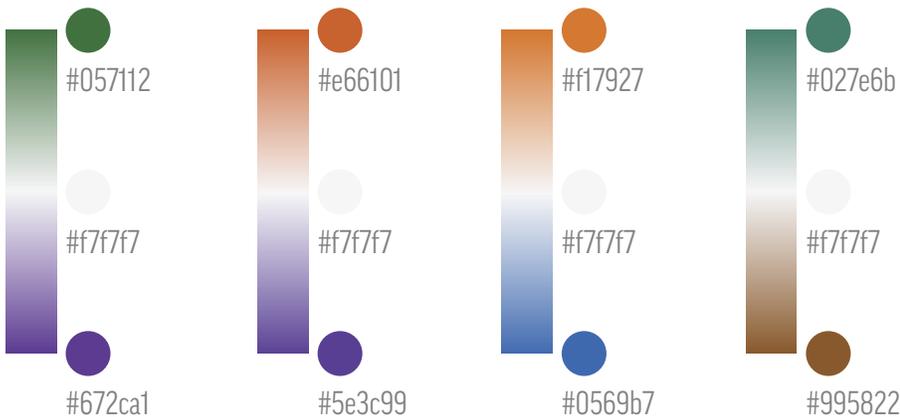
LINEAR GRADIENTS RGB and CMYK

Recommended combinations for choropleth maps to determine data breakpoints in addition to full color wheel.

SEQUENTIAL



DIVERGING



ELECTION COLOR SCHEMES

For maps, charts and other visuals on election nights for the Republican, Democratic and other parties.

RGB

| | | | | | | | | |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Turnover | Win | Lead | Turnover | Win | Lead | Turnover | Win | Lead |
|  |  |  |  |  |  |  |  |  |
| #B22C26 #DB4130 | #DB4130 | #F2C4B3 | #005489 #0073B1 | #0073B1 | #B5D2E2 | #57712C #7D9546 | #7D9546 | #C5DFA3 |
| STRIPE COLOR / BG | | | STRIPE COLOR / BG | | | STRIPE COLOR / BG | | |

CMYK

| | | | | | | | | |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Turnover | Win | Lead | Turnover | Win | Lead | Turnover | Win | Lead |
|  |  |  |  |  |  |  |  |  |
| C 21 8 M 96 89 Y 98 92 K 12 1 | C 8 M 89 Y 92 K 1 | C 3 M 26 Y 25 K 0 | C 98 89 M 71 51 Y 22 7 K 6 0 | C 89 M 51 Y 7 K 0 | C 28 M 8 Y 6 K 0 | C 67 60 M 36 13 Y 100 100 K 22 1 | C 56 M 26 Y 92 K 6 | C 24 M 0 Y 45 K 0 |
| STRIPE COLOR / BG | | | STRIPE COLOR / BG | | | STRIPE COLOR / BG | | |

COLORBLIND-FRIENDLY DESIGN

Guidelines for ensuring AP interactives and graphics are accessible.

HELPFUL TOOLS

Download Color Oracle at colororacle.org. The tool allows you to simulate four types of colorblindness that will affect how readers interact with your interactives and designs. It's a good idea to check as you are choosing a palette to ensure that your colors are distinguishable to as many readers as possible.

GENERAL GUIDE

ROW 1

ROW 2

ROW 3

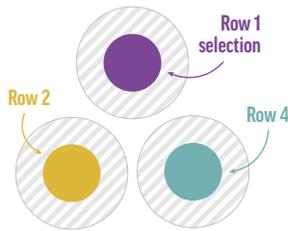
ROW 4

Don't mix magenta and red-pink!

Medium hues from the AP color swatch are shown, but feel free to use other options from the swatch!

BUILD A COLORBLIND-FRIENDLY PALETTE

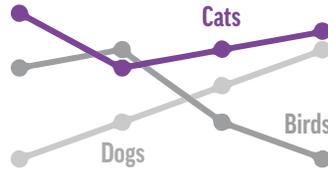
Pick one color from each row as necessary. Avoid pulling multiple colors from the same row.



USE LABELS

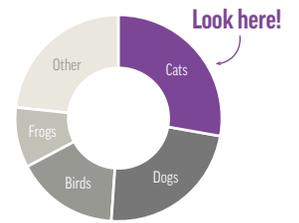
Where color isn't sufficient to identify data points, use labels to ensure clarity for readers.

Cats remain most popular pet



MIX BRIGHT COLORS WITH NEUTRAL TONES

Use shades of grey paired with a single bright color to guide a reader's attention.



COLORBLIND-FRIENDLY PAlettes

3-COLOR PAlettes

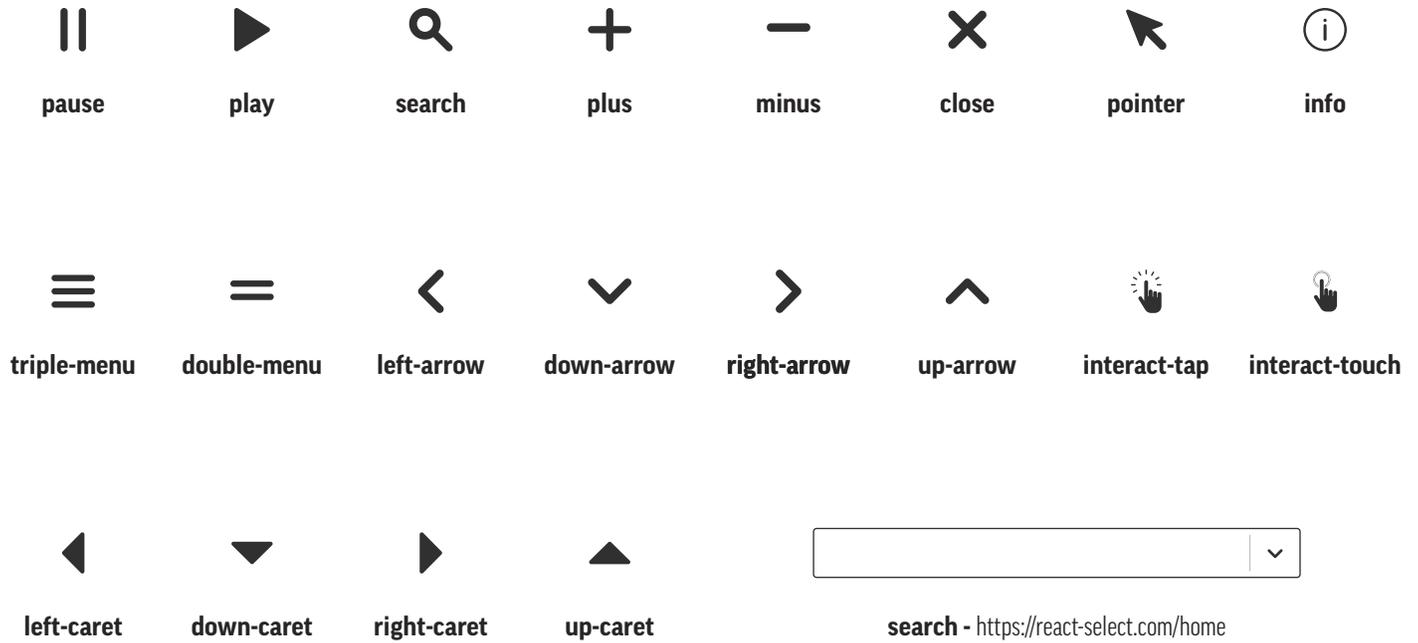
| | | | | | |
|-----------|--|--|-----------|--|--|
| PALETTE 1 | | | PALETTE 4 | | |
| PALETTE 2 | | | PALETTE 5 | | |
| PALETTE 3 | | | PALETTE 6 | | |

4-COLOR PAlettes

| | | | | | |
|-----------|--|--|-----------|--|--|
| PALETTE 1 | | | PALETTE 3 | | |
| PALETTE 2 | | | PALETTE 4 | | |

UI ELEMENTS

The names of the icons match the filenames for each asset.



TOOLTIPS

Keep the content simple
Be picky about what you include in a tooltip – prioritize only what’s most important that doesn’t already appear in the visual.

Use font styles to organize information
Bold sections, use color or other ways to visually separate titles from text or data. Make sure data is front and center.

Use tables to organize information
Where you have a lot of data to include in a tooltip, consider using a table to make it as legible as possible.

Imagine a map showing the preference for cats in each state and consider each tooltip.

Although the text is identical, the data is easier to discern quickly when it’s highlighted with bold text.

Are three years of data necessary? What is essential for the story?

Think of tooltip structure in terms of a **header**, **categories**, and **values**.

Organize this data with a table to make it more legible.

You can use `<table>` markup to construct tables. Consider `<big>` and `` tags to highlight key data points.

| CAT POPULARITY IN MS | |
|----------------------|-----|
| 2018 | 78% |
| 2020 | |

| % who prefer a cat in | |
|-----------------------|-----|
| 2018 | 65% |
| 2020 | 78% |

KEY DESIGN QUESTIONS

An ideal visual or graphic tells a clear and accessible story. We can shape the story by how we use size, color, alignment, annotations, and other visual features – here are some questions to ask yourself to ensure you are leveraging the visual elements to tell the strongest story possible.

Is the takeaway clear?

Your least data-savvy friend should be able to understand it.

The message should be understood within a short amount of time.

What can be cut?

Elements that are not pushing the message forward and/or distract from the main message.

Where can I trim text?

Review your text and push yourself to remove as much as possible – identify what is essential.

Where is the focal point?

Be attentive to where your eyes are drawn on the graphic and ensure the visual focus matches the takeaway.

CHART

TYPES

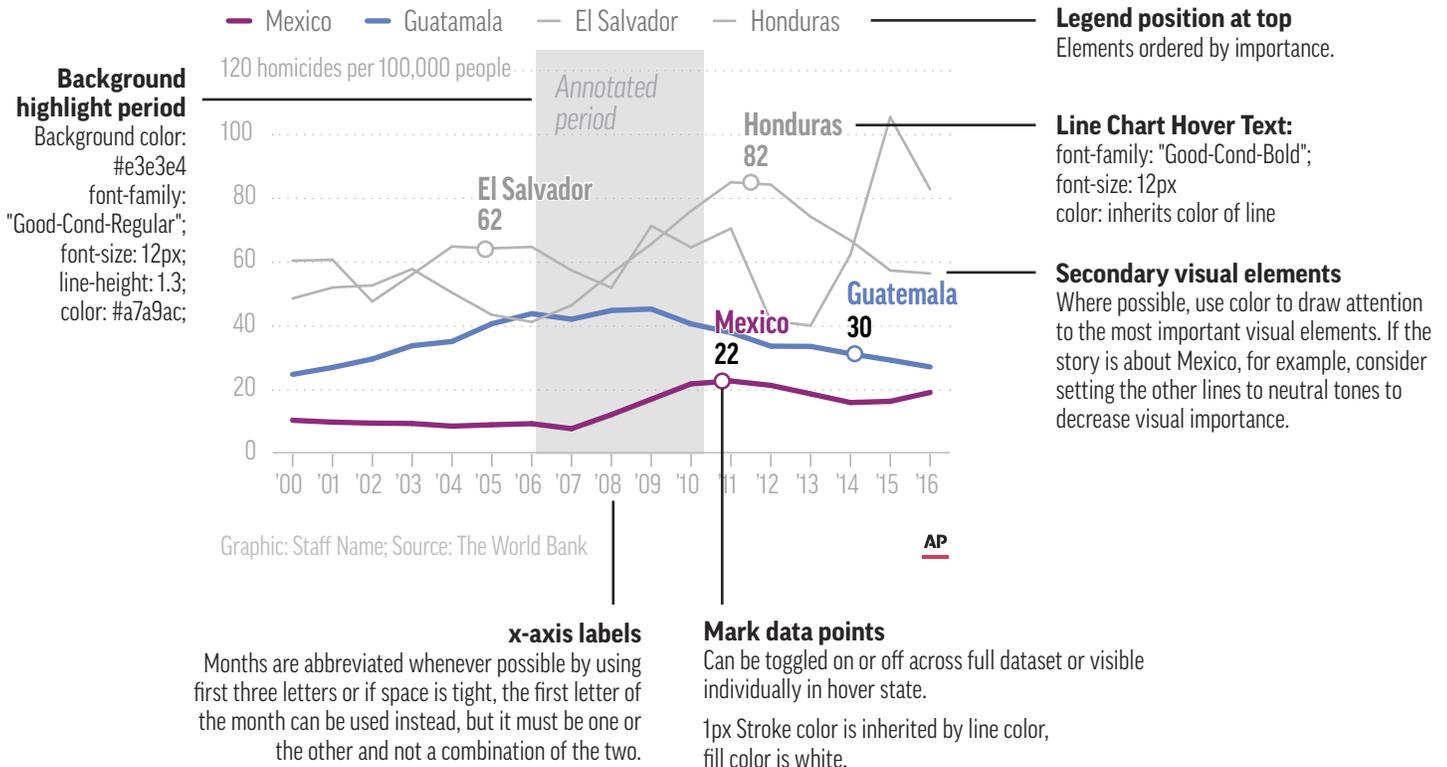
CHART

TYPES

CHART

TYPES

LINE CHARTS

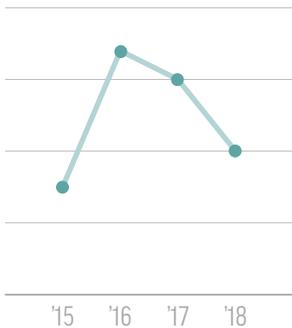


LINE INTERPOLATION

Consider your data and what will make it most useful for a reader: do steps help convey the nature of the data? Does a curve contribute to its legibility? The story is your guide. It's safe to default to a standard line – no curves, no steps.

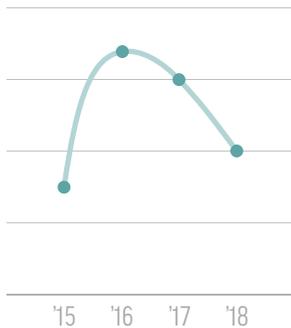
LINEAR

A polyline through the specified points. Default option.



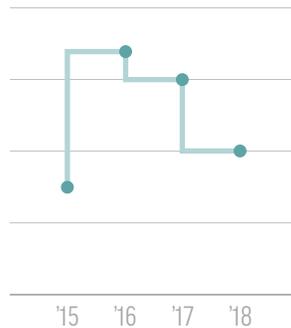
CURVED

Rounds linecaps and segments of a polyline.



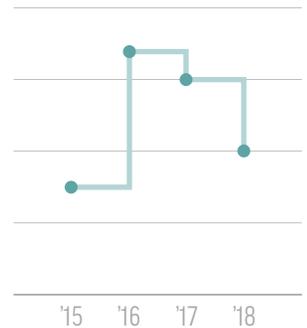
STEPS (BEFORE)

The y-value changes before the x-value.



STEPS (AFTER)

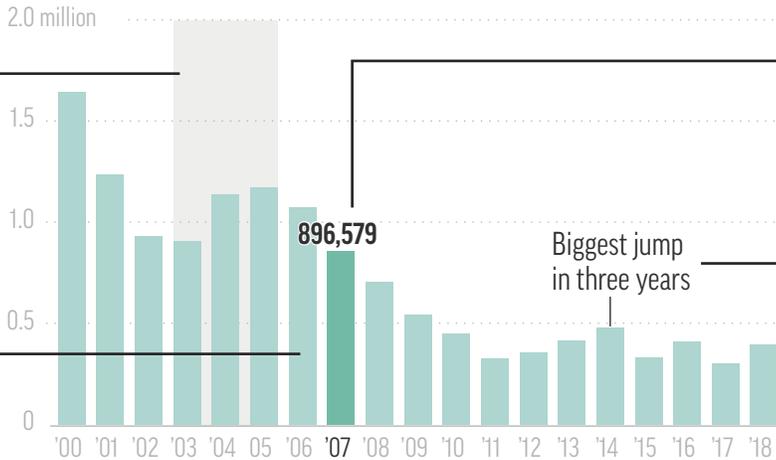
The y-value changes after the x-value.



BAR CHARTS

Headline here for bar chart

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod Lorem ipsum doet, consectetur



Note: Note here about this graphic's data and display
Graphic: Staff Name; Source: U.S. Customs and Border Protection



Background highlight period
Background color: #efefef
(Feel free to use any subtle color that works with your color scheme)

Bars non-active state
50% less color in non-active areas

Rollover text
font-family: "Good-Cond-Bold";
font-size: 14px; line-height: 1.3;
color: #2c2c2c;
text-shadow: -1px 0 white, 0 1px white, 1px 0 white, 0 -1px white;
X-axis hover color (hover state)
Color: #2c2c2c

Text annotation:
font-family: "Good-Cond-Regular";
font-size: 12px; line-height: 1.3;
color: #2c2c2c;
Add a leader line: 1px, black

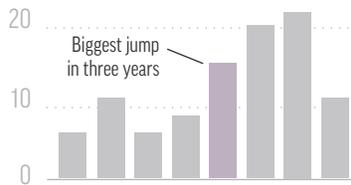
Bar Chart General Rules and Best Practices

Avoid data distortion



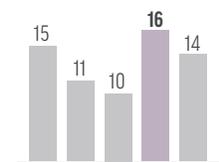
A bar chart value axis should always begin at zero to avoid drawing inaccurate conclusions and exaggerating the actual difference in values

Annotations provide insight



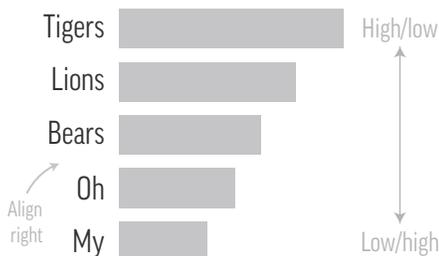
Don't let readers miss out on the good stuff. **Annotate key findings** when possible. Keep them short and don't crowd them.

Vertical scales are not always required



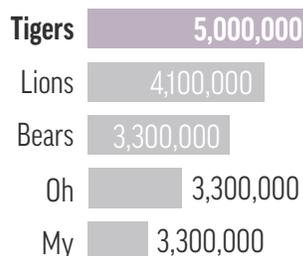
Less really is sometimes more! Ditch the axis lines. **When you have fewer bars, you can label data above them.** Provide additional emphasis by highlighting a key point.

Organize & sort your data



Let there be trends. **Sort your horizontal bar data** to compare data trends easier.

Label positioning inside and outside



Place values inside bars when they fit and outside when they do not. You can always also place them all outside too.

Horizontal bar design basics

Inside label color: #ffffff

Default Bar heights
15 px

Category labels
font-family: **Good-Cond;**

Highlight a specific bar with **color** and **bold** text

Space between bars
5 px

Category labels
font-size: **12px**
color: #2c2c2c

Highlight a specific bar with **color** and **bold** text

Space between bars **5 px**

Category labels
font-size: **12px**
color: #2c2c2c

TABLES

BASIC STRUCTURE

Search
font-family: "Good-Cond"
font-size: 10px
Color: #b2b2b2

Sorting enabled

| YEAR | BASE PRICE | DESCRIPTION |
|------|------------|--------------------------------------------------------------|
| 2019 | \$88,000 | Lorem ipsum dolor sit amet, consectetur adipiscing elit, |
| 2018 | 84,000 | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed |
| 2017 | 78,000 | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed |
| 2016 | 71,000 | Lorem ipsum dolor sit amet, consectetur adipiscing elit, |

Page 1 of 4 >

Pagination
font-family: "Good-Cond"
font-size: 10px
Chevron: 1 px
Color: black

Header
font-family: "Good-Cond"
font-size: 9px
line-height: 1.2
color: #2c2c2c
text-align: left
text-transform: uppercase

Description text
font-family: "Good-Cond"
font-size: 11px
line-height: 1.3
color: #2c2c2c
text-align: left

Horizontal line breaks
Dotted line
Color: #b2b2b2
stroke weight: .5px

No horizontal line break
after last entry

Note: Note here about this graphic's data and display
Graphic: Staff Name; Source: U.S. Customs and Border Protection

AP

BAR IN TABLES

We can use thin (5px height) or normal (15 px height) bars. Place labels above thin bars and inside normal bars. Labels should be horizontally centered across each row.

| YEAR | BASE PRICE | PREVIOUS PRICE |
|------|------------|----------------|
| 2019 | \$88,000 | \$82,000 |
| 2018 | 84,000 | 74,000 |

SPARKLINES IN TABLES

Use a 1px line for sparkline trends. Labeling start and end values (10 px font size) provide extra context.

| YEAR | DESCRIPTION | SPARKLINE |
|------|------------------------------------------------------------------|-----------|
| 2019 | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed dit | 15 35 |
| 2018 | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed dit | 35 15 |

Adding label start and end points will help readers understand the data better.

Tables General Rules and Best Practices

GIVE YOUR COLUMNS SOME ELBOW ROOM

| YEAR | BASE PRICE | DESCRIPTION |
|------|------------|-------------|
| 2019 | \$88,000 | Lorem ipsum |

10px padding between columns

YOUR COLUMNS NEED PADDING

Ensure your column widths are appropriately sized and try to minimize the amount of text in a description column – too much text in a single cell will throw off the balance of your table.

HIGHLIGHT IMPORTANT ROWS

| YEAR | BASE PRICE | DESCRIPTION |
|-------------|-----------------|--------------------|
| 2019 | \$88,000 | Lorem ipsum |
| 2020 | \$88,000 | Lorem ipsum |
| 2021 | \$88,000 | Lorem ipsum |

WAIT ... THERE'S SO MUCH GOING ON HERE!

Help readers find what the takeaway or key data point is quickly. Apply bold text and a darker color to the elements in the row.

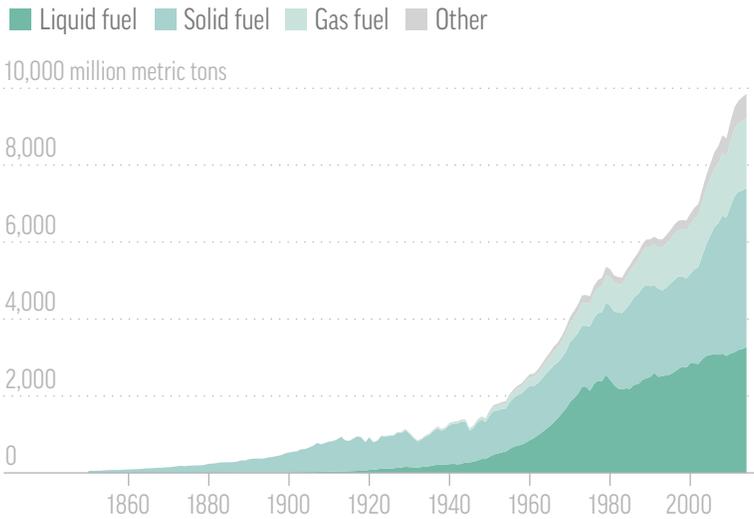
TABLE TIPS

- USE PAGINATION**
Don't allow your table to run too deep.
- DON'T LEAVE WIDOW ROWS OR A FEW STRAGGLER ROWS ON THE LAST PAGE**
Be mindful of the number of rows per page. For example, a table of 50 U.S. states, the magic number is 13 rows per page to get a near even distribution of rows.
- LINK TO SUPPORTING DATA**
Get the main content into a row and use another column to link to other supporting data.

AREA CHARTS

Area charts are great to show how a total and their shares developed over time. They can be tricky to read though, which is why in many cases a line or stacked column chart would be preferred.

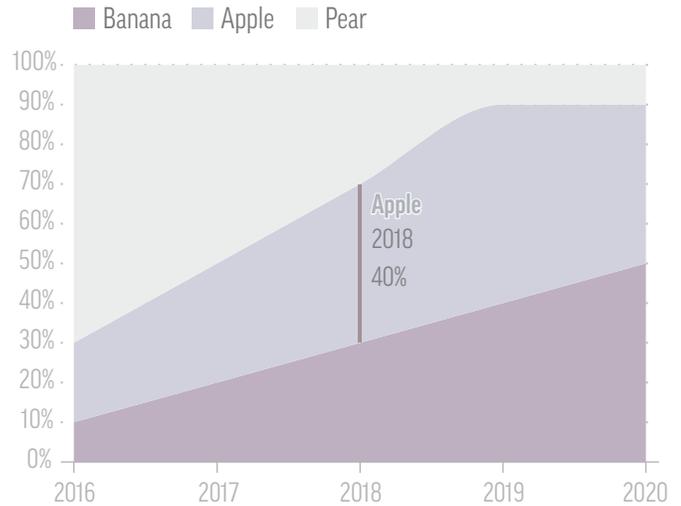
Basic stacked area chart



Source: Carbon Dioxide Information Analysis Center



Proportional stacked area chart



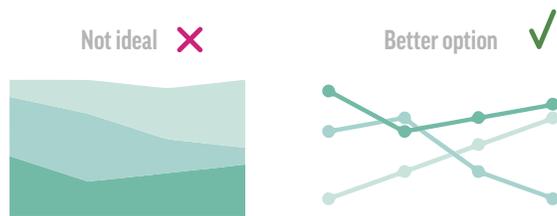
Source: Carbon Dioxide Information Analysis Center



Area Chart General Rules and Best Practices

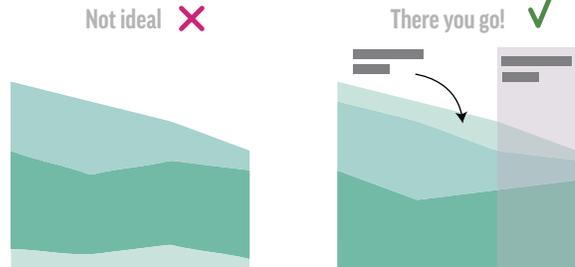
CONSIDER THE FORMAT

Area charts work best when the total is as important as its parts. If the total is not important, consider a line chart instead.



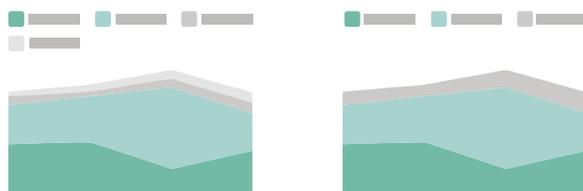
ORDER ELEMENTS AND ADD ANNOTATIONS AND HIGHLIGHTS

Bring the most important value to the bottom of the chart and use color to make it stand out. Annotations and highlight ranges are added for context.



CONDENSE SMALLER CATEGORIES

Grouping smaller values together into a bigger value "others" cleans up the overall look with fewer labels, letting readers navigate faster through the content.



FOR USE WITH EXTENDED PERIODS OF TIME

Area charts work best if you have a dataset with an extended timeseries. Rule of thumb, if you have less than ten or so dates, consider a stacked column chart instead.

Area charts are not ideal if you want to compare the size of different shares with each other. If you want to show that one share surpassed another, consider using a line chart.

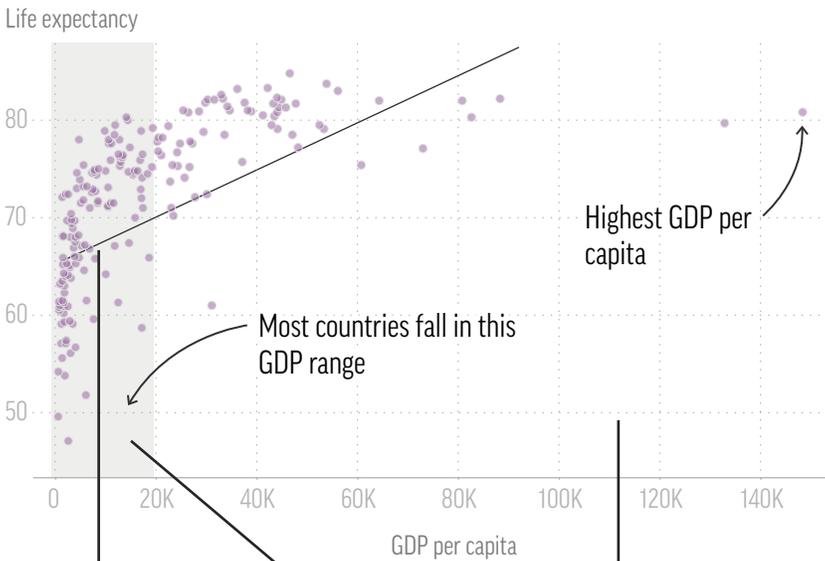
SCATTER PLOT CHARTS

This chart type is ideal for when you want to show relationships, typically between two quantitative measures. It can contain a trend line which is comprised of two properties, direction and strength and can help you identify the correlation of the categories. In your trend line analysis, be mindful not to mix up correlation with causation no matter what your trend line reveals.

TWO VARIABLE PLOT

Example shown: GDP & Life Expectancy

GDP per capita and life expectancy for selected countries



Trend line

Solid line
Color: #c2c2c2
stroke weight: 0.5px

Range highlight

Color: #efefef
(can be most any neutral color - avoid light gray on AP news)

Grid lines

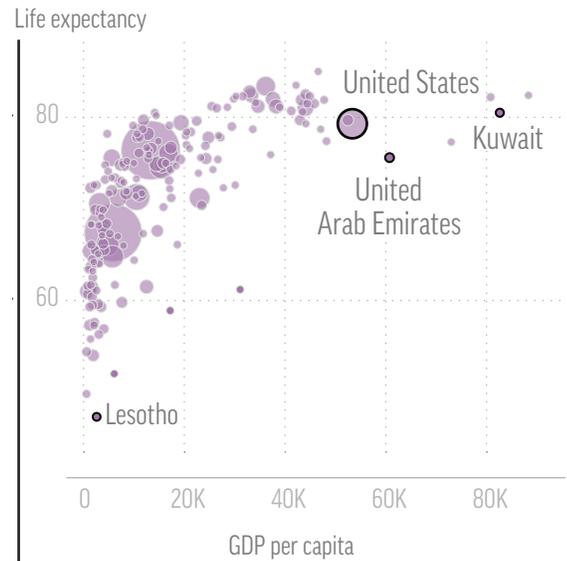
Dash: 0.15 px; Gap: 3 px
Caps: rounded
Color: b2b2b2

TRIPLE VARIABLE PLOT

Example shown: GDP, Life Expectancy & Population

GDP per capita and life expectancy for selected countries

Circles sized by country population

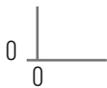


Category labels

Font: Good Cond
Font-size: 11px
Color: #efefef

Scatter Plot General Rules and Best Practices

Y-AXIS SHOULD BEGIN AT ZERO, BUT USE JUDGEMENT



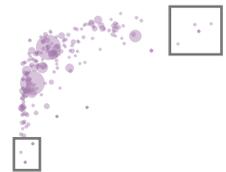
The vertical axis in the examples above do not begin at zero, but with good reason – life expectancy is always way above zero. So exceptions can be made, but typically your Y-axis should start at zero.

USE WHEN YOU HAVE A LOT OF DATA



Scatter plots lend themselves best to large data sets.

DON'T EXCLUDE OUTLIERS

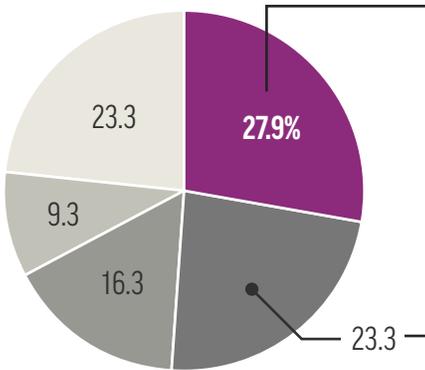


Outliers may feel like they aren't adding to your story, but they are still an important. They are useful when trying to fully understand the distribution of your data.

PIE & DONUT CHARTS

Mining pollution in water at 43 sites

■ Copper
 ■ Zinc
 ■ Arsenic
■ Lead
 ■ Other*



*Other contaminants include: mercury, iron, cadmium, cobalt, cyanide and molybdenum.

Graphic: Staff Name; Source: EPA



Legend position above chart

Single highlight color for largest percentage slice.
Remainder following a neutral ramp

Majority slice label text

font-family: "Good-Cond-Bold";
font-size: 12px;
color: #ffffff;

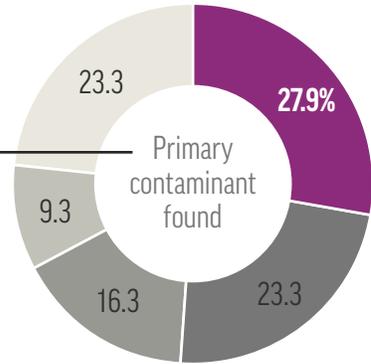
All slices:
Stroke line: 1px, white
Labels placed inside or outside, do not mix the two

Outside label text

font-family: "Good-Cond-Regular";
font-size: 12px;
color: #2c2c2c;

Mining pollution in water at 43 sites

■ Copper
 ■ Zinc
 ■ Arsenic
■ Lead
 ■ Other*



*Other contaminants include: mercury, iron, cadmium, cobalt, cyanide and molybdenum.

Graphic: Staff Name; Source: EPA



Center annotation

font-family: "Good-Cond-Regular";
font-size: 14px;
line-height: 1.3;
color: #787878;
text-align: center;

CHART AND KEY ORDER

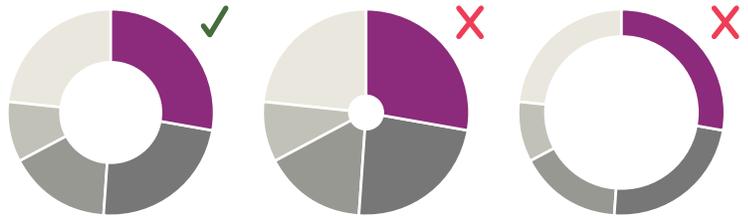
Placed above chart. From largest to smallest, clockwise around the chart.



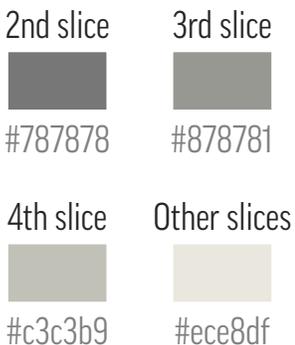
DONUT HOLES



The center of the donut shouldn't be too thin or thick, but if you need space for a center annotation, you can make room!



SECONDARY COLORS



CATEGORIES

Avoid using more than 5 categories in a pie or donut chart. Consolidate categories if you have too many!

