

Bay Area Stats

Data Visualization with D3

A Mashup of Seven D3 Examples

Blog: <http://frank-bowers.ghost.io/bay-area-stats/>

App: <http://frankbowers24.github.io/>

Repo: <https://github.com/FrankBowers24/d3-bayarea>

Bibliography:

Interactive Data Visualization for the Web by Scott Murray

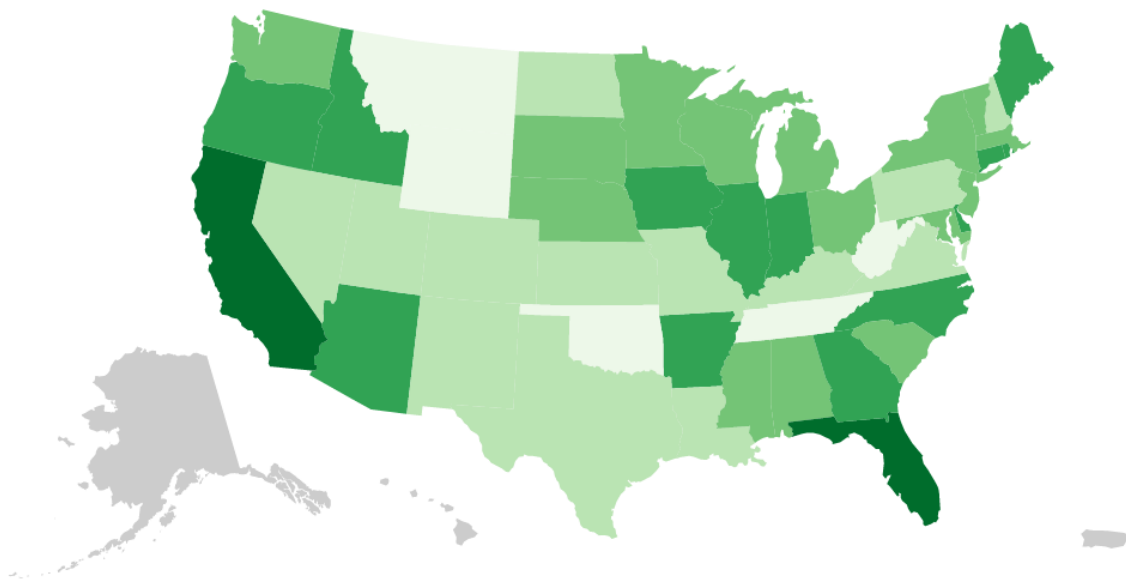
Visual Storytelling with D3 by Ritchie S. King

How I broke the rules

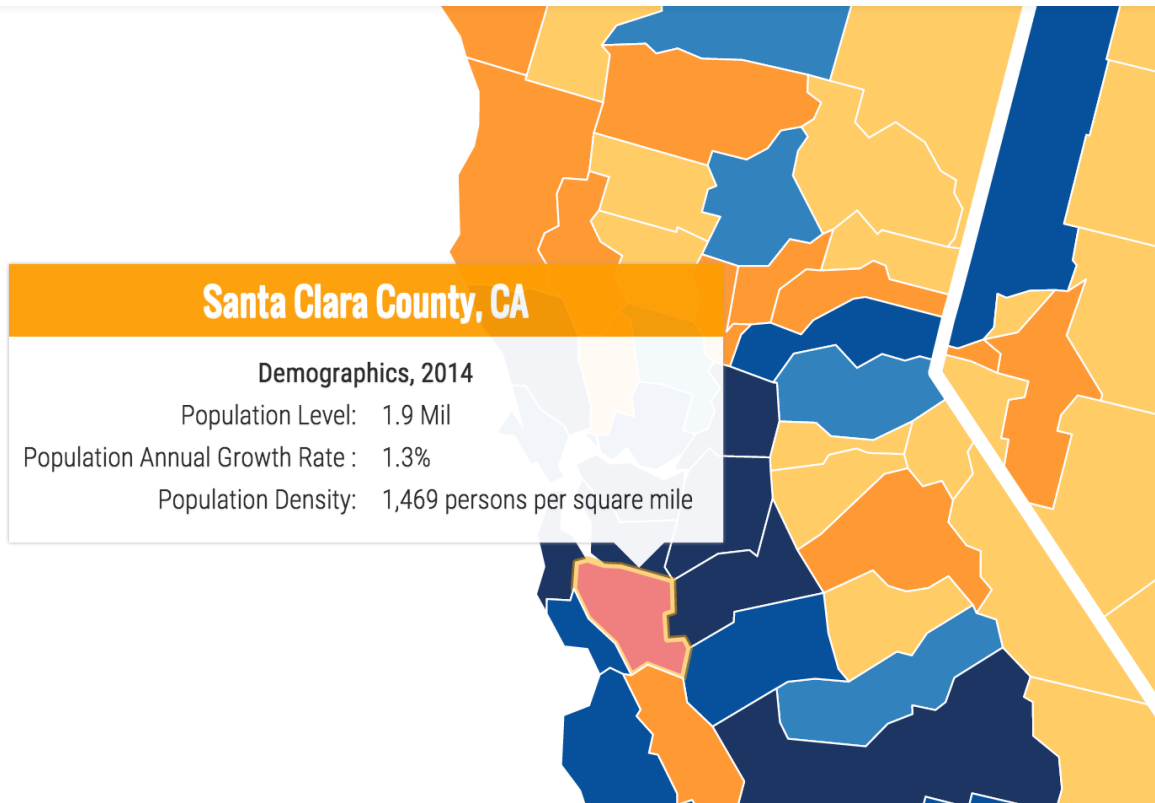
Map Inspirations

Choropleth

"A choropleth map (from Greek $\chi\acute{o}\rho\omicron$ ("area/region") + $\pi\lambda\acute{\eta}\theta\omicron\varsigma$ ("multitude")) is a thematic map in which areas are shaded or patterned in proportion to the measurement of the statistical variable being displayed on the map, such as population density or per-capita income."

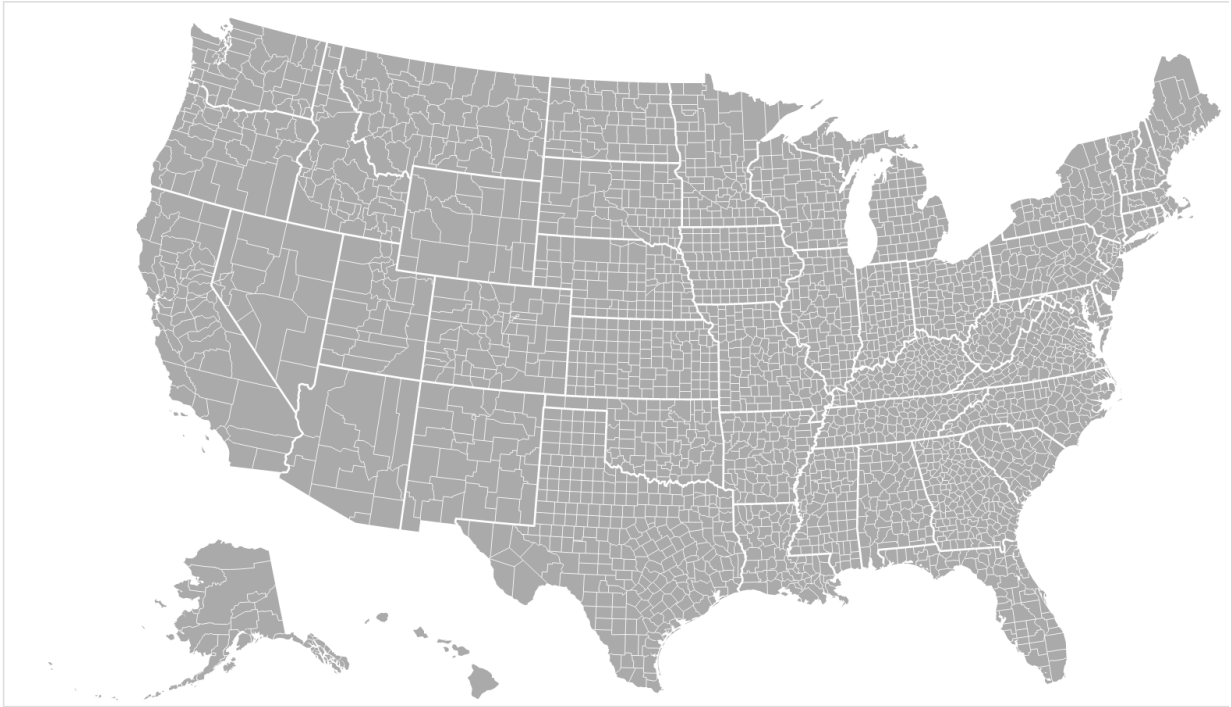


Example from [Interactive Data Visualization for the Web](#) by Scott Murray



NACo County Explorer <http://cic.naco.org/>

Zoomable Geography



<http://bl.ocks.org/mbostock/2374239>

How to Make a Map

1. Load a Census Bureau shapefile into QGIS
2. Export a subset of the shapefile
3. Convert the exported shapefile to geojson using ogr2ogr

```
ogr2ogr -f geoJSON -select GEOID10  
Bay_Area.json Bay_Area.shp -simplify 0.001
```

4. Convert geojson to topojson using <http://geojson.io>

Helpful Posts:

"From Shapefile to GeoJSON"

Mike Bostock's Let's Make a Map

You don't have to write code to have an interactive map on your page: <http://leafletjs.com/>

Why Topojson?

Map files can be huge

1. Slow load times
2. Poor zoom performance

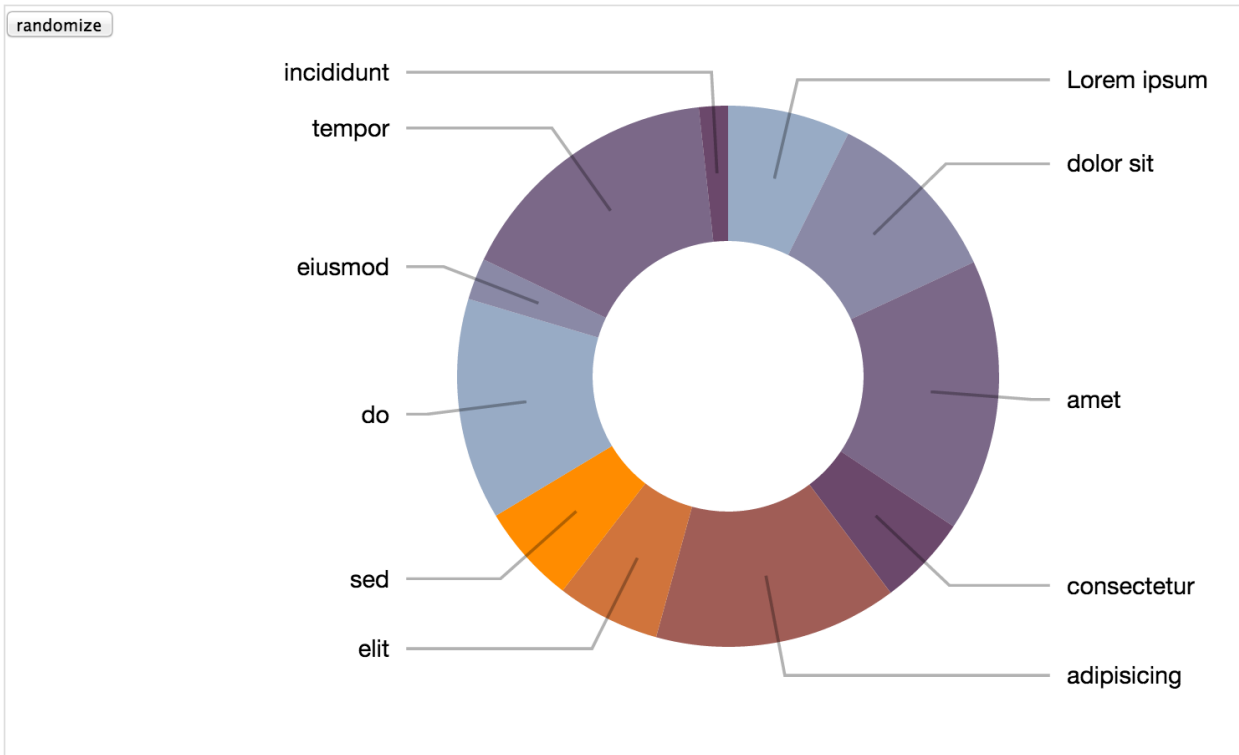
Two solutions:

1. Use a more efficient format
(Topojson files are up to 80% smaller than geojson files)
2. Simplify the map

<http://bost.ocks.org/mike/simplify/>

Pie Inspirations

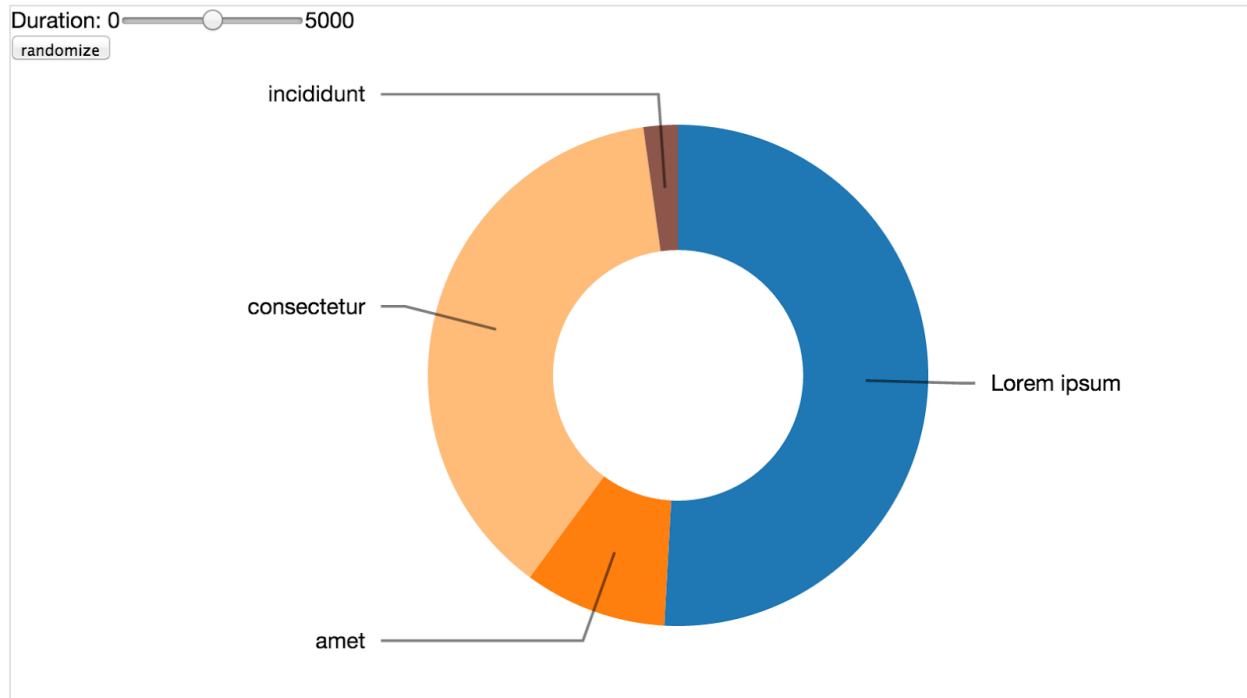
Pie charts labels



Super transitions on data change, but overlapping labels:

<http://bl.ocks.org/dbuezas/9306799>

Pie Chart Labels with missing data

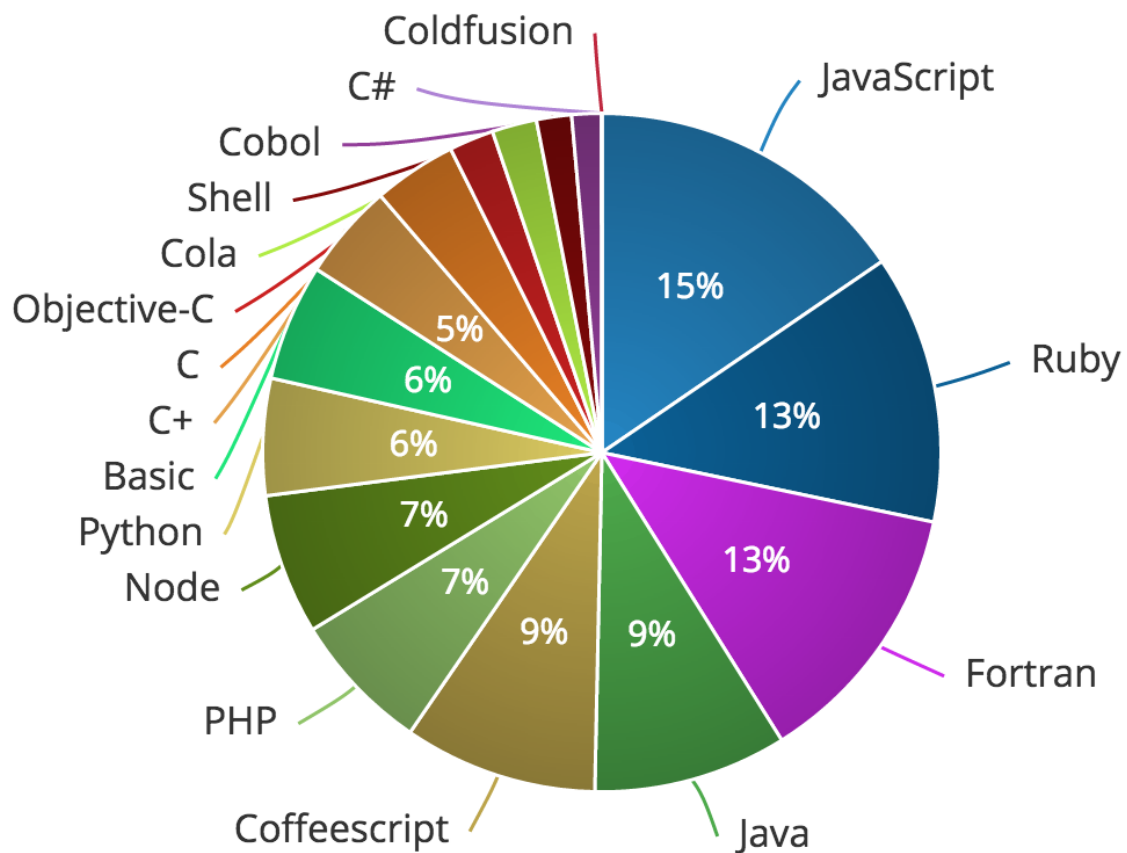


Fade-In/out for added/Removed labels:

<http://bl.ocks.org/dbuezas/9572040>

Programming Languages

A full pie chart to show off a few features.



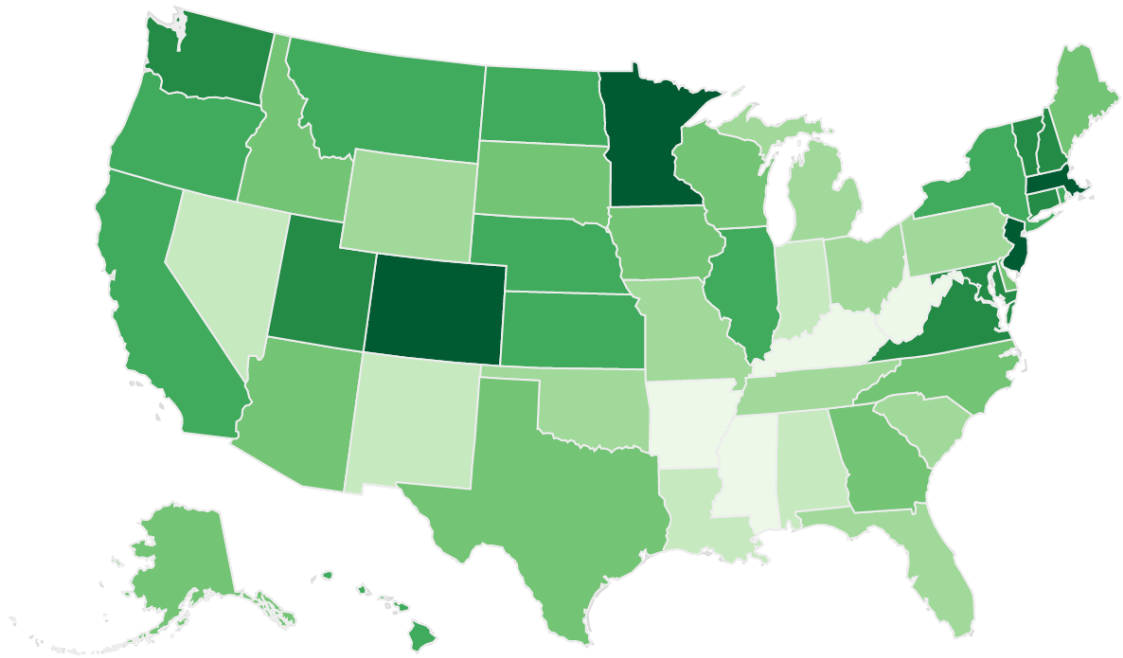
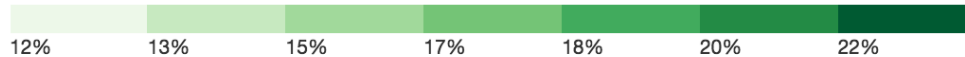
d3pie: Super labeling, but no transition support. You can add elaborate pie charts to your web page with no programming: <http://d3pie.org/>

Legend Example

Responsive Legends with D3

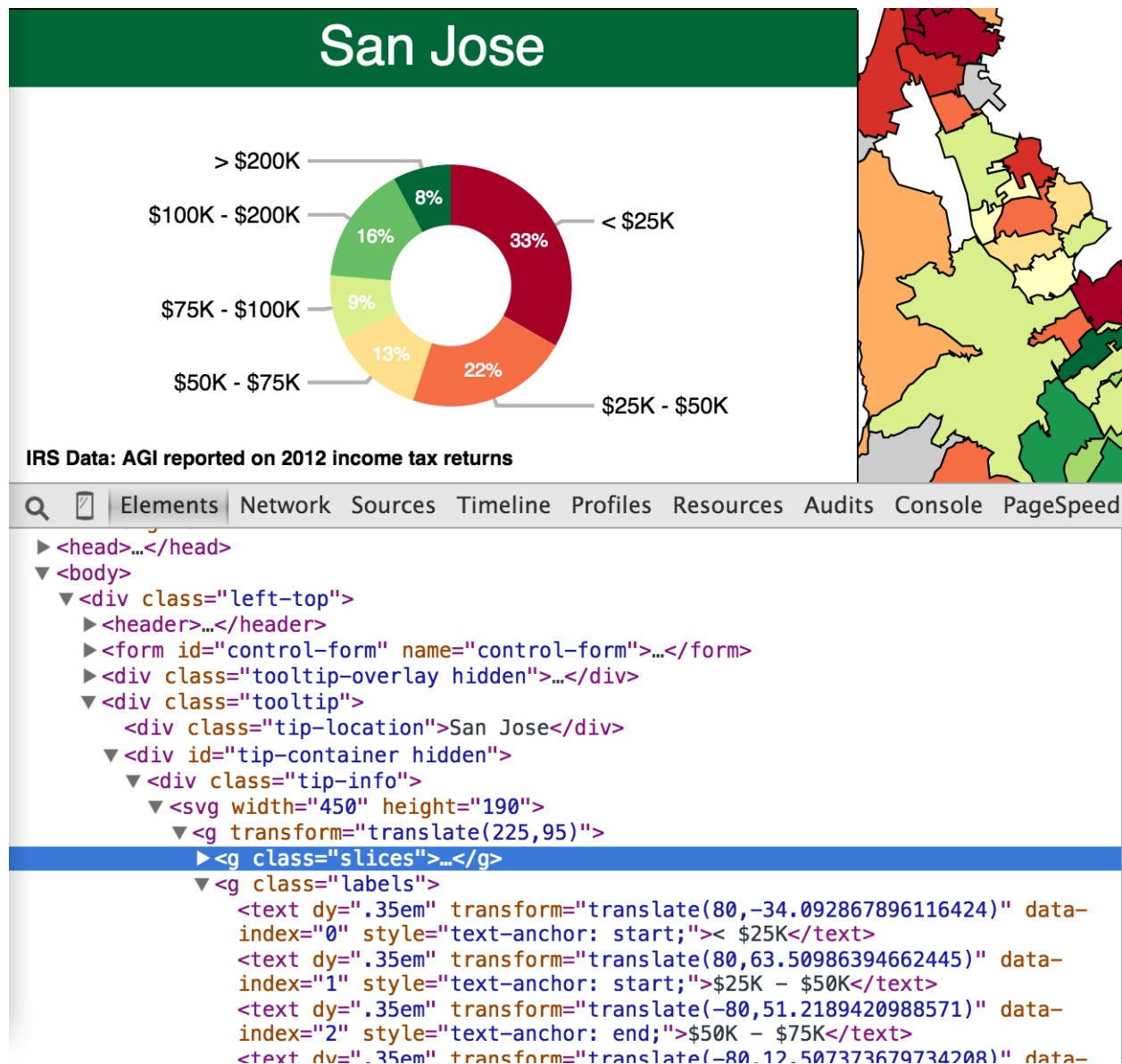
In my [last post](#), I (deliberately) left off a legend. Let's fix that:

Percent of adults over 25 with at least a bachelor's degree

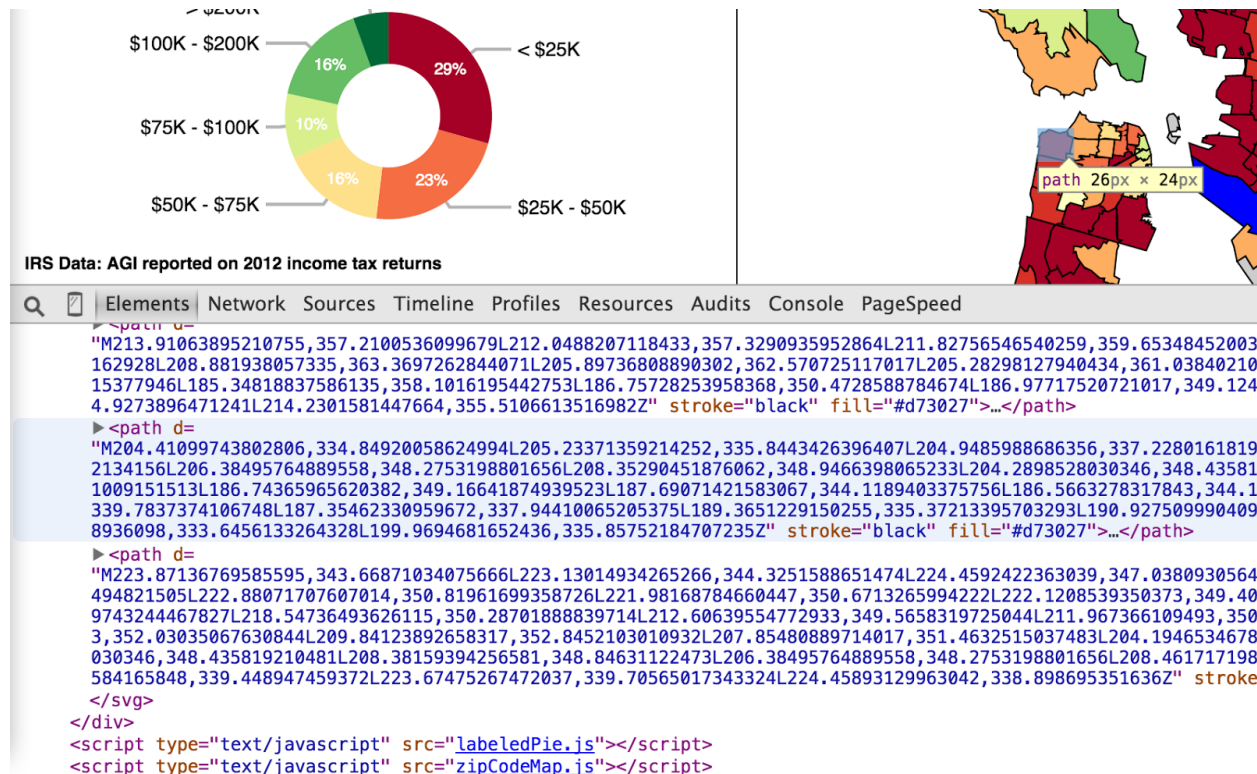


<http://eyeseast.github.io/visible-data/2013/08/27/responsive-legends-with-d3/>

D3-generated HTML/SVG



Pie HTML



Map HTML

Code

Pie and Map APIs in JSDoc

Show allStats.json

Code walkthrough of overlap correction

<https://sketch.io/sketchpad/>

Show constructor invocations for pie and map

Code walkthrough of createLegend

Data sources and format conversion

IRS, Census Bureau, Zillow, MyApartmentMap.com (web scraping)