

# IMAGE FORMATS

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**IMAGE FORMAT**

# IMAGE FILE FORMATS:

- Raster – A raster graphic is an image made of hundreds (or thousands or millions) of tiny squares of color information, referred to as either pixels or dots.

Pro: file size

Con: blurry when scaled

- Vector – A vector graphic uses math to draw shapes using points, lines and curves. So whereas a raster image of a 1" x 1" square at 300 dpi will have 300 individual pieces of information, a vector image will only contain four points, one for each corner; the computer will use math to "connect the dots" and fill in all of the missing information.

Pro: infinitely scalable

Con: hard to embed in documents, file size may be large

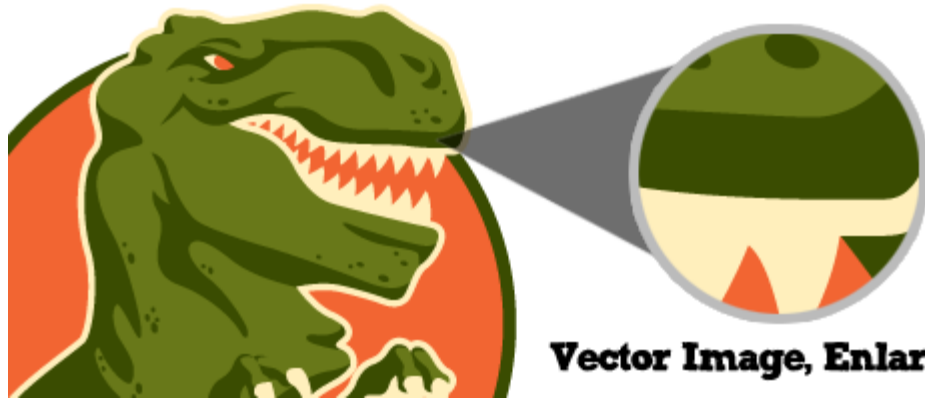
- Metafile – Flexible format that can include elements of raster and vector images.

Pro: you can edit

Con: large file size

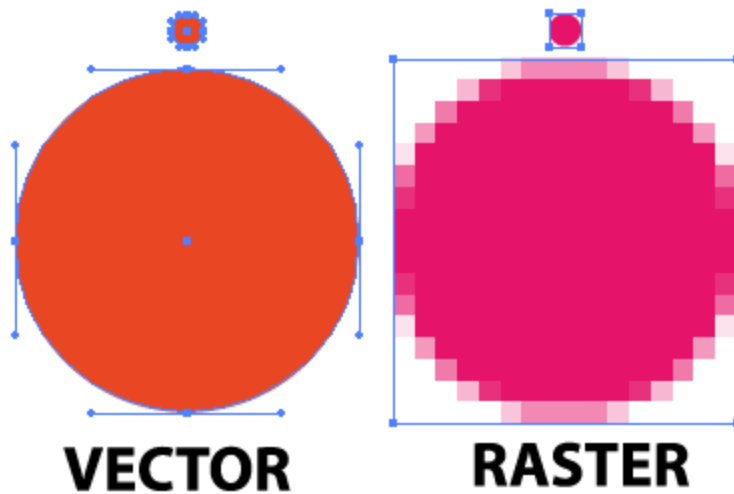
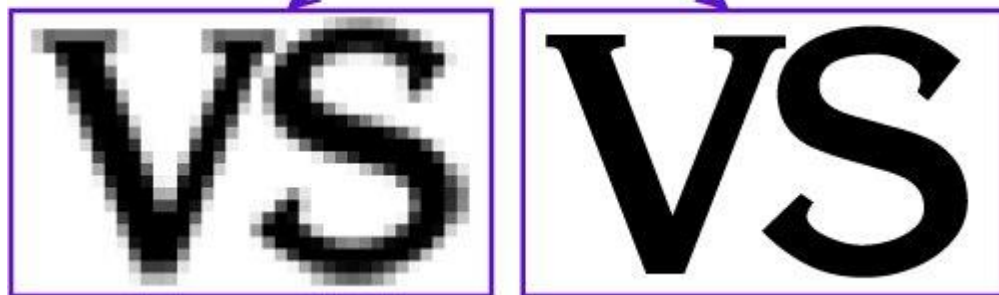


**Raster Image, Enlarged**



**Vector Image, Enlarged**

Raster **vs** Vector





**I'm a bitmap.**

**I'm a vector.**

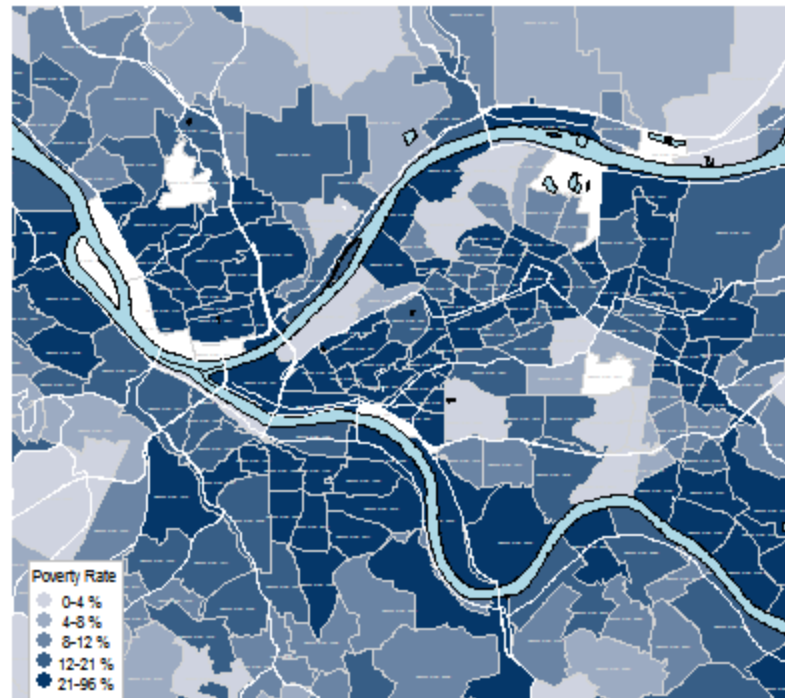


Raster (PNG)



Vector (SVG)

### Poverty Rates in Pittsburgh Neighborhoods

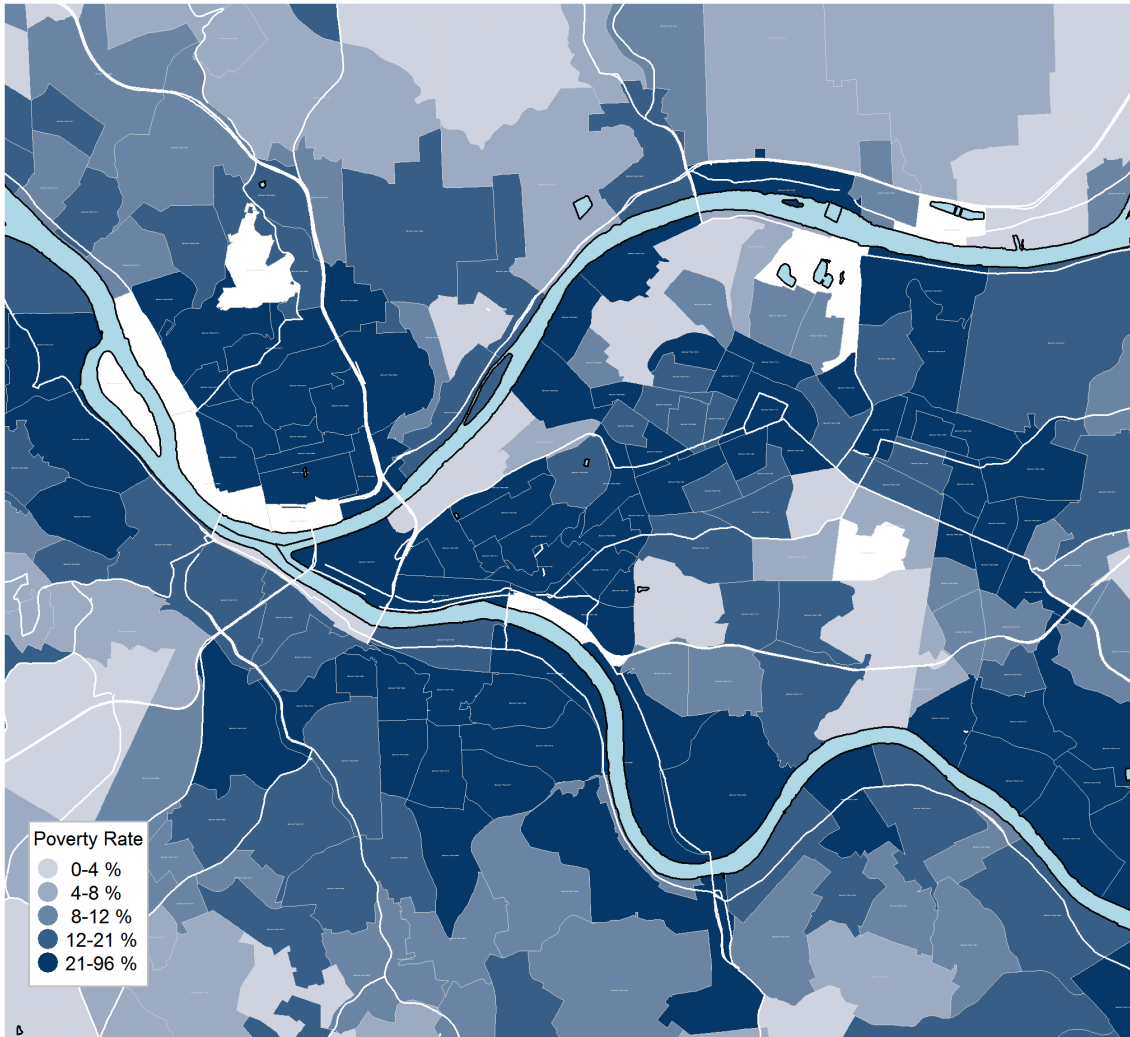


PNG file format

Default image size

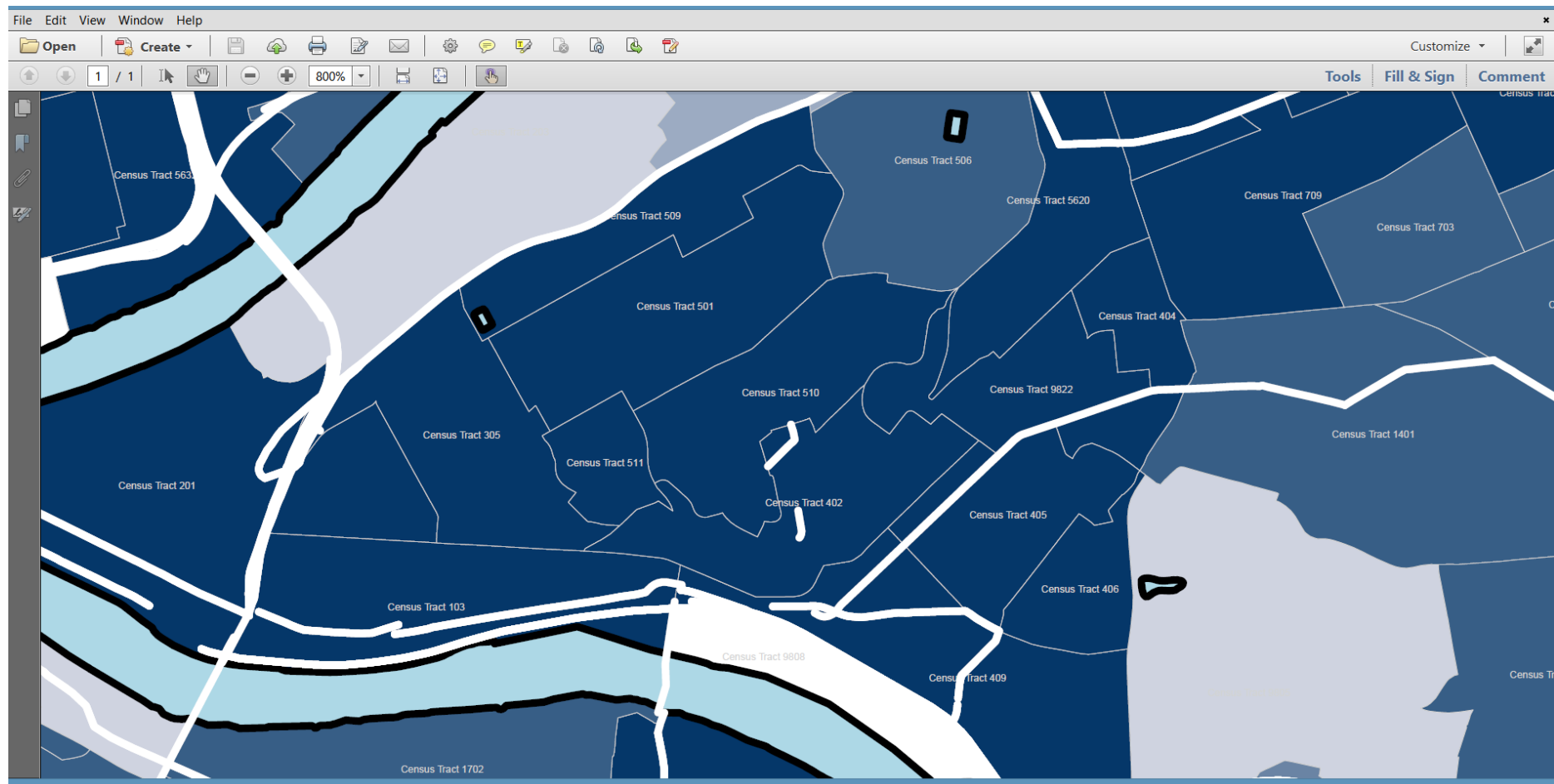


## Poverty Rates in Pittsburgh Neighborhoods



PNG file format

Large image size



PDF file format

Zoomed to 800%

# METAFILE EXAMPLE:

```
plot( 1:5, 1:5, pch=19, col="gray",  
      cex=5, xlab="My X", ylab="My Y",  
      main="Metafile")  
  
points( 1:5, 1:5, pch=21, col="orange",  
        cex=5 )
```

