

pretty (and smart)

adam okulicz-kozaryn

adam.okulicz.kozaryn@gmail.com

this version: Friday 15<sup>th</sup> September, 2023 18:55

## outline

looks matter

general: displaying data (in a map)

maps specifically

but wait, smart is important too! see [final\\_project.pdf](#) [later]

examples from past [if time]

finish early; i will walk around and ans 1:1 q&a



# today

- switching gears and relaxing: art of mapping
- maybe revisit join in the middle, flip the class, q&a



# outline

looks matter

general: displaying data (in a map)

maps specifically

but wait, smart is important too! see [final\\_project.pdf](#) [later]

examples from past [if time]

finish early; i will walk around and ans 1:1 q&a

## “looks vs brains”

- of course, good idea for a map is the key, and:
  - good/quality data: GIGO!
  - the right vars (eg measurement, standardization)
  - at the right level (resolution or aggregation)
- but if map's ugly,
  - people won't bother to get its “internal beauty”
  - mapping is about the “visual appearance”
  - it has to be pretty! yes, “the looks” come first!

# outline

looks matter

general: displaying data (in a map)

maps specifically

but wait, smart is important too! see [final\\_project.pdf](#) [later]

examples from past [if time]

finish early; i will walk around and ans 1:1 q&a

## make it interesting!

- “the greatest value of a picture is when it forces us to notice what we never expected to see”
- or less poetically, just when the maps make the point, expected or unexpected
- maps must tell a story in a convincing (and rigorous) way
- refs:
  - Tufte (multiple) <http://www.edwardtufte.com/tufte/>
  - Kosslyn “Clear and to The Point” [http://www.amazon.com/](http://www.amazon.com/Clear-Point-Psychological-Principles-Presentations/dp/0195320697)

[Clear-Point-Psychological-Principles-Presentations/dp/0195320697](http://www.amazon.com/Clear-Point-Psychological-Principles-Presentations/dp/0195320697)

## be simple

- everything should be made as simple as possible, but not one bit simpler
- no padding: present only data needed for a specific purpose
- no clutter: put in a single graph only the data that are highly related and must be compared
- put in appendix if it is not very relevant but may be useful
  - people looking for extra info will find it
  - people interested in main story will not get distracted

## avoid visual clutter

- all parts of graph should be meaningful
- good practices:
  - do not use shades
  - do not use fancy colors
  - do not use any decoration

## use space efficiently

- get rid of white space, blow up your map
- it should be as big as possible, use all space
- put legend in an efficient way
- eg in water or forest, etc

## balance! keep balance in:

- colors (say either use toned down colors for everything or use stark contrasts, etc)
- fonts: titles, notes, labels etc should be proportional
- thickness of lines
- and everything else
- in general: rather use less ink than more



## one v several graphs/maps

- usually to convey an idea, you may need several graphs/maps
- say if you want to show deprivation in SJ:
  - eg low educ, poverty, crime, etc etc
  - but can also show a summary, eg an index
- sometimes better in one graph/map
  - eg showing change: better one than 2; just calc chng var
  - **calc** perc chng in  $100 * (\text{pop}_{10} - \text{pop}_{00}) / \text{pop}_{00}$

## think about it/meaning: the 'so what?' question

- ok, you've got the map
- now think about it...
- what does it mean?
- (beyond technical correctness; lack of mistakes)
- eg is it interesting or informative or helpful... etc?
- as you look at it, ask yourself the 'so what?' question
- if not happy with the answer:
- move it to the appendix, and produce a better map
- in this class i will be grading substantive meaning, too

## outline

looks matter

general: displaying data (in a map)

maps specifically

but wait, smart is important too! see [final\\_project.pdf](#) [later]

examples from past [if time]

finish early; i will walk around and ans 1:1 q&a

## let's load our favorite counties data

- <https://docs.google.com/uc?id=1xJDhcRCkgv7k4tNCa720og5bohV6dTB2&export=download>
- and let's look more at the style tab
- see colors, transparencies, symbols, etc
- and shading/hashing, line width, color, etc

## some examples [if time]

- we can have a look at some examples and discuss if they are pretty (and smart/interesting)
- <http://twistedstifter.com/2013/08/maps-that-will-help-you-make-sense-of-the-world/>
- can also google “thematic map” + “best”; “examples” etc
- or “choropleth maps”

## outline

looks matter

general: displaying data (in a map)

maps specifically

but wait, smart is important too! see final\_project.pdf [later]

examples from past [if time]

finish early; i will walk around and ans 1:1 q&a

## outline

looks matter

general: displaying data (in a map)

maps specifically

but wait, smart is important too! see [final\\_project.pdf](#) [later]

examples from past [if time]

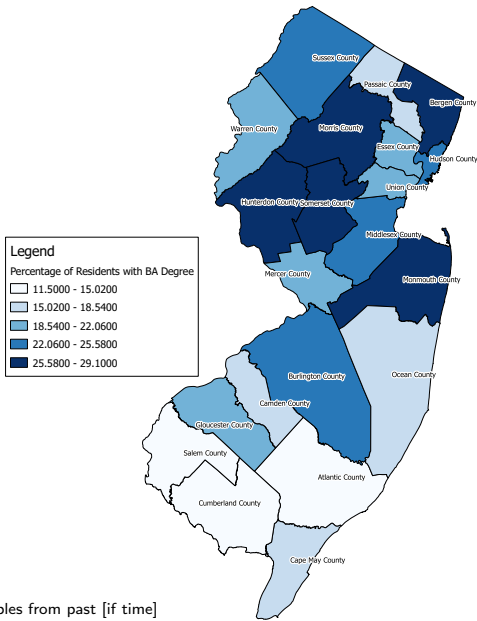
finish early; i will walk around and ans 1:1 q&a

## nj force [only on campus or vpn!]

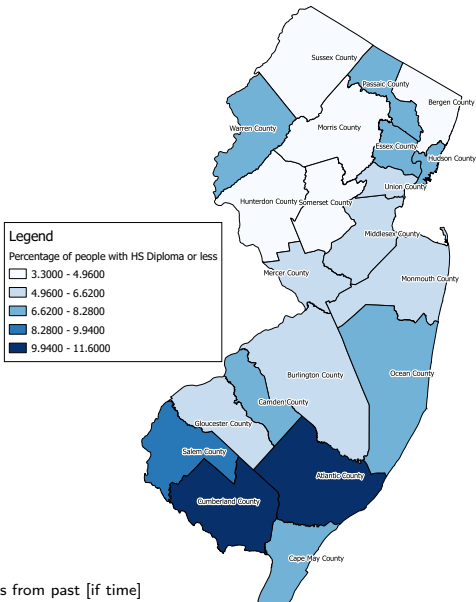
- `https://maps-dppa.camden.rutgers.edu/index.php?search=ethan&title=Special%3ASearch&go=Go`



## New Jersey Residents with Bachelor Degree or Higher



## New Jersey rate of residents earning less than a High School Diploma



## 2012-2013 NJ K-12 Education Aid per resident

### Legend

NJ State Aid Per Resident 2012-2013

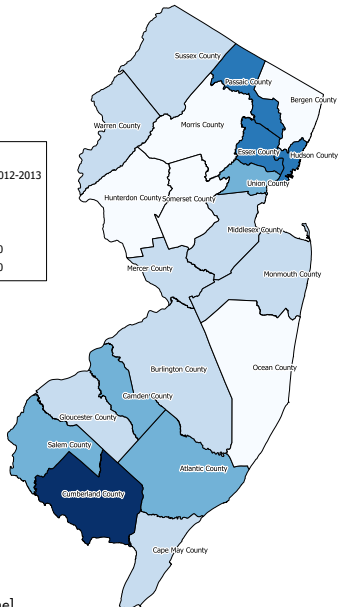
226.0000 - 609.6000

609.6000 - 993.2000

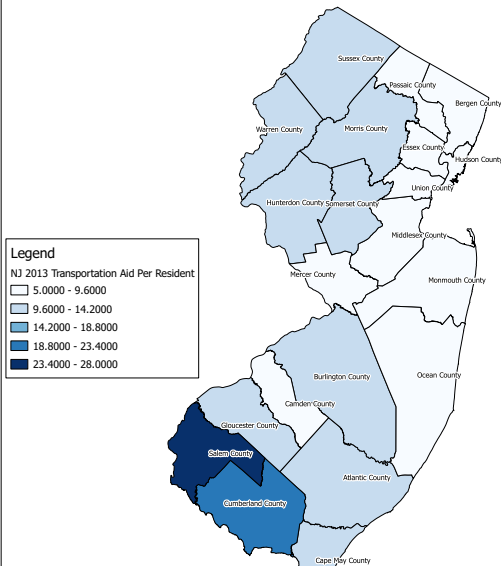
993.2000 - 1376.8000

1376.8000 - 1760.4000

1760.4000 - 2144.0000



## NJ 2013 Transportation Aid Per Resident

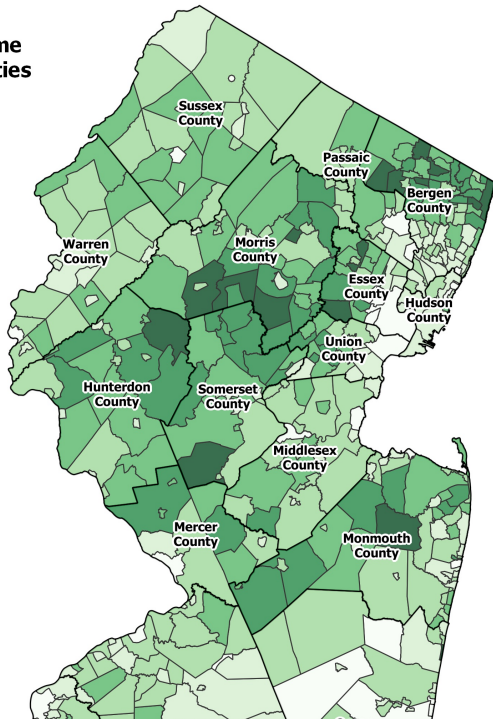
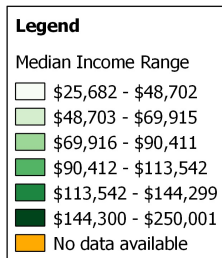


## NJ counties

- many variables about similar topic: education
- great: triangulation
- good use of space, could be little better
- nice color ramp
- good fonts, maybe title little smaller
- fewer decimal points !
- could list data source (but may do it elsewhere, say in paper)

# Median Household Income in New Jersey Municipalities

For 2006-2010  
Median Income: \$67,681

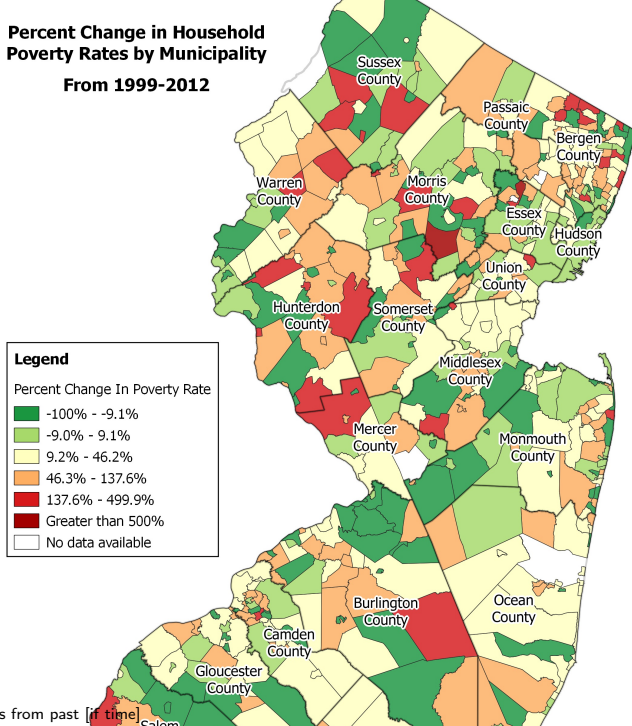


## income in NJ

- note, map cut to display detail
- nice title, we know timeframe
- legend: note decimal points; love yellow for missing data
- really nothing to fix; 2 things below \*personal\* preference:
  - use white borders for municipalities—little cleaner
  - use a 2 color ramp (say red-green) to signal poverty-affluence
- interesting: such big disparities so close to each other
- a note on level of analysis:
  - if county level data: N dark green; S: bright green
  - it would cover up deep poverty pockets in NYC metro!
- aggregation does matter! results are totally different

# Percent Change in Household Poverty Rates by Municipality

## From 1999-2012





## poverty change

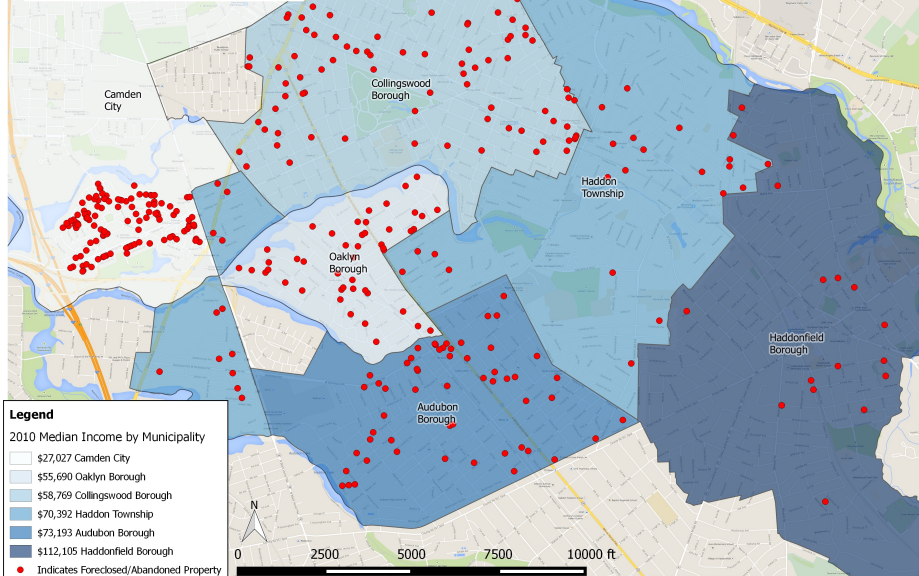
- readable, informative, great!
- great variation ! quite striking
- wonder why some places do quite well and some so bad...
- future: change from 1% to 5% and from 10% to 50% are both 500%
- yet they mean different things
- can use it for policy analysis...
- say could thing why such great divergence...
- any policies that could have worked?

# properties

## 2014 Foreclosed & Abandoned Properties In Select Camden County Municipalities

With 2010 Median Income by Municipality

Note: All foreclosed & abandoned property data was self-reported by municipalities. Only properties in the Fairview neighborhood in Camden City were provided. Median income data from 2010 ACS 5-Year Estimates.



### Legend

#### 2010 Median Income by Municipality

- \$27,027 Camden City
- \$55,690 Oaklyn Borough
- \$58,769 Collingswood Borough
- \$70,392 Haddon Township
- \$73,193 Audubon Borough
- \$112,105 Haddonfield Borough

● Indicates Foreclosed/Abandoned Property

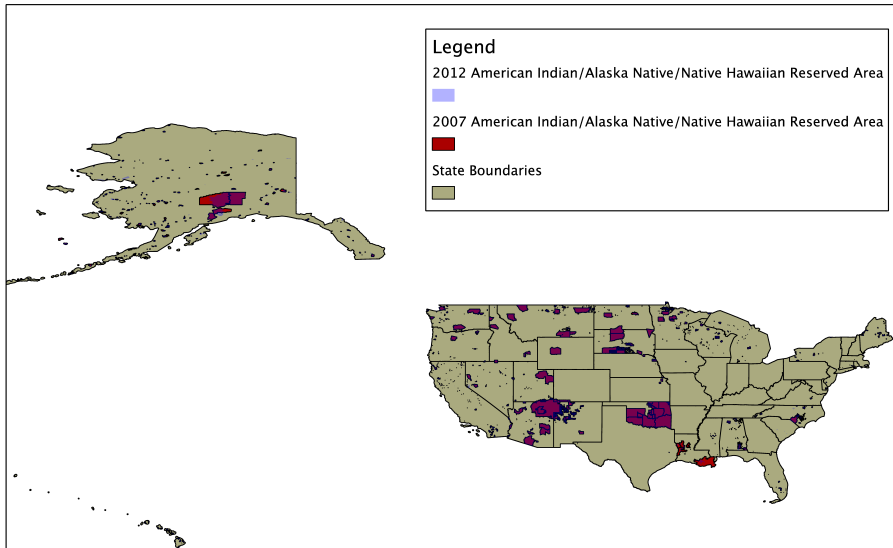
## properties

- superb use of space! labeling neatly in corners
- pretty map!
- interesting map—clearly foreclosures correlate negatively with income

## properties

- guess some data missing in top right corner? should be indicated more clearly...
- perhaps make it reddish or cover with dashed or dotted pattern
- so that we know clearly for which areas there are no data
- 2014 is still going—should mention months
- note how hi resolution google map is! can zoom in and see all road names
- is it median hh income? (it is explained in journal though)

# Indians

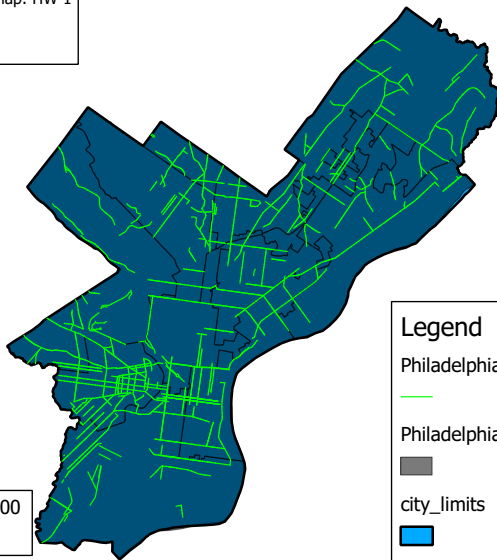


# Indians

- nice map ! can improve:
  - smaller font
  - transparent colors to see time difference
  - zoom in more
- future research:
  - longer time span, say hundreds of years
  - also show population
  - and other sociodemographics

# bike lanes

Philadelphia bike map: HW 1



0 20000 40000



## Legend

PhiladelphiaBikeNetwork201204



PhiladelphiaCouncilDistricts\_2000



city\_limits



## bike lanes

- very nice !
- can improve: beautify fonts, colors...
- future research:
  - add bike traffic (not sure if available, but can measure...)
  - add sociodemographics by tract
    - eg do young or rich or educated people bike ?
  - compare with other cities, eg Boston, Portland...



## future ps

- we'll be doing thematic maps throughout the course
- and i will be much more picky

## outline

looks matter

general: displaying data (in a map)

maps specifically

but wait, smart is important too! see [final\\_project.pdf](#) [later]

examples from past [if time]

finish early; i will walk around and ans 1:1 q&a