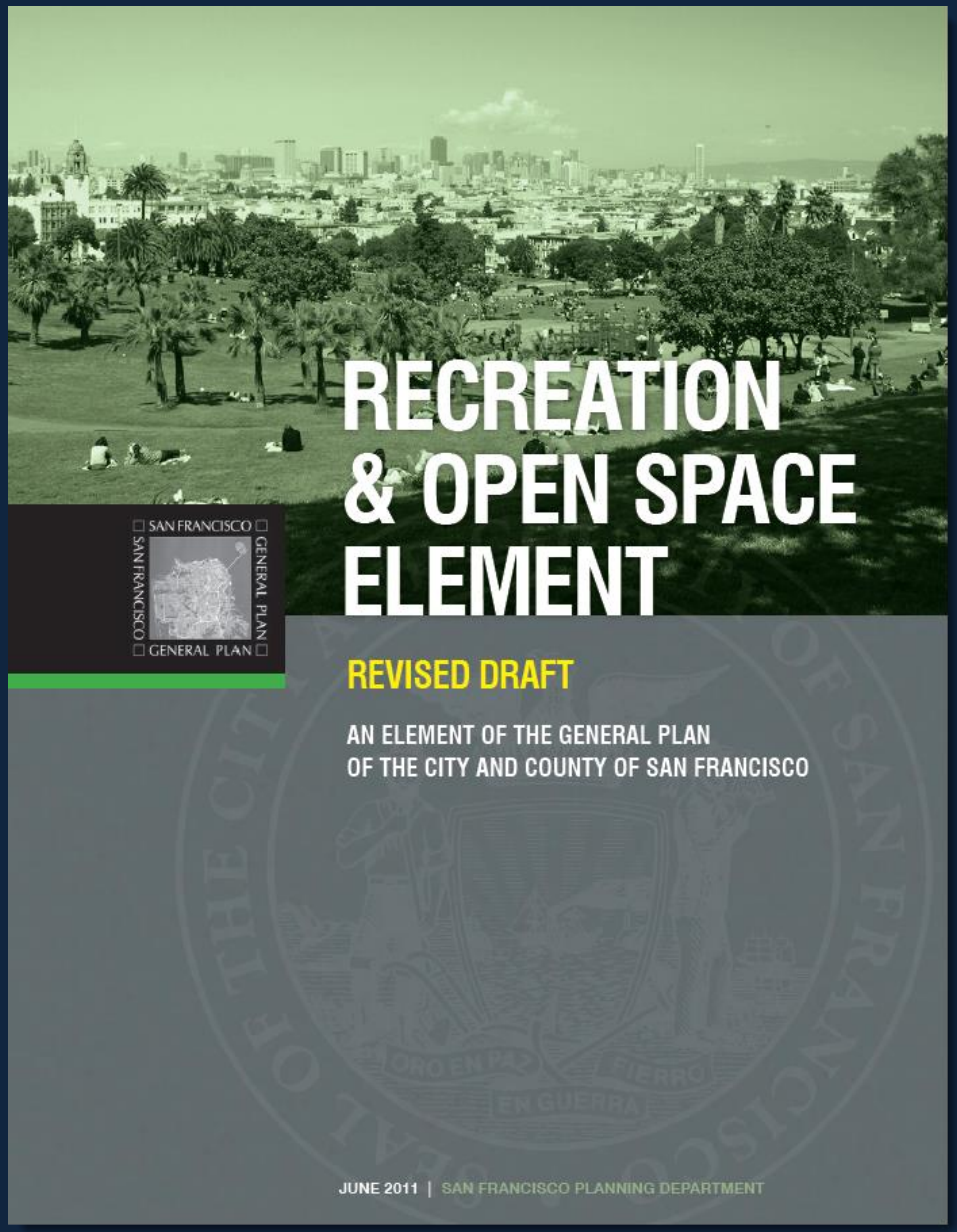
Site Suitability in the Real World: The Case of the ROSE

-or- One GIS Analyst's Observations



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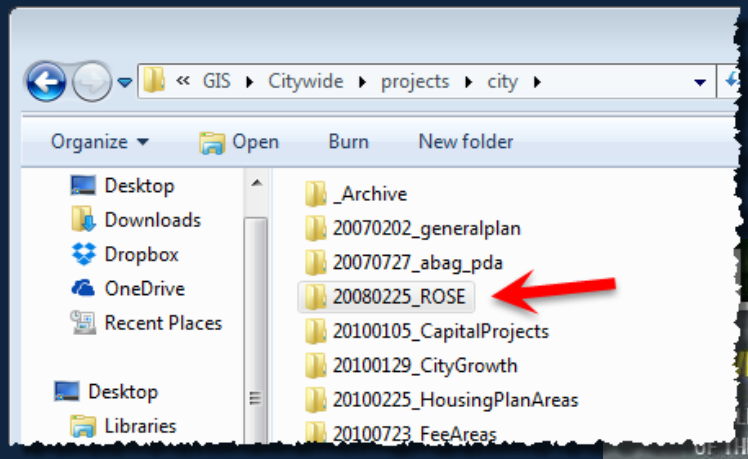
Analysis and mapping directory created:
February 2008

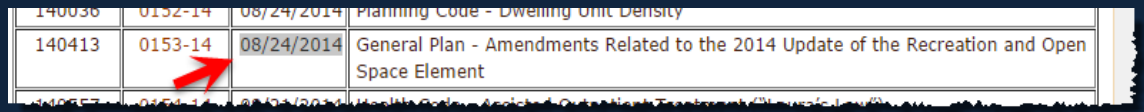
Revised Draft printed:
June 2011

Final Printing:
April 2014

Board adopted:
August 2014

Just over six years





Caveats:

Planners have very difficult jobs. They have to keep their directors happy, they have to keep citizens involved in the decision making process, and keep them appraised and updated. They have to work with multiple agencies and deal with minor and major setbacks all the while remaining true to their training and professional convictions.

It should also go without saying as well, that citizen involvement in any planning process is very critical to its success.

I'm a GIS Analyst!

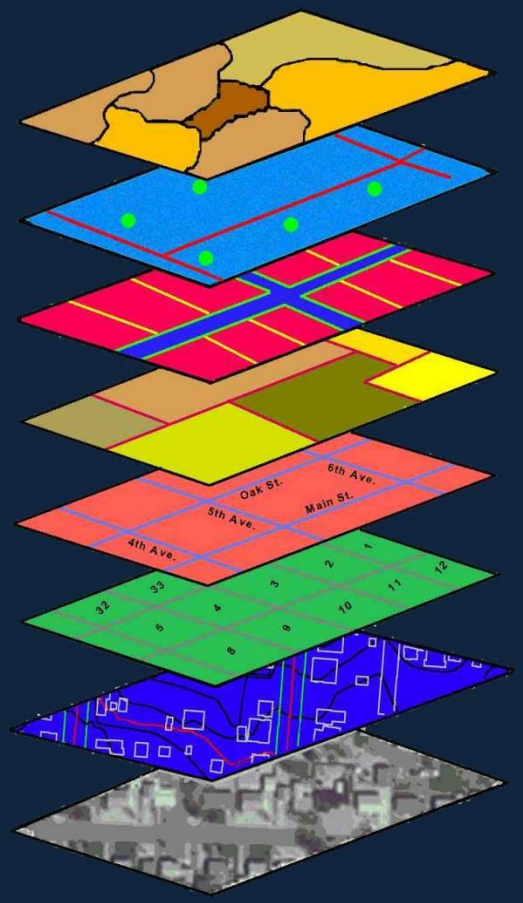


Image Source: Oak Ridge National Laboratories

Site Suitability

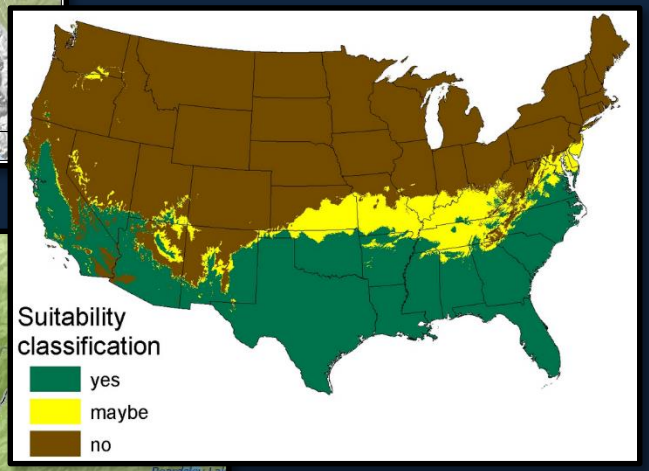
You can do them with rasters.

You can do them with vectors.

They use multiple layers scored and combined

to find out where something might be.

We've probably all done one.



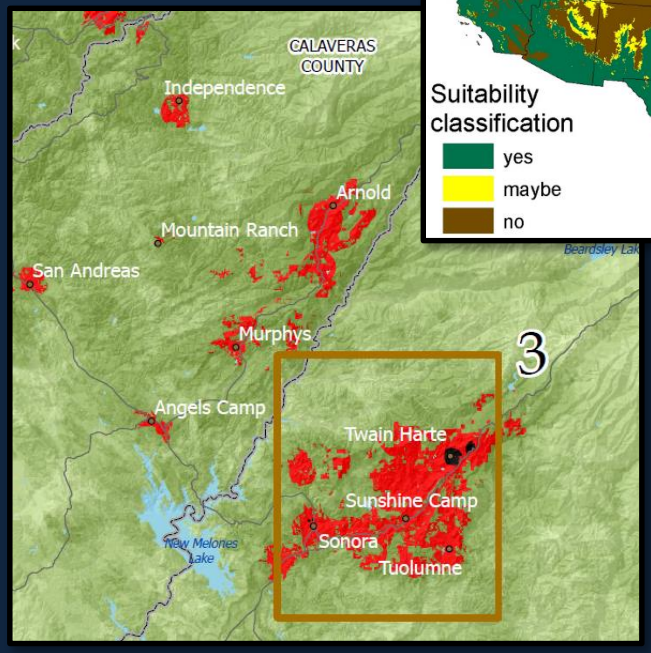


Image Source: Ecological Society of America

Objective for the ROSE:

A “high needs areas analysis” to “prioritize acquisition of open space”

Sounds like a site suitability analysis to me, “I can do that!”

“What are the indicators?”

Indicators

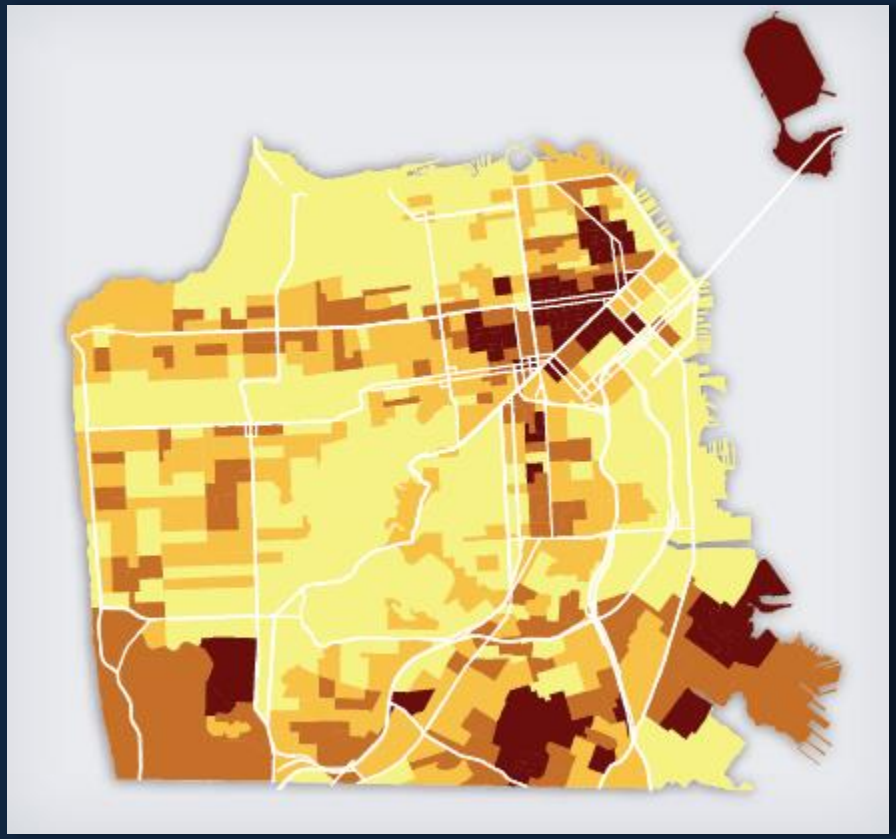
Demographic Densities:

- Population Density
- Youth Density
- Senior Density

Indicators

Economic Data:

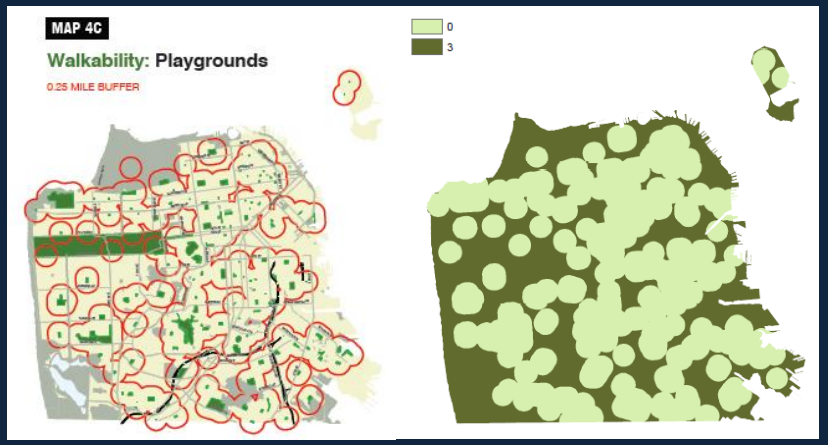
- Household Median Income

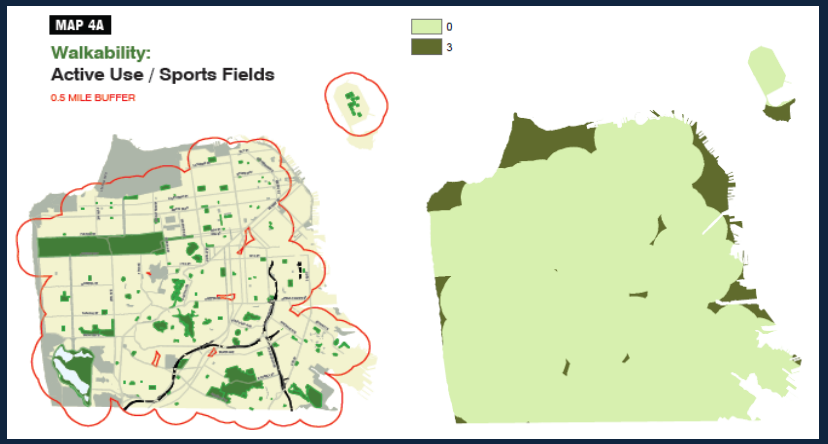


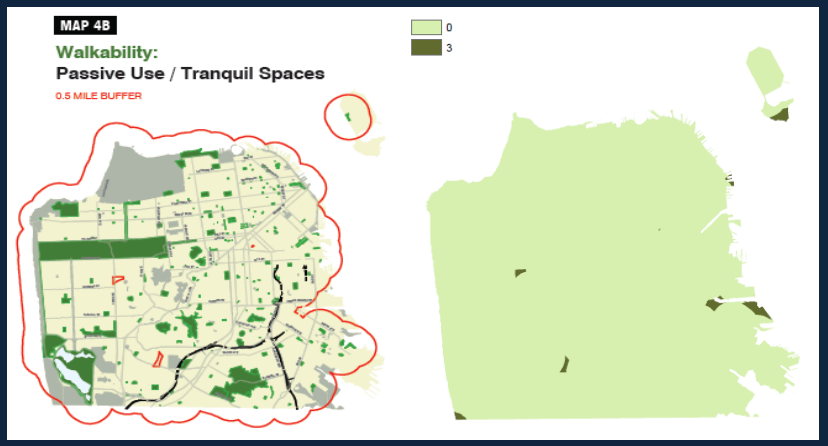
Indicators

Walkability Data:

- To playgrounds (0.25 mile)
- To “active” space (0.5 mile)
- To “passive” space (0.5 mile)







Indicators

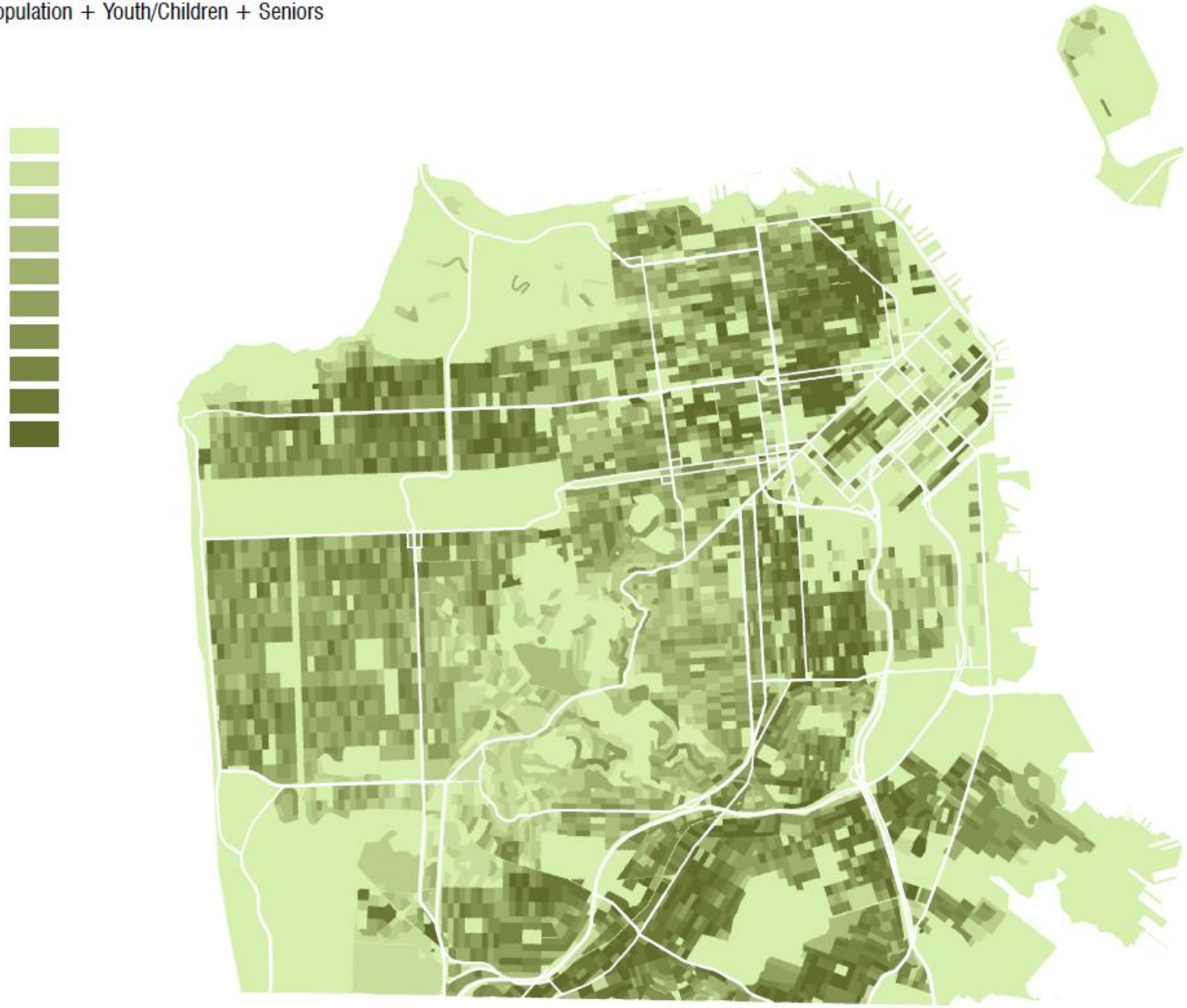
Growth:

- Land use growth allocation based on growth models and current plan areas

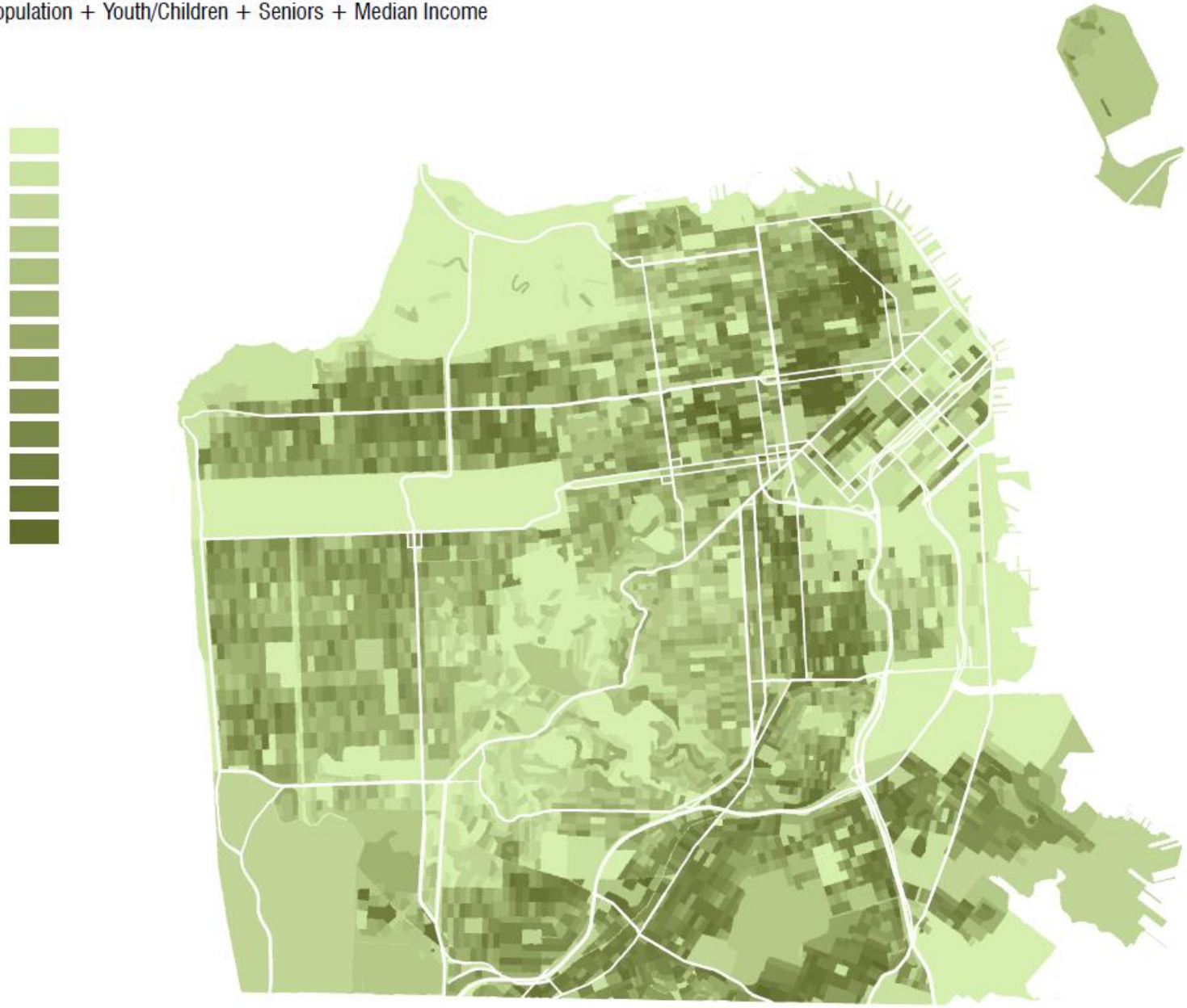
Population

Population + Youth/Children

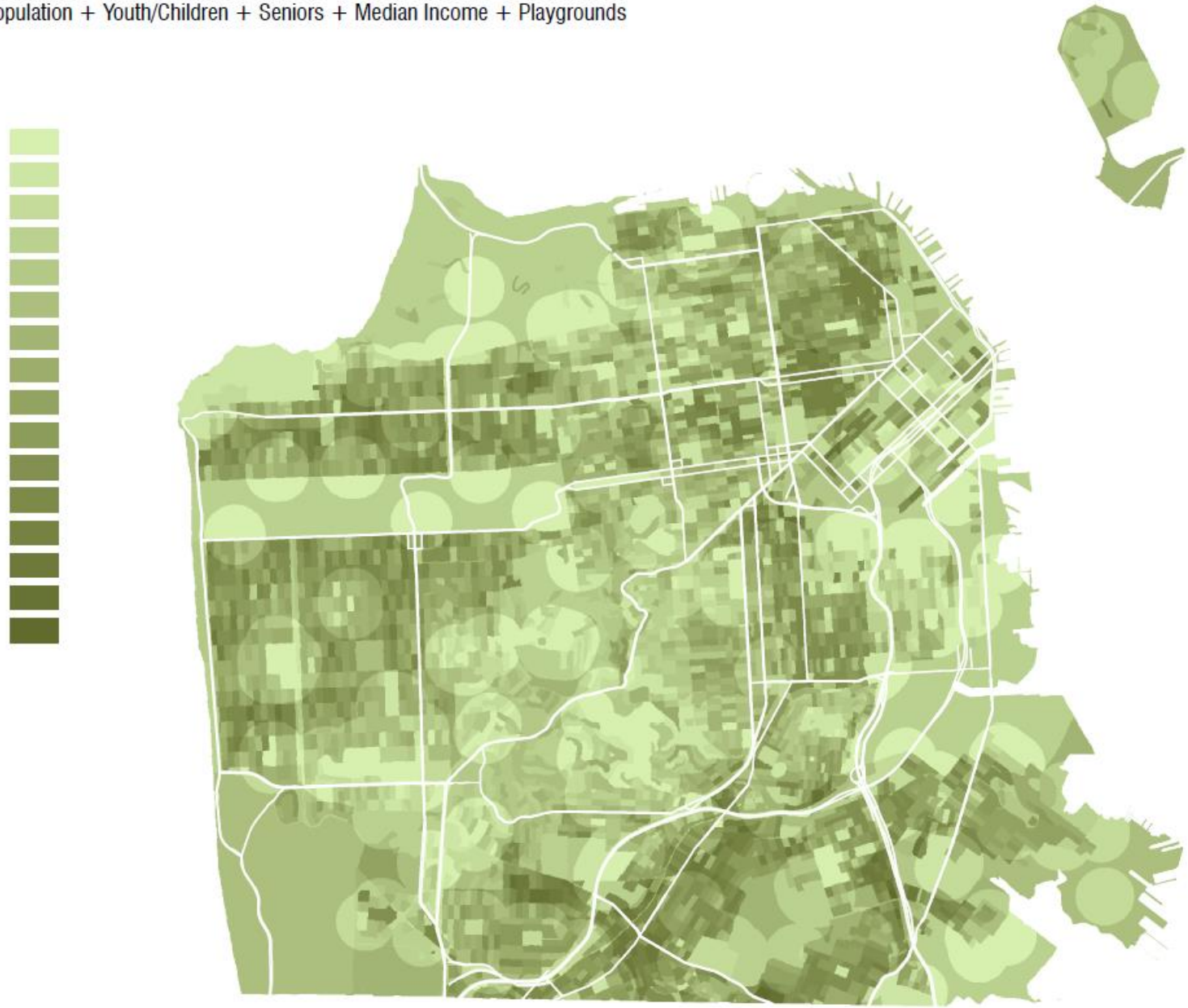
Population + Youth/Children + Seniors



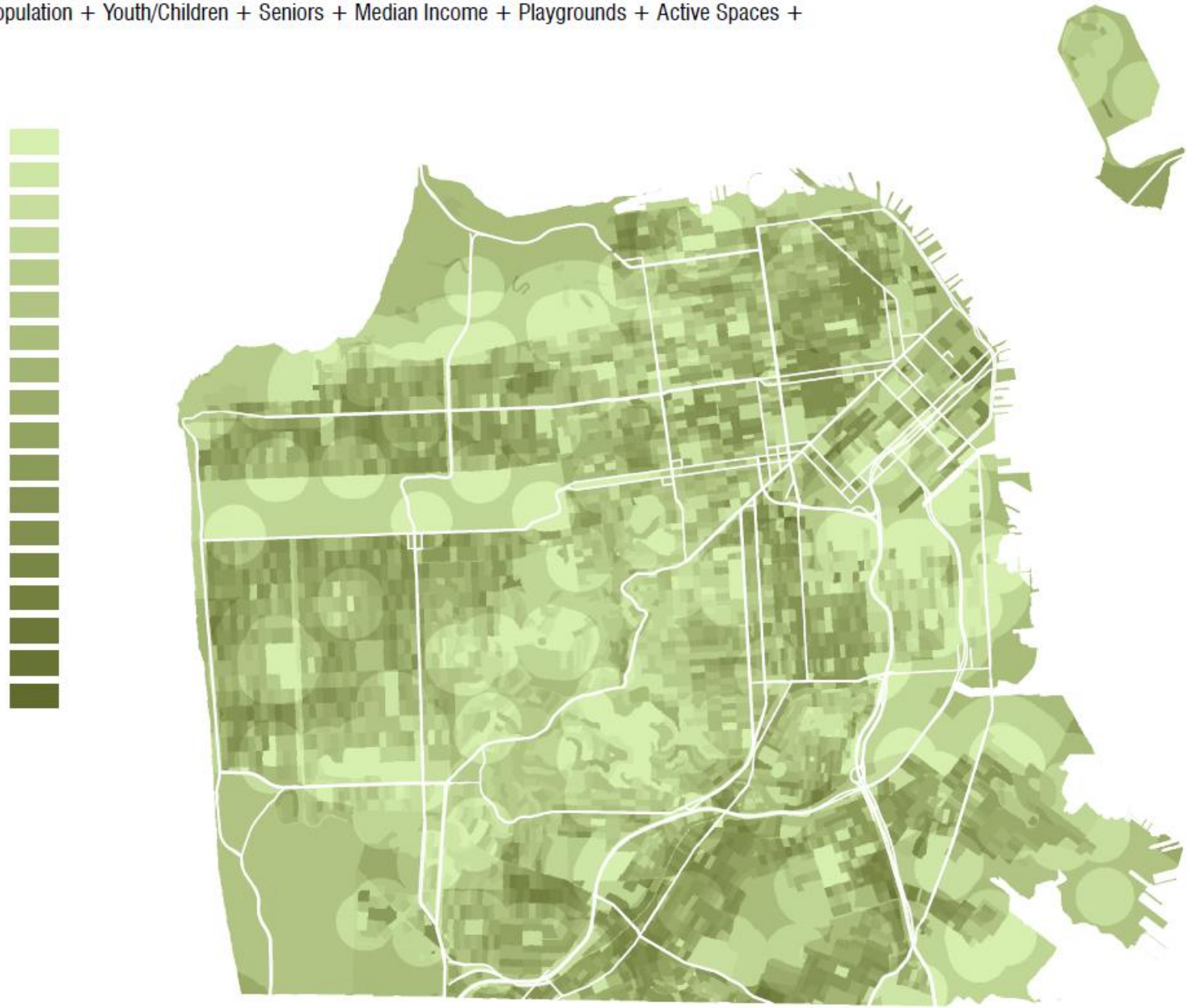
Population + Youth/Children + Seniors + Median Income



Population + Youth/Children + Seniors + Median Income + Playgrounds



Population + Youth/Children + Seniors + Median Income + Playgrounds + Active Spaces +



Population + Youth/Children + Seniors + Median Income + Playgrounds + Active Spaces + Passive Spaces

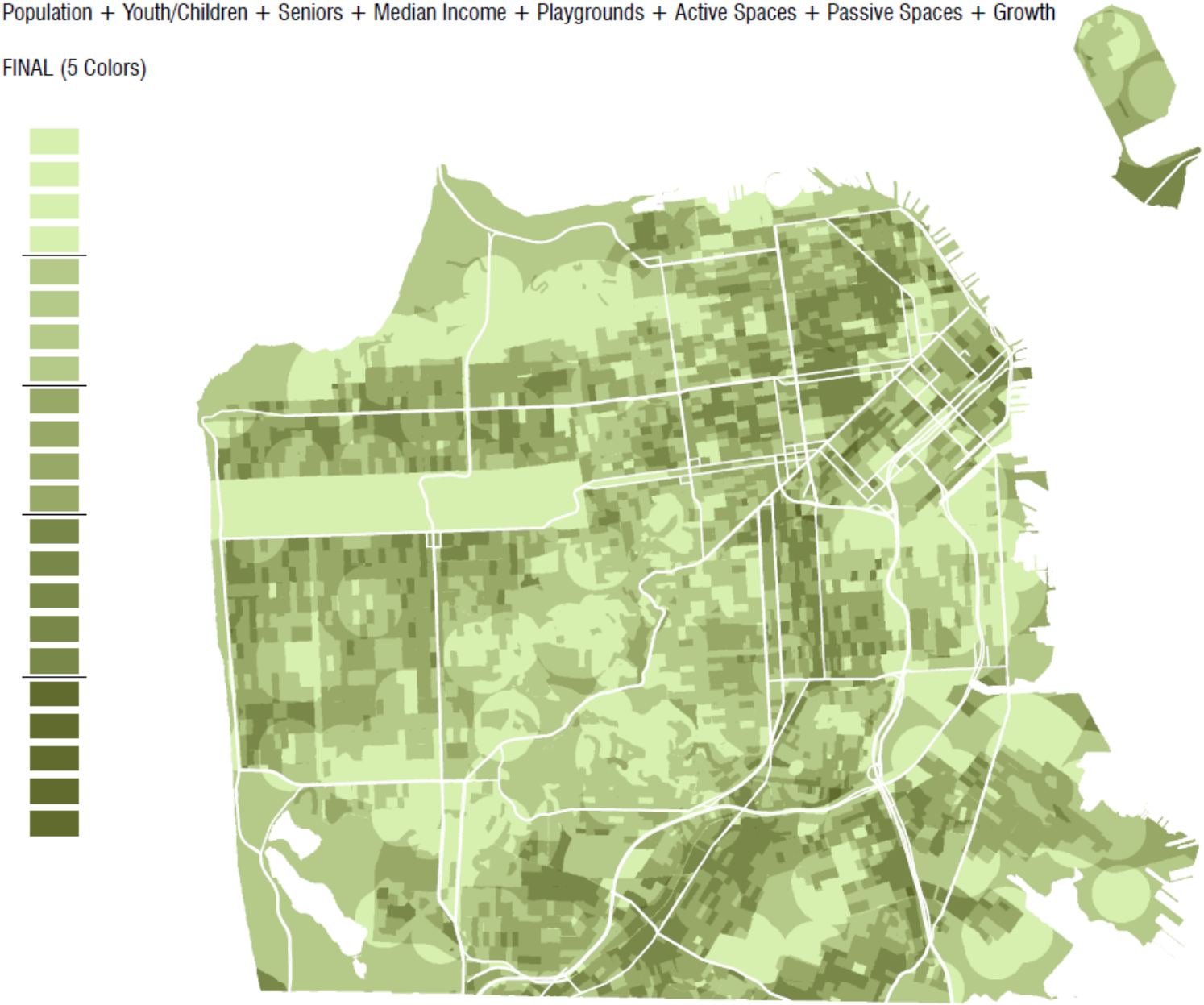
Population + Youth/Children + Seniors + Median Income + Playgrounds + Active Spaces + Passive Spaces + Growth

FINAL

22 Colors! What?

Population + Youth/Children + Seniors + Median Income + Playgrounds + Active Spaces + Passive Spaces + Growth

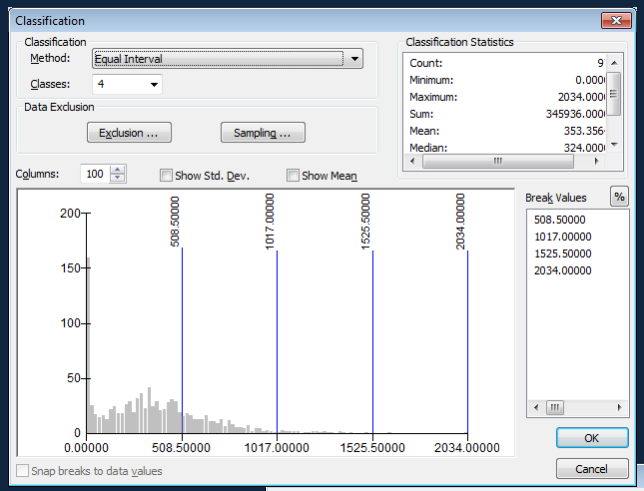
FINAL (5 Colors)

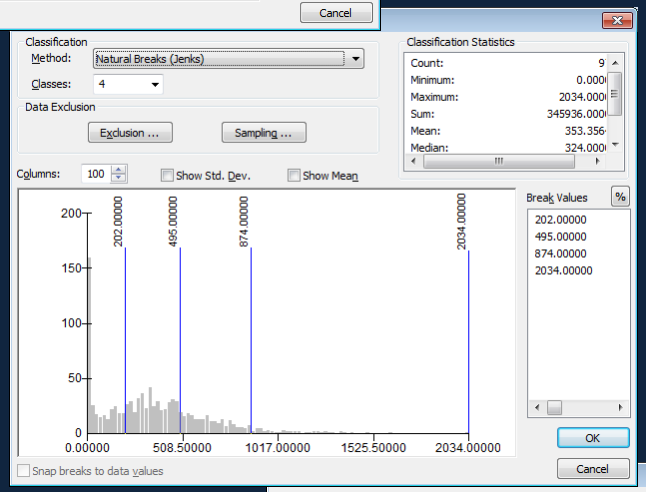


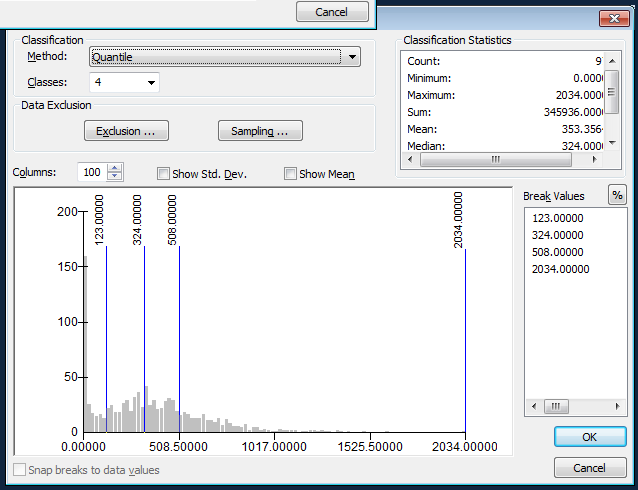
Issues:

Data Classifications:

- 22 colors? Can we change that?
- What's a quantile? Equal interval? What is this Jenks?



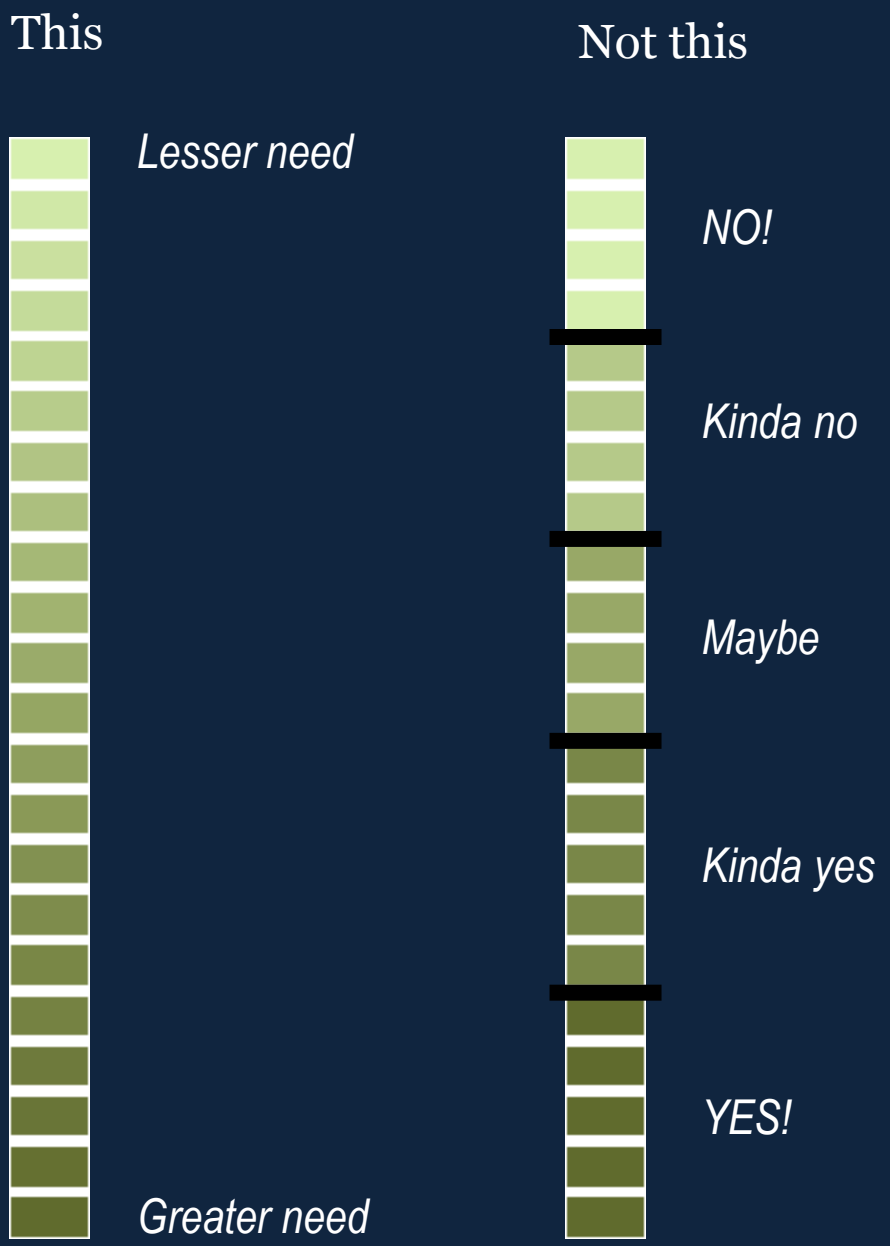




Issues:

Districts or a surface?

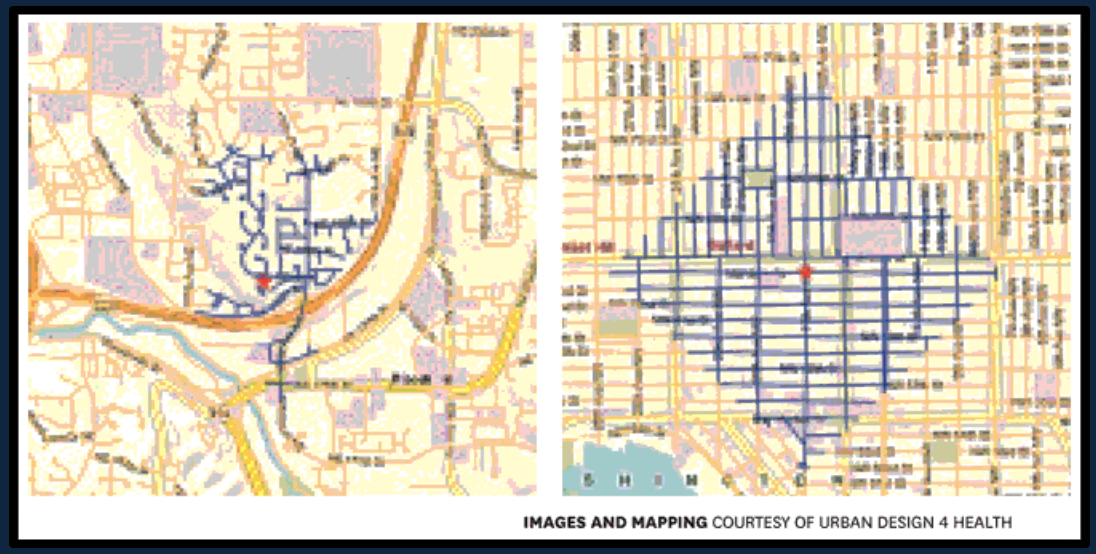
- The keywords are *priority* and *guidance*.



Issues:

Unnecessary complexity:

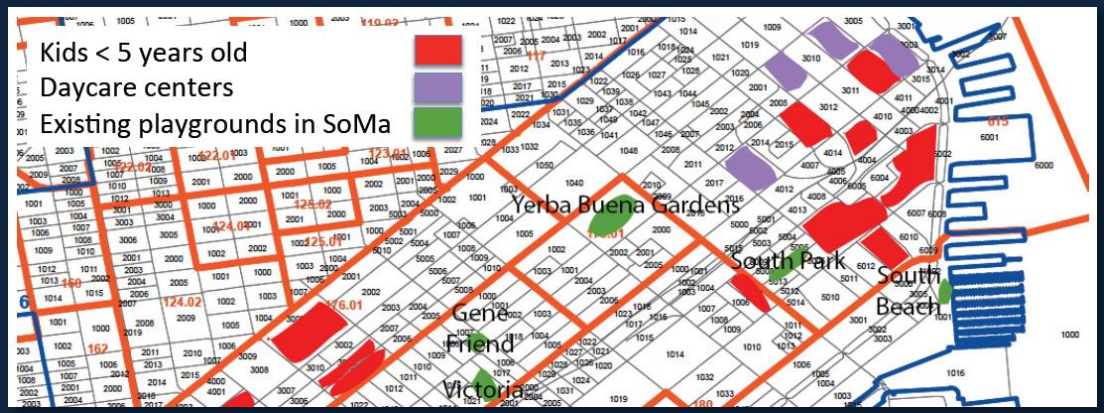
- Walksheds vs. buffers
  - Caveat: SF *mostly* all grid
- Uphill vs. downhill in San Francisco
  - Caveat: *most* people



Issues:

Census data:

- American Community Survey vs. decennial count
- Margins of error in the ACS



Issues:

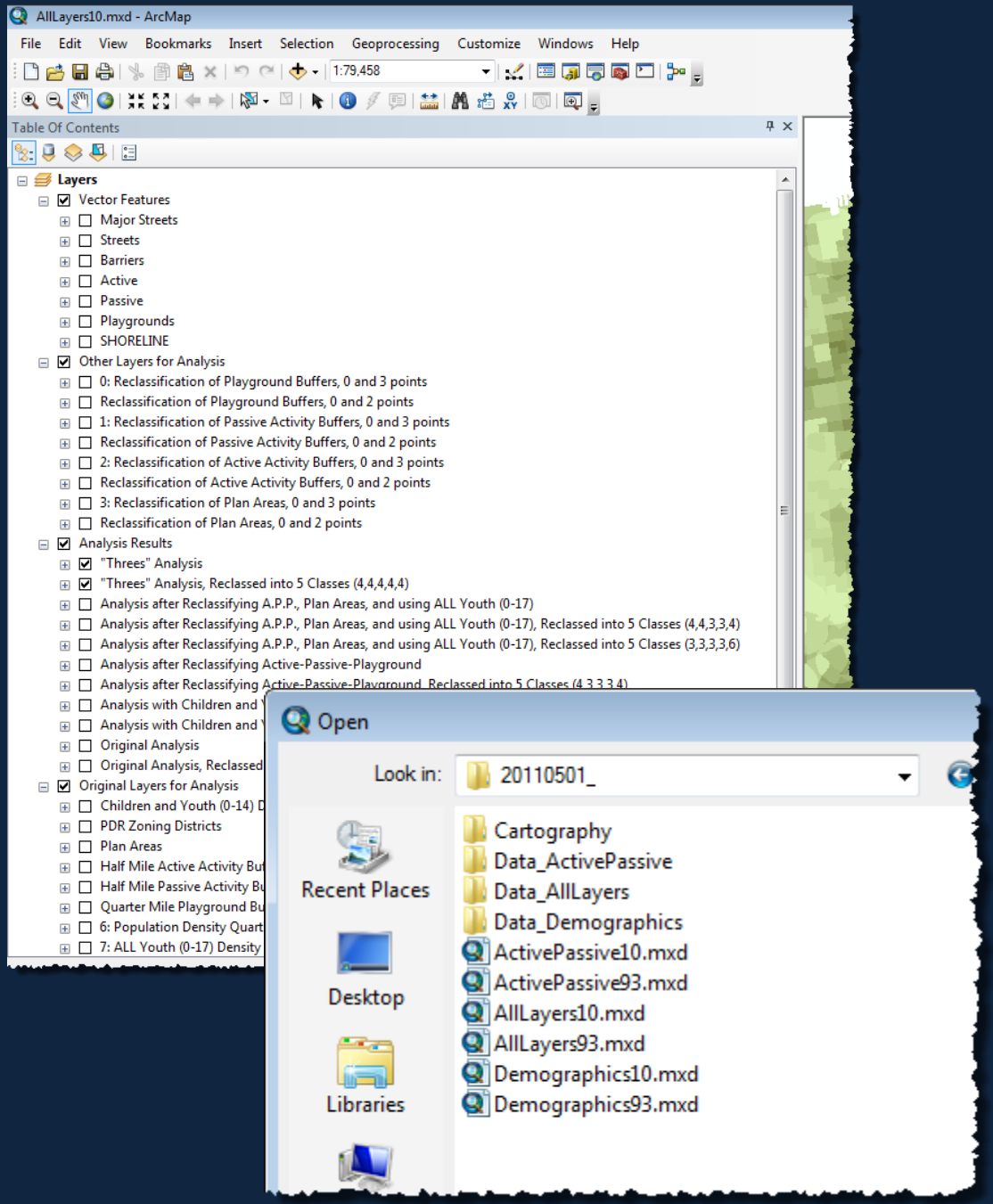
New planner in, old planner out:

- Explain everything again. (Sure!)
- Redo the whole analysis. (Sure!)

Issues:

Give me all your data, I'd like to try it myself.

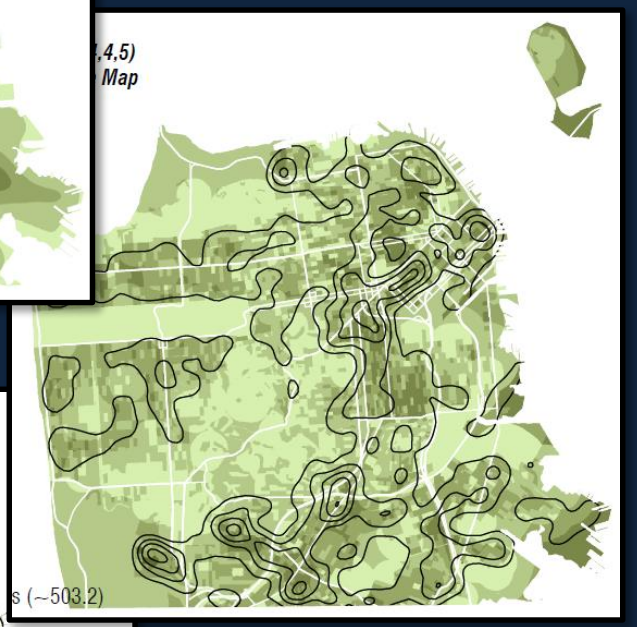
- Intern, "I've taken a class."
- Rasters, vectors, Census data, buffers.

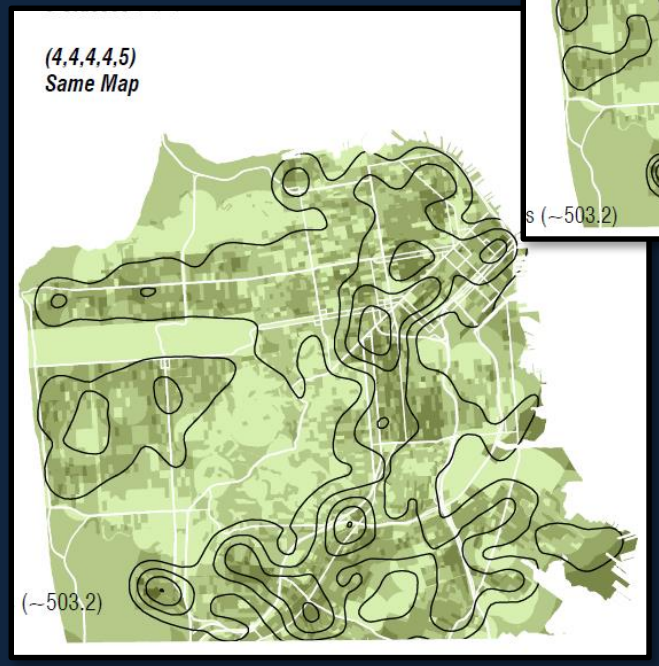


Issues:

How about a heat map?

- Kernel or point density
- IDW, Kriging, natural neighbor
- Try ‘em all!
- Hmm, maybe not





Lessons Learned:

1. Be organized.
2. Get used to explaining the same things many times.
3. If feasible and you're at the right scale use decennial data instead of the ACS data.
4. Everything is scrutinized, be ready.
5. Be organized.

Thanks!

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