Redesign Project – Best state to live in USA

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Subject –

Aim of the project is to provide a visual representation for the data collected from different sources to analyze the quality of life in different states in USA. The data used here is collected in 2016-2017 for different categories.
- Population density is good indicator for how the state was preferred previously.
- Tax collection is a good indicator for employment prospect.
- Human development indicator can tell us how infrastructure, health system is developed.
- Crime rate can be a good indicator for how state is safe. Few samples from each data source are included below.

Data source -

Tax collection data:

Rank	State	Gross Collection	RPC	GSP
1	California	$405,851,295	$10,408	16.6%
2	Texas	$279,904,425	$10,204	17.1%
3	Florida	$269,716,999	$13,659	18.5%

Population Density -

State	Density Rank	Density per Sq ml	Pop Rank	GSP	Population	Land Rank
Alaska	56	1	49	16.6%	738,432	1
Texas	32	105	2	17.1%	27,469,114	2
California	17	251	1	18.5%	39,144,818	3

Human Development Index -

Rank	State	HDI
1	Massachusetts	6.18
2	Connecticut	6.17
3	New Jersey	6.12

Crime Rate -

State	Population	Annual Crime	Violent Crime per 100
Alaska	56	1	49
Texas	32	105	2
California	17	251	1

Problem with Data source -

Tabular data is not an easy way to analyze any pattern or conclude any impact of one index over other without any good visual representation. Here the attempt is to decide how we can select best state to live in based on infrastructure, Employment opportunities and low crime rate.

Redesign –

Combined table –

Code	Name	DEN	TAX	HDI	SIZE	CRM
AL	Alabama	95	25	4.04	30	47
AK	Alaska	1	6	5.06	1	73
AZ	Arizona	60	42	4.89	6	41

I have used Linked Micromap to visualize the impact of each index on quality of life in state. Below steps are followed in generating a linked Micromap –

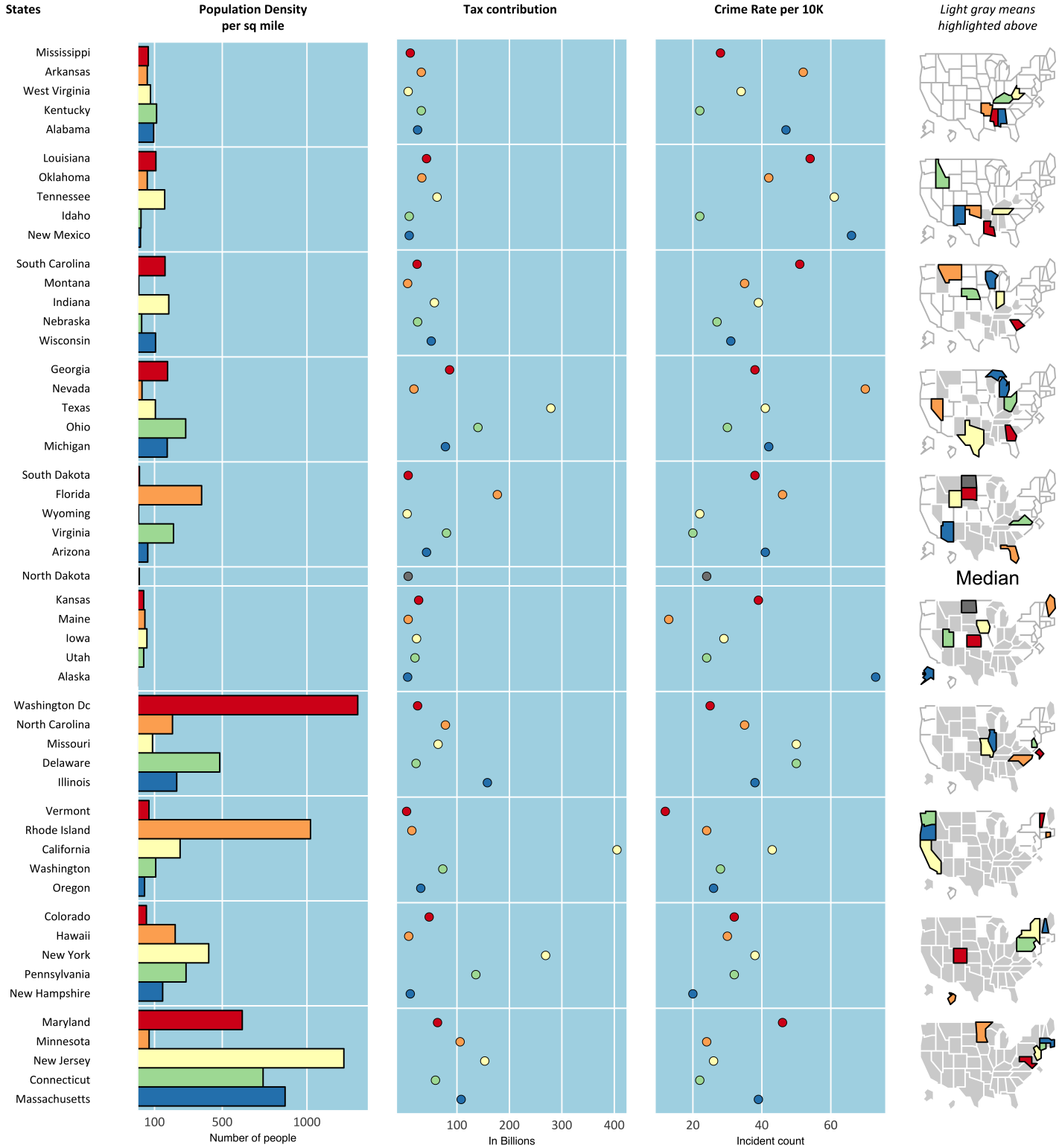
- Sorted all states based on Human development index.
- First Micromap is based on population density for each state. Population density against HDI can show how state was preferred against infrastructure development.
- Second Micromap is based on Tax contribution of each state. Tax contribution is good indicator for employment growth in a state. This against HDI and population density is good indicator for how state was preferred for high paying jobs.
- Third Micromap is based on crime rate in a state. This is a good indicator for the safety.

Conclusion –

- Based on the plot, we can easily conclude that state with high HDI are relatively less dens states.
- Tax contribution is average to high and crime rate is low.

Implementation –

https://github.com/ravirane1985/redesign/blob/master/rscript.r


States
Population Density per sq mile
Tax contribution
Crime Rate per 10K
Light gray means highlighted above
Mississippi
Arkansas
West Virginia
Kentucky
Alabama
Louisiana
Oklahoma
Tennessee
Idaho
New Mexico
South Carolina
Montana
Indiana
Nebraska
Wisconsin
Georgia
Nevada
Texas
Ohio
Michigan
South Dakota
Florida
Wyoming
Virginia
Arizona
North Dakota
Kansas
Maine
Iowa
Utah
Alaska
Washington Dc
North Carolina
Missouri
Delaware
Illinois
Vermont
Rhode Island
California
Washington
Oregon
Colorado
Hawaii
New York
Pennsylvania
New Hampshire
Maryland
Minnesota
New Jersey
Connecticut
Massachusetts
100
500
1000
Number of people
100
200
300
400
In Billions
20
40
60
Incident count
Median