Project 3:

Data Visualization - US Census Demographic data

1) Which states have the best transportation?

https://public.tableau.com/shared/7MQ23NRYQ?:display_count=n&:origin=viz_share_link

Summary

The Districts of Columbia, New Jersey, Massachusetts and Connecticut (to mention just a few of them) seem to have the best public transportation infrastructure in the country. To throw this conclusion I have built three visualizations with Tableau.

1. A shadow map that shows the Mean commute time in minutes for each state.

2. A shadow map that shows the population in each state

3. A treemap reflecting the percent commuting on public transportation per state

4. A bar chart showing the percent commuting alone in a car, van, or truck

For visualizations 1, 3 and 4 I have selected median aggregations, like this we can omit outliers that can distorionate our findings. In the case of population I have selected the sum of the total population per each state.

We can find a negative correlation between the Mean commute time and percent commuting on public transportation. This same negative correlation occurred when comparing the population density with the percent commuting on public transportation. States that have a big population density (small in size but considerable in population number) tend to have higher rates of public transportation usage. This same trend can be strengthened when taking a look at the bar chart showing the percent commuting alone in a car, van, or truck which shows that less densely populated states use the car more to commute, like this having smaller percentages of public transportation usage.

Design

I have selected this type of charts in order to have a visual of each parameter used to determine which states have better public transportation. The filter implemented allows the user to select the average commute time and filter by it.

Resource

N/A

2) Unemployment Rate by State

https://public.tableau.com/app/profile/jorge3313/viz/Avg_Unemplyment/Dashboard3

Puerto Rico shows the highest unemployment rate with almost 20%, followed by Mississippi and Arizona with around 12%.

Map unveils trends of unemployment rate: Most of Pacific, East South Central and South Atlantic states are having over average unemployment rate. While most of Mountain, West North Central and West South Central states are showing lower unemployment rates.

The box-and-whisker plot shows the variation of unemployment rates along the whole country and indicates the outliers, in this case Puerto Rico. Median for all states accounts for 7.9 while median without the outlier shows 7.858.

Design

Data interpreter is used and header and data shows all clean. Map color for In and Out is selected for green with the states with unemployment under the average and red for the states with unemployment above the average. Average unemployment filter is enabled to apply to all related worksheets so that we can select which states (based on their unemployment rate) we want to visualize.

Resource

N/A

3) Poverty Data by State

https://public.tableau.com/app/profile/jorge3313/viz/HowdoesincomeandpovertylookacrossAmerica_16613772553660/Dashboard4?publish=yes

Summary

Poverty and Unemployment percentage have a positive correlation. On the other hand, poverty percentage and Income per Capita shows negative correlation with an outlier, District of Columbia which has high income but also high poverty. Usually, high populated states tend to be above the trend line and this indicates that their incomes are higher than less populated states with the same poverty rate. Puerto Rico has the highest poverty rate among all states with almost 50% of the Puerto Rico population living in poverty, followed by Mississippi with 25%.

Design

Using only 2 colors simplifies the design and gives a clear focus on the data. Trend lines have been added to the scatter plots.

Size mark is utilized into poverty / Income per Cap scatter plot and a state filter is used to be applied to all 3 sheets.

Resource

N/A