US Census Demographic Data (2015)

Summary of Key Findings:

- New York has the best Transportation system in USA, followed by Virginia and New Jersey. Kings County is the best in the terms of transportation by county (61.70 Transit on average).

- Puerto Rico is the most poor state in USA (49.37 on Average & Median 50.20), followed by Mississippi (25.27 on Average) and Georgia (22.20 on Average). In terms of county, Maricao is the poorest county in the US (64.2 on Average), Guaynabo is the least poor in Puerto Rico (26 on average).

- Connecticut (9.40) & New Hampshire (10.17) & New Jersey (10.53) states have the least poverty rates in US.

- There is a negative relationship between counties with more construction experience and income; counties with more construction experience are associated with less income.

  Income Formula (Dependent Variable) = - 609.919 * Construction + 53885.9

  P-Value = < 0.0001 (< 0.05 significant!).

  Please note that the association or correlation does not imply causation. More construction experience does not mean less income and vice versa. There may be other hidden factors behind the cause of less income in these states.

Design:

1- Horizontal Bars :

The horizontal lines in the dashboard is there in order to see which state have the best transportation system. I also aggregated the data with the counties. The graph designed to see which state has the best transportation according to the transit.

The more the transit, the better. It is better to use Average instead of SUM for more accurate result.

2- Map:

The map has drawn in order to see the poorest states in USA. I have aggregated the poverty using SUM. The darker, the poorer. Labels are included for more clarification.

However, there are two problems with this map.

First, the map does not show the counties.

Second, the map was aggregated using SUM, which may give inaccurate result. The measurement must take into account the poverty rate compared to the whole population.

I attempt to answer this question using different map and different measurement using Box Plot.

3- Box Plot:

I used this Plot in order to address the gap with the prvious map. The purpose of using this plot is to see more result that is accurate and more transparent.

States & counties is included in this chart and clearly visible. The advantage of this chart is that counties poverty data is visible and it has been aggregated using average (which is more accurate). The data is sorted according to the median & average (descending). Upper & lower limit and outliers is shown. The poverty rate is shown not just by state but also by county.

4- Trend Line:

I attempt to answer the question that said whatever counties with more construction experience has more or less income. I used scatter plot for this. I also used a regression line in order to know the relationship between incomes and counties with construction experience.

It looks like that the counties with more construction experience has less income. Surprisingly!

The R-squared is shown and P-value is also shown.

Please note the correlation is different from the causation, according to the data, there is a negative relationship. However, it is unclear whether the construction are the cause of poverty or not.

The Dashboard :

https://public.tableau.com/app/profile/hesham.osama/viz/Transportation_16707836350180/Dashboard?publish=yes

Resources: N/A