Insight 1: Which states have the best transportation?

https://public.tableau.com/views/USStatewiththeBestTransportation/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

The link points to a dashboard with four sheets that shows the state with the best transportation. The first sheet looks into the data in reference to how people in each state/county make use of public transportation (Transit). Here, the total percentage for transit in each state was gotten. States like New York City (402.6) came top on the list with Virginia (231.1) following. This is obviously because of their large population sizes. Hence, using this data as a determining factor for the state with the best transportation will produce a biased result.

The second sheet to the right of the first looks into the average time in minutes spent commuting in each state/county. Again, the total mean commute time for each state was found, but just like in the first sheet, it became also obvious that residents of states with fewer population sizes experienced lesser time commuting with the District of Columbia have the least time of 30mins and a population size of 647,484. Therefore, using just this data on its own would also give a biased result.

In order to eliminate these biases and create a fairground for all states in choosing the state with the best transportation, the sum of mean commute for each state was divided by their respective population sizes and multiplied by 100 to get the percentage. This is because the state with the best transportation was defined as the state with the least average mean commute time. Hence, mean commute time data was considered in relation to the population sizes for each state/county.

This aggregate is shown in sheet three which is directly under the first sheet. With this, the average mean commute time per state was found and the state with the best transportation was the state with the least average mean commute time. This happened to be California, despite their population size of 40million, having an average mean commute time of 0.0038 approximately 0.004%.

This also means that the US government would need to look into other states with higher average mean commute times to see how they can improve on the transportation systems there in order to reduce the amount of time spent on the road commuting. States like Texas with the highest average mean commute time of 5,692 should be considered first, taking a button up approach in considering the state to begin work on.

The final sheet shows the map of each state in the US, filtered by their average mean commute time, with the state with the highest average mean commute time in the deepest colour.

This dashboard can be manipulated to select different states to see their respective information.

Insight 2: How do income and poverty look across America?
https://public.tableau.com/views/AnalysisofIncomeandPovertyacrossAmerica/Story1?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

This link tells the story of how income and poverty look across America. It is a story with two dashboards.

In the first dashboard, we look at how the total income per capita cuts across the different states in America with a bar chart. It is interesting to find out that Texas (5,982,157) led the other states after the sum of income per capita was found for each state. This speaks a lot about the standard of living of residents of each state. Following Texas on this list was Virginia (3,599,697) and Georgia (3,269,995). The states at the bottom of this chart were the District of Columbia (47,675), Delaware (86,856), and Hawaii (159,463).

Using the poverty data and the total population data, the total population in poverty for each state was calculated with California having the highest population of 6,260,494 in poverty. This is very likely to be the case having the highest population size of 40million people. This information is then shown in a bar chart and also visually compared alongside their total population sizes.

In a bid to understand how poverty looks across America, four different scatter plots were plotted in the second dashboard to see the relationship between job fields and poverty level. They all showed a positive correlation. For example, the more people in each state/county in construction or in the professional field, the more people fell into poverty. This means that the poverty level increased irrespective of the number of people in different job fields. Hence income received did not meet up with the high cost of living. California (6,260,494) was affected the most due to its large population size of a 40million and the least affected was Wyoming have a total of 67,004 people in poverty with a population size of 579,679. This result shows that as the number of people increases in each state in America, there is a tendency for the number of people in poverty to also increase which might be a result of the resources of the state not being able to cater to the increasing populace.

Also, counties in states near the coast do not experience more or less income because they are near the coast. The distribution of income is mostly a function of the productivity of each state and the ability to generate internal revenue. For example, counties in the state of Idaho though not in the coastal area generated a total income of 1,918,741 having a population of 1,616,547 while counties in New Jersey in the coastal area with a larger population of 8,904,413 had a total income of 1,553,296.

Insight 3: US state with the highest population working from home?

https://public.tableau.com/views/USStatesbytheirWork-At-HomePopulation/Sheet17?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

The data shows that California has the highest number of people (2,026,868) working at home for income. Wyoming has the least number of people (25,978) working from home. It shows how people in different states embrace the concept of working at home and also shows states with more opportunities for such work-at-home jobs.

Design Choices

As for the choice of design, I carefully chose appropriate visuals for each analysis, and not make use of either colours or any other data that will be distracting to the vital points.

Resources:

- Udacity educational videos.