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| **Insight 1** | |
| Link: | [US Census Demographic Data | Tableau Public](https://public.tableau.com/app/profile/abdelhamid.elsharkawy/viz/USCensusDemographicData_16557148441340/UnemploymentPovertyRatesbyState?publish=yes) |
| Summary: | We aim to assess the unemployment rate in the US, broken down by states. A first impression from looking at the map, which depicts the unemployment rate for each state, is that a higher unemployment rate is generally present in coastal states (whether east or west), and relatively lower unemployment rates are present in the northern, central and southern states. The aforementioned initial finding could be reinforced by looking at the bar chart for each state, showing the unemployment rate for each state. Perto Rico has the highest unemployment rate of about 19%, while North Dakota was the most efficient state in terms of employment, having a favorable unemployment rate of around 3%.  Adding another variable, poverty rate, to the bar chart, to try to assess whether states with high unemployment rate are associated with higher poverty rates. While the answer might seem intuitive, plotting the bar charts of both unemployment rates and poverty rates provides insight that there seems to be an evident positive relationship between both variables on the states level. The state of Puerto Rico had the record high for unemployment and poverty rates of 19% and 49% respectively. On the other hand, the state of North Dakota enjoyed the favorable unemployment and poverty rates of 3% and 11% respectively. |
| Design: | The map was chosen to provide an initial impression about the whereabouts of high and low unemployment rates in the US, broken down by states. Colors came in handy in reflecting the employment rates on the map, where dark colored states showed higher unemployment rates vis-a-vis lighter colored states. Our next choice of charts was the bar chart, to try to establish whether there is a relationship between unemployment rates and poverty rates for each state. Colors were used as well to make the comparison of both bar charts more friendly to the eyes, where darker colored states with high unemployment rates could be tallied with darker colored states with high poverty rates. |
| Resources: | N/A |

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| **Insight 2** | |
| Link: | [US Census Demographic Data | Tableau Public](https://public.tableau.com/app/profile/abdelhamid.elsharkawy/viz/USCensusDemographicData_16557148441340/USEthnicDemography?publish=yes) |
| Summary: | The demographic trend is towards ‘White’ population, shaping roughly ¾ of the entire US population. Next in popularity were ‘Hispanic’ origins, with around 11% of the total population, which might be explainable by immigrants from Latin American ancestry, notably nearby Mexico. Americans from ‘Black” origins, or Afro-Americans, came third in popularity with around 9% of the total population, largely justified by the black population historically purchased or brought by force to America as part of the Atlantic slave trade. Native Americans, the original inhabitants before the arrival of the European settlers, were dwarfed to only about 2% of the total population. Asian Americans, US residents from Asian descent such as China and India, comes in fifth place, shaping around 1% of the total population, significantly less popular than Hispanic Americans, understandably due to the relatively further distance factor. Finally, the least common ethnicity are the US residents from Pacific origins, such as Hawaii and Tahiti, contributing to less than 0.1% of the total population.  Applying filters to our visualization exercise provided invaluable and more thorough insights to our initial findings were depicted. Ethnic demography varies dramatically between different states. For instance, Missouri state is home to the largest ‘White’ group, shaping more than 90% of the total population. On the other hand, the same ‘White’ group is virtually non-existent in state of Puerto Rico, forming a meagre 0.6% of the total population. |
| Design: | A pie chart works very well in expressing the composition of the US demographics. We are interested in viewing the part-to-whole relationships of the ethnic groups in the US, and that is where the pie chart came handy. Each slice represents a unique category, showing its relative importance and contribution to the total population by the size of the slice, which could be compared easily with other slices, to gain a quick view of the distribution. |
| Resources: | N/A |

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| **Insight 3** | |
| Link: | [US Census Demographic Data | Tableau Public](https://public.tableau.com/app/profile/abdelhamid.elsharkawy/viz/USCensusDemographicData_16557148441340/CommuteMeanTimebyState?publish=yes) |
| Summary: | The northeastern US state of New Jersey came in first place in terms of having the longest mean commuting time vis-à-vis the rest of the US states, recording an average commute time of 30.06 minutes. To the south of New Jersey comes the state of Maryland, which recorded the second longest mean commute time, booking an average of 29.97 minutes, separated only by a mere 9 seconds from the nation’s busiest streets of New Jersey. Moving to the counter part of the treemap showing the states offering their residents the most convenient daily commuting experience, Alaska settles at the tail of the states, with an average commuting time of 11.23 minutes. This, perhaps, is explainable by the vast terrain area of Alaska versus the significantly smaller states of New Jersey and Maryland. |
| Design: | A treemap seemed to work perfectly for this visualization, as it readily captures the relative sizes of mean commuting time throughout the states, where the size of the rectangles were organized from largest to smallest, granting the user an easy perception of the magnitude of time spent in commuting for each state. The ‘Color’ option came in handy as well, as it helps sort out states that have high and low commuting times compared to the rest of the states. |
| Resources: | N/A |