Data Visualization Project – US Census Demographic Data

Visualization 1: Average Commute Time by State (Bar Chart)
Link:
https://public.tableau.com/views/Visualisation1Averagecommutetimebystate/Sheet1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Summary:
This bar chart shows the average commute time across all U.S. states. The states with the longest commutes include New Jersey, Maryland, and the District of Columbia, each averaging around 30 minutes. States like South Dakota and North Dakota exhibit much shorter commutes. This insight highlights disparities in transportation infrastructure and urban congestion, which can affect work-life balance and productivity.

Design:
A horizontal bar chart was chosen to easily compare commute durations across all states. States are sorted in descending order to emphasize those with the highest commute burdens. A sequential color palette was applied to enhance visual differentiation without overwhelming the reader. Labels and tooltips show exact commute times to aid interpretation.

Resources:
N/A

Visualization 2: Income vs. Poverty by County (Scatter Plot)
Link:
https://public.tableau.com/views/Visualisation2Householdincomeandpovertyacrossstates/Sheet2?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Summary:
This scatter plot illustrates the relationship between median household income and poverty rate across U.S. counties. As income increases, poverty rates generally decrease, confirming a strong negative correlation. Most counties with median incomes below $40,000 experience poverty rates above 20%, while wealthier counties tend to fall below 10%. Outliers—counties with moderate income but high poverty—suggest the influence of other socioeconomic factors.

Design:
A scatter plot was used to reveal correlation patterns between income and poverty. Income is mapped on the X-axis, and poverty on the Y-axis. Each point represents a county, with optional bubble size for population. Tooltips provide additional context with

county name, state, and numeric values. Axes are formatted with proper units: dollars for income and percentages for poverty.

Resources:
N/A

Visualization 3: Dashboard – Transportation Behavior & Income

Link:
https://public.tableau.com/views/Dashboard_17462039952030/Dashboard1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Summary:
This dashboard explores the intersection of transportation choices and income. The first chart shows transit usage by county, indicating higher transit use in urban and typically higher-income areas. The second chart ranks states by the percentage of people working from home, with states like Colorado and Massachusetts leading. A state-level filter enables users to isolate and explore specific regions, revealing how lifestyle and economic conditions vary across the country.

Design:
The dashboard combines a bubble chart for county-level transit usage and a bar chart for remote work trends by state. The state filter enables regional analysis. Tooltips display county, state, income, and population. The color palette is accessible and consistent with earlier visuals. Aggregations are carefully managed to reflect average values where appropriate. Layout design ensures clear separation between the two metrics for easy comparison.

Resources:
N/A