Analytical Report: Distribution of Infrastructure Investment and Jobs Act Funding by the Biden Administration Across U.S. States and Territories:

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Introduction:

The distribution of funds from the Infrastructure Investment and Jobs Act by the Biden administration has come under scrutiny, with some alleging that allocations were influenced by the government's political interests. To investigate these claims, this analysis was conducted to ascertain whether there was any discernible bias in the distribution of funds across the United States. The accompanying graph provides a comprehensive overview, detailing each state and territory's population, per capita investment, and geographical area. The red bars represent states that voted for the Republican Party in the 2020 Presidential election, while the blue bars indicate those that voted for the Democratic Party. It is important to note that all states and territories, including tribal communities, received infrastructure investment. Bur the focus of this analysis was on the red and blue states, given that tribal communities and the U.S. Virgin Islands do not participate in the Electoral College. The intent behind this scrutiny is to shed light on the equity and fairness of the funding process across the different political landscapes within the country.

Among the states, four with significant populations were particularly notable: California with 38,965,193 residents (a Blue state), Texas with 30,503,301 residents (a Red state), Florida with 22,610,726 residents (also a Red state), and New York with 19,571,216 residents (a Blue state). However, despite their large populations, none of these four states exhibited a notably high investment per capita in infrastructure, which can be attributed to their substantial population figures diluting the per capita metric.

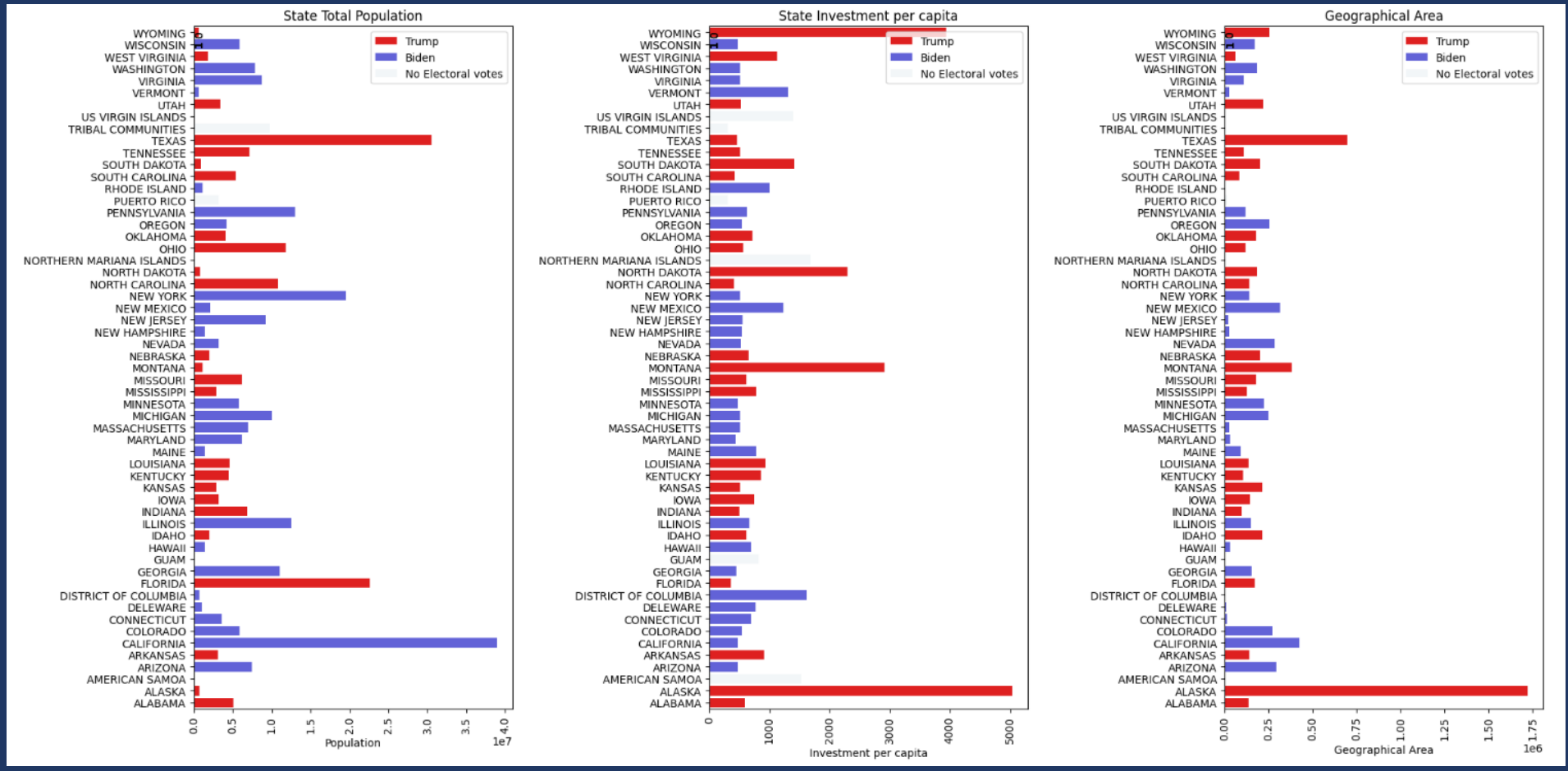

Figure 1. Population data from the 2020 census, per capita investment, and geographical area of U.S. states and territories contributing to the Electoral College votes in the 2020 Presidential Election.

Exploring the Correlations Among Population, Investment, and Geographical Area in Infrastructure Funding:

The analysis indicates that there's a linear relationship between population size and investment levels, suggesting that as the population increases, investment tends to rise correspondingly. However, the relationship between geographical area and investment deviates from a perfect linear pattern. Most data points cluster within a specific region, yet there's a noticeable outlier in the upper left corner, indicating exceptions to the trend. Similarly, the correlation between geographical area and population size also strays from linearity. This divergence suggests that other factors may influence the dynamics between geographical size, population, and investment beyond mere spatial or demographic considerations.

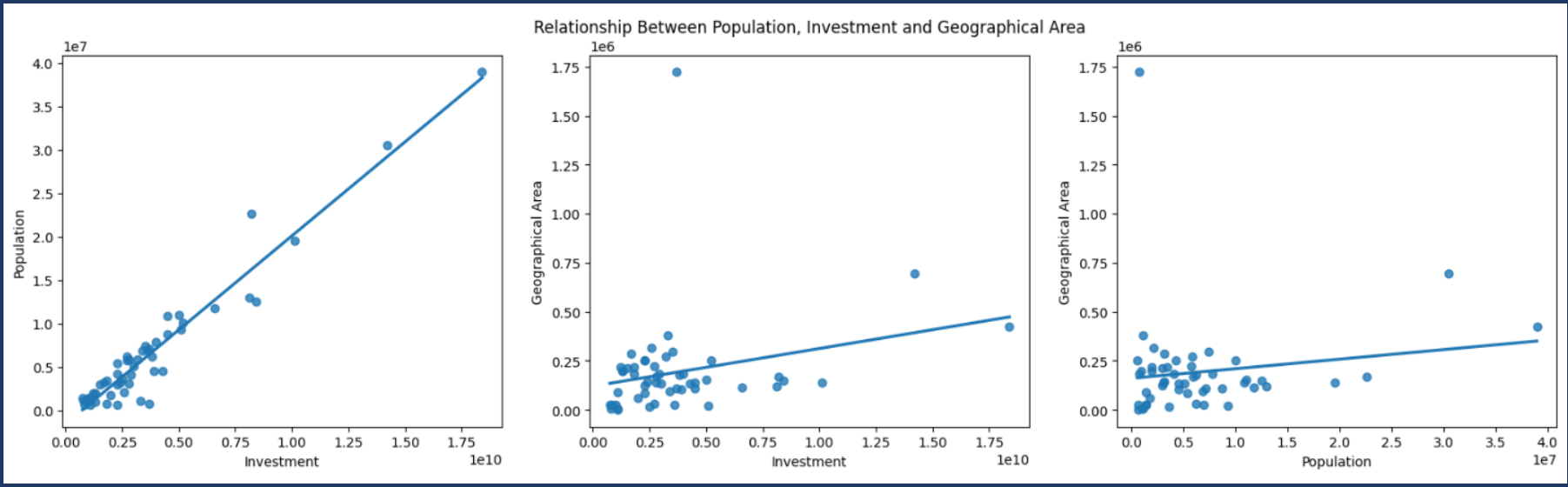

Figure 2. Correlation among Population Data from the 2020 Census, Infrastructure Investment, and Geographical Area of U.S. States and Territories

Correlation:

The data reveals a strong correlation between population size and investment, indicating that as the number of people in an area increases, so does the amount of investment in that area. On the other hand, there appears to be a weak correlation between geographical area and investment, as well as between geographical area and population size, suggesting that the size of an area does not significantly influence the levels of investment or the population it supports. This pattern implies that infrastructural investments have been primarily allocated based on the population of states, rather than the size of the states themselves. The focus on population over geographical size highlights a strategic approach to investment that prioritizes demographic density over spatial dimensions.

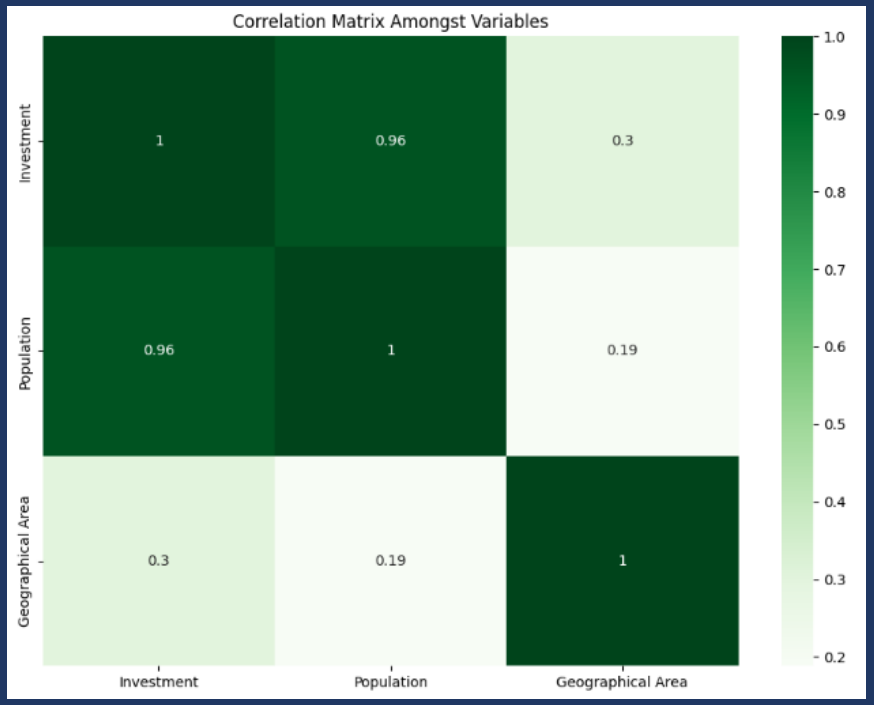

Figure 3. Strength and Direction of relationship between Population Data from the 2020 Census, Infrastructure Investment, and Geographical Area of U.S. States and Territories.

Total Infrastructure Investment By 2020 Presidential Election Victory:

The infrastructural investment across blue states averages around $3.9 billion, positioning it above the collective state average of $3.75 billion and also surpassing the investment seen within red states. This differential suggests a targeted allocation of resources, with blue states receiving a relatively higher share of infrastructural funding. Such a disparity highlights the variations in investment strategies and priorities across different states, reflecting perhaps differing needs, economic strategies, or political orientations that influence how resources are distributed for infrastructure development.

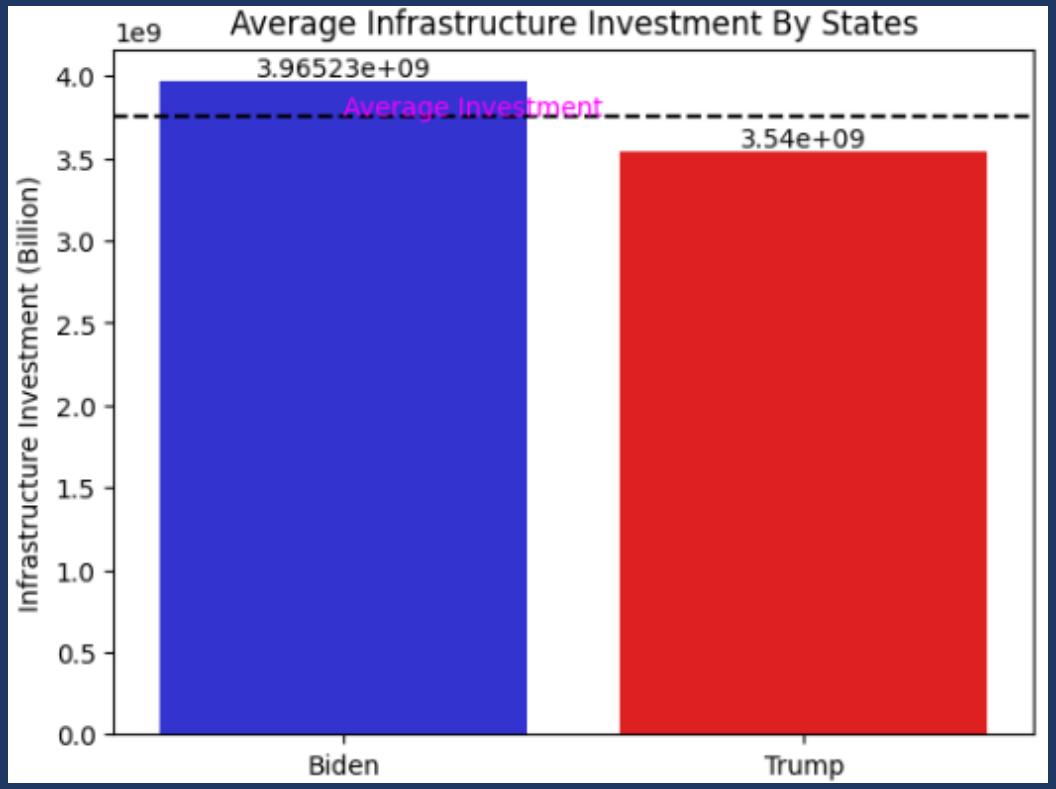

Figure 4. Total infrastructure investment in Blue and Red states

Average Investment Per Capita:

Across the United States, the government's average investment per person stands at $900, a figure that notably surpasses the per capita investment in blue states, which is $671.80. Despite this, the investment level falls short of the average in red states, where each individual benefits from an average investment of $1,137.93. This discrepancy highlights a significant variation in government spending per capita across different states, reflecting perhaps a combination of economic priorities, fiscal policies, and demographic factors that influence how resources are allocated on a per-person basis.

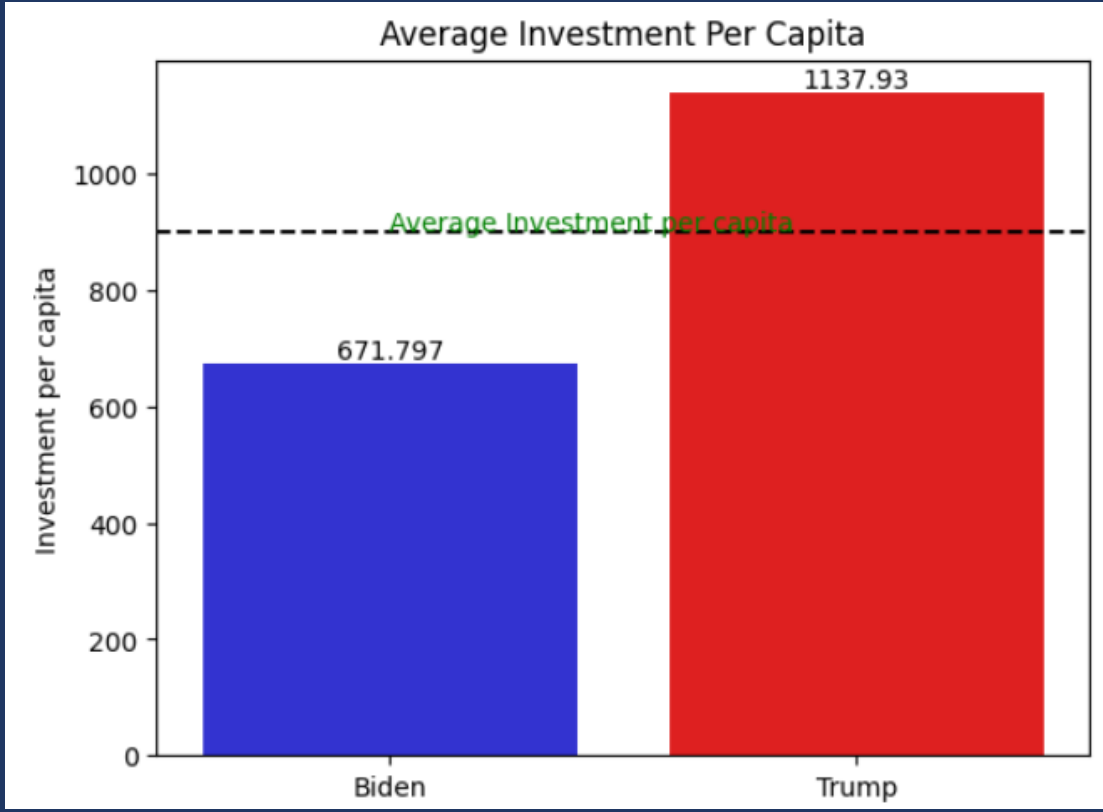

Figure 5. Infrastructure investment Per capita in Blue and Red states

Average Population in Blue and Red States:

The collective population within the blue states—those that were won by the Democratic party in the 2020 U.S. Presidential election—totals around 7.3 million, surpassing the national average population when segmented by political affiliation. On the other hand, the red states, which are those that the Republican party carried in the same election, have a combined population of about 5.8 million, which falls below the politically affiliated national average. This contrast in population figures between blue and red states may have implications for political strategies, resource allocation, and policy development, reflecting the demographic disparities aligned with the political landscape of the USA.

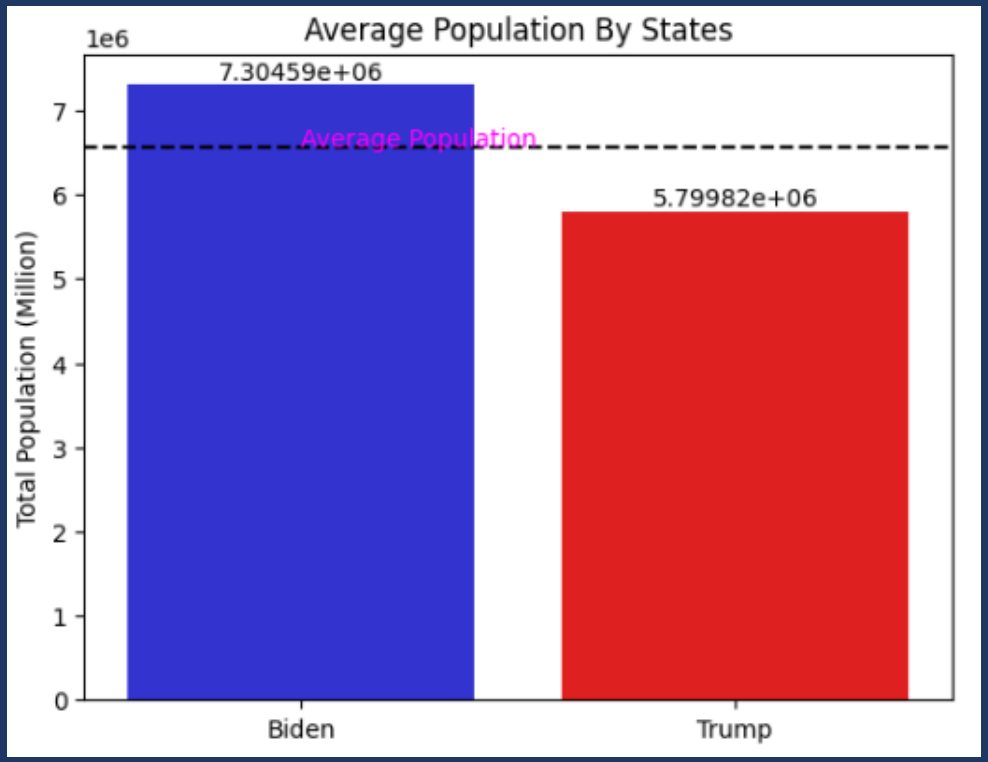

Figure 6. Total Population of Blue and Red states.

Average Geographical Area covered by Red and Blue states:

The geographical expanse of the blue states amounts to roughly 139,470 square kilometers, whereas the red states encompass a significantly larger area, approximately 248,292 square kilometers. When considering the total water and land area of the United States and its territories, the combined measure is approximately 192,814.09 square kilometers. This data indicates that red states account for a greater portion of the U.S. landmass, while the blue states, though smaller in total area, comprise a substantial portion of the nation's geography. These figures are crucial for understanding the spatial distribution of political affiliations across the country's diverse landscapes.

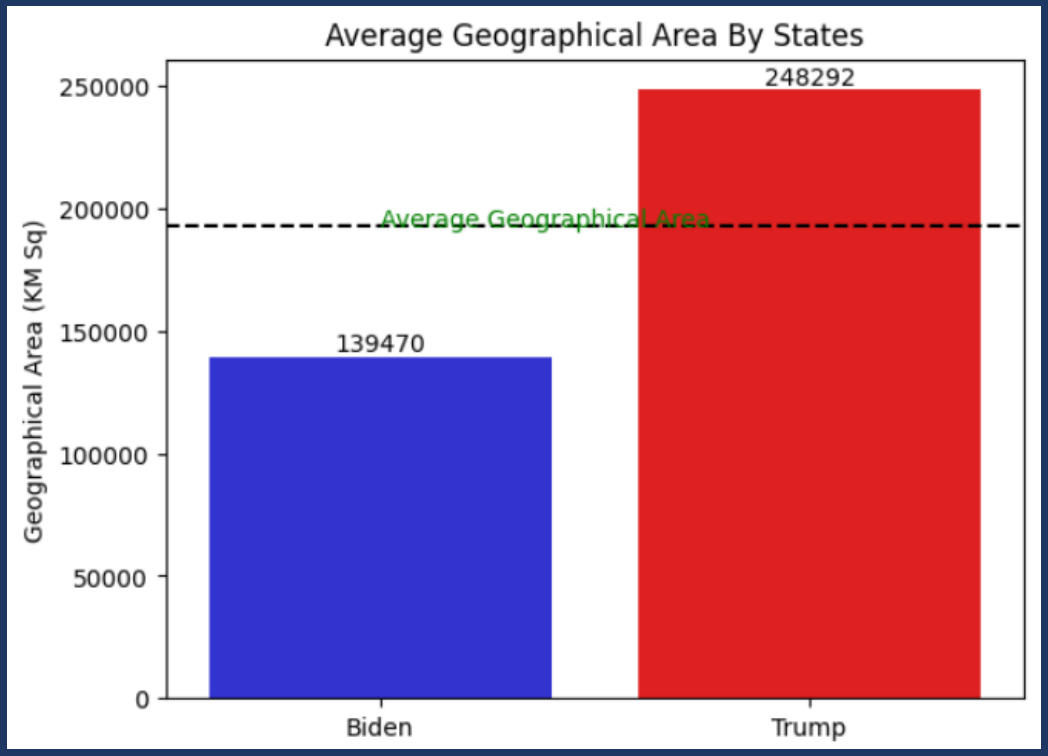

Figure 7. Total Geographical Area of Blue and Red states.

Conclusion:

In the allocation of the Infrastructure Investment and Jobs Act funding, the states that President Biden won, referred to as the Blue states, received approximately $3.97 billion. In comparison, the states that voted for Trump, known as the Red states, were allocated about $3.54 billion. Despite the disparity in the total funding received, claims of bias are not substantiated when looking at the average investment per capita. The Blue states have a lower per capita investment of around $671.8, whereas the Red states have a higher average per capita investment at approximately $1,138.

Further analysis based on the 2020 U.S. Census reveals that the Blue states have an estimated population of roughly 7.3 million, while the Red states have a population of about 5.8 million. This difference in population is a significant factor in per capita calculations. Moreover, when considering the geographical coverage, the Red states have a much larger area, approximately 248,292 square kilometers, compared to the 139,470 square kilometers of the Blue states.

Given these figures, it would be an oversimplification to claim bias and undue political favor for Biden political interest in the distribution of infrastructure funding based purely on the total amount received. The per capita investment and the geographical areas covered by the Red and Blue states suggest a more complex and nuanced distribution that takes into account various factors beyond just political affiliations or the number of electoral college votes.

Reference:

- USA Census data: https://en.wikipedia.org/wiki/List_of_U.S._states_and_territories_by_population
- USA Geographical space: https://en.wikipedia.org/wiki/List_of_U.S._states_and_territories_by_area
- USA state longitude and latitude: https://developers.google.com/public-data/docs/canonical/states_csv