Did Broadband Availability Affect the Outcome of the 2020 Election in Missouri?

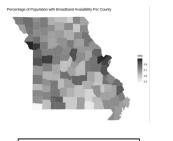








Trump clearly dominated in terms of popular vote by county. When we consider how broadband availability affects an election two things come to mind, the spread of misinformation and propaganda, and the ability of the people to research and self educate. Is there a relationship between broadband availability and the 2020 election results in Missouri? If there is a relationship, is there a candidate that was more affected by it?

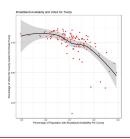


This graph shows the percentage of the county's population with access to broadband

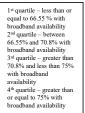


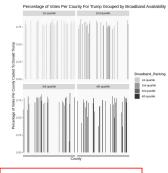
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We can see that in areas with higher broadband availability, notably counties in eastern, western and mid Missouri, there is a larger percentage of votes for Biden, whereas counties with lower broadband wavailability experienced a higher percentage of votes for Trump

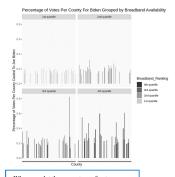


When plotting percentage of population with broadband availability by the percentage of votes per county awarded to Trump, we see a downward trend implying that, to some extent, as broadband availability increases the proportion of votes for Trump in a county decreases

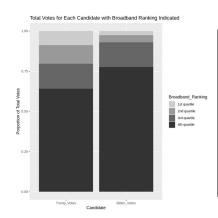




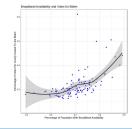
When we plot the percentage of votes per county cast to Trump with counties grouped by quartiles of broadband availability, we see that broadband availability doesn't strongly prevent Trump from being able to secure popular vote



When we plot the percentage of votes per county cast to Biden with counties grouped by quartiles of broadband availability, we can clearly see that Biden secures higher percentages with increasing broadband availability.



Observing percentage of votes for each candidate by broadband ranking show that Biden primarily lost within counties whose broadband availability fall within the 1st and 2nd quartiles. The proportion of votes from these quartiles combined for Biden votes is comparable to the proportion of votes from Trump coming from counties within the 1st quartile. With this illustration and the two previous, one could conclude that broadband availability is more helpful to Biden's campaign than it was harmful to Trump's campaign



When looking at the same relationship with proportion of votes per county awarded to Biden, we see an upward trend implying that, to some extent, as broadband availability increases the proportion of votes for Biden in a county increases. The question remains, were these relationships more harmful for Trump's campaign or more helpful to Biden's?