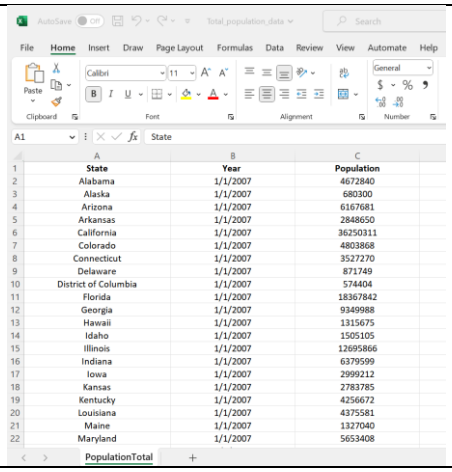
Eunice Amissah-Mensah **CRP 558 Web Mapping and Data Visualization**

Final Project Documentation

I started off the project by researching the topic I had in mind which was Homelessness. This was directly connected to an independent study I have been working on during the semester. The research and the study prepared me for what kind of data I would like to access and use for the final project.

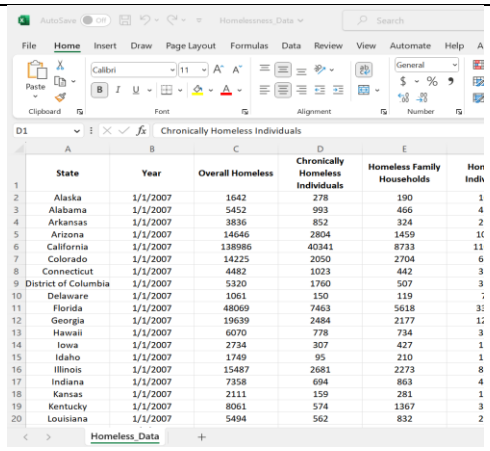
Emily Halford who is a data analyst working in psychiatric epidemiology created a dashboard in Tableau that displayed HUD Homelessness Data. This was a perfect resource for the project. Being a first-time user of Tableau, I found her work interestingly easy to interact with and understand the process she used. She documented her process, talked about the variables she worked with and the datasets necessary to make the visualization process easy. I added on to what she had by using HUD's recent data which includes 2020 data. This together with population data from the U.S. Census Bureau got me started on my project quickly.

Homelessness Data was derived from the HUD dataset from the U.S Department of Housing and Urban Development. The total population was derived from the US Census Data. It took a lot of days cleaning and making sense of the data. With what Emily had worked on, I took a step further to include other categories such as unsheltered homeless and homeless family households in my process.



State	Year	Population
Alabama	1/1/2007	4672840
Alaska	1/1/2007	680300
Arizona	1/1/2007	6167681
Arkansas	1/1/2007	2848650
California	1/1/2007	36250311
Colorado	1/1/2007	4803868
Connecticut	1/1/2007	3527270
Delaware	1/1/2007	871749
District of Columbia	1/1/2007	574404
Florida	1/1/2007	18367842
Georgia	1/1/2007	9349988
Hawaii	1/1/2007	1315675
Idaho	1/1/2007	1505105
Illinois	1/1/2007	12695866
Indiana	1/1/2007	6379599
Iowa	1/1/2007	2999212
Kansas	1/1/2007	2783785
Kentucky	1/1/2007	4256672
Louisiana	1/1/2007	4375581
Maine	1/1/2007	1327040
Maryland	1/1/2007	5653408

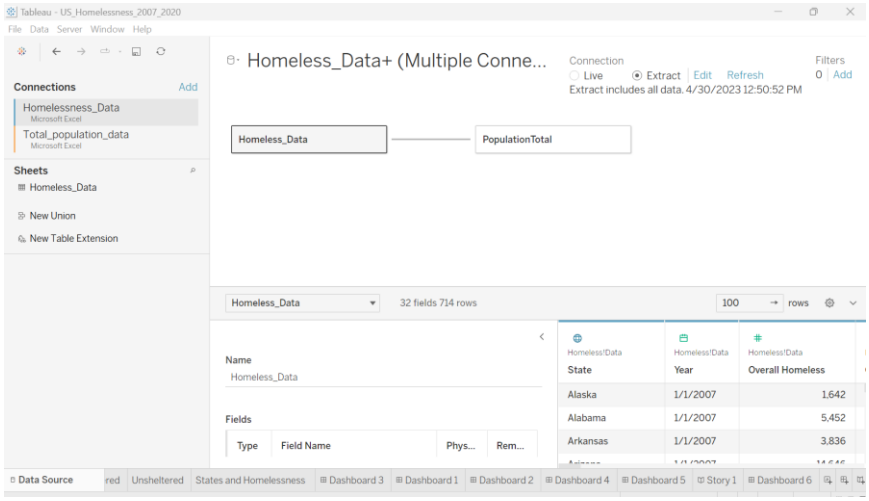
Population Data (2007-2020)



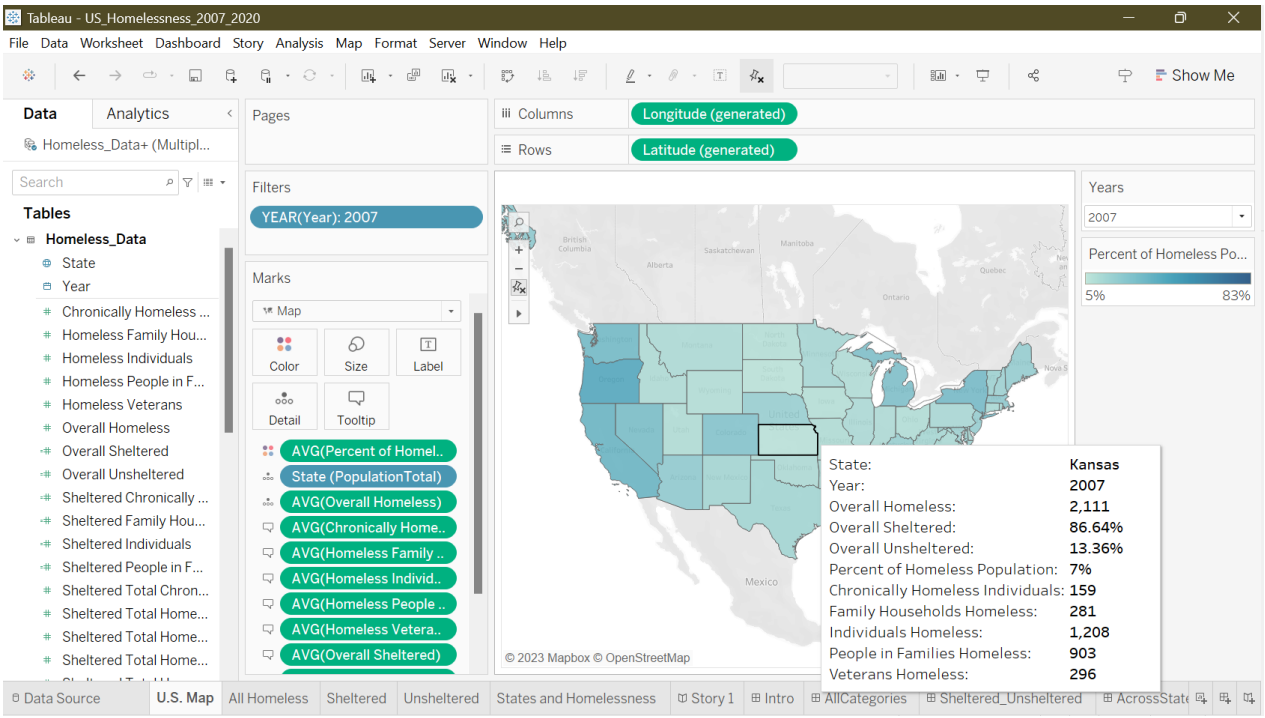
State	Year	Overall Homeless	Chronically Homeless Individuals	Homeless Family Households
Alaska	1/1/2007	1642	278	190
Alabama	1/1/2007	5452	993	466
Arkansas	1/1/2007	3836	852	324
Arizona	1/1/2007	14646	2804	1459
California	1/1/2007	138986	40341	8733
Colorado	1/1/2007	14225	2050	2704
Connecticut	1/1/2007	4482	1023	442
District of Columbia	1/1/2007	5320	1760	507
Delaware	1/1/2007	1061	150	119
Florida	1/1/2007	48069	7463	5618
Georgia	1/1/2007	19639	2484	2177
Hawaii	1/1/2007	6070	778	734
Iowa	1/1/2007	2734	307	427
Idaho	1/1/2007	1749	95	210
Illinois	1/1/2007	15487	2681	2273
Indiana	1/1/2007	7358	694	863
Kansas	1/1/2007	2111	159	281
Kentucky	1/1/2007	8061	574	1367
Louisiana	1/1/2007	5494	562	832

Homeless Data (2007-2020)

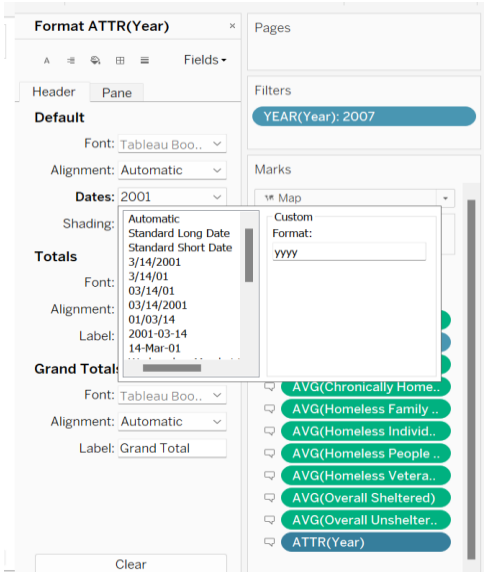
I created a connection between my two excel data within Tableau based on states.



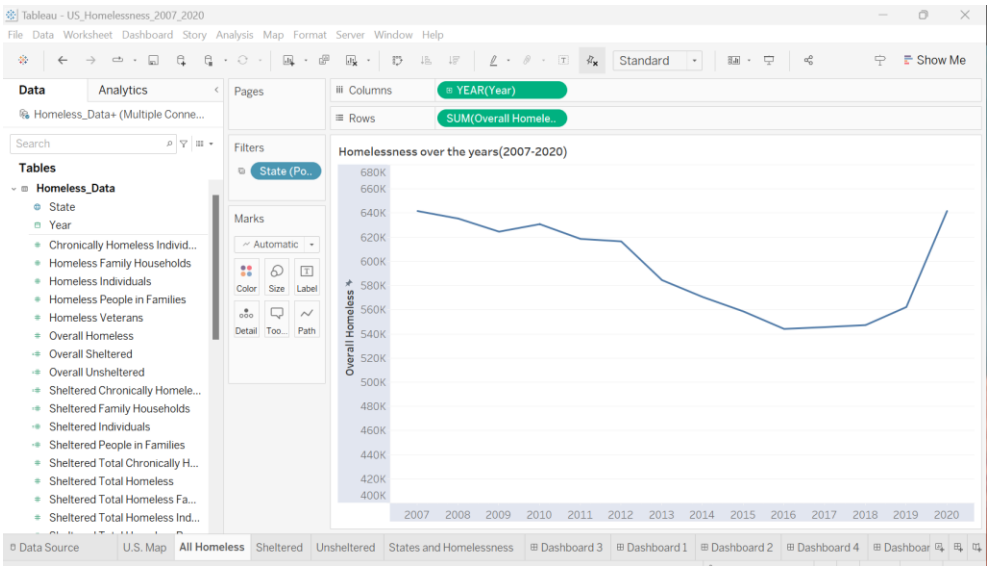
Based on the data within Tableau, I began creating visuals for my work. I started off by creating a map of the United States broken down into the various states. This map shown below included overall homeless and all the homeless categories identified (sheltered, unsheltered, chronically homeless individuals, individuals, family households, people in families and veterans). The percentages were used to create the general display and by adding the rest as details, one can view the values of the other categories.



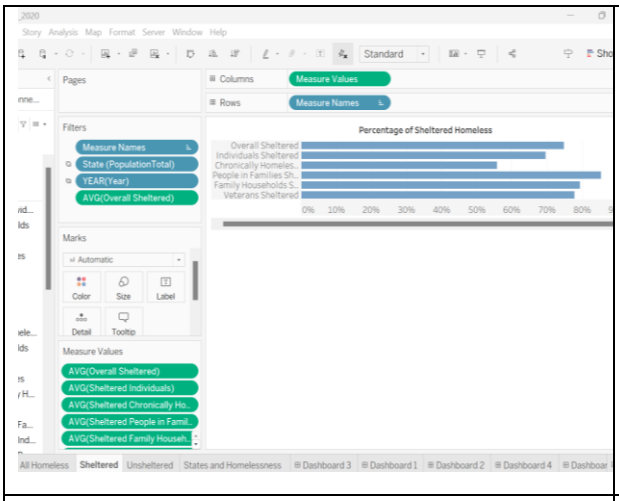
Changing through the various years would change the map visuals and values for the year chosen. This also reflects the pop-up. To show only the year and not have the month and day, I formatted the attribute year I included in the tooltip. This was done by changing from automatic to custom and indicating ‘yyyy’ for the years and that changes how your date format displays within the pop-up.



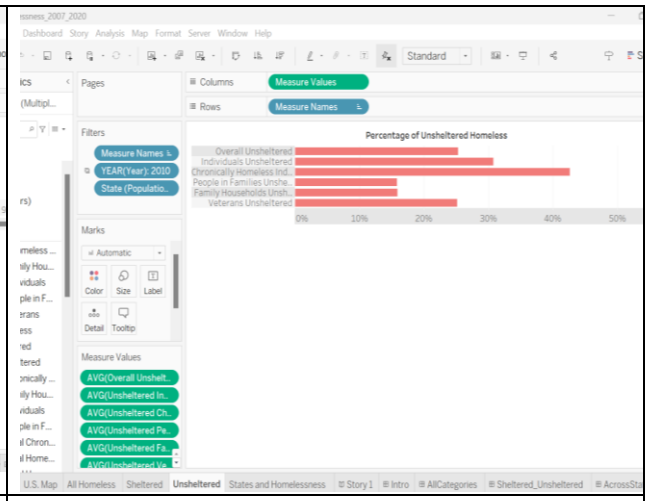
Next, I created a line graph to show homelessness over the years (2007-2020), which years it peaked and which years it slightly fell.



A bar chart was used to display percentages of the sheltered and unsheltered homeless, overall and based on categories of homeless.

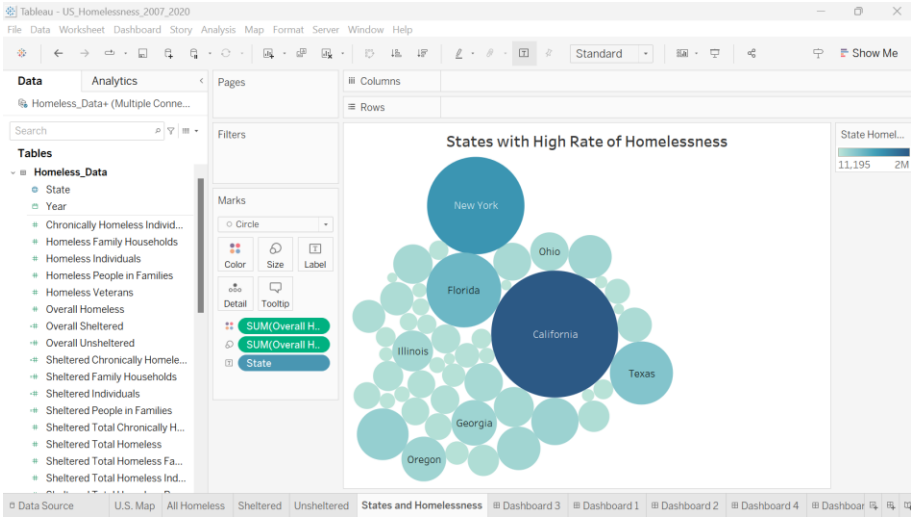


Sheltered – All Categories

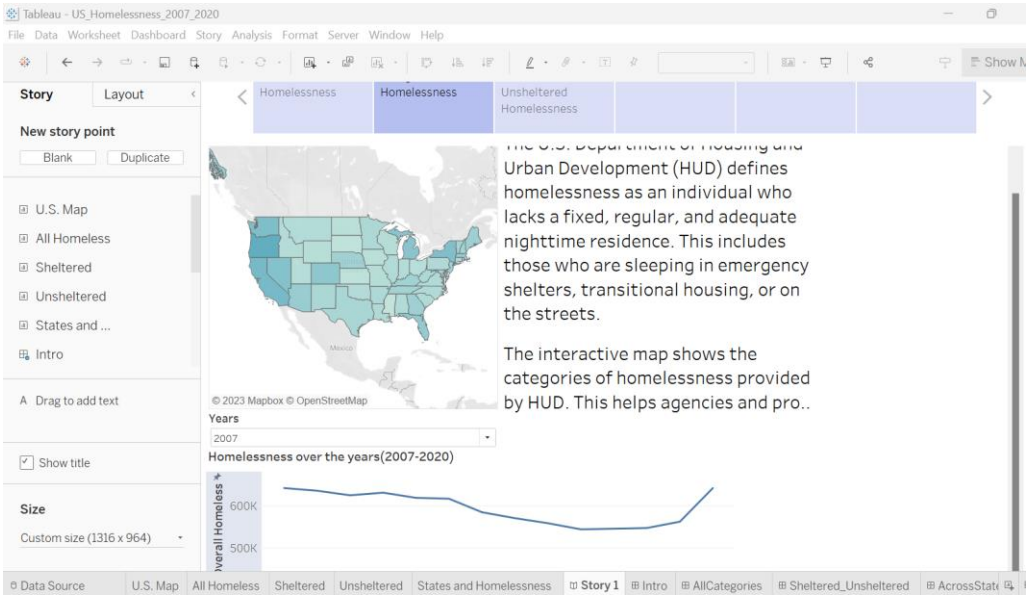


Unsheltered – All Categories

A packed bubble created a visual of states with high rates of homelessness and this is in line with literature on the states that significantly have problem of homelessness with California being the top state.



The next steps after creating the visuals were to create dashboards that will be easily transferable to create a tableau story for the project.



Link: [Tableau Story on Homelessness]

Resources

1. Homelessness Resources https://www.hudexchange.info/resource/6291/2020-ahar-part-1-pit-estimates-of-homelessness-in-the-us/
2. Lee, B. A., Shinn, M., & Culhane, D. P. (2021). Homelessness as a Moving Target. *The ANNALS of the American Academy of Political and Social Science*, *693*(1), 8–26. https://doi.org/10.1177/0002716221997038
3. Interacting with HUD Homelessness Data in Tableau|by Emily A. Halford |Medium https://emilyahalford.medium.com/interacting-with-hud-homelessness-data-in-tableau-8590145a3a9f