General topics: How does income and poverty look across counties in California? Which county in California has the best transportation in terms of lowest average commute time?

Visualization 1: Do counties in California with more construction experience more or less poverty?

1) Links to Stories

- https://public.tableau.com/profile/danny.lu6929#!/vizhome/Constructionvs_PovertyinCA Visualization1/Story1?publish=yes

Note: There are three stories in total (2 geographic maps + 1 dual-axis dotted graph) labeled as Story 1, Story 2, Story 3.

2) Summary and analysis

These worksheets examine how construction levels impact poverty levels in California counties.

Story 1

Story 1 reveals the amount of construction for every county in California. When I aggregated the construction data for every county, you can see descriptive statistics reveal that the highest construction level is 26.40 in Colusa County, the lowest level was 3.70 in San Francisco County, and the average for all California counties is 12.40

We know the highest/lowest levels as you hover over the shaded geographic map because it reveals the exact construction level for each California county. The darker the shade, the higher the level of construction.

Story 2

Story 2 reveals the poverty levels for every county in California. When I aggregated the poverty data for every county, you can see descriptive statistics reveal that the highest poverty level is 28.10 in Tulare County, the lowest level was 4.90 in Mono County, and the average for all California counties is 16.70

We know the highest/lowest levels as you hover over the shaded geographic map because it reveals the exact poverty level for each California county. The darker the shade, the higher the level of poverty.

Story 3

Story 3 is a dotted plot displaying both the construction level and poverty level for every county in California. As you can see, the majority of yellow-dots (representing the poverty quantity) hover over the blue-dots (representing the construction quantity). This trend demonstrates that many counties display a poverty level that exceeds its own respective construction level. And we see that the yellow dots trail down as the blue dots trail as well. For example, Fresno County has poverty at 26.80 and construction at 15.30

We can also see that many counties have a sizable gap between the construction level and poverty level. This indicates a slight inverse relationship between the construction level and poverty level in terms of each individual county.

So in conclusion, we can't necessarily declare that the higher the construction level, the higher the poverty level is--mainly because of some outliers and different size gaps between the blue and yellow dots. Factors such as smaller counties needing smaller construction resources can affect the data. **But we can clearly see a relationship where if construction decreases, the poverty level also decreases.**

3) Design

- Chose geographic shaded maps for Dashboard 1 and 2 because it effectively displayed each county's individual construction and poverty level--as well as the severity of the levels by how dark the shade is. The descriptive statistics legend communicates each point's respective spread of data.
- Chose a dual axis dot graph in Dashboard 3 to visually communicate just how far the level of construction and poverty levels were for each individual county. The choice of graph is to see how poverty levels would peter off when construction levels would also peter off and vice versa.

4) Resources- NA

Visualization 2: Do counties in California near the coast experience more or less income?

1) Links to dashboard

- https://public.tableau.com/profile/danny.lu6929#!/vizhome/AvgIncomeinCaliforniaVisualization2/Dashboard1?publish=yes

2) Summary and analysis

Dashboard 1

This dashboard has two worksheets; they examine the average income of every county in California and we are observing if counties near the coast experience more or less income.

- According to the geographic shaded map of California, we can spot the darker-shaded counties that represent the higher income counties. If you hover over a select few darker-shaded counties, we can clearly see that California counties near the coast such as **San Francisco County, San Mateo County, and Marin County in northern California. In southern California, we can see Ventura County and Orange County are higher-income areas that also lie near the coast.**
- We can spot the higher income areas in the bar charts as well but you don't get visual information on whether the counties lie coastal or more inland. We can see the top high-income areas are **Santa Clara County, San Mateo County, and Marin County.**

3) Design

- I choose a geographic-shaded map design to communicate two things: (1) utilize the shade differences to visually see which counties are higher income in comparison to other counties and (2) visually see which California counties lie near the coast.
- The bar chart design communicates a clearer visual in terms of exact comparison in bar-size of one county to another county. We can observe just how many quantitative

units (income) between one county to another county based on bar height---whereas the shaded-map might contain nuances in levels of darkness one can't pick up on.

4) Resources: N/A

Visualization 3: Which county in California has the best transportation in terms of lowest average commute time?

1) Links to worksheet

- https://public.tableau.com/profile/danny.lu6929#!/vizhome/AverageCommuteTimeforCAcountiesVisualization3/Avgcommute?publish=yes

2) Summary and Analysis

Worksheet 1

This worksheet has is a bar-graph examining the average commute times of every county in California. The average commute times have been sorted from lowest to greatest average commute time.

We can see that the **lowest average commute time is in Del Norte county**. It has the lowest average commute time of 14.10

3) Design

- I chose a simple bar graph with California counties on x-axis and average commute time on y-axis. This is a simple, quick way of visually locking in to the lowest height bar, which represented the lowest average commute time of a California county

4) Resources- N/A