Version 1
Version 2

Summary

The San Francisco Bay area (SFBA) is suffering from high rents, increasing commuting times and influx of higher income households into low income areas (gentrification). As I self live in the SFBA this is a common topic of conversation and worries. The goal was to visualize these issues.

Median rents in SFBA counties are one of the highest in the country. High rents have spread from SF and the Peninsula over the whole area, only the outer regions seem to be unaffected. Commuting time has increased, either because people choose to live further away from work in order to pay less rent and economic upturn since 2010 also has an effect. With people looking for more affordable there is an influx of higher income households into low income tracts. With increasing commuting time, there is higher demand and therefore higher rent increases close to public transport options (especially Caltrain).

I also looked into visualizing, rising house prices and house sharing but was unable to visualize these.

Design

It seemed interesting to look if all regions of the SFBA were affected in the same way. Maps of the area would be therefore a good choice. I started with plotting the median rent per county using these instructions. However it did not feel that it gave enough granularity. So I looked to plot the data per census tract as these are subdivisions of a county. Census tract are not a default option in Tableau, I therefore followed these instructions to display them.

I wanted to create a timeline to visualize the changes on the maps over the years (used this tutorial). Used ranked bar charts to compare counties (and vs CA state and USA), but also compare values for different years. Used boxplots and histograms to show distributions of values, the second also to show changes in distributions of years.

By using filters for years, county, city and tract ids users are able to zoom in the areas that are most interesting for them. A combination of a map and bar chart allows to show different information at once.

I used different color hues to visualize differences between tracts and the level of a particular variable on the maps.The earlier versions I used a lot of color, but when I went over my notes and was remembered to use black/white (grey) where possible and to keep away from red-green palettes as well as bright colors I made adjustments for the updated version.

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Feedback

SFBA compared to the rest of the USA
People were interested how the rents compared to the rest of the USA, so I replaced the comparison with CA counties to all counties in the USA.

Cities
Earlier iterations did not have a breakdown for cities, which made it hard to know what areas you were looking at so I decided to add cities to show more clearly what is happening where.

Incomplete cities
The city to tract id that I found online was outdated and incomplete which resulted in cities not being complete. See for an example below. I created my own dataset based on this site and was able to get better tracts to city mapping.

before

after

Tracts assigned to multiple cities
In the old version the tooltips would be empty or showing an * when a tract is split between cities. I created extra code to be able to show a list of the cities a tract belongs to instead. See example below.

before

after

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Tract id look up
People were very eager to see how their tract/neighborhood was affected by these issues, so I added a link to a site where you can find your tract id based on your address. Unfortunately it is not working properly so I also provide the link here.

Bart/Caltrain slide onclear
This slide was unclear, so I made it more simple by just showing the overall median rent increase and median rent for tracts with a bart, caltrain or no station. I also added a map to show the location of tracts that have a station.

Data files
There are two data files for version 2, 'all_counties.csv' and and 'all_new.xls'. The last file is all.xls in order to be able to join the data with the geo spatial database used to display the tracts.

Resources
Next to the sources mentioned above, I have used the following resources:

- US Census Bureau data for data on housing (DP04), income (S1901), population (B01003) and commuting (S0801), see site.
- Bart & Caltrain websites for location of stations.

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