Data Visualization

MBD 2019 – A1 – Group C

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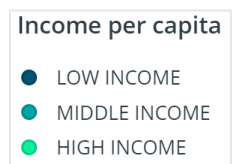**Link for the map:** https://kate-chunosova.carto.com/builder/d180c0db-ca4f-4c8d-b178-9b3e785fe88f/embed

Ghosts of Christmas Past

On Christmas Eve in 1989, the city of Chicago saw the culmination of a spate of malicious burglaries. Two villains, who came to be known as the 'Wet Bandits', finally met their match in the shape of an eight-year-old boy named Kevin McCallister who had been mistakenly left behind by his parents as they flew to Paris on their Christmas vacation. These events were later made famous in the Hollywood movie Home Alone. With 23 years having passed since those criminal events, the 2012 Chicago crimes dataset provides an opportunity to study the city's more recent relationship with burglary, and to analyse whether a modern day Kevin McCallister might also have to face the realities of two hardened criminals attempting to break into his home over the Christmas period.
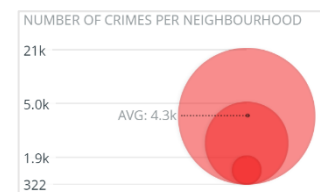
The Technical Part

The chart is based on the Crimes in Chicago data. Within this data two subsets are taken: first, the crimes are limited to only include burglaries, and second, the time period is limited to 21st December 2012-1st January 2013.

Upon this base are then placed various layers. First, per capita income and community name data is aggregated with the resulting format being income per capita by community. This data is shown in the infographic in the form of colours, with each community shape filled in with different shades of green, with lighter meaning higher income.
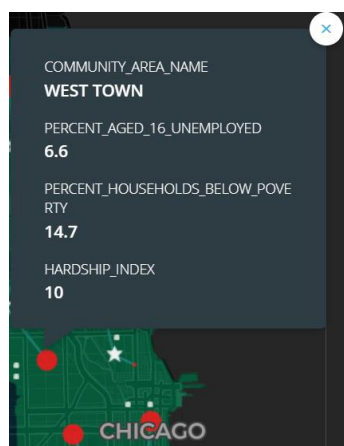
Upon this is added a further layer: number of crimes per neighbourhood. The total number of burglaries in the community are calculated and presented in the form of a red spot at the centroid of the community, with the relative size of the spot representing the number of burglaries.

A further layer shows the locations of the police stations in Chicago, with lines linking each centroid to its nearest station.

The final layer represents a moving presentation of each burglary as it happens on a day to day basis. This allows the user to run through the time period, seeing the burglaries as they happen.

Further functionality exists where the user is able to see, by clicking on each community, the unemployment, poverty, and hardship index ratings for that community.

The techniques used in this process were the following:

- Intersect and aggregate
- Add columns from the second dataset
- Create centroids of geometries
- Create lines from points

Ghosts of Christmas Present

A study of the data suggests that a Kevin McCallister might be relatively safer in 2012. The more affluent north-eastern area of Chicago where the McCallisters lived is generally one of those less affected by crime and also better served by local police stations. By contrast the more burgled houses tend to be the ones in poorer neighbourhoods, where police stations are serving more neighbourhoods, even though the number of crimes in these neighbourhoods is relatively higher.