

# Crime in Los Angeles County

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Since 2014, Los Angeles has experienced a yearly increase in crime rate. While some areas are known for such issues, the LA Times reports that criminal activity has recently spread into neighborhoods that were previously considered safe. This report examines whether the most frequent crimes reported in 2013 were concentrated in particular areas of the city.

The dataset used to answer this question is “Crime Data from 2010 to Present.” The dataset is provided by the City of Los Angeles and contains all instances of crime reported to the LA police department (LAPD) since 2010. From the 26 variables available, the report relied only on crime code description, location and date. Crime code description provides information about the incident according the LAPDs codes. Location contained approximate latitude and longitude of the event and date provided day, month and year of the occurrence.

I identified the most commonly reported crimes in 2013 by computing a frequency table of crime code description after restricting the data to the year of interest. This step was done using the dplyr commands `group_by`, `summarise` and `arrange`. The top results were subcategories of assault, theft or burglary. For example, the data distinguished between aggravated assault and assault with a weapon. Considering most readers are unfamiliar with such technical differences, I aggregated these sub-categories to form three general categories using `stringr`. Once the categories were formed, I recomputed the frequency table. The results show that the most frequently reported crimes were theft (53,569 incidents), assault (37,326 incidents) and burglary (31,429 incidents).

I used the packages `ggmap` and `ggplot` to plot the location of incidents. `Ggmap` retrieves static maps from various online sources and allows users to build visualizations using `ggplot` functions. By inputting the reports’ approximate longitude and latitude into these packages, I created the three maps below, which outline the location of reported assaults, burglaries and thefts in 2013:

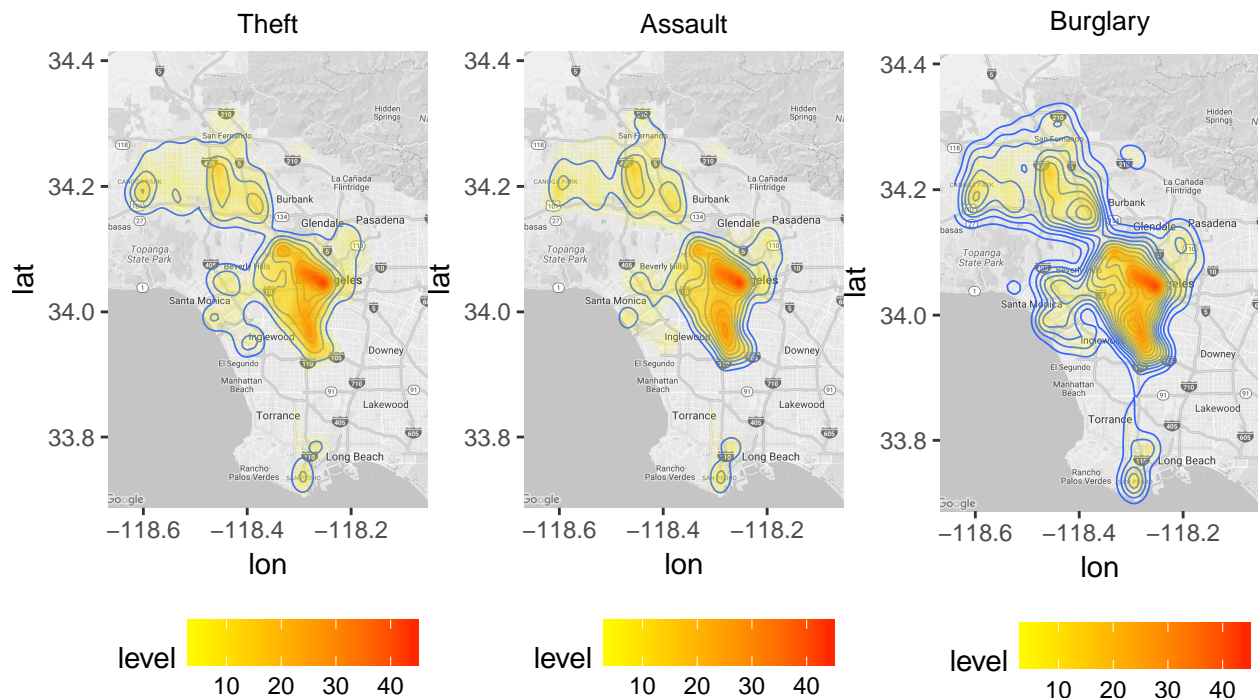


Figure 1: Location of most commonly reported crime

The plots suggest that reports of burglaries, assault and theft occurred throughout Los Angeles. Reports were most common in the central part of the city and least common in the outer skirts. This pattern is consistent for all three major crimes reported to the LAPD. Since the data contains only reported incidents, the graphs provide incomplete representation of all thefts, burglaries and assaults committed in Los Angeles.

For future investigation and to explore the LA Times’ claim that crime has spread to new areas of the city, investigators should plot the location of these reports over the course of several years to understand the city’s evolving crime rate.

## References

- Chang C. and Lau. M (2016). "Violent crime in L.A. jumps for third straight year as police deal with gang, homeless issues." Los Angeles Times. <http://www.latimes.com/local/lanow/la-me-crime-stats-20161227-story.html>
- City of Los Angeles. (2017). "Crime Data from 2010 to Present." (Common Separated Values). Retrieved from <https://catalog.data.gov/dataset/crime-data-from-2010-to-present>