

San Francisco Graffiti

Project 2 Proposal

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Github: https://github.com/UC-Berkeley-I-School/Project2_Chee_Nealon_Ninan

Dataset: The dataset consists of reports of graffiti all over the San Francisco area from 2010-2022. The reports are compiled and stored by the city of San Francisco.

Link: <https://data.sfgov.org/City-Infrastructure/Graffiti/vg6y-3pcr>

Data Structure: There are 728,787 observations and 15 variables

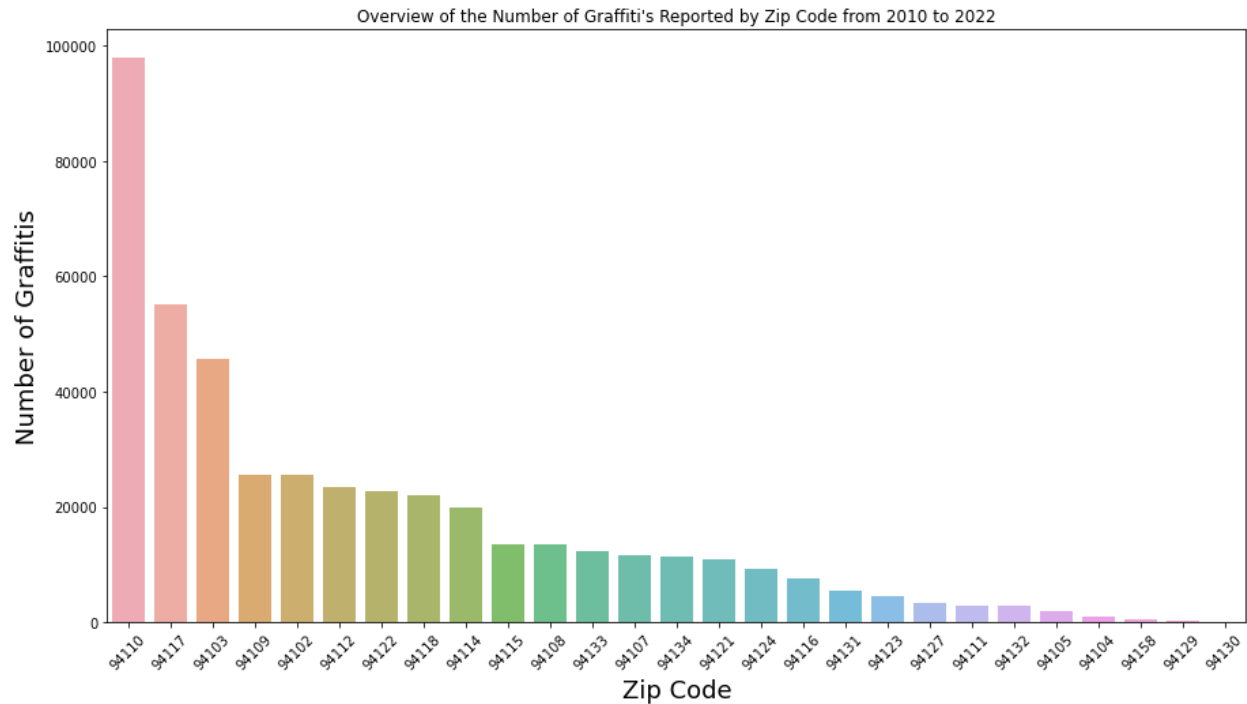
Initial Exploration:

- **Caseld** - Unique Id for each report
- **Opened** - Month/day/year time of day of case opened by the police
- **Closed** - Month/day/year time of day of case closed by the police
- **Updated** - Month/day/year time of day of case updated by the police
- **Status** - status of the case
- **Status Notes** - notes on the status
- **Responsible Agency** - which agency is responsible for dealing with the graffiti
- **Request Details** - whether graffiti is offensive or not offensive
- **Request Types** - where graffiti is physically (i.e. mailbox, pole, etc)
- **Category** - type of art
- **Address** - where the graffiti is reported to be
- **Neighborhood** - which district is the address
- **Supervisor District** - San Francisco Supervisor District as defined in 'Supervisor Districts as of April 2012'
- **Point** - Latitude and Longitude of the area
- **Source** - how the request was received

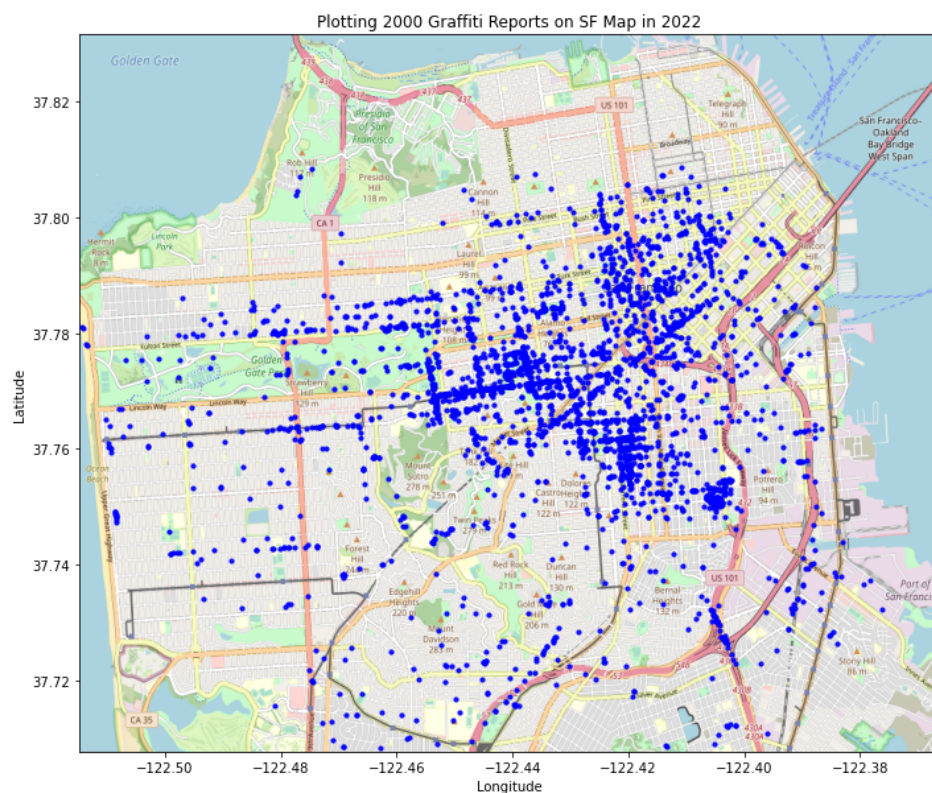
We plan on using the columns Opened and Closed to evaluate monthly and seasonal trends, the columns Responsible Agency, Request Details, and Request Types to determine patterns in how graffiti incidents are committed and how they are addressed, and the columns Address, Neighborhood, Supervisor District and Point to locate neighborhoods with the densest concentration of graffiti incidents.

Initial Exploration

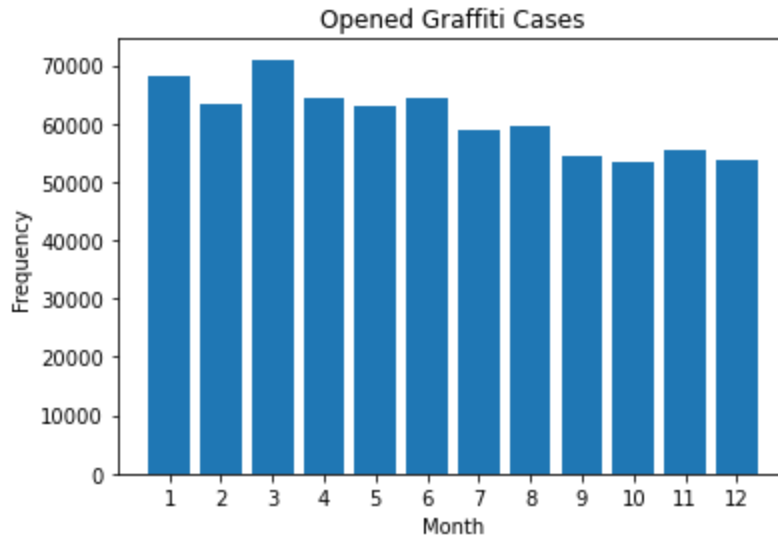
Total number of graffiti reports by zip code: There seems to be a significant amount of graffiti reports in 94110, 94117, 94103 areas.



Map of graffiti reports in 2022: There were around 27,000 reports of graffiti in 2022 alone. The map here only shows 2000 of the reports for readability purposes. We can see that most of the reported graffiti are in central SF and usually are directly on the streets.

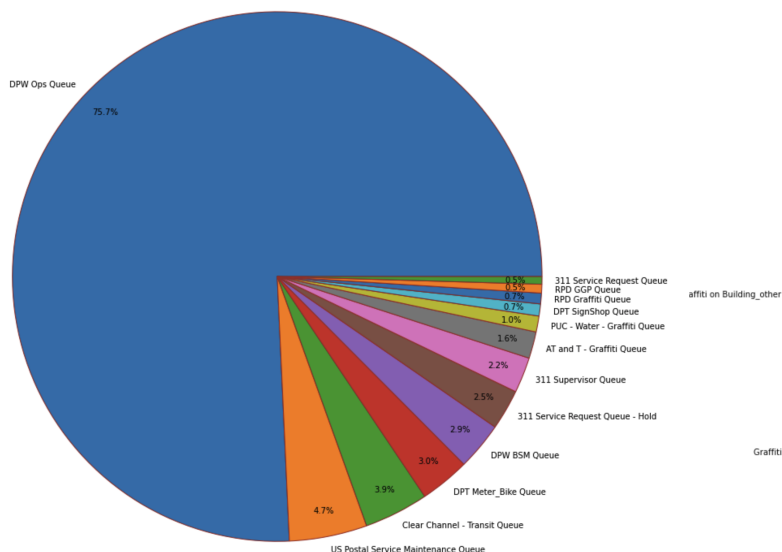


Graffiti cases by month: Hypothesized that more graffiti incidents when weather is nicer, maybe summer when kids are not in school. Do not really see this. Cases peak in the initial months of the year and follow a decreasing trend over the subsequent months. Could be something more going on, maybe more to learn about graffiti tendencies.

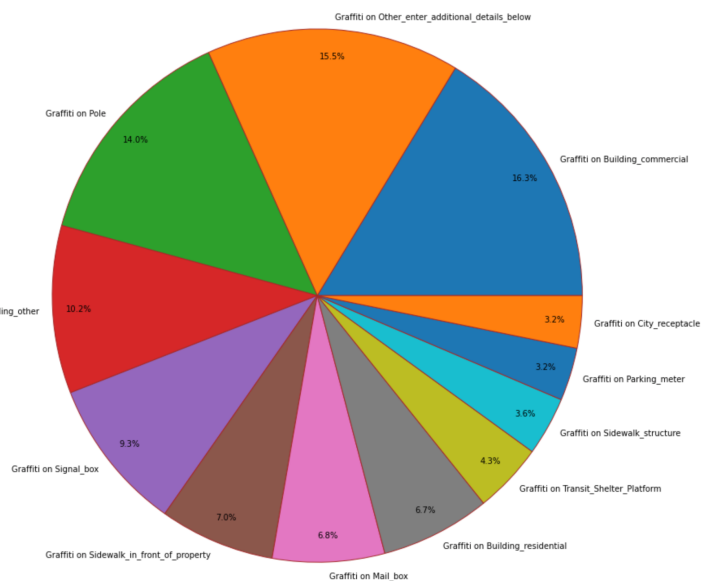


Graphs depicting the major agencies that address graffiti and the types of graffiti they come across: DPW Ops Queue addresses an overwhelming majority (~75%) of graffiti incidents in SF with a mix of other agencies addressing the remaining 25%. The types of graffiti that are seen and cataloged are more varied and indicate that graffiti is found on many different objects likely located on any given street in SF.

Agencies Responsible for Addressing Graffiti Incidents



Types of Graffiti



What we plan to cover in the final report

1. Are there any monthly/seasonal trends in graffiti cases?
 - a. Any monthly/seasonal trends between a case is opened and closed?
2. How long does it take for opened graffiti cases to be closed?
3. Which streets tend to contain the most offensive graffiti?
4. Do regular crime rate trends match the number of graffiti in certain sections of San Francisco?
 - a. <https://data.sfgov.org/Public-Safety/Police-Department-Incident-Reports-2018-to-Present/wg3w-h783>
 - b. We will be combining this SF incident dataset above that showcases incident reports since 2018 to compare graffiti and crime trends. We will join on time and zip code area.
5. Is there a certain kind of graffiti localized to a certain neighborhood/locale over surrounding areas?
 - a. How varied are the types of graffiti that a given neighborhood sees?
6. Are there any trends in the amount of time it takes a given agency to close a graffiti case?

The final report will be an investigation of graffiti in SF. We will deliver a data driven paper including visuals that dig into specific key behaviors and trends of graffiti incidents, with the intent that some conclusions can be made describing the graffiti situation in SF.