Neighborhood Insights: Uncovering Property Maintenance Trends in Phoenix

Assessing community well-being through property maintenance complaints.



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Problem Statement:

We are analyzing data on property maintenance issues reported by Phoenix residents to identify neighborhoods with the most complaints and recommend areas where issues are handled well. Our goal is to understand complaint status, how many inspections are needed for resolution, and if there's a link between inspections and problem resolution. This analysis will offer insights into maintenance concerns and suggest ways to improve services and neighborhood conditions.



Pseudocode:

Data Review and Cleaning:

• We check and clean the data to make sure case numbers are unique, addresses are correct, and important fields like district numbers and case statuses have no missing values.

Loading the Data:

• Load and review the property maintenance data to understand what's inside.

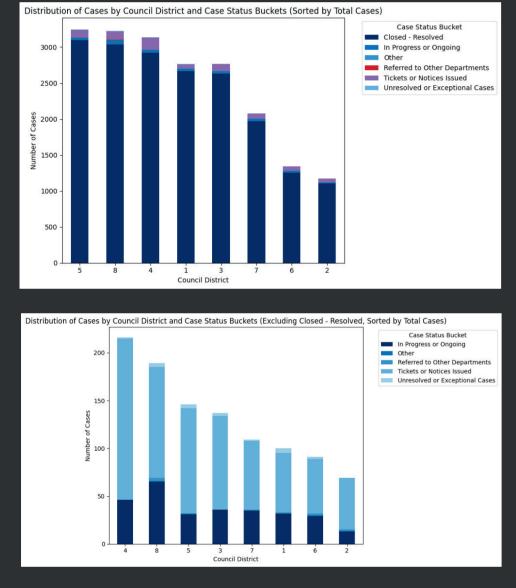
Data Analysis:

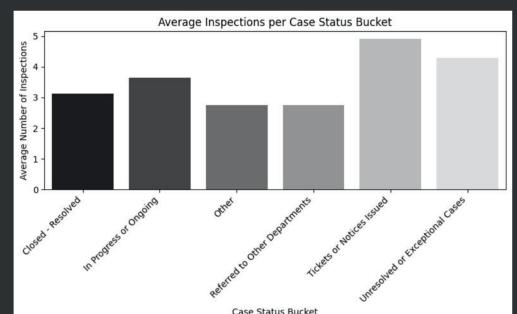
- Count the total cases and inspections.
- Group cases by status (Open, Closed, etc.) and by council district to see where the most complaints are.

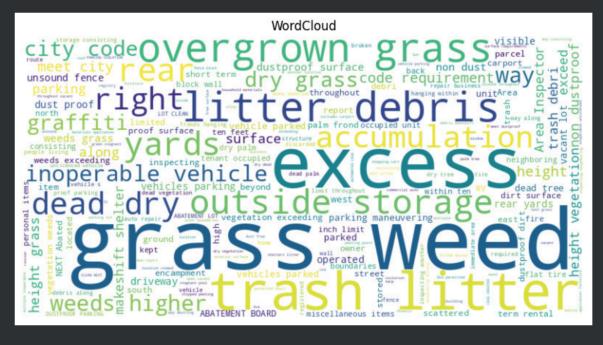
Interpretation and Results

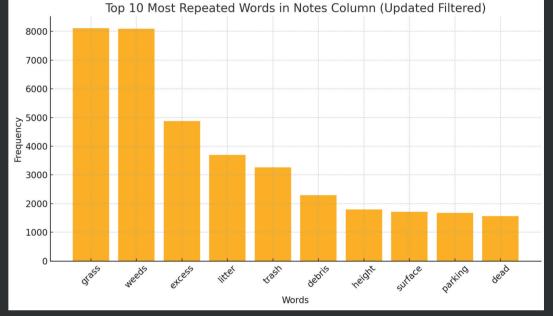
• Based on the findings recommend the best and worst performer council districts based on cases.

Findings:









Results:

Our analysis reveals that some Phoenix neighborhoods report significantly more property maintenance issues than others, potentially due to higher population density, socio-economic challenges, or more active inspection efforts. Neighborhoods with fewer complaints may either have fewer issues or less stringent enforcement.

Most complaints are resolved efficiently, but cases requiring multiple inspections—especially those involving tickets or formal notices—take longer and demand more resources. These more complex cases, often in neighborhoods with persistent issues, indicate a need for additional attention and resources.

We observed a strong connection between the number of inspections and the likelihood of a case being unresolved or still in progress. Some neighborhoods show a higher average number of inspections, pointing to ongoing or complicated problems, including a few outlier cases that required unusually high inspection efforts, likely due to repeat violations or complex maintenance concerns.

Interpretation:

The data analysis highlights key insights into property maintenance issues reported in Phoenix. Districts 5 and 8 have the highest number of complaints, indicating these areas may face challenges like higher population density or socio-economic factors. District 2 and 6 have lowest number of cases reported, as well as low inspections and resolved cases. Cases involving formal notices or tickets require more inspections to resolve, while those resolved without enforcement tend to require fewer inspections. This shows a clear link between the number of inspections and the complexity of the issue. Common complaints, such as overgrown grass and weeds, parking issues, point to recurring issues that could be addressed with targeted efforts. By focusing resources on high-complaint areas and adopting practices from neighborhoods where issues are resolved efficiently, Phoenix can improve property maintenance services and neighborhood conditions overall.

