# **Analysis of Open Requests in the WPRDC’s 311 Dataset**

## **Introduction**

The Western Pennsylvania Regional Data Center (WPRC) includes a variety of datasets, including one called the “311” dataset. It is located at [https://data.wprdc.org](https://data.wprdc.org/). This dataset includes information about service requests to the 311 hotline in the city of Pittsburgh. Among other information, service requests are categorized by request type and status, which can be coded as “NEW”, “CLOSED”, or “OPEN”. The goal of this project was to determine which types of requests tended to be left open, and for each of the most frequent types of requests, offer a possible explanation for why they might remain open. Possibilities include:

* High-volume type of request (so it takes longer to get to all of them)
* Low-priority type of request
* A resource-intensive type of request to resolve
* A type of request that requires red-tape (e.g., court action) to resolve

The analysis was performed with a combination of the 311.py, 311\_2.py Python programs, and MS Excel (for charting purposes). These programs are available in the “lan33-ccac” github repository.

## **Top 10 Service Requests**

The total number of requests in the 311 dataset was: 367,061. There were 312 different types of requests represented in this dataset. The top 10 highest volume types of all service requests included:

|  |  |  |
| --- | --- | --- |
| **Request Type** | **Request Count** | **% Total Reqs** |
| Potholes | 51,428 | 14.01 |
| Weeds/Debris | 33,680 | 9.18 |
| Building Maintenance | 17,462 | 4.76 |
| Snow/Ice removal | 12,488 | 3.40 |
| Abandoned Vehicle (parked on street) | 10,326 | 2.81 |
| Refuse Violations | 10,015 | 2.73 |
| Missed Pick Up | 8,420 | 2.29 |
| Litter | 7,827 | 2.13 |
| Illegal Parking | 7,248 | 1.97 |
| Replace/Repair a Sign | 7,035 | 1.92 |

## **Top 20 Open Requests**

The total number of requests in an “Open” status was: 41,739. This represents 11.37% of all requests, which indicates that the city is able close most requests in a reasonable time frame. Of the requests remaining in an open status, these are the service types with the highest numbers of open requests:

|  |  |  |  |
| --- | --- | --- | --- |
| **Request Type** | **Open Req Count** | **% Total Open Reqs** | **% Total All Reqs** |
| Weeds/Debris | 9,497.00 | 22.75 | 2.59 |
| Building Maintenance | 6,715.00 | 16.09 | 1.83 |
| Vacant Building | 2,210.00 | 5.29 | 0.60 |
| Potholes | 1,876.00 | 4.49 | 0.51 |
| Abandoned Vehicle (parked on street) | 1,823.00 | 4.37 | 0.50 |
| Building Without a Permit | 1,678.00 | 4.02 | 0.46 |
| Broken Sidewalk | 861.00 | 2.06 | 0.23 |
| Illegal Parking | 725.00 | 1.74 | 0.20 |
| Unpermitted Electrical Work | 641.00 | 1.54 | 0.17 |
| Overgrowth | 583.00 | 1.40 | 0.16 |
| Pruning (city tree) | 568.00 | 1.36 | 0.15 |
| Litter | 521.00 | 1.25 | 0.14 |
| Patrol | 497.00 | 1.19 | 0.14 |
| Drug Enforcement | 488.00 | 1.17 | 0.13 |
| Fire Safety System Not Working | 457.00 | 1.09 | 0.12 |
| Zoning Issue | 419.00 | 1.00 | 0.11 |
| Fire Safety System Issue | 414.00 | 0.99 | 0.11 |
| Junk Vehicles | 413.00 | 0.99 | 0.11 |
| Replace/Repair a Sign | 404.00 | 0.97 | 0.11 |
| Graffiti, Documentation | 386.00 | 0.92 | 0.11 |