

# City of Pittsburgh 311 Data User Guide

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[Western Pennsylvania Regional Data Center](#)

This User Guide for City of Pittsburgh 311 data provides consumers of the data with background information on why the data is collected, the business processes, software, and applicable standards involved with the data, suggested applications for the data (and how to use it), and other important details. It's our hope that User Guides will improve the quality and outcomes of 311 data applications.

## Original Purpose and Application

Much like the 911 phone number is universal in the U.S. to report an emergency, the 311 system is a phone number people can use for non-emergency service requests. Baltimore, MD was the first U.S. City to implement a 311 system beginning in 1996.

The process in-use in Pittsburgh is used to not only record requests for service, the 311 system is used internally by the City to manage work orders generated by requests, and provide feedback to the person requesting service. The 311 system can also be used to measure the City's performance in customer response.

## History, Standards, and Format

Pittsburgh's 311 system was first launched in 2006 by internal City staff. It initially operated as a phone, email, "snail mail", and walk in system, and complaints were routed internally by City staff via a database and software that was designed in-house in the late 1980's.

Before the 311 system was implemented, there was a Mayor's Service Center (MSC) that also used the antiquated software. The MSC was dissolved by Mayor Tom Murphy before he left office in 2005. In the interim between the closing of the MSC and the start up of 311, the software was used as a work order system by some of the city departments.

in 2015, software developed by [Qscend Technologies, Inc.](#) software was purchased to manage the 311 system. It's unclear to what extent the software conforms to existing 311 data standards, however this will be information that we hope to include in a future update of this document.

Request categories are developed by the City of Pittsburgh, with input from department directors. Each category is linked to a department charged with responding to the service request. 311 has the ability to add and modify the categories as necessary, and the definition of some of the categories may differ between City staff and residents. The supporting documentation on the Western Pennsylvania Regional Data Center's open data portal includes a [codebook](#) of issue types and definitions.

## **Organizational Context**

The 311 response system operates within the Department of Innovation & Performance. The City has budgeted for up to 12 staff in the 311 Response Center. Twelve staff are working with the 311 system. The phone service is staffed between 7am and 7pm Monday-Friday.

The City of Pittsburgh uses 311 data to not only manage requests for service, but also to track performance and determine how to allocate resources within agencies. The City is also interested in learning more about how 311 reporting rates differ across neighborhoods.

As more and more cities have adopted 311 systems, a community of practice has emerged to allow managers in different cities to learn from one another. City staff participate in the [Association of Government Contact Center Professionals](#).

## **Work Flow**

Today, the 311 system accepts service requests over the phone, through the internal 311 call center, [Web interface](#), [twitter](#), occasional email requests, or letters in the mail. Other departments are also able to submit requests as well. A mobile application has also been launched by the City on March 11, 2016.

Registered users of the Web-based system are able to track their requests through completion, however registration is not required to submit a complaint.

Users requesting service through the Web form are able to select their own service type through a drop-down menu. Requests coming through other sources are assigned a service type by 311 staff. About 5%-10% of all Web-based requests are assigned an improper classification by the person making the request. When an incorrect referral is made, 311 is notified by the department receiving the initial submission, the request is reclassified by 311 staff, and re-routed to the appropriate department.

Requests are geocoded through the Qscend software based on the address provided by the person requesting service. The software notify 311 representatives of similar requests in a nearby geographic area. 311 Staff are then able to link similar requests in the system to reduce duplication of requests.

The person making the request for service will receive a case ID number as a reference if they'd like to check the status of the request. They can also provide their email address to receive automatic notifications as requests are filled.

The business processes related to responding to service requests differ by department, but all departments use the 311 system as the source for work orders. Departments also provide notification through the 311 system after work is complete.

The Department of Permits, Licenses, and Inspections (PLI) is currently the only department with full 311 digital integration into their business processes. The workflow begins with PLI assigning a parcel number to each property service request. As inspections are performed, violations are found, and other actions occur, PLI software systems are able to track a complaint as it moves through a process of inspections, violations, and other actions. These actions are all linked with the 311 request, and notifications are provided to the person requesting service.

The Department of Public Works (DPW) has not yet integrated 311 with the Cartegraph system. As of December 2015, requests sent to DPW are printed by a clerk at each division, and then assigned on paper to work crews. Completed work orders are returned on paper to clerks at each division, who enter data into the system. There can be a lag of up to a week in the data entry process. 311 helps departments with data entry as requested. Once the 311 system is digitally integrated into DPW operations, work crews will be able to receive and respond to service requests in the field.

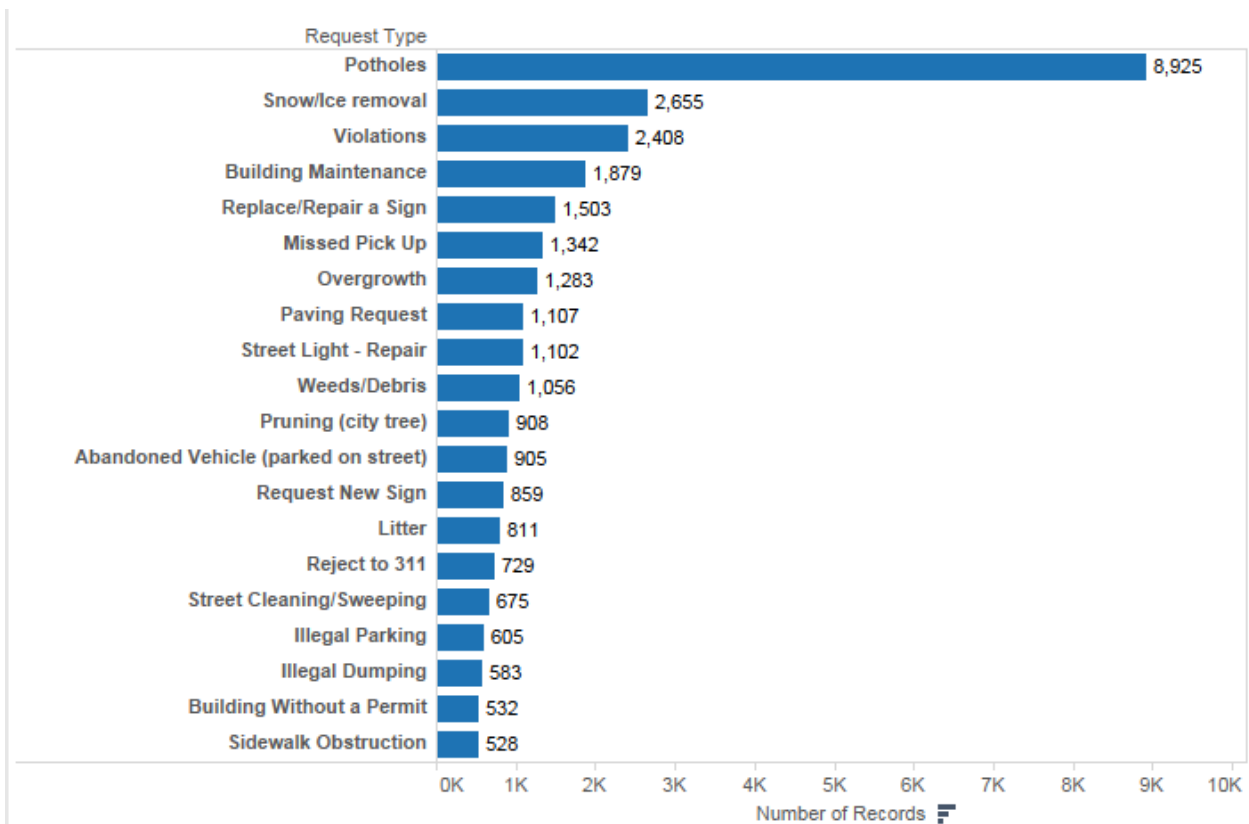
### **Things to know about the data, including limitations**

- As identified through the City's legal review process, the specific geographic location of 311 complaints are not publicly shared due to concerns over privacy.
- On the [Western Pennsylvania Regional Data Center open data portal](#), fields for neighborhoods, 2010 census tract, Council District, police zone, DPW division, and PLI division have been appended to all records. This information is generated by an automated Extract Transform Load process based on the (coordinate) location of the complaint. Data on the data portal updates hourly.
- Coordinates were added to the 311 open data file on October 12, 2016. For some less-sensitive request types, actual coordinates appear in the 311 open data. For more sensitive requests, coordinates representing the approximate location of the complaint are shared to protect the identity of the person making the complaint. The data file indicates whether exact or approximate coordinates have been included.
- Errors may have been created through the City's geocoding process.
- The City's 311 system is not integrated with Allegheny County for County-owned roads, the Pennsylvania American Water Co., State DOT, or utility companies (gas/electric) - most of these can be forwarded by email, but the State Department of Transportation system only is capable of handling phone referrals. In this case, the person making the

request is provided with the State DOT customer service phone number (1-800 FIX-ROAD), and the request is closed on the City's 311 System.

- For the year ending March 7, 2016 48,710 311 requests were received. The highest volume of service requests (73%) were made by phone, with 18% coming through the Web. It's common for some calls to result in multiple requests.
- Potholes are the most-frequently requested type of service, accounting for nearly one in five 311 requests filed in the year ending on March 7, 2016 . A graph showing the 20 most common requests submitted over this period appears below.

**Figure 1: Top 20 311 Service Requests by Service Type: Number of Requests March 8, 2015 - March 7, 2016**



- Requests will peak during a City pothole blitz or snow event. For one storm occurring January 12, 2016, the volume of 311 requests was three times higher the day of the event. About 80 percent of requests received by 311 on these days were snow and ice related. The volume of total requests remained higher than normal for a few days following the storm.

- The City does not prioritize requests based on the number of complaints received about a particular issue.
- The City has no 311 marketing budget. Promotion occurs through community meetings and events, twitter, word-of-mouth, the City's cable channel, and also included with the City's printed environmental services schedule (distributed annually).
- Calls originating outside the City are accepted. The 311 system does not block calls from outside the City.
- If a request for service is made for an issue occurring outside the City, the 311 staff will share the phone number of the appropriate municipality with the caller.
- Requests for work performed by outside organizations are often received. The system is integrated with the [Pittsburgh Water and Sewer Authority](#), and 311 is also handling intake with the [Snow Angels](#) program, which matches volunteers with residents unable to shovel their own snow. The City also forwards requests for street light repairs to Allegheny City Electric, the City's lighting contractor.
- A status field for requests was added to the data several years after it was first published. Options are 0, 1, and 3 and where 0 = New, 1 = Closed, 3 = Open). To change from Open to In Progress requires some sort of activity - something as minor as printing the request will move the request status from New to Open. Closing requests is done manually by the department. For long term issues, or issues where a request may not be able to closed for several months (for example a paving request received in November), 311 closes the request with a notation that it will be evaluated at a later date. In the paving example, the Asphalt Crew can easily pull the list of requests and evaluate a course of action even if the request had been closed.
  - Other special cases that impact open/closed requests relate to DOMI, where landslide remediation may require capital budget funding, or PLI, where requests are not automatically closed when the complaint reaches the courts. Hopefully, this latter case will be addressed through future software/process improvements.
  - A new status code of "On Hold" will debut, likely in 2020. This status allows the City to hold the request with no time counted against it until it can be completed at a later date - for example, a request for graffiti removal received in January, where conditions aren't appropriate to complete the request.

### **Additional Applications**

Some neighborhood organizations will conduct organized 311 reporting events using resident volunteers. In these situations, residents are encouraged to report issues directly through the 311 or 911 system as appropriate.

## **Appendix**

A [codebook](#) has been developed for this user guide listing all 311 categories, definitions, and reporting agencies for all issue types.

## **Sources/Acknowledgements**

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