

Justice Data Brief: Understanding New York City's 311 Data

DATA COLLABORATIVE for JUSTICE
STRENGTH IN NUMBERS
at JOHN JAY COLLEGE

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KEY FINDINGS

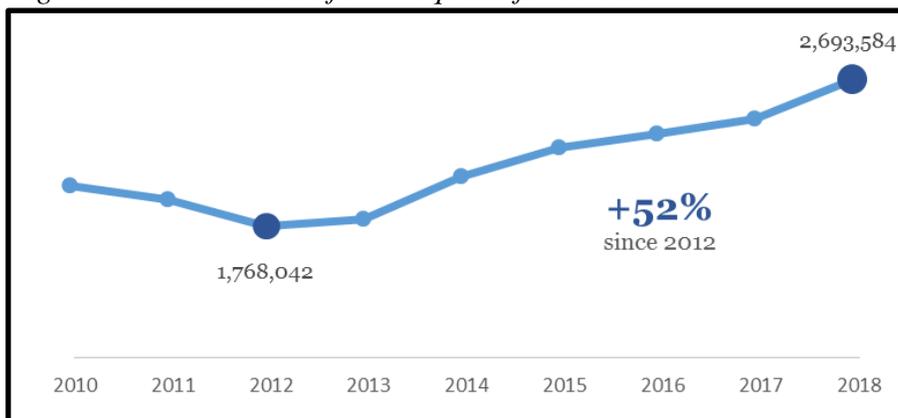
- 1. The number of 311 calls for service in New York City has increased every year since 2012.**
- 2. In 2018, New Yorkers made nearly 2.7 million requests for service via 311:**
 - **The majority of 311 complaints were related to the conditions of buildings, public space, and noise.**
 - **Less than 2% of calls were related to “social disorder” in 2018, most of which were calls for homelessness (24,867 calls) or graffiti (21,096 calls).**
 - **Drug activity, disorderly youth, public drinking, and urinating in public accounted for less than 0.2% of all calls in 2018 (a total of 4,218 calls).**
- 3. 311 data are not a perfect measure of neighborhood conditions, as the volume of calls is also impacted by:**
 - **Characteristics of individuals and neighborhoods that shape their propensity to call 311 to request government assistance; and**
 - **Government initiatives targeting specific social issues, such as homelessness and graffiti.**

In 2018, New Yorkers made nearly **2.7 million requests for service via 311**. This brief highlights what data on these calls suggests about the concerns and priorities of New Yorkers. It also assesses existing research examining the question of what 311 calls measure for research and programmatic purposes and identifies limitations in using 311 complaint data as proxies for neighborhood disorder.

What kinds of complaints do New Yorkers make through 311?

Since its inception in March 2003, the New York City (NYC) 311 call line (and recent web portal and app) has allowed residents to initiate a request for non-emergency government service. New Yorkers can use 311 to request information or file a complaint requesting government intervention. Each 311 request for service is categorized into one of 278 complaint types, ranging from a call to report a “Broken Parking Meter” to “Request Xmas Tree Collection.” Common 311 requests for information include the status of a parking ticket, the location of towed vehicles, or information about government assistance programs. Data on the subset of 311 contacts which include a complaint/request for service is available via [New York's Open Data portal](#) for 2010 through the present.

Figure 1. Annual count of 311 requests for service



This publicly available data reveal that the **number of 311 complaints has increased every year since 2012**. Research examining the propensity of residents to call 311 to request government intervention suggests that increases in calls may be related to resident efficacy (e.g. sense of agency and willingness to intervene in the interest of community well-being), as well as their stake in the neighborhood, and trust in government.¹ Increases in calls may also be related to gentrification and declines in residents' willingness to address neighborhood issues outside of governmental processes and through more informal means (e.g., through direct engagement with neighbors, block associations, etc.).² Of course, calls for service also reflect existing neighborhood conditions about which residents have concerns.

To better understand the data, we aggregated the 278 complaint types into six thematic categories—Buildings, Public Space, Noise, Street Conditions, Social Disorder, and Other.³

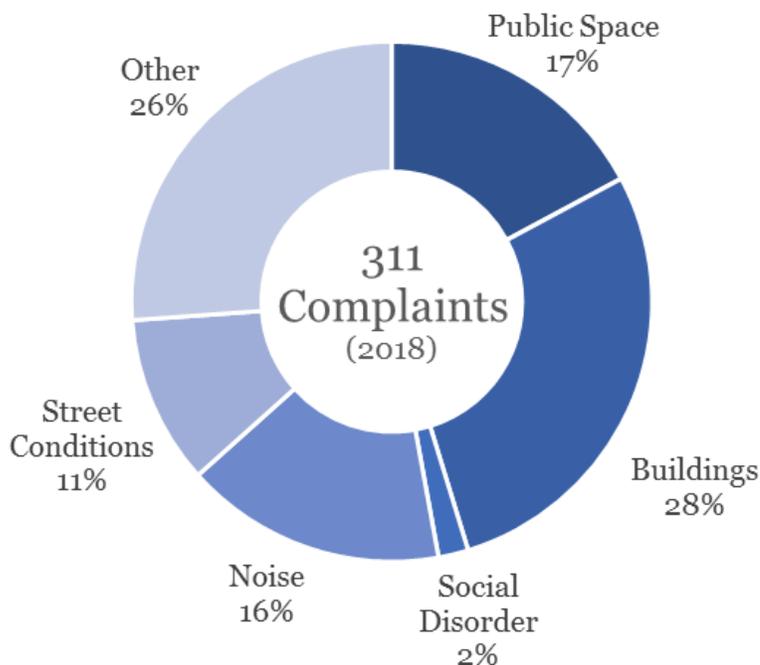


Figure 2. Distribution of 311 requests for service by category, 2018

In 2018, the most frequent category of complaints was for Buildings, which includes complaints about heat and hot water as well as a variety of complaints relating to residential buildings and construction (e.g. water leak, paint/plaster, etc.). The next most common complaint category (excluding “Other”) was related to Public Space, including a large volume of calls for illegal parking, blocked driveways, and dirty/unsanitary conditions. The third most frequent complaint category was for Noise, including residential, street, commercial, and vehicle noise. Notably, nearly **1 in 6 calls were for noise complaints**. Street Condition complaints, including calls related to street, traffic signal, and sidewalk conditions, accounted for about one in nine calls. A relatively small proportion (less than 2%) of complaints were related to indicators of social disorder.

How Common are 311 Complaints Related to Social Disorder?

Since the introduction of the “broken windows” theory of crime in the 1980s, there has been scholarly and political attention to measuring the physical conditions of neighborhoods, including both physical and social disorder, as well as research on how these measures relate to crime.⁴ Social disorder generally refers to “public incivilities” which may indicate lower levels of neighborhood cohesion and may impact resident perceptions of safety.⁵ For purposes of the analysis contained in this brief, the social disorder measure includes some lower-level violations of the law (i.e. graffiti, drug activity, public drinking, and urinating in public) as well as social conditions or behaviors that are not illegal but may indicate social disruption or reduced levels of social control (i.e. homelessness and disorderly youth). Using this metric, we found that **less than 2% of calls were related to social disorder** in 2018, most of which were calls related to graffiti (21,096 in 2018) or homelessness (24,867). Drug activity, disorderly youth, public drinking, and urinating in public accounted for less than 0.2% of all calls in 2018 (a total of 4,218 calls). The low volume of complaints for these four indicators of social disorder is a notable contrast to the larger volume of complaints placed for some unlawful behaviors (for example, there were 8,702 calls to report animal abuse).

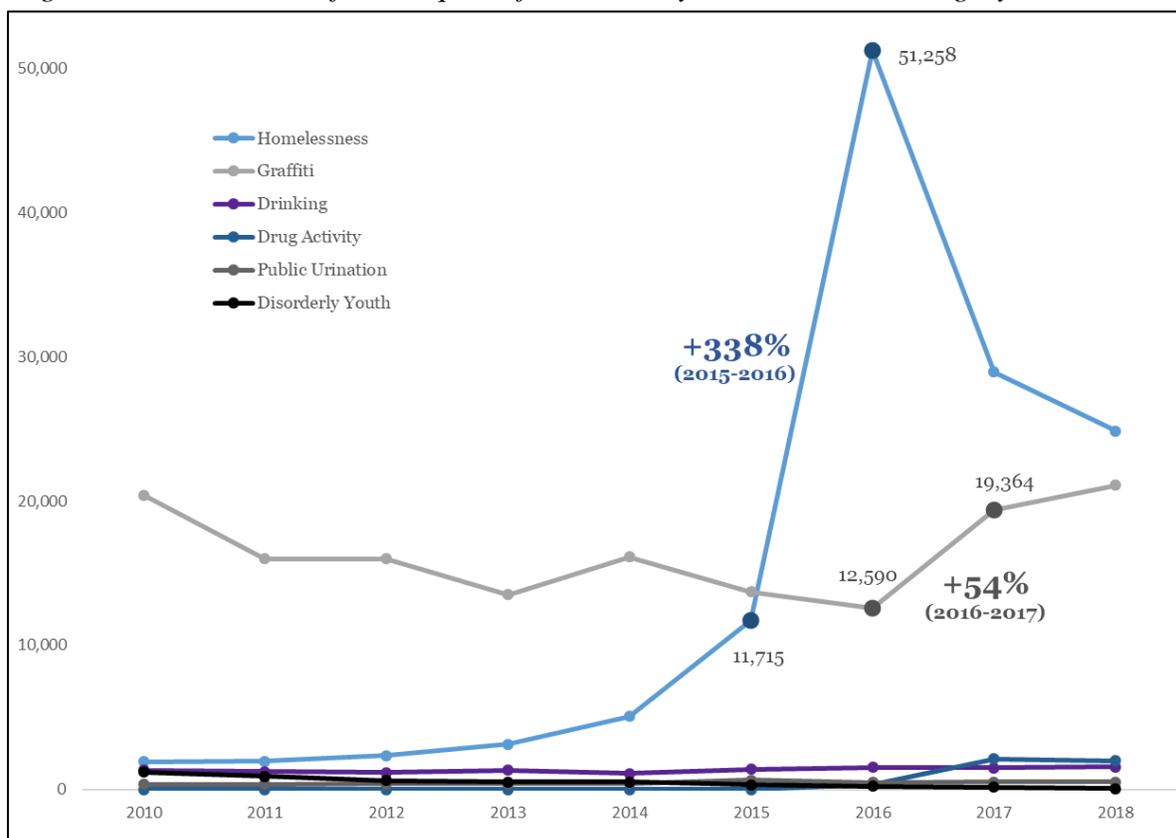
What are the Limitations on Using 311 Calls as a Proxy for Social Disorder?

We also noted two limitations in using NYC's 311 Open Data to measure neighborhood social disorder. First, social disorder related complaints that are filed as 911 calls or directly communicated to the police are not captured in this data. This may be a sizeable proportion of complaints, as 311 callers are instructed to contact 911 to report a crime. Researchers can more comprehensively measure neighborhood disorder by combining

data on relevant calls from both emergency (911) and non-emergency (311) services. See, for example, O'Brien and Sampson's (2015) research⁶ on using both 911 and 311 data to measure social and physical disorder in Boston.

Second, analysis of variation in the volume of calls over time also revealed dramatic fluctuations in the number of calls for specific complaint types (see Figure 3). The scale of annual variation suggests that calls not only reflect service requests by residents, but are also impacted by other factors which may systematically increase call volume, including enhanced reporting efforts by public employees. For example, New York City developed a Street Conditions Observation Unit Team (SCOUT) Program in 2007, through which city agency inspectors travel the city and call 311 to report issues related to quality of life. These scouting efforts were expanded at various subsequent time points.⁷ As a result, 311 **calls reflect not only existing neighborhood conditions, but the distribution of public inspectors across the city.**⁸ Recent fluctuations in the number of complaints for certain indicators of social disorder may also reflect a combination of both actual neighborhood conditions as well as heightened government efforts.

Figure 3. Annual count of 311 requests for service by social disorder category



While the number of complaints for many of the indicators of social disorder, including public drinking and urinating in public, have remained relatively stable and low, the trend lines for homelessness and graffiti related calls reveal more dramatic fluctuations. There was a steep rise in the volume of calls related to homelessness in 2016, with a more than fourfold increase in calls placed that year relative to the number placed in 2015. In contrast, data on individuals in NYC shelters suggests a steady increase in daily counts of homelessness between 2010 and 2018 rather than a pronounced increase between 2015 and 2016.⁹ This increase in 311 calls for homelessness coincided with the launch of the city's Homeless Outreach & Mobile Engagement Street Action Teams (HOME-STAT) program in April 2016.¹⁰ The HOME-STAT initiative includes street canvassers who work to accurately count the number of homeless individuals in the city and to connect homeless people with services and permanent housing. It is possible that this increase in complaints resulted from city canvassers calling 311 to document needs for services and/or from enhanced resident responsiveness resulting from public coverage of the Mayor's commitment to addressing the issue of homelessness citywide. Similarly, there was a more than 50% increase in reports of graffiti in 2017 relative to the prior year. Rather than reflecting a dramatic increase in the amount of graffiti occurring citywide, the increase is likely related to the city's public "Graffiti-Free NYC" campaigns, and increased funding available for identifying and removing graffiti in public spaces.¹¹

What Can We Learn from 311 Data?

This analysis suggests that 311 data can provide rich insights into hard to observe phenomena—namely the concerns of residents as they navigate daily life in the city. The data indicate that New Yorkers are most interested in governmental response to address issues related to buildings, public space, and excessive noise.

The publicly available data also include a breadth of information not analyzed in this

Questions for Future Research:

1. To what extent do 311 complaints align with the priorities and concerns NYC residents express in other mediums (e.g. community surveys)?
2. Does the type of resolution that results from a 311 complaint impact the likelihood of subsequent calls, both at the individual and neighborhood level?
3. How do the characteristics of an issue/ neighborhood condition (e.g. frequency, severity, etc.) impact the likelihood of a 311 complaint?
4. How do the characteristics of a neighborhood— especially social cohesion and gentrification— impact a resident's likelihood of calling 311 for a given issue/neighborhood condition?

brief, including geospatial data on the location of incidents and detailed information on the responding agency and the action taken on a given complaint.¹² Therefore, while these data do not report on the characteristics of individual callers, they do allow researchers to examine the geographic context of 311 calls, as well as to consider how agency responses and changing neighborhood characteristics may impact the volume of subsequent calls.

We also note limitations in the extent to which these data allow researchers to infer neighborhood conditions or build proxies of social disorder. Variability in the volume of calls for specific complaints over time, as well as research on factors that influence the propensity of residents to file complaints, suggests that 311 complaints indicate more than neighborhood conditions. These calls also potentially reflect government attention to specific conditions in specific areas, and are confounded by the variation across neighborhoods in the propensity of residents to request government intervention to address neighborhood issues.

The **Data Collaborative for Justice (DCJ)** at John Jay College of Criminal Justice houses a group of research initiatives that raise important questions and share critical research about the criminal justice system and its role in creating safe, just and equitable communities. DCJ conducts data analysis and research on enforcement in the community, the adjudication of cases in the courts, and the use of confinement in jails and prisons. DCJ's work has informed policy reforms, facilitated partnerships between researchers and government agencies across the country, spurred new scholarly research on lower-level enforcement, and been cited extensively in the press.

For more information about the Data Collaborative for Justice please go to: www.datacollaborativeforjustice.org

ENDNOTES

¹ See Lerman, A. and Weaver, V. (2014). Staying out of sight? Concentrated policing and local political action. *The ANNALS of the American Academy of Political and Social Science* 651(1): 202-219; Minkoff, S. (2016). NYC 311: A tract-level analysis of citizen-government contacting in New York City. *Urban Affair Review*, 52(2): 211-246;

² See Legewie, J. and Schaeffer, M. (2016). Contested boundaries: Explaining where ethnoracial diversity provokes neighborhood conflict. *American Journal of Sociology*, 122(1): 125-161; Vo, L.T. (2018, June). They played dominoes outside their apartment for decades. Then the white people moved in and police started showing up. *BuzzFeed News*. Retrieved from: <https://www.buzzfeednews.com/article/lamvo/gentrification-complaints-311-new-york>; and Community Service Society. (2019, January). New neighbors and the over-policing of communities of color: An analysis of NYPD-referred 311 complaints in New York City. Retrieved from: <http://www.cssny.org/news/entry/New-Neighbors>

³ The complaint types included in each thematic category are report below, listed in descending order of complaint volume in 2018. The category **Buildings** included Heat/Hot Water; Unsanitary Condition; Water System; Paint/Plaster; Plumbing; General Construction/Plumbing; Water Leak; Door/Window; Rodent; Building/Use; Electric; Flooring/Stairs; Appliance; Lead; Plumbing; Electrical; Boilers; Indoor Sewage; Outside Building; Mold; Window Guard; Elevator; Interior Demo; Building Condition; General Construction; Heating; Nonconst; Construction; Home Repair; Lead; Mold; Paint – Plaster; and Vacant Apartment. The category **Public Space** included Illegal Parking; Blocked Driveway; Sanitation Condition; Derelict Vehicle; Dirty Conditions; Derelict Vehicles; and Derelict Bicycle Traffic/Illegal Parking. The category **Noise** included Noise – Residential; Noise - Street/Sidewalk; Noise; Noise – Commercial; Noise – Vehicle; Noise – Park; Noise – Helicopter; Noise - House of Worship; and Collection Truck Noise. The category **Street Conditions** included Street Condition: Street Light Condition; Traffic Signal Condition; Sidewalk Condition; Root/Sewer/Sidewalk Condition; Street Sign – Damaged; Street Sign – Missing; Highway Condition; Street Sign – Dangling; Bridge Condition; Highway Sign – Damaged; Highway Sign – Missing; and Highway Sign – Dangling. The category **Social Disorder** included Graffiti; Homeless Person Assistance; Homeless Encampment; Drug Activity; Drinking; Urinating in Public; Panhandling; Disorderly Youth; and Squeegee. All other call types were categorized as Other. In 2018, the most common call types in **Other** were Request Large Bulky Item Collection; Missed Collection (All Materials); and Damaged Tree.

⁴ See Sampson, R. J., and S. W. Raudenbush. (2001, February). Disorder in urban neighborhoods—Does it lead to crime? *National Institute of Justice Research in Brief*. Retrieved from: <https://www.ncjrs.gov/pdffiles1/nij/186049.pdf>

⁵ Sampson, R. J., and S. W. Raudenbush. (1999). Systematic social observation of public spaces: A new look at disorder in urban neighborhoods. *American Journal of Sociology* 105(3): 603–651.

⁶ O'Brien, D.T, and R.J. Sampson. (2015). Public and private spheres of neighborhood disorder: Assessing pathways to violence using large-scale digital records. *Journal of Research in Crime and Delinquency* 54(2): 486–510.

⁷ Rivera, R. (2007, August). 311 expands with scouts to patrol the streets. *The New York Times*. Retrieved from: <https://www.nytimes.com/2007/08/17/nyregion/17scout.html>; Johnson, S. (2010, November). What a hundred million calls to 311 reveal about New York. *WIRED*. Retrieved from: https://www.wired.com/2010/11/ff_311_new_york/

⁸ The 311 data available via NYC Open Data includes a variable “Data Channel Type” which is intended to distinguish calls placed by constituents from those placed by city agents. Less than 2% of calls over study period were categorized as “Other” to indicate they were placed by employees of a city agency, and none of the calls related to homeless in 2016 or graffiti in 2017 were coded as being placed by city employees.

⁹ See shelter census data reported by the Coalition for the Homeless, Retrieved from: <http://www.coalitionforthehomeless.org/the-catastrophe-of-homelessness/facts-about-homelessness/>

¹⁰ See Press Office (2016, April). Mayor de Blasio Announces Home-Stat Program Fully Operational [Press Release]. Retrieved from: <https://www1.nyc.gov/office-of-the-mayor/news/326-16/mayor-de-blasio-home-stat-program-fully-operational#/0>

¹¹ See <https://www.nycdc.com/program/graffiti-free-nyc>

¹² The 311 data available via NYC Open Data includes a variable “Resolution Description” which indicates the action taken on a given complaint by the responding agency, including whether the agency “took action to fix the problem” or “The Police Department responded to the complaint and determined that police action was not necessary”.