Noise in New York City Neighborhoods

Assessing Risk in Urban Noise Management

OFFICE OF THE NEW YORK STATE COMPTROLLER
Thomas P. DiNapoli, State Comptroller

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Contents

Maps and Charts

Introduction

Every day, New York City's eight million residents face a mix of urban noise — street traffic, construction, emergency vehicles, buses, subways and air traffic are just a few examples — which, at best, poses an annoyance and, at worst, impacts quality of life. Leading authorities such as the World Health Organization and the Environmental Protection Agency have documented the harmful effects of noise exposure on health and well-being.

Despite an overhaul of New York City's Noise Code — which took effect in 2007, and established more stringent regulations for construction sites, nightclubs, and other sources of noise disturbances — noise complaints made to the City's 311 Customer Service Center (311) are on the rise. In 2010, New Yorkers made 200,018 complaints about noise. In 2015, that number had risen to 384,118. In total, during those six years, New York City residents made 1.6 million noise complaints via 311, in expectation that their government would help address a problem that significantly impacts their quality of life.

In February 2016, the Office of the New York State Comptroller (OSC) launched a public opinion survey to solicit information on noise in New York City neighborhoods to gain insight on the issue at the grassroots level and to serve as a risk assessment tool to inform our audit process. To disseminate the survey to New York City residents, OSC conducted outreach to New York City's 59 Community Districts — through emails, letters, phone calls, and presentations at public meetings — and to community media. The online Noise Survey, available in English as well as Spanish, Chinese, and Russian, drew responses from more than 4,000 people. The survey results in this report are a simple summary of the raw data and are not generalizable as presented here, but they do reflect the depth of concern and the range of issues associated with urban noise in New York City.

To develop the survey questionnaire, we analyzed trends in six years of 311 noise complaint data, and interviewed New York City agency officials regarding noise management. We also reviewed available New York City agency data, regulations and statutes on noise management. We looked at other questionnaires and results of noise surveys conducted by other entities, and reviewed studies conducted by academic and policy researchers seeking to identify the effects of noise as well as potential mitigating solutions. See Appendix A for a discussion of the methods used in this report.

Noise Code

New York City's Noise Code (New York City Administrative Code §24-201 to §24-270) is considered a model local noise ordinance. While noise is an ever-present aspect of City life, the ordinance establishes certain requirements and restrictions for noise mitigation (e.g., maximum decibel levels and hours when certain noise-generating activity, such as construction and commercial music, is permissible). However, the Code has proven difficult to enforce and does not cover all sources of disruptive noise. The ordinance covers noise from construction projects, animals, HVAC (heating, ventilation, and air conditioning systems), refuse collection, and motor vehicles and motorcycles; music from food vending vehicles (e.g., ice cream trucks); music from bars and restaurants; and neighbor noise (e.g., power tools, lawn maintenance equipment). Other significant offending sources of noise—such as freight trains, subway trains entering and leaving stations, commuter trains and subways running on elevated tracks, buses, airplanes, and helicopters—are outside the City's control.

Enforcement

The New York City Department of Environmental Protection (DEP) is the lead agency responsible for enforcing the City's Noise Code. The DEP sets applicable rules and regulations, such as specifications for the operation, installation, or manufacture of sound mitigation equipment or devices, and establishes procedures to measure sound levels. The DEP commissioner may conduct investigations or studies and hold hearings to enhance Noise Code enforcement and abate noise. Under the Noise Code, the New York City Police Department (NYPD) also has enforcement authority, and the Noise Code requires the DEP and the NYPD to periodically study and recommend alternative equipment for enforcement of the Noise Code to the Mayor. The Code also authorizes the DEP and the NYPD to issue summonses and violations. The New York City Environmental Control Board (ECB) is also empowered to hold hearings and to issue subpoenas, orders to stop certain activity or work, and violations, and to assess penalties to enforce compliance with the Noise Code.

The DEP shares responsibility with the NYPD to resolve noise complaints, based on the type of complaint. Together, the DEP and the NYPD handle 99 percent of noise complaints made to City government. Of the 1.6 million noise complaints that New Yorkers made via 311 between 2010 and 2015, the NYPD had handled approximately 1.3 million (81 percent) and the DEP had handled approximately 230,000.[1] According to 311 data, the NYPD typically handles complaints about banging or pounding disturbances, horn honking, vehicle idling, music or party noise, and people noise. The DEP handles complaints about alarms (generally on buildings or other fixed structures), animals, construction, HVAC, ice cream trucks, party boats, private carters, and other noise, as well as requests for "No Horn Honking" signs. The New York City Department of Sanitation handles complaints pertaining to its operations, such as noisy trucks, and the New York City Economic Development Corporation (NYCEDC) responds to complaints about helicopter noise.

1 Unless specifically noted, this report uses only those complaint records from an August 19, 2016 download from NYC Open Data in which a Community District was identified in that download or through a match of complaint records in a download completed on February 8, 2016. There were 17,600 records that had no geographic identifier or were identified as other than a Community District (such as a park or museum), which were excluded from the analysis.

Responding To 311 Noise Complaints

New York City's 311 system is the primary means for New Yorkers to make a noise complaint. The 311 system is basically a referral service; its agents are trained to identify customer needs and then route inquiries to the appropriate agency, as needed.

Reporting complaints using 311 often does not bring relief from noise, according to the public record of noise complaints on the NYC Open Data website. Our review of responses to 1.6 million noise complaints found that agencies could not confirm that noise was occurring in most instances. In this report, when we indicate that an agency responding to a noise complaint confirmed that noise was occurring, this means the agency reported to 311 that it took some action toward mitigating the noise, such as issuing a summons or a violation or working with the noisemakers to stop the noise. In the 311 data on NYC Open Data, a reported action taken by an agency in response to a noise complaint is referred to as a "Resolution Description." Appendix C lists resolution descriptions of confirmed noise complaints by the NYPD and the DEP for 2010 through 2015.

Of the 230,000 complaints made from 2010 through 2015 that DEP investigated, noise was confirmed in 3 percent of the cases.[2] In most of those cases of confirmed noise, the DEP reported to 311 that it had issued 5,769 notices of violation; resolved 1,018 complaints by speaking with the complainant; received communication from a dog owner regarding a letter or inspection in 770 complaints; and determined that "No Horn Honking" or "No Idling" signs were warranted in response to 421 complaints.

The NYPD confirmed that noise was occurring in 29 percent of the 1.3 million complaints it investigated. For most of those complaints (379,948) in which noise was confirmed, the NYPD reported to 311 that it had taken some unspecified action to fix the condition. The NYPD also reported that it had issued 5,482 summonses and made 791 arrests in response to noise complaints during those six years.

During the six-year period, people often made multiple complaints about the same addresses. For example, out of the 1.4 million complaint records with reported addresses, 895,598 complaints concerned addresses associated with 10 or more complaints each. During the six-year period, the citywide average number of complaints per reported address was five; the maximum was 1,867 calls about one address, a residence. Additionally, a City consultant conducting a 311 customer satisfaction study reported that during a six-month period in 2015, 34 percent of callers made one complaint, 23 percent called twice, 25 percent called three to five times, and 17 percent called six or more times.[3,4]

2 The 230,000 complaints include 44,950 that the DEP deemed to be duplicates of other complaints. The 311 data does not provide any detail on how these 44,950 complaints might have been resolved, and so we did not include them in calculating the percentage of confirmed noise cases. It is possible that some of these have been resolved, and if so, our estimate of complaints in which noise was confirmed by DEP is understated—by as much as 20 percentage points if all 44,950 complaints were resolved.

3 NYC 311 and CFI Group. *NYC 311 Customer Contact Center Customer Satisfaction Survey.* September 2015.

4 The 311 noise complaint data available through NYC Open Data tracks records of complaints. Address information is provided, which could be the location of the noise source, but the individual making a complaint is not identified. It is not possible to determine from this data how many times a single individual might have made a noise complaint via 311.

Geography of 311 Noise Complaints

All of the City's 59 Community Districts are represented in the calls made to 311 for noise complaints from 2010 through 2015, though certain districts have a higher frequency of calls. Table 1 shows the 10 Community Districts with the highest rates of complaints to 311 during the six-year period, estimated as the average annual rate of complaints per 1,000 adults. During the six-year period, residents of Manhattan Community Districts 12 (MN12) and 10 (MN10) complained to 311 more frequently than residents of other Community Districts, at 82 calls per 1,000 adults per year. The citywide median was 38 complaints per 1,000 adults, and Queens Community District 11 (QN11) had the lowest rate of all Community Districts, at 10 complaints per 1,000 adults.

Map 1 shows the annual rate of noise complaints citywide by Community District and PUMA for 2010 and 2015. The frequency of complaints increased significantly over the six-year period, especially in districts that already made high numbers of complaints. PUMAs, or Public Use Microdata Areas, are geographies that are used by the Census Bureau in its American Community Survey. In New York City, PUMA boundaries are generally contiguous with New York City's Community Districts (see Appendix B for a map).

TABLE 1
Most Frequent Complaints by Community District, 2010–2015

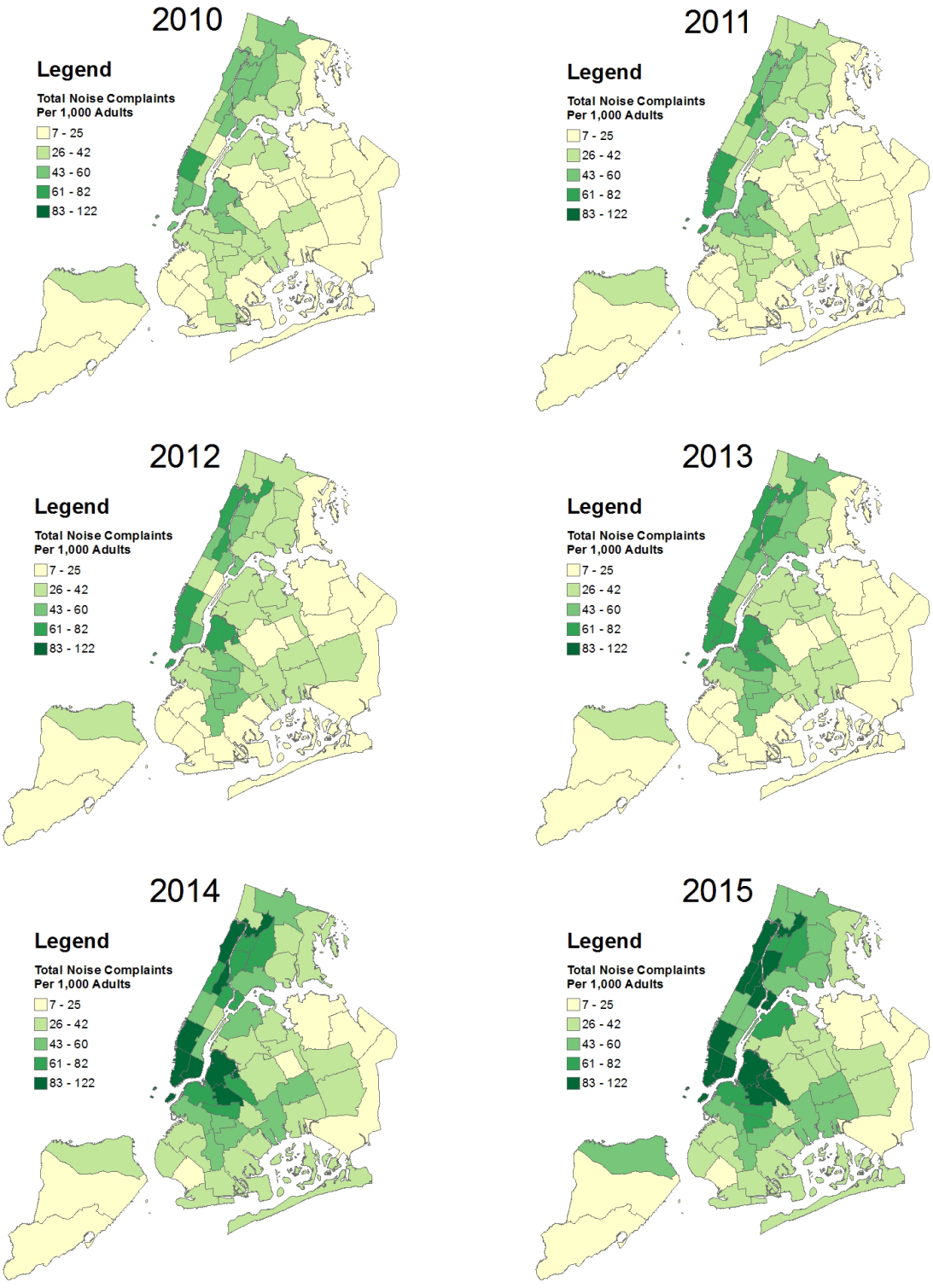
District	PUMA	Rate
MN12	3801	82
MN10	3803	82
MN4/5	3807	79
BK1	4001	77
MN1/2	3810	75
BX7	3706	75
MN3	3809	68
BX4	3708	65

Note: Rate is the average of the annual rate of complaints per 1,000 adults for 2010 through 2015. The annual rate of complaints is the annual number of complaints divided by the annual adult population.

Sources: NYC Open Data; U.S. Census Bureau's ACS 1-Year Estimates for 2010, 2011, 2012, 2013, 2014, 2015; OSC analysis

MAP 1

Total Noise Complaints – Rate of Complaints per 1,000 Adults by PUMA



Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

Categories of Noise in the 311 Data

In the 311 noise complaint data for calendar years 2010 through 2015, the four most frequent noise complaints were: disruptive music or parties (56 percent); disturbances from banging or pounding (15 percent); noise made by people, such as loud talking or loud television (11 percent); and construction projects (8 percent). The 311 data categorizes noise complaints by type of noise (which is referred to as "descriptor") and source location (e.g., commercial or religious establishment, residence, street).[5] For example, music or party and people noise can come from a commercial establishment, a park or a playground, a street or a sidewalk, or a residence or other location, such as a religious establishment.

As shown in Table 2, noise categories are grouped by general location type or source of noise disturbance when this detail was provided in the 311 data; the totals shown are the number of complaints over the six-year period. Specifically, nightlife noise is music, party, or people noise coming from a commercial establishment.[6] Outside noise is music, party, or people noise coming from a park, playground, street, or sidewalk. Residential noise includes banging or pounding or music, party, or people noise coming from a home.[7]

Construction activity is another major source of noise disturbances, and various types of noise are included in "Other," as shown in Table 2. "Other" included 167,235 complaints of various noise disturbances in the 311 data: traffic noise (e.g., horn honking, idling) (40,158); animals (40,898); HVAC (23,372); banging or pounding coming from commercial establishments (11,971); alarms (11,890); ice cream trucks (8,740); helicopters (6,011); private waste carters (5,565); religious establishments (6,342); noise not specified by 311 (4,826); banging or pounding, music or party, or people noise complaints with no location type specified by 311 (4,714); requests for "No Horn Honking" signs (1,416); New York City Department of Sanitation complaints (958); and party boats (374).

TABLE 2
Noise Disturbances
Tracked by 311, 2010–2015

Noise Complaints	Six-Year Total
Residential	
Music or party	601,093
Banging or pounding	231,462
People	78,772
Subtotal	**911,327**
Outside	
Music or party	157,428
People	79,525
Subtotal	**236,953**
Nightlife	
Music or party	136,930
People	17,657
Subtotal	**154,587**
Construction	**132,717**
Other	**167,235**
Total	**1,602,819**

Sources: NYC Open Data; OSC analysis

Note: Complaints shown above are totals for the six-year period.

5 Unless specifically noted, our analysis includes records of 311 complaints in NYC Open Data with a Community District identified, which accounted for 99 percent of all 311 noise complaints published in NYC Open Data in August 2016. We excluded 17,600 records with alternative geographic identifiers (such as codes indicating a landmark or other public good) or for which no Community District was indicated.

6 Our audit 2016-S-37, *Responsiveness to Noise Complaints Related to New York City Nightlife Establishments,* defined nightlife noise complaints more broadly, by including 166,753 complaints in which noise was indicated as coming from the street or sidewalk in front of an State Liquor Authority-licensed establishment, and by including 6,949 complaints with no community district or location type specified. Audit report 2016-S-37 examined 328,289 nightlife noise complaints from 2010 through 2015. By contrast, this report excludes street or sidewalk noise complaints and excluded complaints with no community district and no location type specified.

7 Appendix H presents selected categories of annual noise complaints through June 30, 2017.

Managing Noise in New York City Neighborhoods

Excessive, unreasonable or prohibited noises are "a menace to public health, comfort, convenience, safety, welfare and prosperity" according to a guide to the City's Noise Code published by the DEP. Yet not all noise sources that disturb City residents are within the City's direct control to mitigate. Some of the most frequent complaints concern noise emanating from locations that can be difficult to control or regulate, such as music or noisy parties in apartments, houses, or yards.

In OSC's Noise Survey, just 7 percent of respondents stated that they generally felt positive about the sounds of their neighborhoods; 59 percent considered their neighborhoods to be very noisy; and 61 percent felt that noise had increased since living at their current address. Survey respondents identified the following sources of noise as major causes of disturbance: sirens and alarms (59 percent), construction (57 percent), motor vehicles (49 percent), music or party (48 percent), garbage or recycling trucks (45 percent), air traffic (32 percent), and HVAC (21 percent). Our analysis of the 311 complaint calls in tandem with the OSC Noise Survey results identified the following major sources of noise disturbance: sirens and alarms, residential noise, outside noise, nightlife noise, construction, mass transit, air traffic, and motor vehicle traffic.

Noise from air traffic and mass transit are outside the City's direct control.[8] However, noise from alarms, vehicular traffic, and sirens are regulated by the City, which has the discretion to conduct studies and establish policies and procedures to help mitigate these kinds of noises.[9] On the other hand, responsibility for managing residential and outside noise is more diffuse, is not so easy to mitigate immediately, and can involve not only police, fire, and social services, but also coordination and cooperation with communities over time. Nightlife noise and construction noise have clear criteria to guide government oversight,[10] yet we noted that calling 311 did not resolve the majority of these complaints. Therefore, we focused our analysis and audit planning on these two categories of noise. Other types of noise disturbances are profiled in Appendix E.

8 New York City Department of Environmental Protection. Transit Operations Strategies New York City Noise Code Local Law 113 of 2005. March 2010, p. 2. Accessed at http://www.nyc.gov/html/dep/pdf/noise/transit-noise-study.pdf on April 6, 2017.

9 See New York City's Noise Code: Title 24, Chapter 2, Subchapter 6 of the New York City Administrative Code concerning horns, sirens and motor vehicles. There are also New York City laws (Section 24-163) and New York State regulations against idling (Title 6, Chapter III, Subchapter A, Part 217). Title 24, Chapter 2, Subchapter 1 affirmatively states that it is "the public policy of the city to reduce the ambient sound level in the city, so as to preserve, protect and promote the public health, safety and welfare" and to "set the unreasonable and prohibited noise standards and decibel levels."

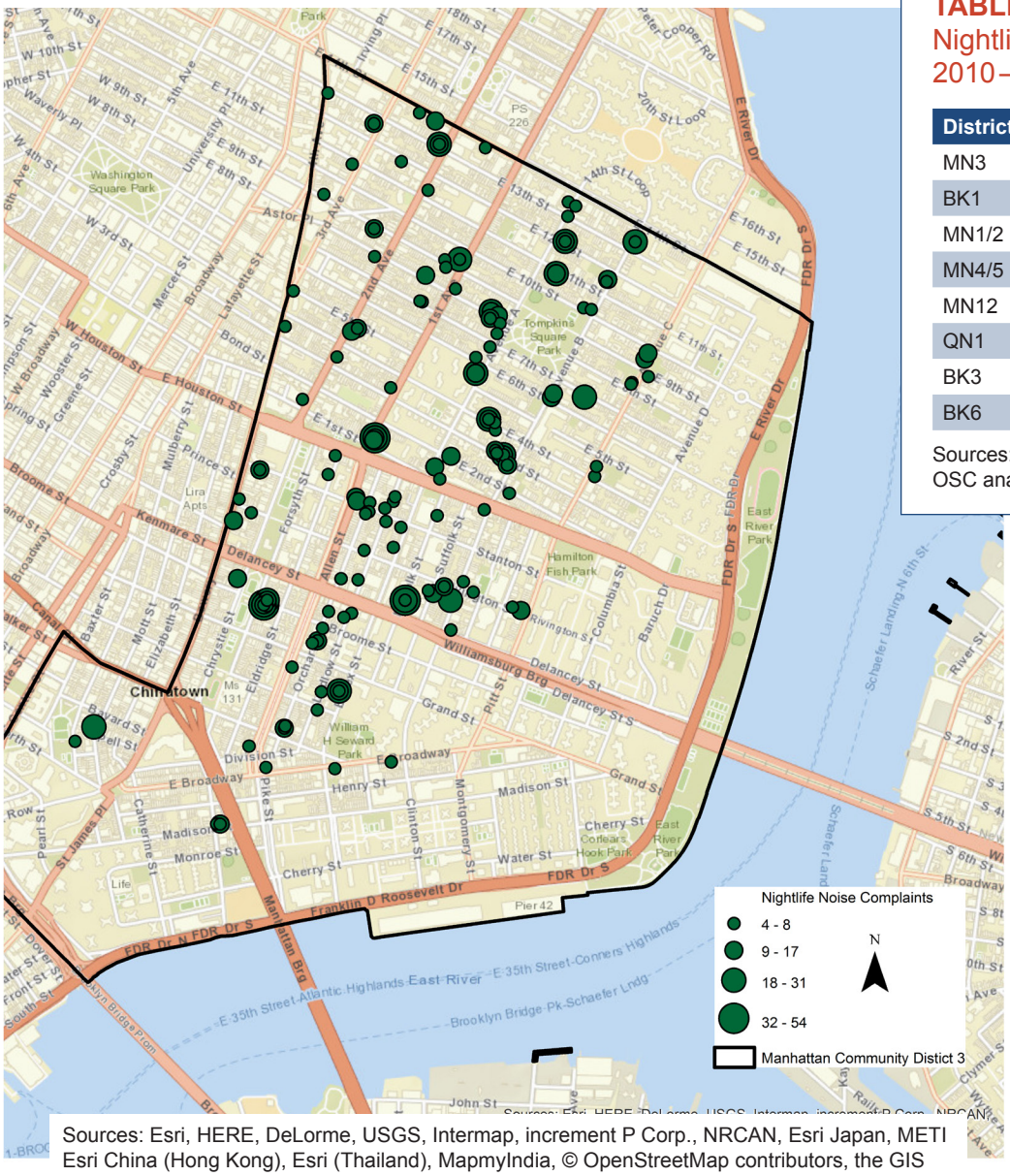
10 See Section 24-231 of the City's Noise Code regarding permissible sound levels for music originating from a commercial establishment; Section 24-218 may also apply to noise made by the patrons or employees of a nightlife establishment. See Subchapters 4 and 5 of the City's Noise Code for construction noise management mandates and permissible sound levels.

Nightlife Noise

We define nightlife noise as a disturbance caused by music, parties, or people on the premises of a commercial establishment, such as a bar, club, lounge, restaurant, or store. As shown in Table 2, in our analysis of the 311 data, from 2010 through 2015, there was a total of 154,587 such complaints. Residents in 10 Community Districts accounted for 49 percent of these complaints (Table 3).

Map 2 shows concentrations of nightlife complaints in the Lower East Side and Chinatown (MN3/PUMA 3809), the district with the greatest number of nightlife noise complaints for the year 2015.

MAP 2
Nightlife Noise Complaints in Chinatown & the Lower East Side, 2015



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, the GIS User Community, 311 data and OSC analysis

TABLE 3
Nightlife Noise Complaints, 2010–2015

District	Six-Year Total
MN3	13,681
BK1	11,604
MN1/2	11,536
MN4/5	11,154
MN12	10,589
QN1	8,089
BK3	5,078
BK6	4,239

Sources: NYC Open Data; OSC analysis

This data represents 2015 311 Service Requests downloaded from NYC Open Data. Please note that 90% of the locations with nightlife noise complaints for this district contain sufficient location data to be represented in this map. Of this 90%, only those locations with more than three noise complaints are marked.

Those 75,979 nightlife noise complaints by residents of the 10 districts concerned nearly 8,700 addresses. About half of those addresses were each the subject of more than one complaint. Of these, 1,173 addresses were each associated with more than 10 complaints.

The NYPD confirmed noise in 32 percent of the nightlife noise complaints. According to the public 311 data, most of these complaints were resolved by taking some unspecified action to "fix the condition."

By definition, most addresses associated with nightlife noise complaints provide space for entities that are licensed by the State to sell alcohol, generally to be consumed on the premises. These licenses are valid generally for one to three years, depending on the type, and must be renewed. Table 4 shows the total number of new and most current renewal licenses issued by the New York State Liquor Authority (SLA) over the six-year period for Community Districts with the highest number of nightlife noise complaints.[11]

TABLE 4
State Liquor Authority-Issued New or Renewal Licenses

District	2010	2015	SIX-YEAR TOTAL 2010 - 2015
MN3	**217**	**643**	**1,703**
BK1	177	476	1,342
MN1/2	221	922	2,246
MN4/5	277	1,432	3,313
MN12	**117**	**187**	**712**
QN1	**88**	**349**	**944**
BK3	177	476	1,342
BK6	87	349	886

Sources: SLA; OSC analysis

Note: This table shows unique counts of new and most current renewal licenses issued by the SLA during the six-year period. The table does not show the total number of licenses in effect during the six-year period.

Between 2010 and 2015, the SLA issued 36,581 new and renewal licenses to entities in New York City Community Districts, including 15,227 on-premise licenses. An on-premises license is the standard bar license, which permits the on-premises consumption of beer, liquor, and wine and the sale of beer for off-premises consumption. On-premises licenses are valid for a two-year period, and must be renewed every two years. See Appendix F for the on-premise licenses active as of June 1, 2016, by Community District.

In 2013, the SLA was directed to reduce a backlog in applications for new and renewal licenses. As a result of this effort, the SLA reported that application processing time decreased from six months to two to three months. In its efforts to reduce the backlog, SLA did not proactively access the 311 system, where the majority of noise-related complaints are lodged.

Between 2010 and 2012, approvals for SLA licenses in New York City declined by 34 percent, to 3,220. After that, the number of licenses issued increased, reaching 5,464 in 2013. In 2015, the SLA issued 12,346 new and renewal licenses, more than double the licenses issued in 2013. Appendix G presents the growth in number of licenses issued from 2010 through 2015, by Community District.

11 Data presented in Table 4 and discussed in the text show unique counts of new and most current renewal licenses issued by the SLA during the six-year period. The data are not the total number of licenses in effect during the six-year period.

OSC Noise Survey respondents offered roughly 300 suggestions and comments for the SLA on mitigating nightlife noise. Approximately 20 percent concerned reducing the licensing and limiting the hours of operations of bars, clubs, lounges and restaurants, especially of rooftop and outdoor venues and in areas where there is already a high concentration of licensed establishments. In the remaining 80 percent of the SLA comments, survey respondents wanted the SLA to place more emphasis on the impact of SLA-licensed establishments on neighborhood quality of life. For example, survey respondents expressed the view that the presence of too many SLA-licensed establishments in a neighborhood adversely impacted public behavior, public space, private life, and access to retail establishments and services.

Survey respondents made approximately 140 suggestions for the NYPD, primarily calling for SLA-licensed establishments to be fined and ticketed, better management of people socializing in front of SLA-licensed establishments, enforcement of conditions of operations (such as opening and closing times and volume levels for music), and more officers patrolling on foot to improve public behavior.

Construction

In the OSC Noise Survey, 57 percent of respondents reported being disturbed by construction activity. Survey respondents from Manhattan (63 percent) and Brooklyn (54 percent) were more likely to report this noise disturbance than those living in the Bronx (37 percent) and Queens (36 percent).

According to the 311 data, from 2010 through 2015, New York City residents made 132,717 complaints about construction noise, which accounted for 8 percent of all noise complaints. Community Districts which had high percentages of Noise Survey respondents disturbed by construction noise (MN1/2, MN3, MN4/5, MN6, and MN8) were also home to the most frequent 311 callers.

Construction noise complaints are generally handled by the DEP. Of 132,717 construction noise complaints made from 2010 to 2015, the DEP confirmed 2,767 complaints, issuing a notice of violation in 2,641 cases and resolving the complaint in 126 cases by speaking to the complainant. More than 1,000 addresses had 10 or more complaints each.

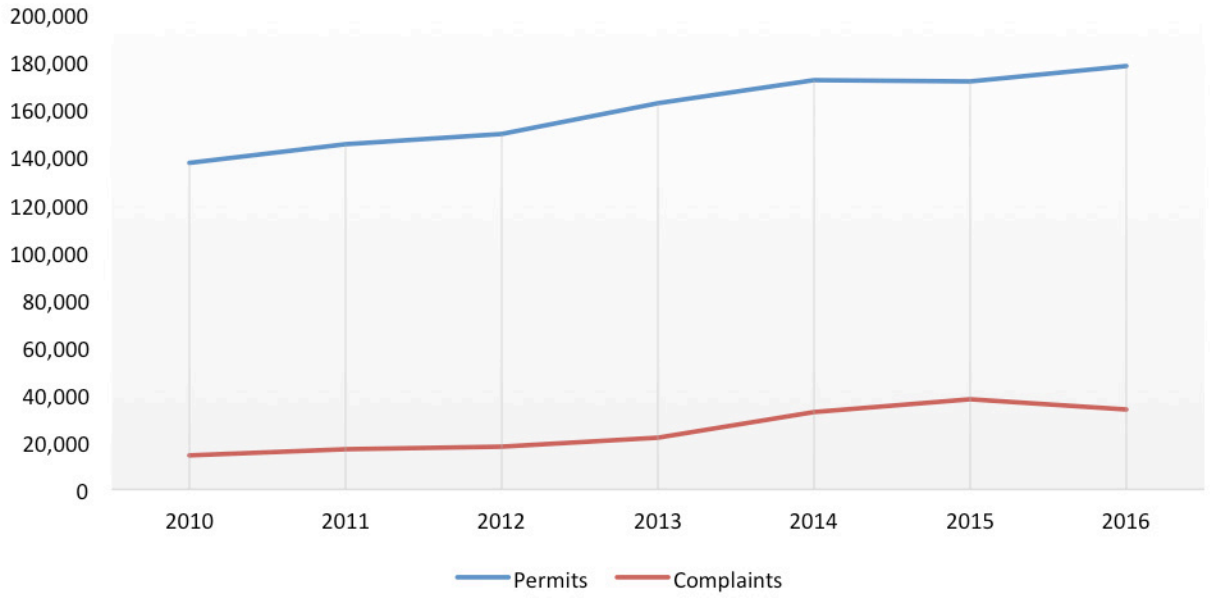
The burden of demonstrating compliance with the Noise Code is placed on developers. The Noise Code requires builders to develop, implement, and post a noise mitigation plan before construction begins. Generally, neither the DEP nor the New York City Department of Buildings (DOB), which oversees the Building and Construction Codes, are required by the Noise Code to review and approve noise mitigation plans prior to the start of construction. The DEP does review and approve alternative noise mitigation plans which developers are required to submit when they are unable to comply with the Noise Code. However, the DEP is not required at any point to inspect the site to see whether a noise mitigation plan is in effect and is adequate. Instead, the DEP's enforcement of the Noise Code is complaint-driven.

Construction Complaints and Construction Activity

Generally, an increase in construction activity, as measured in work permits, correlates to an increase in 311 construction noise complaints. Figure 1 presents an analysis of construction noise complaints which uses data downloaded from NYC Open Data on November 8, 2016, and which does not exclude complaint records where a Community District was not specified by 311. Thus, the discussion associated with Figures 1, 2, and 3 represents a different analysis than that presented elsewhere in this report.

As shown in Figure 1, the DOB approved 137,211 permits for construction work in 2010. In the same year, 14,260 construction noise complaints were made to 311. In 2015, the number of work permits had increased to 171,226, while 37,806 construction noise complaints were submitted to 311.[12]

FIGURE 1
311 Noise Construction Complaints v. Construction Activity, 2010 – 2015



Sources: NYC Open Data; DOB; OSC analysis

12 Figures 1, 2, and 3 and related discussion are a different analysis of construction noise complaints. This analysis used data downloaded on November 8, 2016, and did not exclude records where a Community District was unspecified by 311.

After-Hours Construction Noise Complaints

Most construction noise complaints (72 percent) were filed with 311 after-hours, meaning after 6 PM and before 7 AM on weekdays or at any time on Saturday or Sunday. In total, there were 96,213 such complaints, including 62,646 made on weekdays and 33,567 made on Saturday and Sunday ("after-hours" construction noise complaints). Most construction activity in these time frames typically requires additional approval from the DOB, as detailed below.

New York City sets aside specific days and times when construction activity cannot occur without prior approval, even if a construction site has a valid work permit. Construction activity is generally prohibited before 7 AM and after 6 PM during a weekday and at any time on Saturday or Sunday.[13] However, construction work is allowed during those hours and days if an After-Hours Variance (AHV) is approved by the DOB for that site. AHVs are permits to perform construction during times normally prohibited. AHVs are short-term and only allow activity for a period of 1 to 14 days, and can be renewed online. In April 2016, the media reported that the DOB had launched an evaluation of approvals for AHVs.

Construction noise complaints called into 311 after-hours increased from 9,364 in 2010 to 27,188 in 2015. Map 3 shows that the rate of complaints about after-hours construction noise also increased. Approvals of AHVs by the DOB also increased during the six-year period. Available data show that 31,569 AHVs were approved in 2012. During 2015, 58,895 AHVs were approved.

Even though the majority of construction noise complaints were filed after-hours, some of this activity may have been authorized by the DOB with approved AHVs. We matched after-hours construction noise complaints made in 2015 with identifiable addresses in the Hudson Yards neighborhood of Manhattan[14] with data from the DOB on construction permits and from the ECB on violations issued.[15] Of the 1,096 after-hours construction noise complaints that we matched from 2015, only 14 percent concerned locations where after-hours construction was, in fact, approved by the DOB with an AHV. Furthermore, just eight ECB violations were issued within 30 days of any of the complaints from the Hudson Yards neighborhood.

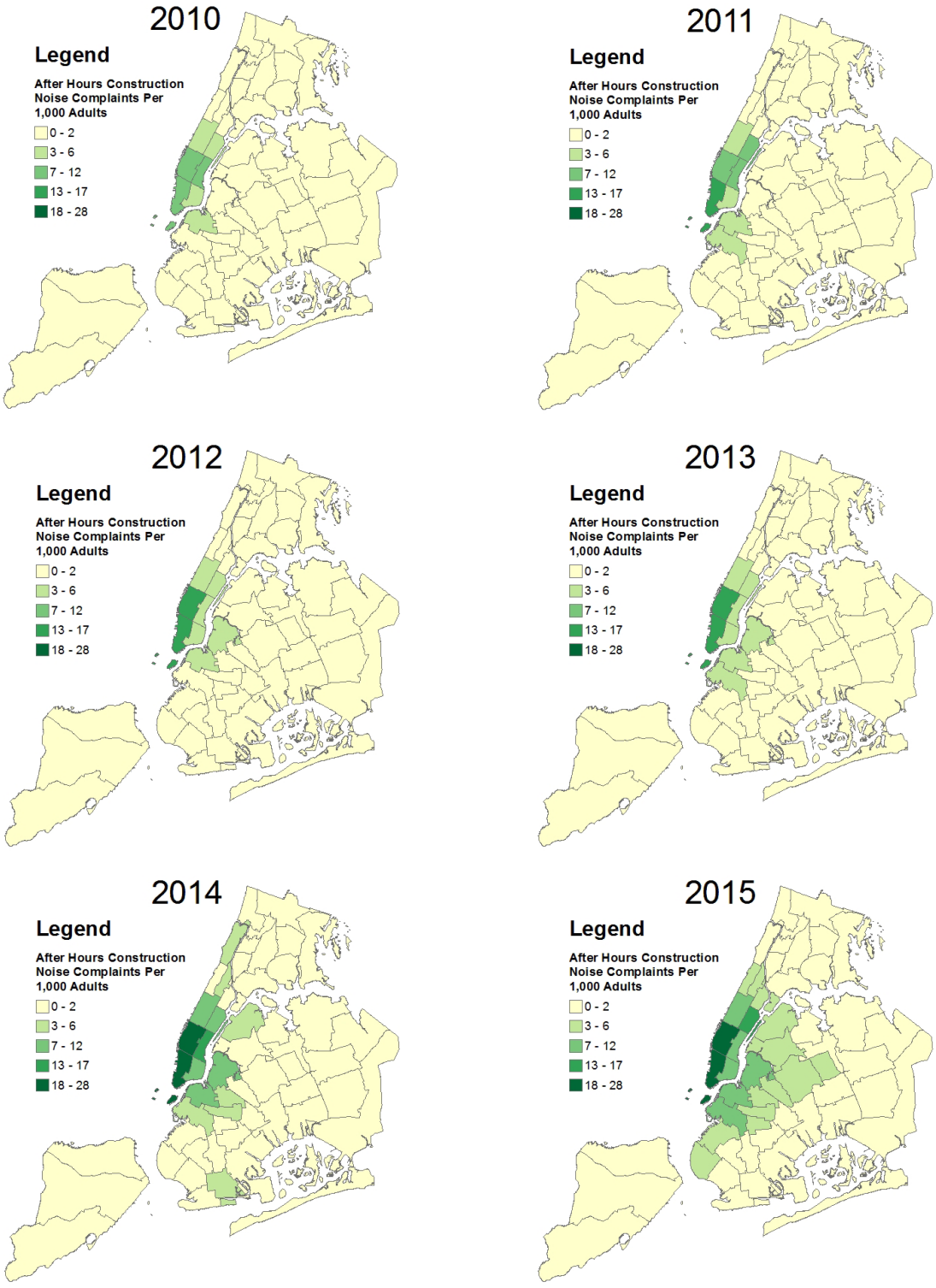
13 Section 24-222 of the City's Noise Code allows alteration or repair work on existing one- or two-family owner-occupied dwellings or in a convent or rectory to be performed on Saturdays and Sundays between the hours of 10 AM and 4 PM, as long the dwelling is more than 300 feet from a house of worship.

14 The Hudson Yards-Chelsea-Flatiron-Union Square Neighborhood Tabulation Area (NTA) is roughly an L-shaped area that hugs the Hudson River to the West and whose border spans parts of 14th Street, Park Avenue, 28th Street, 26th Street, 8th Avenue, and 42nd Street. (NTAs are New York City-created geographic areas consisting of Census tracts that, when combined, represent City neighborhoods.)

15 See Note on Method in Appendix A for a discussion of the methodology used to match 311 complaints to permit and violations data.

MAP 3

After-Hours Construction Noise Complaints – Rate of Complaints per 1,000 Adults by PUMA

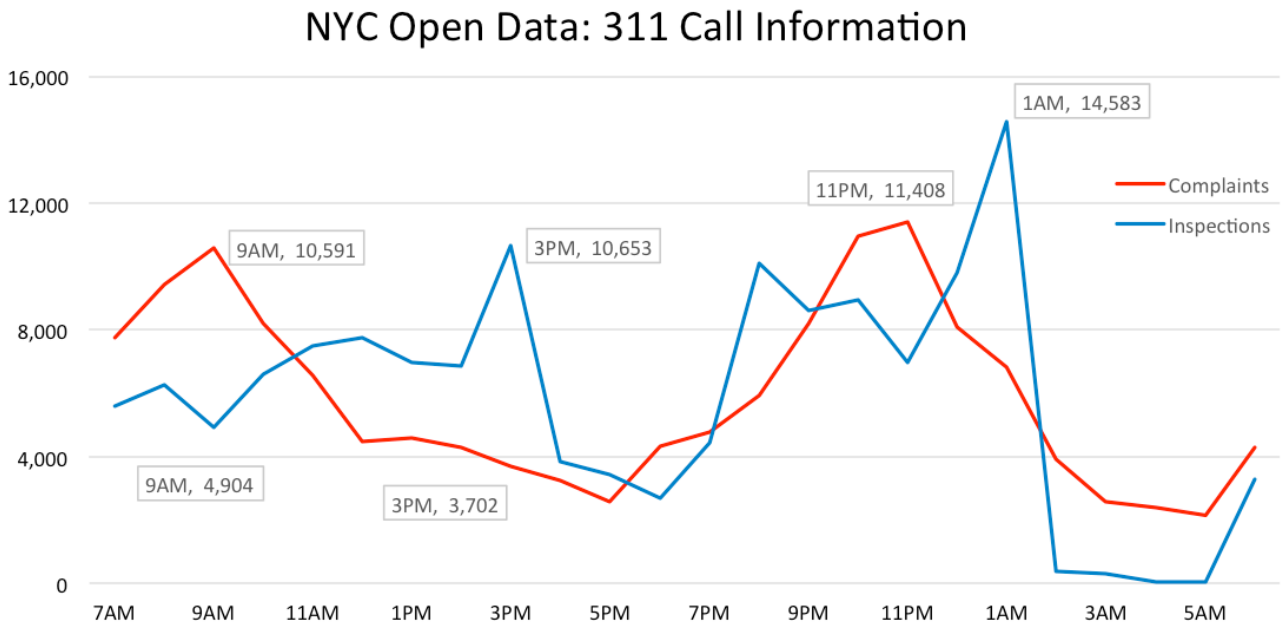


Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

Timing of Inspections

OSC Noise Survey respondents expressed the view that the timing of noise complaint inspections was not consistent or productive, and were generally critical of inspections being performed at times when any reported noise was not occurring. To examine this issue, we compared hours that construction noise complaints were created in 311 during the six-year period to the time that the complaints were reported closed in 311, which we used as a measure of when noise was occurring and when inspections were performed. Our analysis found that construction complaints occur in a cyclical pattern throughout the day, generally rising and falling at certain hours each day. As shown in Figure 2, inspections peak during hours of the day when complaints are at low points. For example, at 9 AM during the six-year period, there were 10,591 complaints of construction noise and 4,904 inspections. By 3 PM, there were 3,702 complaints of construction noise and 10,653 inspections performed. Complaints peaked at 11 PM, at 11,408, but the peak in inspections occurred two hours later at 1 AM, at 14,583. Figure 2 also shows that there are more inspections occurring than complaints being made during normal business hours.

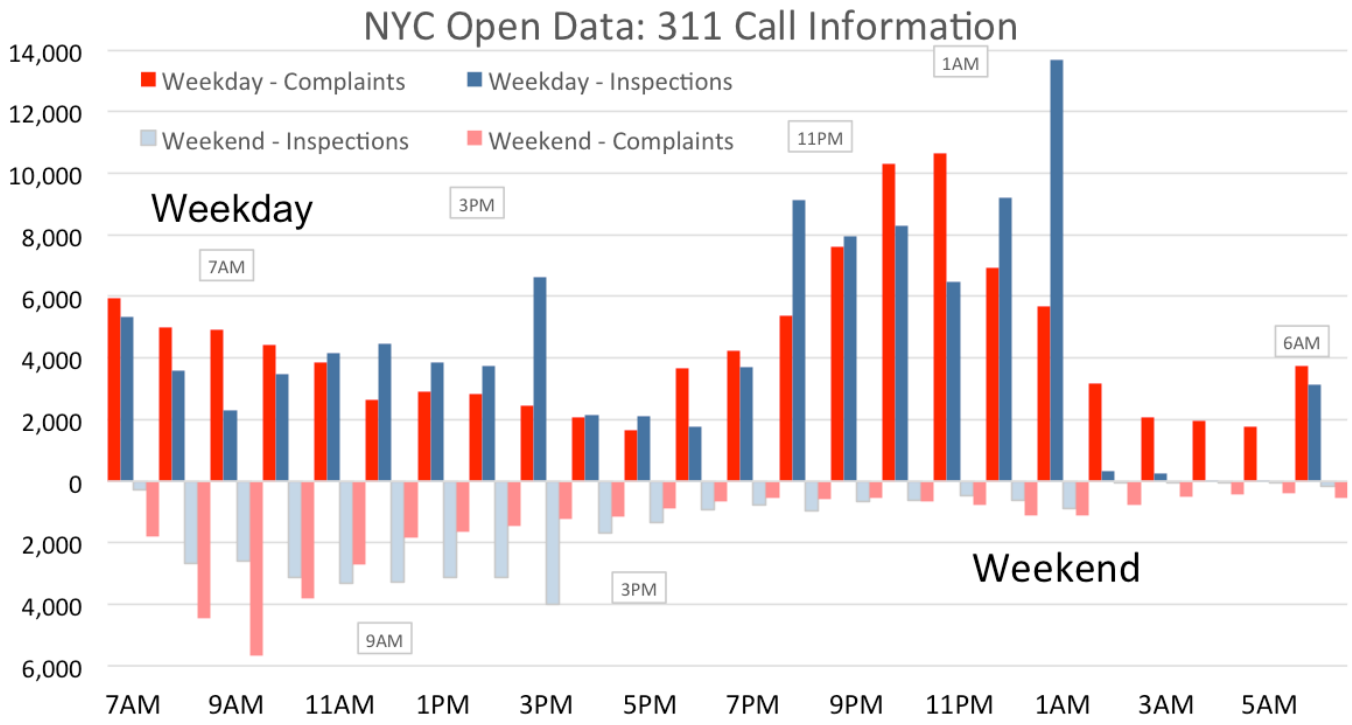
FIGURE 2
Construction Noise Complaints and Inspections, January 1, 2010 through December 31, 2015



Note: We used the complaint creation time and the complaint closed time as a measure of when noise was occurring and when an inspection was performed.

Sources: NYC Open Data; OSC analysis

FIGURE 3
Construction Noise Complaints and Inspections on Weekdays and Weekends, January 1, 2010 through December 31, 2015



Sources: NYC Open Data; OSC analysis

Another perspective on the timeliness of inspections is to consider the scheduling or availability of staff to perform inspections. Figure 3 shows the six-year period of 311 complaint data collapsed into 24 hours, with weekdays separated from weekends to show the difference in trends in complaints and inspections. Figure 3 shows that fewer inspections are performed on weekends and between 2 AM and 7 AM on any day. The number of weekday complaints peak at 11 PM, while on weekends, complaints surge at 9 AM. In addition, the DEP's effort at addressing complaints was strongest at 1 AM on weekdays and at 3 PM on weekends.

Conclusion

As a result of our research on and risk assessment of urban noise management, OSC engaged two audits of nightlife and construction noise management by New York City and New York State governmental entities.[16] Nightlife and construction are among the more common noise complaints reported to 311 and by OSC Noise Survey respondents. If not mitigated, repeated exposure to noise—whether it be loud music or jackhammers—can have long-term consequences for public health. It is within City and State agencies' control to both investigate and prevent harmful noise from nightlife and construction. However, according to OSC Noise Survey respondents, complaints made through 311 have been ineffective in addressing these specific problems, even in situations where hundreds of complaints have been made concerning the same location. We hope these audits will provide decision-makers with critical information on the root causes of these problems as well as recommendations for both City and State agencies that will enable them to more effectively deal with what is a significant issue for many New York City residents.

16 The audits (Reports 2016-S-37 and 2016-N-3), which were released in the summer of 2017, examined the handling of nightlife noise complaints by the New York City Police Department and the New York State Liquor Authority, and of construction noise complaints by the New York City Department of Environmental Protection and New York City Department of Buildings.

Appendix A: Note on Method

311 Data Analysis

The 311 data are summaries of complaints made during calendar years 2010 through 2015 downloaded from the NYC Open Data website. Records that reported a geographic identifier other than a Community District or that did not identify a Community District were excluded; these totaled 17,600.

The 311 complaint records were grouped based on where the noise was occurring and what type of noise was reported, as shown in Table 2. To determine the number of complaints per 1,000 adults, we first obtained the adult population for each PUMA from the U.S. Census Bureau's American Community Survey Public Use Microdata Sample 1-year data for 2010, 2011, 2012, 2013, 2014, and 2015. In the maps and tables in this report, we refer to that data as the "U.S. Census Bureau's ACS 1-Year Estimates" for the years cited.

The 1-Year ACS data uses Public Use Microdata Areas, or PUMAs, which are geographic areas of approximately 65,000 people or more, and which are generally contiguous with New York City Community Districts. Some Community Districts are combined into single PUMAs. In this report, we refer to the PUMAs as Community Districts, which are more recognizable. Combined Community Districts are MN1/2 (PUMA 3810), MN4/5 (PUMA 3807), BX1/2 (PUMA 3710), and BX3/6 (PUMA 3705). Appendix B contains an index and a map of New York City's Community Districts and PUMAs.

We then aggregated the number of complaints by PUMA, year, and date created as identified in the 311 data. The total population age 18 and over from the ACS 1-Year Estimates for each year was then divided by 1,000, resulting in the number of 1,000s of adults. The aggregated complaints were then divided by the number of 1,000s of adults in the respective year. The final result was rounded to the nearest whole number.

To match 311 construction noise complaint data to DOB AHV data and to ECB violations data, we obtained AHVs from DOB, tax lot data from Department of City Planning, and violations from ECB. We limited our analysis to the Hudson Yards-Chelsea-Flatiron-Union Square NTA and only mapped complaint data located at identifiable addresses. The 311 data provides two types of locational information: specific addresses or intersections. Intersections could not be connected to the permit and violations data because they do not have a tax lot associated with them and were thus excluded from our analysis. These complaints were called in for the year 2015. We then matched the permitting and violations data to those complaints by correlating the Hudson Yards-Chelsea-Flatiron-Union Square NTA with the Hudson Yards tax lots in our mapping software. Tax lots may contain multiple buildings and use a range of addresses. While AHVs contain both building identification numbers and tax lots, the methodology used relied on tax lot only. This approach may result in some instances where the actual source of the complaint is not the specific building matched to an AHV.

Noise complaints to 311 available on the NYC Open Data website are updated retroactively. We downloaded data for the 2010 through 2015 six-year period on three separate dates (February 8, 2016, August 19, 2016, and November 8, 2016). In our comparison of these downloads, we noted differences in the numbers of records, fields and cell values. This report, except in Figures 1, 2 and 3, relies on the August 19, 2016 download and includes only those records for which a Community District was specified or could be identified through a data match with the February 8, 2016 download, which had more Community Districts identified. Figures 2, 3 and 4 refer only to construction noise complaints, and use all construction noise complaint records from the November 8, 2016 download whether or not a Community District was identified.

To assign Community Districts to the records of establishments licensed by the SLA, we mapped location information reported by the SLA for each establishment to the Community District.

Summary of OSC Noise Survey Data

Our goals in conducting the survey were to hear from New York City residents about their experience of noise and of making noise complaints. In particular, we wanted to learn about where and when noises were occurring in City neighborhoods and what happened when City residents tried to address the problem by making a noise complaint. This information could be used to identify risks to effective urban noise management. The survey was designed in Survey Monkey. A brief summary of the survey results can be found in Appendix D, with other survey results in Appendix E.

We received 4,334 responses to our noise survey. Of these, 197 were too incomplete to be useful, and 21 were from respondents reporting addresses outside of New York City. Those 218 responses were eliminated from our survey summary, giving a total of 4,116 responses considered in this report. Most responses came from Manhattan residents; we made no adjustment to reflect borough or Community District population differences.

We considered this to be a public opinion survey. We expected that the majority of survey respondents would be those New Yorkers who were disturbed by noise: 56 percent of respondents indicated that they felt generally negative about the sounds they heard in their neighborhoods, and another 35 percent indicated that they felt sometimes positive and sometimes negative. Our intention was to use the information received from survey respondents to inform our audit planning and audit implementation.

The survey results presented in this report are simple counts of the survey responses, sorted by Community District. The results as presented here are not statistically generalizable, but do provide a clear picture of how noise adversely impacts City residents and how difficult it can be for City residents to successfully mitigate noise.

We used snowball sampling, which is nonprobability sampling. With this approach, we relied on others to disseminate the survey to their networks and to encourage members in their networks to take the survey. This increases the risk of selection bias and reduces the likelihood that our survey respondents are representative of New York City's population. For our purposes, however, constructing a random sample was not necessary.

To distribute the survey to the public, we sought the valuable assistance of New York City's 59 Community Boards, which regularly communicate with people in their jurisdictions. We conducted outreach by emailing and calling Community Board leaders about the survey to ask for their support and participation in distributing the survey. We also attended meetings to present to some but not all Community Board members and the Community District residents, as invited by Community Boards. We received more responses from Community District residents in Manhattan generally and from those whose Boards had invited us to present at their meetings. As a result, residents of certain neighborhoods and boroughs were underrepresented in the survey responses. In our summary of the data, we made no weighting adjustment to correct for this.

We also engaged OSC's Division of Communications to promote the survey in online media. Several entities did publish short stories about the survey and included links to the survey.

It is possible, given the distribution of survey responses by Community District and borough, that we received more responses from residents with higher incomes and fewer response from residents with lower incomes. The survey was designed in Survey Monkey and had to be completed by respondents online, which prior research has found raises the problem of selection bias and can skew survey data. For example, Americans with disabilities or lower incomes have also been found to be less likely to have broadband, desktop computers, smartphones, or tablets.[17]

To develop the survey questionnaire, we analyzed trends in six years of 311 noise complaint data, and interviewed New York City agency officials regarding noise management. We also reviewed available New York City agency data, regulations and statutes on noise management. We looked at other questionnaires and results of noise surveys conducted by other entities, and reviewed studies conducted by academic and policy researchers seeking to identify the effects of noise and potential mitigating solutions.

17 Sources: http://www.pewresearch.org/fact-tank/2017/04/07/disabled-americans-are-less-likely-to-use-technology/; and http://www.pewresearch.org/fact-tank/2017/03/22/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/. Accessed April 10, 2017.

Appendix B: Community Districts and PUMAs

Index of Community Districts and PUMAs, by Neighborhood

BOROUGH	COMMUNITY DISTRICT	PUMA	NEIGHBORHOODS
BRONX	BX1/2	3710	Hunts Point, Longwood, Melrose
BRONX	BX3/6	3705	Belmont, Crotona Park East, East Tremont
BRONX	BX4	3708	Concourse, Highbridge, Mount Eden
BRONX	BX5	3707	Morris Heights, Fordham South, Mount Hope
BRONX	BX7	3706	Bedford Park, Fordham North, Norwood
BRONX	BX8	3701	Riverdale, Fieldston, Kingsbridge
BRONX	BX9	3709	Castle Hill, Clason Point, Parkchester
BRONX	BX10	3703	Co-op City, Pelham Bay, Schuylerville
BRONX	BX11	3704	Pelham Parkway, Morris Park, Laconia
BRONX	BX12	3702	Wakefield, Williamsbridge, Woodlawn
BROOKLYN	BK1	4001	Greenpoint, Williamsburg
BROOKLYN	BK2	4004	Brooklyn Heights, Fort Greene
BROOKLYN	BK3	4003	Bedford-Stuyvesant
BROOKLYN	BK4	4002	Bushwick
BROOKLYN	BK5	4008	East New York, Starrett City
BROOKLYN	BK6	4005	Park Slope, Carroll Gardens, Red Hook
BROOKLYN	BK7	4012	Sunset Park, Windsor Terrace
BROOKLYN	BK8	4006	Crown Heights North, Prospect Heights
BROOKLYN	BK9	4011	Crown Heights South, Prospect Lefferts, Wingate
BROOKLYN	BK10	4013	Bay Ridge, Dyker Heights
BROOKLYN	BK11	4017	Bensonhurst, Bath Beach
BROOKLYN	BK12	4014	Borough Park, Kensington, Ocean Parkway
BROOKLYN	BK13	4018	Brighton Beach, Coney Island
BROOKLYN	BK14	4015	Flatbush, Midwood
BROOKLYN	BK15	4016	Sheepshead Bay, Gerritsen Beach, Homecrest
BROOKLYN	BK16	4007	Brownsville, Ocean Hill
BROOKLYN	BK17	4010	East Flatbush, Farragut, Rugby
BROOKLYN	BK18	4009	Canarsie, Flatlands
MANHATTAN	MN1/2	3810	Battery Park City, Greenwich Village, Soho
MANHATTAN	MN3	3809	Chinatown, Lower East Side
MANHATTAN	MN4/5	3807	Chelsea, Clinton, Midtown Business District
MANHATTAN	MN6	3808	Murray Hill, Gramercy, Stuyvesant Town
MANHATTAN	MN7	3806	Upper West Side, West Side
MANHATTAN	MN8	3805	Upper East Side
MANHATTAN	MN9	3802	Hamilton Heights, Manhattanville, West Harlem
MANHATTAN	MN10	3803	Central Harlem
MANHATTAN	MN11	3804	East Harlem
MANHATTAN	MN12	3801	Washington Heights, Inwood, Marble Hill
QUEENS	QN1	4101	Astoria, Long Island City
QUEENS	QN2	4109	Sunnyside, Woodside
QUEENS	QN3	4102	Jackson Heights, North Corona
QUEENS	QN4	4107	Elmhurst, South Corona
QUEENS	QN5	4110	Ridgewood, Glendale, Middle Village
QUEENS	QN6	4108	Forest Hills, Rego Park
QUEENS	QN7	4103	Flushing, Murray Hill, Whitestone
QUEENS	QN8	4106	Briarwood, Fresh Meadows, Hillcrest
QUEENS	QN9	4111	Richmond Hill, Woodhaven
QUEENS	QN10	4113	Howard Beach, Ozone Park
QUEENS	QN11	4104	Bayside, Douglaston, Little Neck
QUEENS	QN12	4112	Jamaica, Hollis, St. Albans
QUEENS	QN13	4105	Queens Village, Cambria Heights, Rosedale
QUEENS	QN14	4114	Far Rockaway, Breezy Point, Broad Channel
STATEN ISLAND	SI1	3903	Port Richmond, Stapleton, Mariner's Harbor
STATEN ISLAND	SI2	3902	New Springville, South Beach
STATEN ISLAND	SI3	3901	Tottenville, Great Kills, Annadale

Source: NYC Department of City Planning

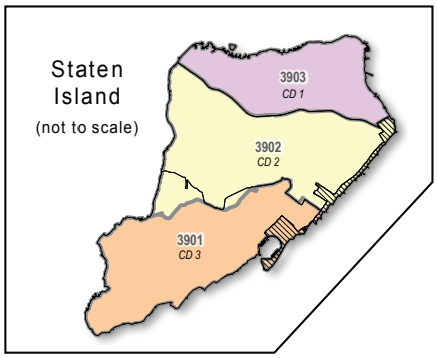
MAP 3a
New York City PUMAs and Community Districts

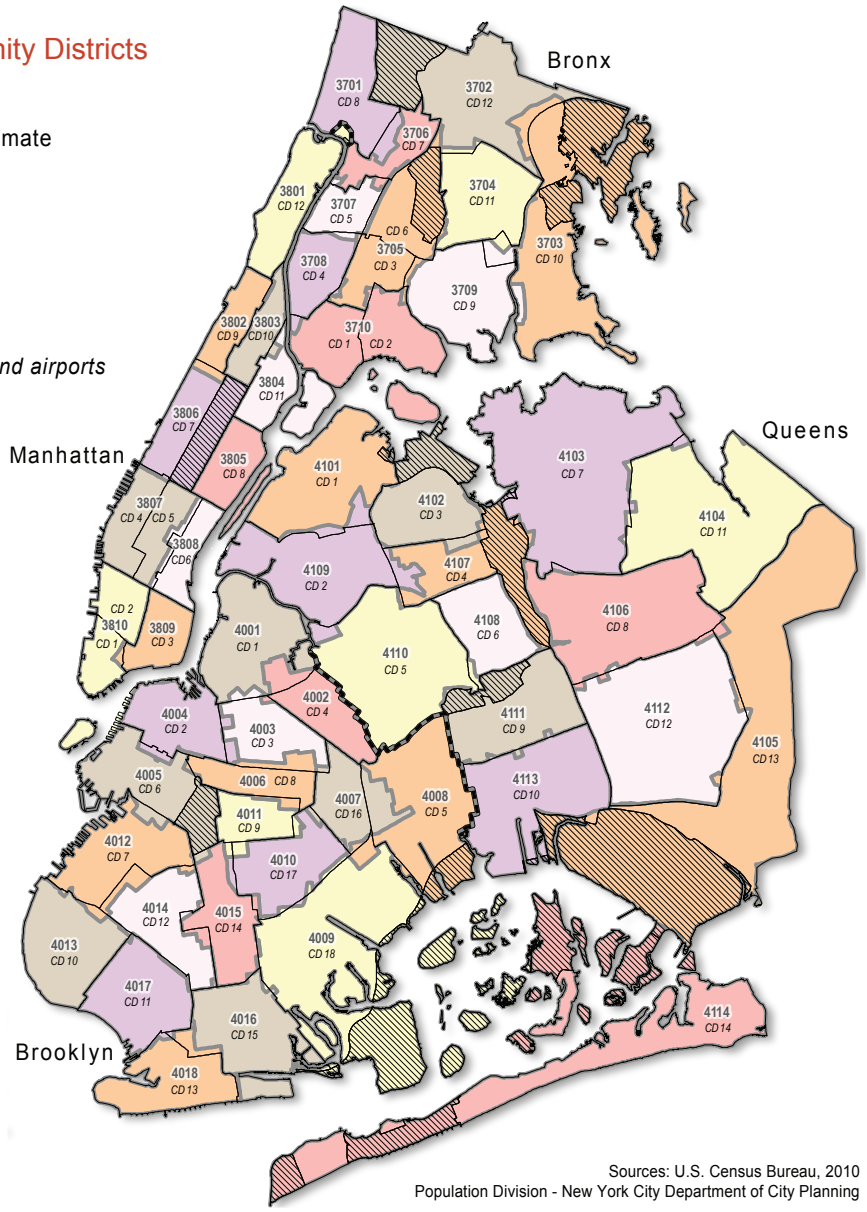
Public Use Microdata Areas (PUMAs) approximate NYC Community Districts (CDs).

3702 PUMAs

CD 12 Community District boundaries

Joint Interest Areas (JIAs) *e.g. parks and airports*





Sources: U.S. Census Bureau, 2010
Population Division - New York City Department of City Planning

Bronx

CD	PUMA	PUMA Name
1 & 2	3710	Hunts Point, Longwood & Melrose
3 & 6	3705	Belmont, Crotona Park East & East Tremont
4	3708	Concourse, Highbridge & Mount Eden
5	3707	Morris Heights, Fordham South & Mount Hope
7	3706	Bedford Park, Fordham North & Norwood
8	3701	Riverdale, Fieldston & Kingsbridge
9	3709	Castle Hill, Clason Point & Parkchester
10	3703	Co-op City, Pelham Bay & Schuylerville
11	3704	Pelham Parkway, Morris Park & Laconia
12	3702	Wakefield, Williamsbridge & Woodlawn

Brooklyn

1	4001	Greenpoint & Williamsburg
2	4004	Brooklyn Heights & Fort Greene
3	4003	Bedford-Stuyvesant
4	4002	Bushwick
5	4008	East New York & Starrett City
6	4005	Park Slope, Carroll Gardens & Red Hook
7	4012	Sunset Park & Windsor Terrace
8	4006	Crown Heights North & Prospect Heights
9	4011	Crown Heights So., Prospect Lefferts & Wingate
10	4013	Bay Ridge & Dyker Heights
11	4017	Bensonhurst & Bath Beach
12	4014	Borough Park, Kensington & Ocean Parkway
13	4018	Brighton Beach & Coney Island
14	4015	Flatbush & Midwood
15	4016	Sheepshead Bay, Gerritsen Beach & Homecrest
16	4007	Brownsville & Ocean Hill
17	4010	East Flatbush, Farragut & Rugby
18	4009	Canarsie & Flatlands

Manhattan

1 & 2	3810	Battery Park City, Greenwich Village & Soho
3	3809	Chinatown & Lower East Side
4 & 5	3807	Chelsea, Clinton & Midtown Business District
6	3808	Murray Hill, Gramercy & Stuyvesant Town
7	3806	Upper West Side & West Side
8	3805	Upper East Side
9	3802	Hamilton Hts, Manhattanville & West Harlem
10	3803	Central Harlem
11	3804	East Harlem
12	3801	Washington Heights, Inwood & Marble Hill

Queens

1	4101	Astoria & Long Island City
2	4109	Sunnyside & Woodside
3	4102	Jackson Heights & North Corona
4	4107	Elmhurst & South Corona
5	4110	Ridgewood, Glendale & Middle Village
6	4108	Forest Hills & Rego Park
7	4103	Flushing, Murray Hill & Whitestone
8	4106	Briarwood, Fresh Meadows & Hillcrest
9	4111	Richmond Hill & Woodhaven
10	4113	Howard Beach & Ozone Park
11	4104	Bayside, Douglaston & Little Neck
12	4112	Jamaica, Hollis & St. Albans
13	4105	Queens Village, Cambria Heights & Rosedale
14	4114	Far Rockaway, Breezy Point & Broad Channel

Staten Island

1	3903	Port Richmond, Stapleton & Mariner's Harbor
2	3902	New Springville & South Beach
3	3901	Tottenville, Great Kills & Annadale

Appendix C: Noise Complaints

TABLE C1
DEP Confirmed Noise Complaints, 2010–2015

Resolution Description	Number of Complaints
The Department of Environmental Protection conducted an inspection and determined that “No Horn Honking” or “No Idling” signs are warranted. A request will be sent to the Department of Transportation to have the sign(s) installed.	421
The Department of Environmental Protection investigated this complaint and opened fire hydrants to flush water mains in the area.	1
The Department of Environmental Protection investigated this complaint and shut the running hydrant.	1
The Department of Environmental Protection observed a violation of the New York City Air/Noise Code at the time of inspection and issued a notice of violation.	5,769
The Department of Environmental Protection received a letter or phone call from the alleged dog owner in response to a letter or inspection.	770
The Department of Environmental Protection resolved this complaint by speaking to the complainant on the phone.	1,018
The Department of Environmental Protection spoke to the complainant via telephone and was able to resolve the complaint without inspection.	3
Subtotal Confirmed	**7,983**
Total Complaints	**230,068**

Note: Data only includes records with Community Districts identified, and not all noise complaints handled by the DEP.

TABLE C2
NYPD Confirmed Complaints, 2010–2015

Resolution Description	Number of Complaints
The Police Department issued a summons in response to the complaint.	5,482
The Police Department made an arrest in response to the complaint.	791
The Police Department responded to the complaint and a report was prepared.	8,456
The Police Department responded to the complaint and took action to fix the condition.	379,948
“Your complaint has been received by the Police Department and it has been determined that a long-term investigation may be necessary. Additional information will be available at the conclusion of the investigation.”	3
Subtotal Confirmed	394,680
Total Complaints	**1,349,513**

Note: Data only includes records with Community Districts identified, and not all noise complaints handled by the NYPD.

Appendix D: Noise Survey

Noise Survey Results in Brief

- We received 4,116 useful survey responses. We eliminated 197 incomplete responses and 21 responses from people who reported addresses outside of New York City.
- 37 percent of Noise Survey respondents said their usual response to noise disturbances was to make a complaint.
- 52 percent of respondents reported making at least one noise complaint since 2010.
- 92 percent of those who reported making a noise complaint also reported that the noise was recurring.
- Just 75 people out of the more than 2,000 who made a complaint reported getting noise levels measured inside their homes.
- 83 percent of those who made a noise complaint were dissatisfied with how their complaint was handled, mostly because they felt that the government's response was inadequate for the following reasons:
  - More than 1,100 people said there was no follow-up on their complaint.
  - Almost 500 people felt that their complaint was not taken seriously.
  - More than 300 people concluded that government's response to their complaint was ineffective. For example, 23 people reported complaining about HVAC noise and had noise levels measured inside their homes. HVAC noise complaints are generally handled by the DEP. Reasons why the DEP's responses were considered unhelpful included: no effect on noisemakers, who continued to make noise; ambient noise impeded DEP efforts to measure noise levels; or the noise levels were found to be within limits allowed under the City's Noise Code.

Appendix E: Other Noise – Facts and Figures

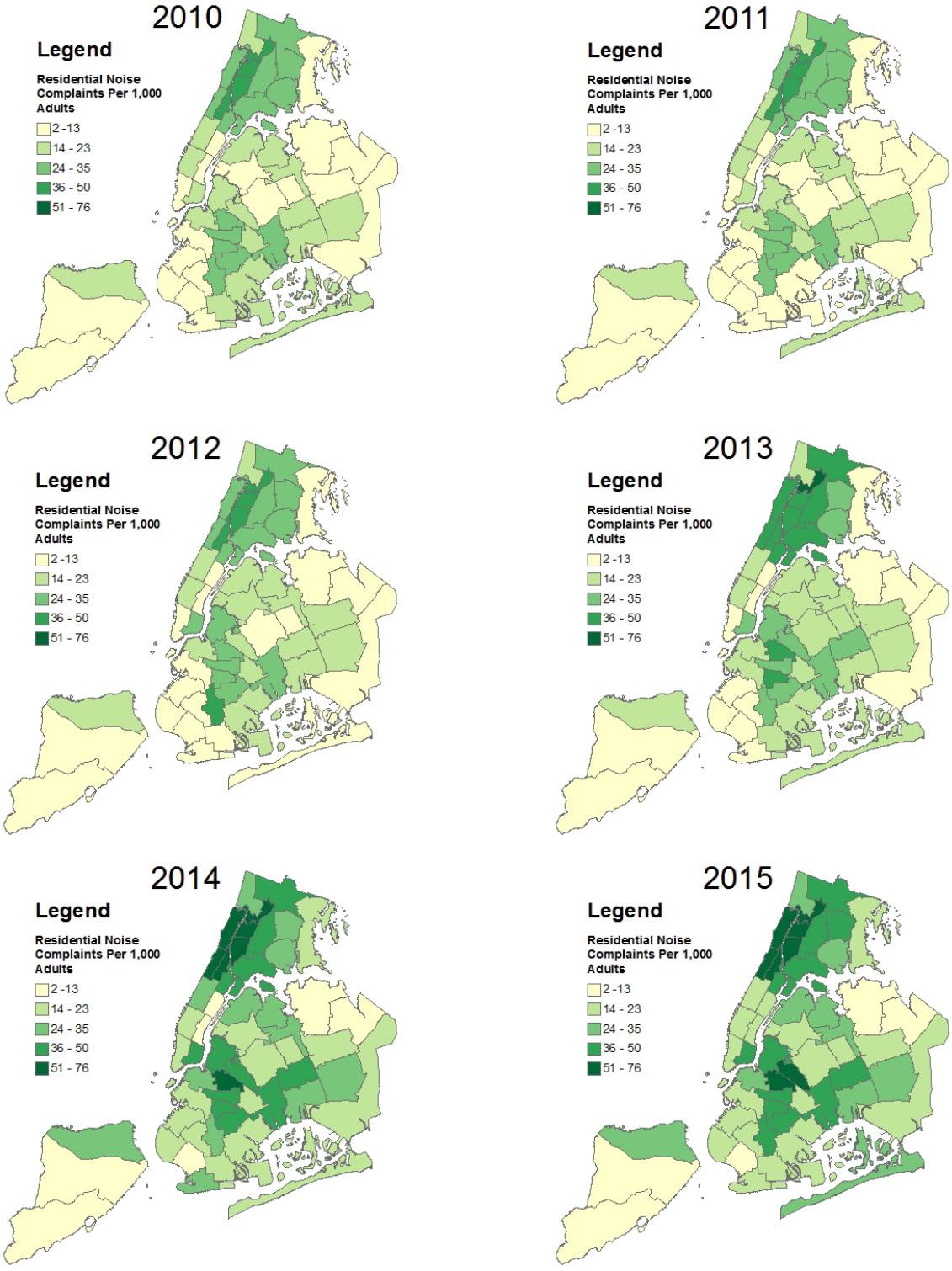
Residential Noise

- NYPD handled nearly all complaints about noise occurring in residences during the six years reviewed.
- The 311 Agency's Night Noise Survey, which was discontinued in 2012, took information about residential noise in 8,885 cases. These cases were not investigated.
- 311 complaints for residential noise in 2010–2015: 911,327
  - Accounted for 57 percent of all noise complaints.
  - Music or party: 66 percent; banging or pounding: 25 percent; people: 9 percent.
  - NYPD confirmed noise was occurring in 30 percent of these complaints, including issuing 3,024 summonses and making 451 arrests.
  - Highest average annual rates of residential noise complaints: BX7 (PUMA 3706), with a rate of 56 calls per 1,000 adults; MN10 (PUMA 3803), with a rate of 49 calls per 1,000 adults; BX4 (PUMA 3708), with a rate of 47 calls per 1,000 adults; and BX5 (PUMA 3707), with a rate of 45 calls per 1,000 adults (see Map 4).
  - The average annual rate of complaints for Community Districts ranged from a high of 56 per 1,000 to a low of 4 per 1,000. More than half of districts had an average annual rate of complaints of 4 per 1,000 adults or lower.
- Map 4 shows the annual rate of residential noise complaints per 1,000 adults by PUMA.
- OSC Noise Survey respondents made 300 comments about noisy neighbors.

Notable: New York City's Building Code contains standards for sound transmission which generally apply to buildings constructed after 1968, or in some cases to buildings constructed prior to 1968 that are renovated. Most of New York City's housing was constructed prior to 1968. As a result, current noise control standards in the Building Code do not uniformly benefit and protect all City residents. For example, according to some sound engineers, New York City's older housing stock does not protect apartment dwellers from today's common household noise, such as that of a home theater system.

MAP 4

Residential Noise Complaints – Rate of Complaints per 1,000 Adults by PUMA



Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

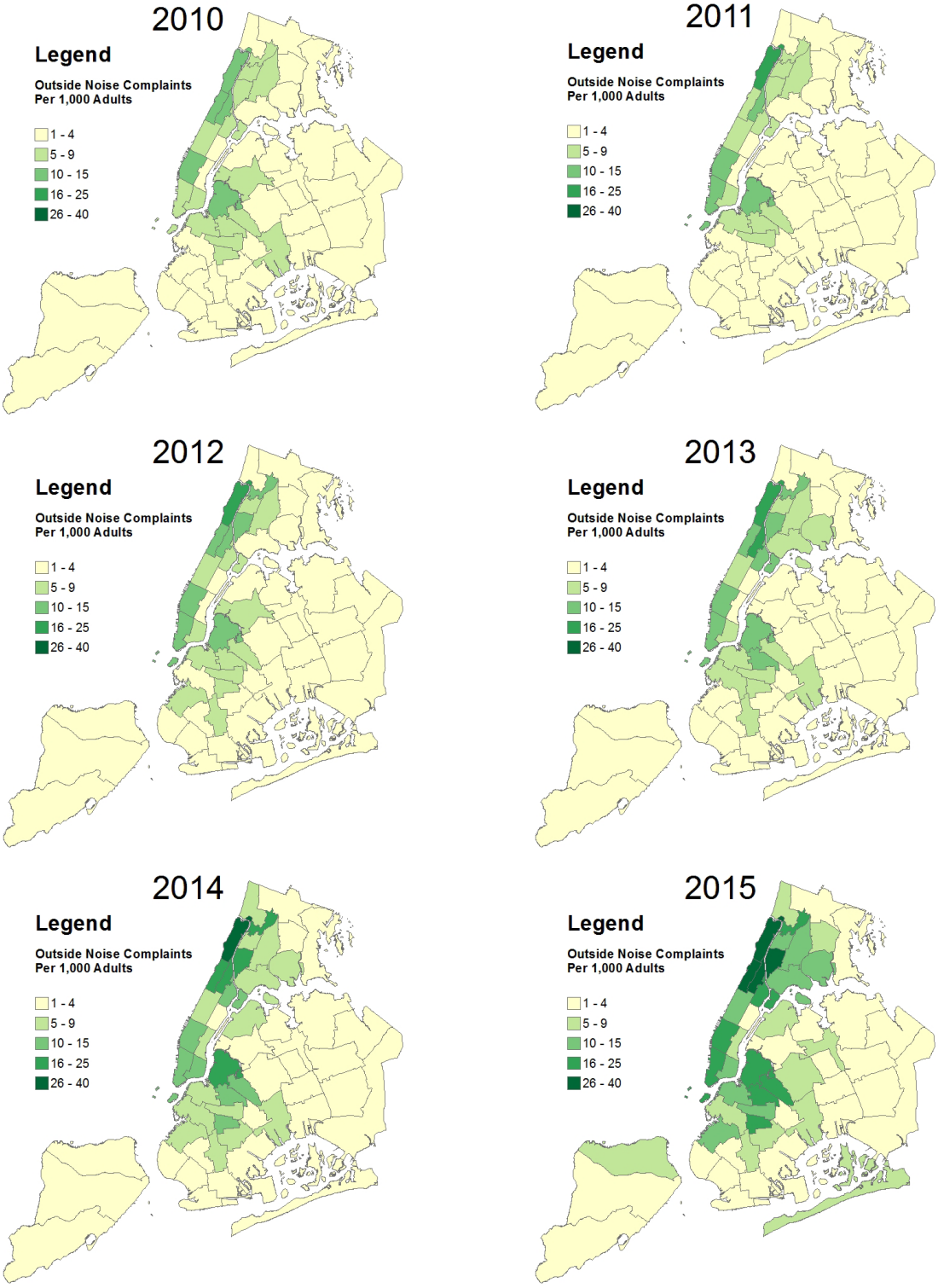
Outside Noise

- The NYPD generally handles outside noise complaints.
- 311 complaints for outside noise in 2010–2015: 236,953
  - Accounted for 15 percent of all noise complaints.
  - 157,428 music or party.
  - 79,525 people noise in a park, playground, street, or sidewalk.
  - NYPD confirmed noise was occurring in 26 percent of the complaints.
- Community District complaints:
  - Most frequent callers were: MN12 (PUMA 3801), with an average annual rate of 23 calls per 1,000 adults; MN10 (PUMA 3803), with an average annual rate of 20 calls per 1,000 adults; MN9 (PUMA 3802), with an average annual rate of 15 calls per 1,000 adults.
  - The average annual rates for outside noise complaints ranged from 1 per 1,000 to 23 per 1,000, with 32 districts at an average annual rate of 4 per 1,000 or lower.
  - Map 5 shows the annual rate of complaints of outside noise by PUMA for 2010 and 2015.

Notable: During the six years reviewed, the NYPD handled 232,500 outside noise complaints and confirmed that noise was occurring in 60,912 instances, including making 237 arrests and issuing 1,384 summonses. The other 4,453 outside noise complaints were received by the 311 Agency through its online Night Noise Survey, which was discontinued in 2012. For most of these complaints, the 311 Agency provided the following reply: “Thank you for your report. The City will use the information you provided for tracking and reporting purposes. 311 will not have any further status information.”

MAP 5

Outside Noise Complaints – Rate of Complaints per 1,000 Adults by PUMA



Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

Air Traffic

Airplanes

- The Port Authority of New York and New Jersey (PANYNJ) handles air traffic noise complaints. In 2015, the PANYNJ received 32,238 complaints about John F. Kennedy International Airport from 1,107 households; 18,694 complaints about LaGuardia Airport from 1,442 households; 1,019 complaints about Newark Liberty International from 110 households; and 26 complaints about Stewart International Airport from nine households.

- OSC Noise Survey:
  - 32 percent were bothered by air traffic noise.
  - Respondents from Queens were twice as likely to report being disturbed by air traffic.
  - Survey respondents felt that their complaints had no impact.

Notable: Complaints about aircraft can be made via the PANYNJ website. 311 does not take these noise complaints and provides callers with phone numbers to the airports. The PANYNJ responds to complaints about aircraft noise but cannot take unilateral actions to reduce noise, such as altering flight paths. The Federal Aviation Authority (FAA) is responsible for setting aviation policy including enforcing standards for aircraft noise, but refers most complaints about aircraft noise to airport sponsors or owners, such as the PANYNJ. The FAA has no federal mandate to oversee airports' handling of noise complaints.

The PANYNJ is currently conducting noise and land use studies at John F. Kennedy International Airport, LaGuardia Airport, Newark Airport, and Teterboro Airport. The goal is to develop and implement a plan to abate aircraft noise in eligible homes and buildings deemed affected by aircraft noise. The FAA is responsible for reviewing and approving such plans, and funds abatement. Neither the State nor the City contribute funds to this effort.

Helicopters

- NYCEDC handles complaints about helicopter noise.
- In February 2016, the NYCEDC and the Helicopter Tourism and Jobs Council announced an agreement to significantly reduce the impact of tourism helicopters on New York City residents while preserving jobs. As a result, tour operators would: prohibit flight operations from the Downtown Manhattan Heliport (DMH). This would achieve a 50 percent reduction in tourist helicopter flights to and from DMH as of January 2017, among other changes.
- OSC Noise Survey:
  - More than 200 negative comments were received about the noise from hovering, low-flying helicopters.
  - Respondents stated their 311 complaints were ignored and felt that neither NYCEDC nor the FAA were doing anything to address helicopter noise.
  - Respondents were skeptical about a March 2016 announcement from the NYCEDC that tour helicopter flights would be reduced.

- Number of 311 calls for helicopter noise in 2010-2015: 6,011
  - 12 Community Districts account for 75 percent of the calls: MN7, BK6, BK2, MN1/2, MN12, MN4/5, MN8, MN6, MN3, and MN9.
  - In 24 complaints, the NYCEDC found that tour helicopter operators were not complying with NYCEDC's New York City Helicopter Sightseeing Plan that prescribes tour routes and altitudes for tourism helicopter operators.
  - Most calls handled by the NYCEDC involved incidents that were not in its jurisdiction, and concerned police, media, or private charter helicopters.

Notable: NYCEDC contracts with operators of charter and commuter flights from the Downtown Manhattan Heliport (Pier 6 on East River). The number, hours, and paths of tour flights coordinated by these contractors can be influenced by the NYCEDC through its contracts.

Mass Transit

- The Metropolitan Transportation Authority (MTA) handles complaints about the operations of its subsidiaries providing bus, commuter rail, and subway service. The New York City Department of Consumer Affairs handles complaints about sightseeing buses. The New York City Department of Transportation (DOT) and/or the NYPD handle complaints about illegally stopped buses. The U.S. Department of Transportation handles other bus complaints.
- OSC Noise Survey: 150 comments
  - Complaints included freight trains, interstate tour buses, and MTA operations.
  - All but one freight train complaint came from one district QN5.
  - Interstate and tour bus complaints primarily involved engine noise, idling, and parking on narrow or primarily residential streets or in front of residences.
- MTA operations
  - Respondents' criticisms of buses, subways and trains included excessively loud horns and announcements, idling, screeching breaks, and vibrations as well as the designation of bus routes on narrow residential streets.
  - Respondents were aggravated by the extended duration of Second Avenue subway construction and the associated noise (e.g., clanging of loose metal plates, jackhammering, drilling, pounding).
  - Noise in the mass transit system can also be associated with safety and maintenance issues. For example, regularly checking to see whether rail lubricators are actually filled with lubricant and train wheels are trued not only reduces noise, but also can reduce maintenance costs and enhance safety, such as by reducing the risk of derailments.[18]

18 Bronzaft, A. Abating New York City Transit Noise: A Matter Of Will, Not Way. Noise Health. 2010; 12:1-6; Rail Noise: The Relationship to Subway Maintenance and Operation. Urban Resources. Vol. 4, No. 1, 1986.

Notable: A 1982 State law required the MTA subsidiary New York City Transit (NYCT) to evaluate noise abatement strategies for the subway system and report results to the Legislature. After 1995, the MTA stopped reporting publicly on its efforts to abate noise for many years.

During the 2013-14 session, the Legislature introduced a bill that would require the MTA to report annually on its plans and progress at abating subway noise. The MTA agreed to voluntarily submit annual reports on noise abatement in the subway system. After that, the proposed legislation was subsequently vetoed. However, the MTA's 2015 noise abatement report lacks sufficient information to clearly assess the Authority's progress in reducing noise emanating from the subway.

- For example, the MTA reported installing more than 50,000 noise-reducing rail fasteners, but provided no information on how many miles of track were enhanced or whether or when the MTA intends to complete a system-wide installation and at what cost.
- The report contains no goals, timelines, noise measurements, budgets, or actual expenditures to-date regarding noise abatement work.

During the 2015-16 session, the bill was reintroduced (A6989), but did not gain traction.

Complaints can be submitted on the MTA website using the "Contact Us" tab; there is no dropdown menu selection specifically for noise complaints. The New York State 511 transit and traffic line allows customers to call in their "comments and concerns," but there is no specific extension selection for noise.

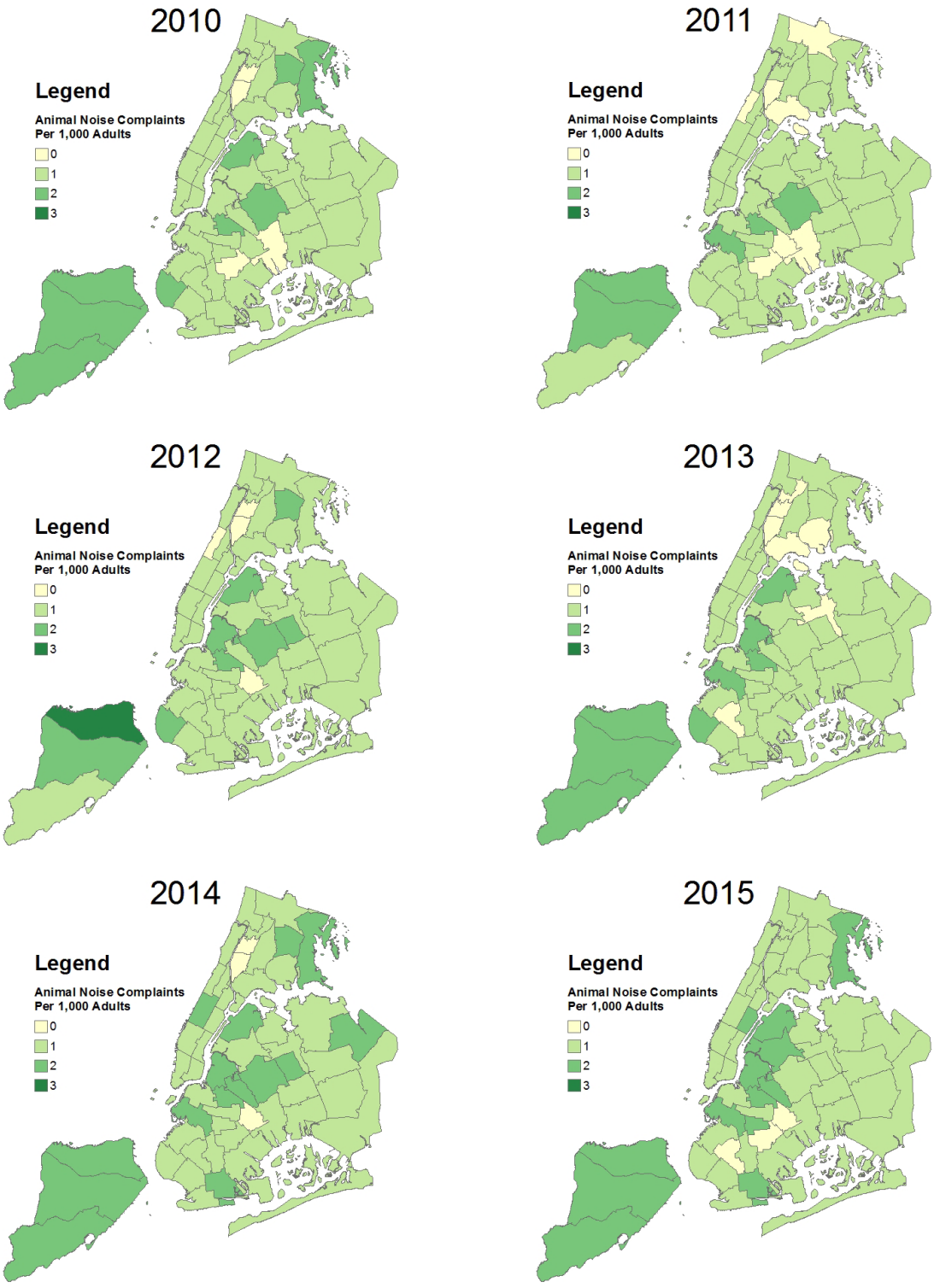
The MTA does not publish the number of noise complaints it receives. In response to a noise complaint, the NYCT might test noise or vibration levels. In 2015, nine tests measured noise in the transit system and in residential and commercial properties. Also, 34 tests measured vibration levels in the subway system and in residential or commercial properties.

Animal Noise

- The DEP handles animal noise complaints.
- OSC Survey: 14 percent of survey respondents reported being disturbed by noise from animals, primarily barking dogs.
- Map 6 shows the annual rate of animal noise complaints per 1,000 adults by PUMA.
- 311 complaints for animal noise in 2010–2015: 40,898
  - 39,854 involved barking dogs.
  - Staten Islanders complained most frequently (see Map 6).
  - DEP confirmed noise in 838 complaints over the six-year period. In most cases (769), the DEP reported that it had received a response from the alleged dog owner in response to a letter or inspection. The DEP also issued 51 notices of violation.

MAP 6

Animal Noise Complaints – Rate of Complaints per 1,000 Adults by PUMA



Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year estimates; OSC analysis

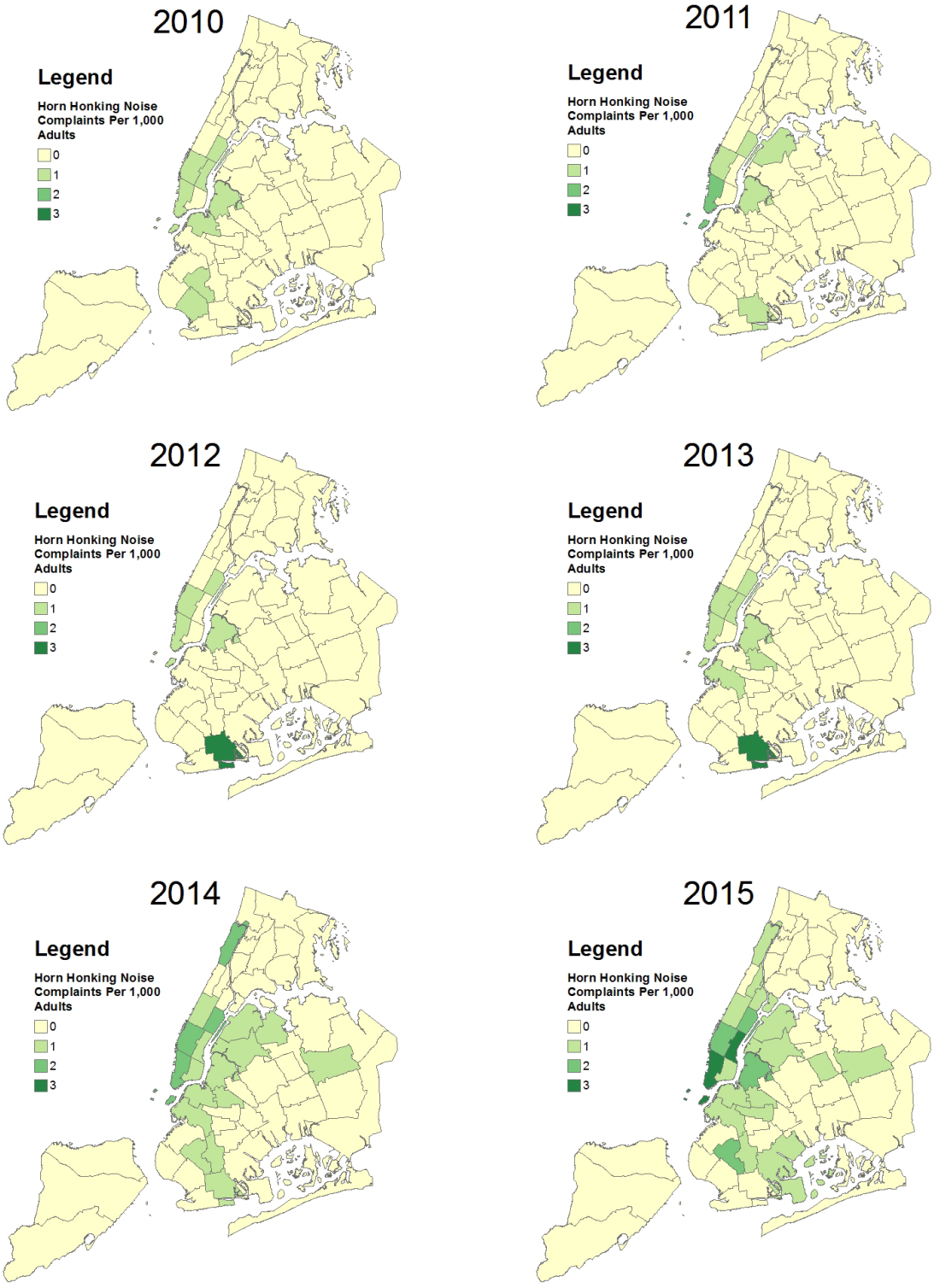
Traffic Noise

- The DEP, the DOT, and the NYPD handle traffic noise complaints.
- OSC Noise Survey:
  - 49 percent bothered by motor vehicle noise.
  - 59 percent bothered by sirens or alarms.
  - General perception of survey respondents: inadequate traffic enforcement and management have led to congestion and excessive use of alarms, horns, and sirens.
  - Other complaints: backup beeps, engine noise, gear grinding, loading and unloading, loose metal plates and manhole covers, slamming, screeching, speeding, traffic congestion, vibrations.
- Number of 311 calls involving traffic noise: 40,158
  - 15,959 complaints for horn honking: The most frequent complaints came from Community Districts MN1/2 (PUMA 3810), BK15 (PUMA 4016), MN4/5 (PUMA 3807), MN8 (PUMA 3805), and BK1 (PUMA 4001) (see Map 7).
  - The NYPD handles these calls; noise was confirmed in 17 percent of horn honking complaints and 113 summonses were issued.
  - 24,199 for trucks and buses idling: The NYPD handles these calls; noise was confirmed noise in 3,947 complaints and 142 summonses were issued.
  - Map 7 shows the annual rate of horn honking complaints per 1,000 adults by PUMA.
- The DOT handles complaints about loose metal plates for construction in the street.
- The DEP handles complaints about loose manhole covers.

Notable: Between 2010 and 2015, New York City residents requested 1,416 “No Horn Honking” or “No Idling” signs from DEP. The DEP determined that signs were warranted in 485 instances and not warranted in 420 instances. In another unspecified noise complaint, the DEP determined that another sign was warranted. Most of the remaining requests were closed after an inspection observed no evidence of a violation.

MAP 7

Horn Honking Complaints – Rate of Complaints per 1,000 Adults by PUMA



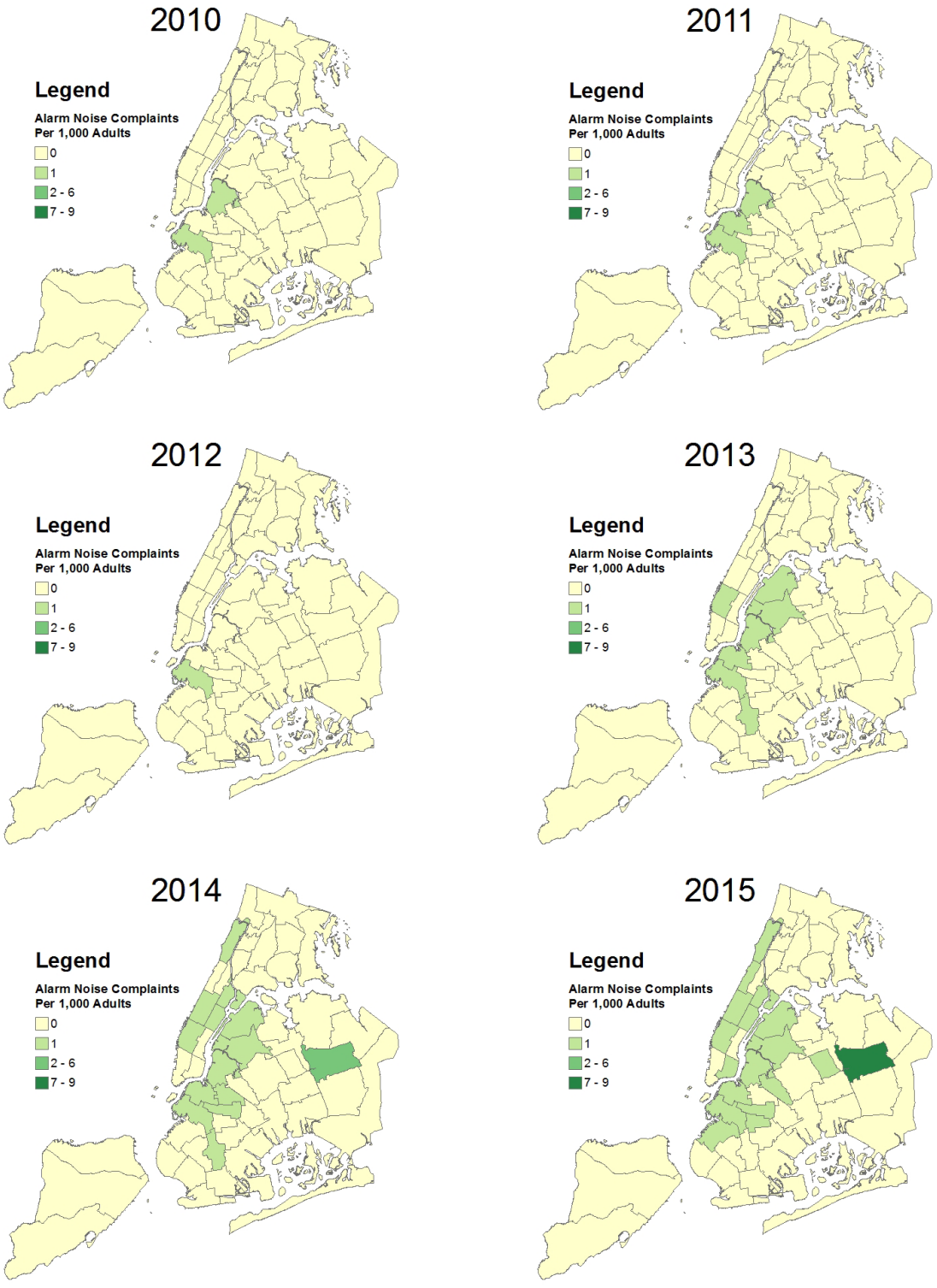
Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

Sirens and Alarms

- The DEP handles complaints about alarms coming from stationary structures, such as buildings. The NYPD handles other alarm complaints, such as car alarms, which are not discretely reported in the 311 Noise Complaint data on NYC Open Data. New York City's Administrative Code §10-137 prohibits the sale or installation of motor vehicle alarms that do not automatically terminate within three minutes.
- 311 complaints 2010–2015: 11,890
- Community Districts QN8 (PUMA 4106), BK6 (PUMA 4005), and BK1 (PUMA 4001) had the highest average annual rates of alarm noise complaints per 1,000 adults. High rates of complaints could indicate that individuals are making repeat calls to 311 or that the noise continues unabated. Map 8 shows the annual rate of complaints by PUMA for 2010 and 2015.
- The DEP confirmed 23 complaints about alarms, including issuing 14 notices of Noise Code violation.
- The DEP closed or canceled 1,380 complaints about alarms, and considered another 1,480 complaints to be duplicates not requiring additional response.
- Few Community Districts complain about alarms (see Map 8). QN8 had the most complaints with a rate of 9 complaints per 1,000 adults in 2015. Most other districts that did complain in 2015 had rates between 0 and 1 per 1,000.
- New York City's Noise Code required the DEP and the NYPD to study and report on strategies to reduce noise from car alarms.
- In the OSC Noise Survey, complaints about noise from sirens and alarms represented the largest single category of complaints.
    - 311 does not specifically report on sirens, but OSC Noise Survey respondents had many complaints about the sirens of first responders.
    - According to the New York City Fire Department (FDNY), New York City sets policies and procedures regarding the sirens of municipal first responders but not for privately owned ambulance companies. As a result, New York City has some discretion in purchasing types of sirens and in controlling use of sirens, factors which can affect noise levels associated with sirens. There are voluntary standards for emergency vehicle sirens, from entities such as SAE International (initially established as the Society of Automotive Engineers) and guidance from federal and state governmental entities. The FDNY complies with siren standards set by the National Fire Protection Association, which draws on standards set by SAE International.

MAP 8

Complaints about Alarms – Rate of Complaints per 1,000 Adults by PUMA



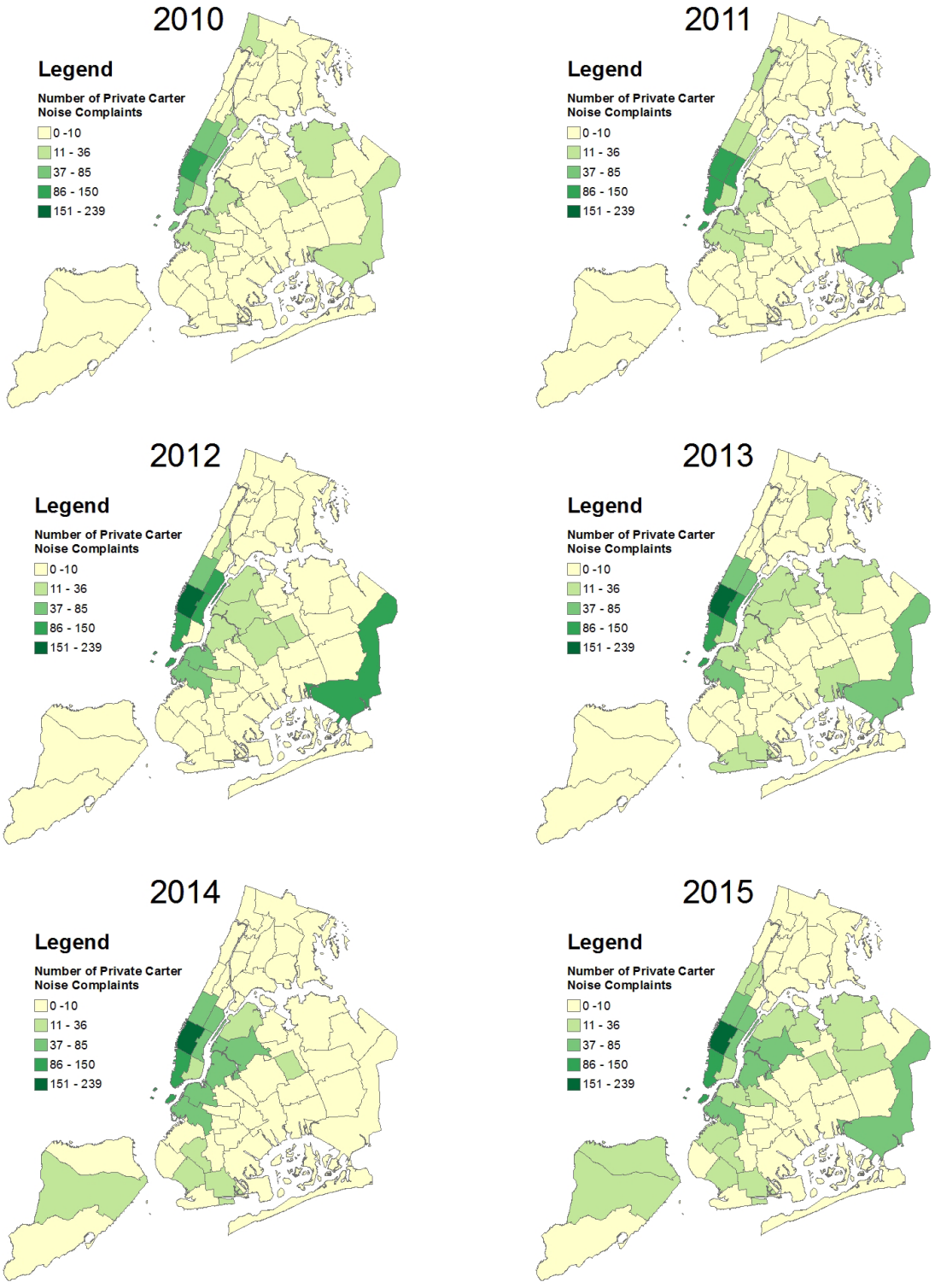
Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

Private Carter Noise

- The DEP handles complaints about noise from private carters.
- 311 complaints involving private carters in 2010-2015: 5,565
  - DEP confirmed noise in 110 complaints, including issuing four notices of Noise Code violation.
  - The highest average annual rates of carter noise complaints per 1,000 adults occurred in the following Community Districts: MN4/5 (PUMA 3807), MN1/2 (PUMA 3810), and MN6 (PUMA 3808).
  - Majority of complaints came from Manhattan residents, particularly in Battery Park City, Chelsea, East Midtown, Flat Iron, Hudson Yards, Lower Manhattan, Midtown, Midtown South, Turtle Bay, and Union Square (see Map 9).
  - New York City is considering whether to implement commercial waste collection zones, which could reduce the noise associated with the operations of private trash carters.
  - Map 9 shows the annual rate of complaints about noise from private carters per 1,000 adults.

MAP 9

Annual Number of Complaints about Noise from Private Carters

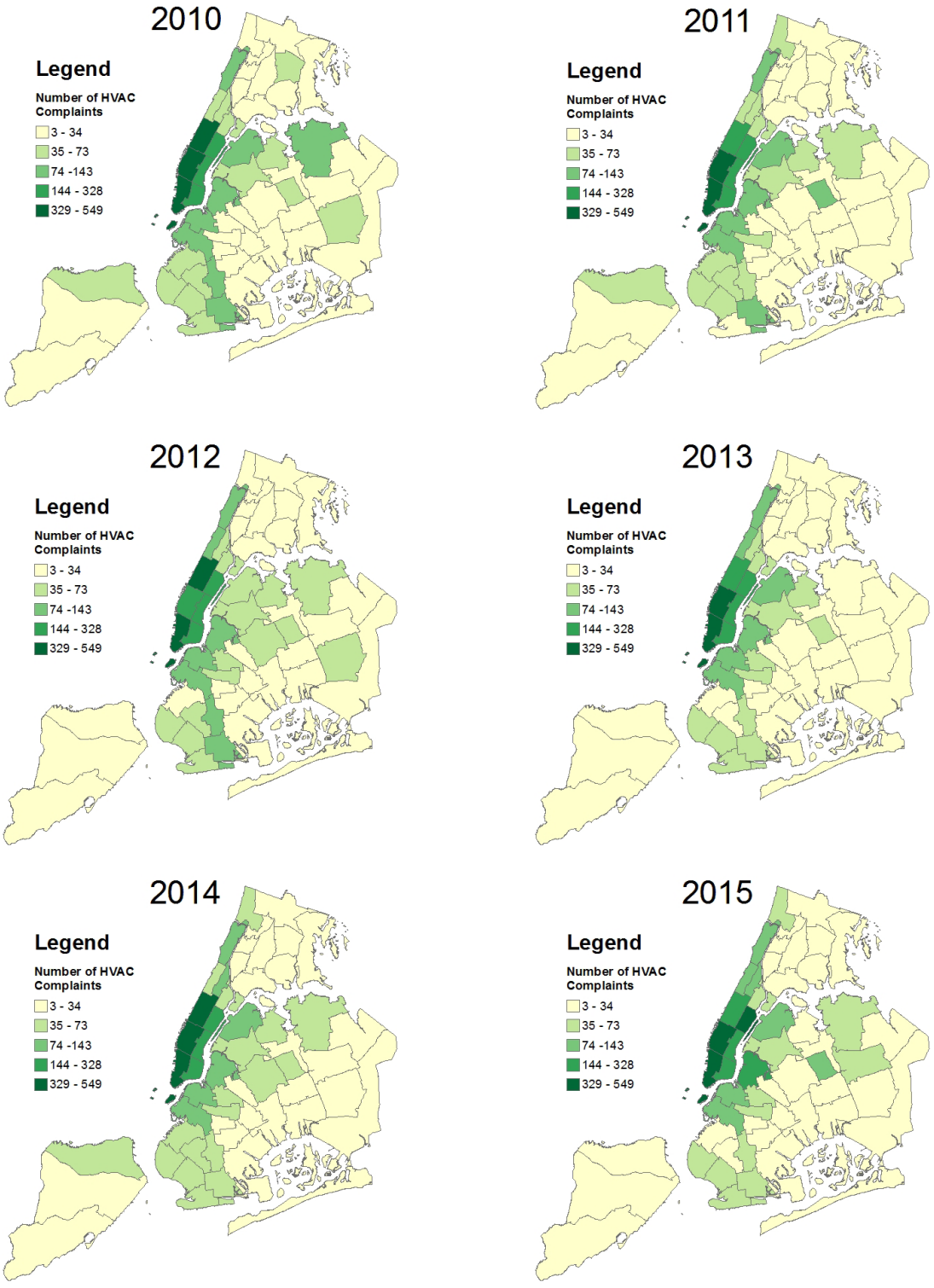


Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

Heating, Ventilation, and Air Conditioning (HVAC) Noise

- DEP handles HVAC noise complaints.
- OSC survey: 849 (20 percent) of respondents specifically indicated that noise from HVAC or air circulation devices disturbed them.
  - Most (70 percent) lived in MN1 through MN8.
  - The types of air circulation devices that disturbed these survey respondents included air conditioners in residences and businesses, and compressors. They also complained about outdoor power generators.
- 311 complaints involving HVAC noise in 2010–2015: 23,372 (1 percent of all complaints during the six years)
  - Half of the calls (11,660) came from Community Districts MN1 through MN8.
  - Most affected neighborhoods: Chelsea, Civic Center, Flat Iron, Hudson Yards, Little Italy, Soho, Tribeca, Union Square, the Upper West Side, and the West Village (see Map 10).
  - DEP confirmed noise in 12 percent of complaints, and issued 2,845 notices of violation of the Noise Code.
  - Map 10 shows the annual rate of complaints about HVAC per 1,000 adults by PUMA.

MAP 10
Annual Number of Complaints about HVAC Noise



Sources: NYC Open Data; U.S. Census Bureau's ACS 2010 and 2015 1-Year Estimates; OSC analysis

Appendix F: On-Premise Licenses

On-Premise Licenses by Community District in Effect as of June 1, 2016*

COMMUNITY DISTRICT	ON-PREMISES LICENSES
MN5	1,168
MN2	820
MN3	767
MN4	619
BK1	517
MN8	498
MN6	488
BK6	368
QN7	349
MN1	343
QN1	323
MN7	317
BK2	271
QN2	203
QN3	164
BK7	146
MN12	138
BK10	132
BK15	132
QN11	130
QN4	126
QN5	125
SI1	122
BK4	117
SI3	114
SI2	109
BK8	107
BX10	101
QN6	99
BK3	86

COMMUNITY DISTRICT	ON-PREMISES LICENSES
BK11	81
QN9	81
MN10	78
QN12	74
QN10	73
MN11	72
MN9	71
BX6	61
BX8	58
BK14	57
BK18	56
BK17	54
QN8	50
BX10	49
BX4	48
BX11	48
BK13	48
BX9	47
QN13	47
BK12	44
BX12	43
QN14	43
BX7	42
BK5	41
BX5	34
BK9	26
BX2	19
BX3	9
BK16	5
TOTAL	**10,458**

Sources: SLA; OSC analysis.

*Total number of on-premises licenses in effect was 10,979. Community Districts were not identified for 521 licenses.

Appendix G:
State Liquor Authority-Issued Licenses

Annual New and Most Current Renewal SLA Licenses Issued, by Community District

BRONX	2010	2011	2012	2013	2014	2015	TOTAL
BX1	62	53	33	71	63	103	385
BX2	25	33	26	37	53	71	245
BX3	40	24	37	44	41	58	244
BX4	96	62	51	89	124	127	549
BX5	88	47	31	60	82	124	432
BX6	53	35	41	66	91	98	384
BX7	47	41	40	61	87	94	370
BX8	18	26	19	38	52	87	240
BX9	71	46	46	77	92	107	439
BX10	42	29	24	29	83	120	327
BX11	58	35	29	53	61	83	319
BX12	70	35	36	60	54	101	356
BROOKLYN	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**TOTAL**
BK1	177	96	129	187	277	476	1,342
BK2	112	57	49	86	123	251	678
BK3	91	71	74	120	125	160	641
BK4	87	63	54	129	121	174	628
BK5	82	87	66	99	132	159	625
BK6	87	74	78	131	167	349	886
BK7	91	86	62	105	139	225	708
BK8	75	32	27	58	89	133	414
BK9	29	15	16	47	41	68	216
BK10	65	56	33	90	106	175	525
BK11	78	65	60	76	103	189	571
BK12	43	33	28	54	75	112	345
BK13	68	37	20	39	60	69	293
BK14	52	39	24	54	80	98	337
BK15	72	46	47	60	105	181	531
BK16	31	42	32	50	43	59	257
BK17	68	39	37	64	73	122	403
BK18	40	28	30	47	73	121	339

MANHATTAN	2010	2011	2012	2013	2014	2015	TOTAL
MN1	69	54	64	99	134	268	688
MN2	152	138	128	204	282	654	1,558
MN3	217	149	152	250	292	643	1,703
MN4	98	136	83	145	217	520	1,199
MN5	179	178	159	320	366	912	2,114
MN6	129	105	84	156	191	404	1,069
MN7	94	63	56	122	138	303	776
MN8	115	101	85	164	198	443	1,106
MN9	44	46	31	61	58	86	326
MN10	38	43	26	49	57	109	322
MN11	56	64	50	60	86	103	419
MN12	117	81	75	98	154	187	712
QUEENS	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**TOTAL**
QN1	88	72	83	149	203	349	944
QN2	49	63	52	93	137	226	620
QN3	50	62	57	99	106	203	577
QN4	64	50	55	99	111	188	567
QN5	71	67	61	106	144	228	677
QN6	21	31	26	50	70	114	312
QN7	129	84	91	171	150	361	986
QN8	24	21	15	28	51	69	208
QN9	32	56	45	46	117	130	426
QN10	46	28	23	43	74	116	330
QN11	26	39	28	41	51	132	317
QN12	91	62	56	103	126	168	606
QN13	43	25	29	57	57	86	297
QN14	28	20	17	28	39	55	187
STATEN ISLAND	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**TOTAL**
SI1	100	56	55	99	109	185	604
SI2	60	33	31	57	72	105	358
SI3	31	35	32	37	67	129	331

Sources: SLA; OSC analysis

Appendix H: Annual Noise Complaints

Selected Annual Noise Complaints Reported in NYC Open Data

	2010	2011	2012	2013	2014	2015	2016	Through 6/30/2017
Alarms	1,152	1,154	1,194	1,676	3,043	3,671	3,732	2,640
Animals	6,163	5,843	6,730	6,728	7,709	7,725	6,917	3,612
Construction	13,183	15,501	16,022	18,453	32,269	37,289	38,657	19,673
After-Hours*	9,364	11,357	11,476	13,362	23,466	27,188	23,806	12,187
Helicopters	493	1,278	691	769	1,286	1,494	1,006	424
Horn Honking	1,884	1,987	1,894	2,291	3,453	4,450	5,268	3,628
HVAC*	4,084	3,763	3,736	3,479	4,140	4,170	4,322	2,610
Idling	3,800	3,858	3,619	3,552	4,065	5,305	5,993	3,816
Nightlife	19,906	18,712	20,576	24,367	33,295	37,731	47,699	23,119
Outside	28,184	28,514	32,264	34,575	47,581	65,835	88,197	46,464
Private Carters	658	747	1,048	969	965	1,178	1,398	692
Residential	115,611	115,544	129,611	151,422	192,464	206,675	221,211	112,467

Source: NYC Open Data 311 Noise Complaints; OSC analysis.

*After Hours is a subset of Construction noise complaints and represents complaints made to 311 after 6 PM and before 7 AM on weekdays, and at any hour on Saturday or Sunday. HVAC is an acronym for heating, ventilation, and air conditioning. The table shown above presents tallies of selected complaints included in data downloaded from NYC Open Data on August 19, 2016 and July 11, 2017. For example, the tallies shown above exclude complaints to 311 about party boats, ice cream trucks, requests for horn honking signs, and other complaints.

Contact

Office of the New York State Comptroller
110 State Street, 15th Floor
Albany, New York 12236

(518) 474-4015

www.osc.state.ny.us

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