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THE NEW YORK CITY COUNCIL

REPORT OF THE INFRASTRUCTURE DIVISION
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COMMITTEE ON ENVIRONMENTAL PROTECTION
HON. DONOVAN RICHARDS, CHAIRMAN

June 25, 2015

Int. No. 420:

By Council Members Levine, Chin, Gentile, Koo, Rodriguez, Rosenthal, Kallos, Treyger, Constantinides, Richards, Rose, Deutsch, Reynoso, Levin, Lancman, Dromm, Arroyo, King, Johnson, Gibson, Torres, Lander and Espinal

Title:

A Local Law to amend the administrative code of the city of New York, in relation to mitigation of construction noise within seventy-five feet of a school.

Administrative Code & Charter:

Amends section 24-220 of the administrative code of the city of New York by adding a new subdivision g

Introduction

On June 25, 2015, the Committee on Environmental Protection, chaired by Council Member Donovan Richards, will conduct a hearing on Int. No. 420, A Local Law to amend the Administrative Code of the City of New York, in relation to the mitigation of construction noise within seventy-five feet of a school.

Background

Noise continues to be the number one quality of life issue in New York City.^{1, 2} Noise pollution causes a variety of adverse human health impacts, many of which are related to noise induced stress, including hearing loss, hypertension, tachycardia, increased cortisol release, sleep disruption and cognitive impairment.³ According to the Mayor's Management Report (MMR) for fiscal year (FY) 2014, the New York City Department of Environmental Protection (Agency responsible for enforcing the noise code) received 45,584 noise complaints in FY 2014. This represented a 26% increase relative to the previous year, FY 2013.⁴ According to the MMR, most of this increase was due to a greater volume of noise complaints related to construction being performed before or after normal hours. The MMR suggests this uptick in construction related noise complaints was attributable to a general rise in construction activity citywide and to the fact that FY 2014 was preceded by a difficult winter which may have limited construction activities and leading to a subsequent surge in construction.

In 1972, Mayor John Lindsay enacted the New York City Noise Control Code (Noise Code) making New York one of the first cities in the nation to adopt a comprehensive local law

¹ New York City Department of Environmental Protection, webpage on "Noise Codes & Complaints," accessed on 6/15/2015 at <http://www.nyc.gov/html/dep/html/noise/index.shtml>

² USA Today, "Noise is No. 1 quality of life complaint in NYC," article available at <http://www.usatoday.com/story/news/nation/2014/01/18/noise-life-quality-complaint/4635273/>

³ Michael Seidman and Robert Standring, International Journal of Environmental Research and Public Health, "Noise and Quality of Life," published 10/19/2010 and available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2996188/>

⁴ New York City Mayor's Office, Mayor's Management Report September 2014, available at http://www.nyc.gov/html/ops/downloads/pdf/mmr2014/2014_mmr.pdf

aimed at reducing noise pollution.⁵ The pioneering law was intended to reduce ambient noise levels citywide and set sound limits for a set of specific noise sources.⁶ In 2005, Mayor Michael Bloomberg enacted Local Law 113 of 2005 overhauling the city's Noise Code for the first time in over 30 years in order to update the Code and make it reflective of modern acoustic technologies and standards. According to testimony provided by the Bloomberg Administration at the time, the main goals of the 2005 Noise Code update were to reduce sound from construction; to reduce sound from commercial music sources; to regulate noise from air conditioning devices more effectively; to make enforcement of the Noise Code simpler; and to legislatively establish limits for certain sources of noise.⁷

New York City Noise Control Code and Construction

The updated Noise Code, Local Law 113, took effect in 2007. It is enforced by the New York City Department of Environmental Protection (DEP) and the New York City Police Department (NYPD). The Code sets standards for what constitutes unreasonable and prohibited noise, and sets decibel limits (abbreviated dB, decibels are the universal unit of sound measurement) for various specific noise sources. The Code is enforced by DEP and NYPD agents who carry meter devices capable of detecting sound pressures and displaying readings on a A-weighted decibel, or dB(A), sound level scale.⁸ Some of the major noise sources covered by the Noise Code are motor vehicles and motorcycles, refuse collection vehicles, music from bars and restaurants, food vending vehicles, animal noises, residential noise and construction noise.

⁵ NR Kleinfield, New York Times, "New York Quiet? Never. Quieter? Maybe. Listen up.," available at <http://www.tenant.net/Rights/Noise/noise4.html>

⁶"The New York City Noise Control Code: Not with a Bang, but a Whisper," Fordham Urban Law Journal, 1972, Volume 1, Issue 3, Article 4, available at <http://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1032&context=ulj>

⁷ Testimony of Acting Commissioner David Tweedy of the New York City Department of Environmental Protection, transcript of the January 26, 2005 New York City Council hearing of the Committee on Environmental Protection, pages 12-13, available at <http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=442539&GUID=E2A5A615-33B0-4B08-9C56-CD79CEA96A87&Options=ID|Text|&Search=noise>

⁸ Id., "Guide to New York City's Noise Code"

Table 1: The table below lists common noise sources and their sound levels. Note that sound levels vary depending on the distance between the noise source and the object receiving the sound, but the list below provides frequently heard sounds in the city and their approximate decibel levels based on common distances from the noise sources.⁹

Whisper	30 dB(A)
Normal Conversation/Laughter	50 – 65 dB(A)
Vacuum Cleaner at 10 feet	70 dB(A)
Washing Machine/Dishwasher	78 dB(A)
Midtown Manhattan Traffic Noise	70 – 85 dB(A)
Motorcycle	88 dB(A)
Lawnmower	85 – 90 dB(A)
Train	100 dB(A)
Jackhammer/Power Saw	110 dB(A)
Thunderclap	120 dB(A)
Stereo/Boom Box	110 – 120 dB(A)
Nearby Jet Takeoff	130 dB(A)

The Noise Code contains a section specifically addressing “Construction Noise Management.”¹⁰ To limit construction noise, the Code generally permits construction between 7:00am and 6:00pm on weekdays, and limits construction outside of these hours and on weekends. The Code sets standards for noise levels created by handling containers and construction materials, and sets ways to reduce noise from a variety of specific types of construction equipment. For example, jackhammers must be fitted with noise mitigating mufflers and/or have portable street barriers to reduce sound impact on their surrounding area.¹¹ The Code also requires that all construction projects be conducted in accordance with “noise mitigation plans” that take into account the particular project’s location, type of work and timing.

The Noise Code requires that each contractor create a noise mitigation plan for each construction project and that such plan be implemented prior to the commencement of construction. Noise mitigation plans must provide in detail the noise mitigation strategies,

⁹ New York City Department of Environmental Protection, “A Guide to New York City’s Noise Code – Understanding the Most Common Sources of Noise in the City,” (hereafter cited as “Guide to New York City’s Noise Code” and available at http://www.nyc.gov/html/dep/pdf/noise_code_guide.pdf

¹⁰ Complete text of the New York City Noise Code as of June 16, 2015, pages 11-15, available at <http://www.nyc.gov/html/dep/pdf/law05113.pdf>

¹¹ Id., “Guide to New York City’s Noise Code”

methods, procedures and technology that will be used to limit sound from a variety of specific construction equipment and activities including pile drivers, sledgehammers, bulldozers, steam shovels, off-road construction vehicles other than trucks, pumps, blasting and power tools. Every construction site must keep a copy of its noise mitigation plan on location. The Noise Code also authorizes the Commissioner of DEP to promulgate rules prescribing additional mitigation measures for sensitive receptors such as hospitals and schools.¹²

Noise Impacts on Education

Numerous studies have found that noise can have a negative impact on children's cognition and education.¹³ A 1975 study of New York City elementary school students found that second, fourth and sixth grade students in classrooms exposed to elevated noise due to their proximity to nearby train tracks were behind the reading levels of students in quiet classrooms by as much as one year.¹⁴ A follow up study found that after rubber pads were installed on nearby train tracks and tiles were installed on ceilings to mitigate noise, cutting dB in the noisy classrooms by as much as eight decibels, no difference was found in the reading levels of students in the formerly noisy classrooms compared to the quiet ones.¹⁵ Another extensive study on the impact of road and airplane noise on children's cognition found that exposure to aircraft noise had a proportionally negative impact on reading comprehension.¹⁶ Other basic studies on

¹² Id., New York City Noise Code, page 11.

¹³ Gary Hopkins, Education World, "Have you heard? Noise can affect Learning!," article available at http://www.educationworld.com/a_curr/curr011.shtml

¹⁴ Arline Bronzaft and Dennis McCarthy, "The effect of elevated train noise on reading ability," Environment and Behavior December 1975, 7: 517-528, available at: http://www.researchgate.net/publication/232474120_The_effect_of_elevated_train_noise_on_reading_ability

¹⁵ Arline Bronzaft, "The effect of a noise abatement program on reading ability," Journal of Environmental Psychology 1(3):215-222, available at http://www.researchgate.net/publication/247851553_The_effect_of_a_noise_abatement_program_on_reading_ability

¹⁶

Charlotte Clark, Jenny Head and Stephen Stansfeld, "Longitudinal effects of aircraft noise exposure on children's health and cognition: A six-year follow-up of the UK RANCH cohort," Journal of Environmental Psychology, volume 35 September 2013 pages 1-9, available at <http://www.sciencedirect.com/science/article/pii/S027249441300011X>

the connection between noise and education have found that unwanted noise reduced human energy and efficiency, and can affect the mental and emotional health of teachers and students;¹⁷ children's performance on many classroom tasks vary as a function of classroom noise level, and 70 dB of sound constitutes a noisy classroom while 40 dB would be the threshold of a quiet classroom;¹⁸ some children in noisy schools had higher blood pressure, less cognitive task success and greater feelings of helplessness, giving up more easily on tasks, and exhibited greater distractibility from tasks;¹⁹ and that eight and nine year old students exposed to higher ambient noise levels in school performed significantly worse on standardized tests in mathematics and French, with a difference of 10 dB of regular background noise being associated with a 5.5 point lower scores on average in both subjects.²⁰ General human health and quality of life impacts that construction noise, in particular, can have include hearing loss, stress, impacts on speech, hearing and communication, and impacts on activities requiring concentration, such as listening and reading.²¹

Discussion of Int. No. 420

This bill amends Section 24-220 of the administrative code by adding a new subdivision g. The new subdivision requires that "noise mitigation plans" created for construction projects must provide that, during school operating hours, noise shall not exceed 45 decibels in any receiving classroom in any public or private preschool or primary or secondary school located

¹⁷ Kenneth Glass, "Sonic environment," *CEFP Journal*, Volume 23, July/August 1985, pages 8-11.

¹⁸ DJ Christie and CD Glickman, "The effects of classroom noise on children: Evidence for sexual differences," *Psychology in the Schools*, Volume 17 Issue 3, 1980, pages 405-408.

¹⁹ S Cohen, GW Evans, D Stokols and DS Krantz, "Behavior, health, and environmental stress," *Applied Cognitive Psychology*, Volume 1, Issue 3, page 219, July/September 1987.

²⁰ Sophie Pujol, Jean-Pierre Levain, Hélène Houot, Rémy Petit, Marc Berthillier, Jérôme Defrance, Joseph Lardies, Cyril Masselot, Frédéric Mauny, "Association between Ambient Noise Exposure and School Performance of Children Living in an Urban Area: A Cross-Sectional Population-Based Study," *Journal of Urban Health*, April 2014 Volume 91, Issue 2, pp 256-271, available at <http://link.springer.com/article/10.1007/s11524-013-9843-6#page-1>

²¹ United States Department of Transportation, "Construction Noise Handbook," available at http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook03.cfm

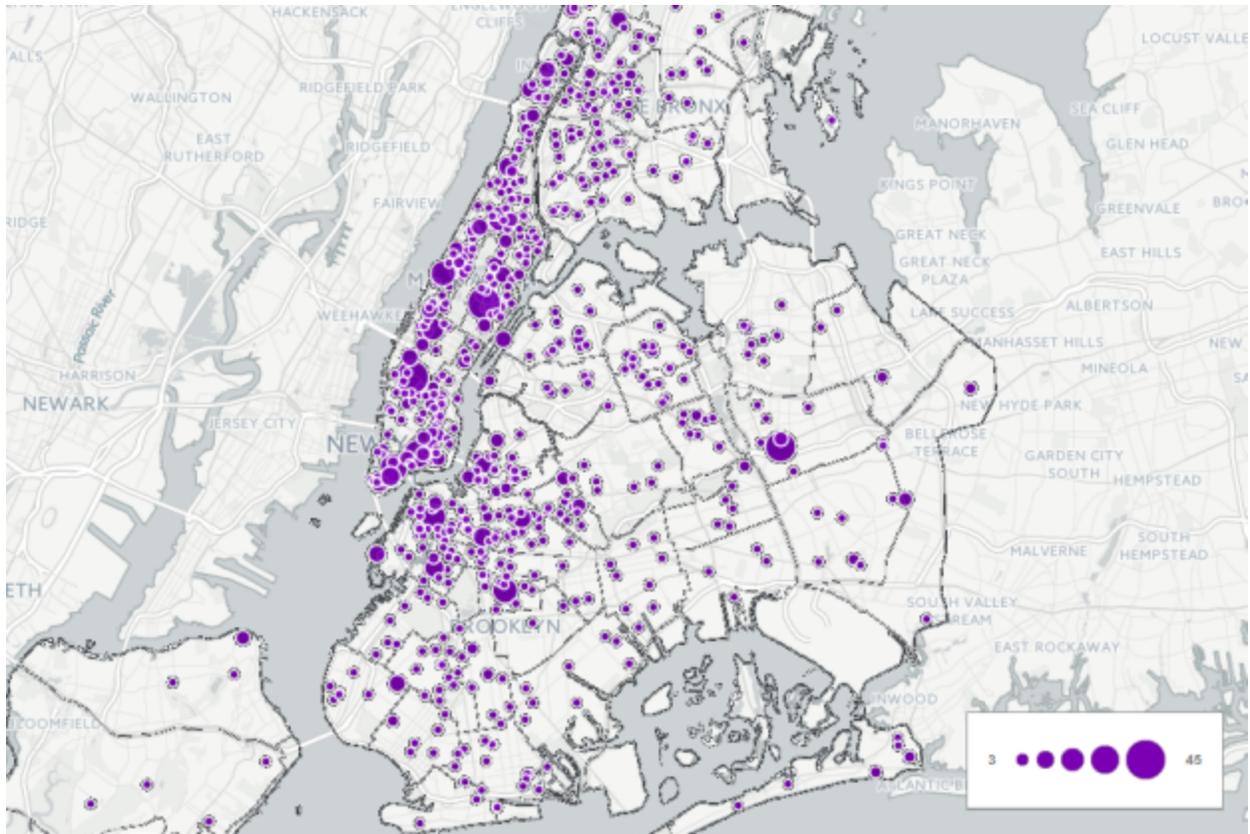
within seventy-five feet from the construction site, and that noise levels at such schools shall be continuously monitored during school operating hours.

Conclusion

At this hearing the Committee hopes to receive testimony from the Mayor's Administration, parents, noise, education and public health experts and others regarding the merits of Int. No. 420, in relation to the mitigation of construction noise within seventy-five feet of a school. The Committee also hopes to receive testimony containing recommendations on if and how this legislation could be improved. This is the first hearing the Committee has held on this bill.

APPENDIX

Schools near Construction Sites and Noise Complaints in 2014



Map 1: Each dot on the map represents a tax lot (Borough Block Lot) that met the following three criteria in 2014:

- At least one public and/or private elementary school located on it;
- At least one Noise Complaint filed within 100 feet during school operating hours (7:30am-4:30pm, every month of the year except July and August); and
- At least one site with an active Building Permit located within 100feet.

The size of the dot corresponds to the number of Noise Complaints.

This map shows that, in 2014, there were 627 tax lots (containing 880 individual schools) that were located both within 100 feet of a tax lot containing a Building Permit and within 100 feet of a Noise Complaint during school hours.

The map serves to show the proximity of New York City schools to sites with Building Permits and to noise complaints, whether coincidental or not.

An interactive version of this map, with the ability to zoom in on any particular district in the city, may be accessed here: <http://cdb.io/1K0E5S4>

The data that underlies this map is available on New York City’s Open Data Portal: <https://nycopendata.socrata.com/>

Int. No. 420

By Council Members Levine, Chin, Gentile, Koo, Rodriguez, Rosenthal, Kallos, Treyger,

Constantinides, Richards, Rose, Deutsch, Reynoso, Levin, Lancman, Dromm, Arroyo, King, Johnson, Gibson, Torres, Lander and Espinal

A Local Law to amend the administrative code of the city of New York, in relation to mitigation of construction noise within seventy-five feet of a school.

Be it enacted by the Council as follows:

Section 1. Section 24-220 of the administrative code of the city of New York is amended by adding a new subdivision g to read as follows:

(g) Such noise mitigation plan shall provide that noise shall not exceed 45 dB(a) during normal school operating hours in any receiving classroom in any public or private preschool or primary or secondary school on lots that are within seventy-five feet from the construction site, and that noise levels at such schools sites shall be continuously monitored during normal school operating hours.

§ 2. This local law shall take effect one hundred twenty days from its enactment.

LS 1777 SS
6/23/14 3:13 p.m. p.m.