



# LOUD SOUNDS & NOISE

## A concern for urban planners

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In researching and writing about the adverse effects of health, I have joined forces with audiologists, acousticians, psychologists, educators, engineers, architects, music technologists and urban planners who are similarly interested in this issue of Loud Sounds & Noise. It is clear that there are individuals in a number of professions who believe that their specific skills can be applied to reducing environmental noise. As a Columbia University Ph.D. recipient, I thought it worthwhile for me to write an article for GSAPP students to urge them to recognize noise as an environmental pollutant as they look toward careers that would involve making cities safer and healthier for their residents. Furthermore, students attending Columbia University and living in New York City have the opportunity to experience excessive noise first-hand whether it is walking the city streets, traveling its subways, or living in a dorm with "noisy" classmates. Therefore, an article on noise impacts and ways to reduce noise, especially in urban settings, would seem a good fit for "VITA," the theme of this spring's URBAN Magazine.

Let me start by saying that intrusive urban noises are not simply annoying or disturbing. Today's literature on the adverse effects of noise on hearing, mental and physical health and overall well-being is plentiful (Bronzaft, 2017) and I would urge anyone interested in advocating for less urban noise to become familiar with this literature. Thus, in arguing for a reduction in noise, one can affirmatively state that a "less noisy" environment is more conducive to better health and well-being. I would also suggest that professionals engaged in planning for "less noisy" environments familiarize themselves with existing legislation pertaining to noise.

When one lives in an urban center such as New York City, one is no stranger to noise. Yet, New York City has attempted for many years to lower the decibel level by passing and then updating its Noise Code, last revised in 2007. In the most recent year, the Department of Environmental Protection (DEP), which is charged with enforcing the Code, has added agents to its staff. However, lessening the din in New York City does not just fall under the aegis of the DEP. Lowering train and bus noise rests with the MTA, and the Federal Aviation Administration and the local aviation agency are charged with lessening overhead jet and helicopter noise.

As an environmental psychologist living in New York City, I decided to conduct research that would in some way focus on the dangers of an urban pollutant, namely noise. I then conducted research on the effects of passing elevated train noise on children's

learning at a school located near elevated train tracks (Bronzaft and McCarthy, 1975).

After finding that by the sixth grade, children in classrooms near the tracks were about a year behind in reading compared to children on the quiet side of the building, I used the findings of this study to argue for lessening the noise in the classrooms. I urged the Transit Authority to test out a procedure for reducing rail noise on the site near the school in which I conducted my research and asked the Board of Education to install acoustic ceilings in the classrooms of that school. When the abatements were in place, I returned to the school to conduct another study which found that with the noise abatements in place, the children on both sides of the building were reading at the same level (Bronzaft, 1981).

This study that demonstrated the effectiveness of rubber resilient pads in lessening noise resulted in the installation of such pads throughout the elevated structures, lessening the noise impacts for both students and residents. Additionally, both of these noise studies, plus others that followed with similar results, led the Federal Aviation Administration to fund programs to reduce aircraft noise at impacted schools throughout the United States.

Following my research on transit noise and learning, the Transit Authority invited me to consult for the agency on noise. While working with individuals at the Transit Authority who were well versed in ways to abate transit noise, methods to reduce noise were introduced, including the design of a quieter traction motor. It was also discovered that reducing noise through design and effective maintenance also resulted in fewer breakdowns and costlier repair. While it is true that at one time, the Transit Authority put greater emphasis on noise impacts in their design and operation of their trains and buses, I cannot authoritatively say that the transit agency has continued to do so these past ten years. The following article discusses the link between increased noise and a poorly functioning rail system marred by numerous breakdowns.

A study my co-authors and I conducted that found airport-related noise diminished quality of life of nearby residents was given to former Congressman Crowley, who had funded the study, so that he could use it to support Congress' efforts to reduce aviation noise in communities exposed to airport-related noise. This study and others that have shown the adverse effects of aircraft noise on health influenced the passage of the 2018 Reauthorization Act that includes provisions to reduce aircraft noise in affected communities.



New York City residents also find that neighbor-to-neighbor noise is a serious problem with many complaining about loud sounds emanating from their neighbors. Resident leases, through the "warranty of habitability" clause, implies that residents are entitled to "reasonable" quiet in their apartments. Thus, with respect to neighbor noises, landlords and managing agents are obligated to step in to remedy the noise problem. Tenants and coop owners have long complained that it is difficult to get tenant-to-tenant noise problems resolved. It is imperative that greater thought be given to how the City can intervene on behalf of tenants and coop dwellers. Here, one could seek assistance from New York State legislators as to how to make the Warranty of Habitability section more effective in reducing neighbor noise complaints.

What should have become apparent from what I have written so far is that noise is indeed intrusive in the lives of urban dwellers and that noise adversely affects health and diminishes quality of life. Furthermore, after reading the discussion centered on transit noise reduction through design, I hope that urban studies students would begin thinking about noise reduction and design in those areas in which they are most interested. With urban dwellers complaining more and more about noise in their apartments as noted above, building designers must recognize the need to muffle sounds within and between apartments as well as from the outside traffic, sirens, and nearby restaurants and bars. Designers of such buildings are now recognizing that some space should be allocated to play areas, workout facilities, and meeting rooms. Such areas maximize social exchange between residents and may make them more tolerant of an occasional noise intrusion in hallway or in the elevator. Urban designers can also suggest ways that residents themselves may quiet their apartments, e.g. carpeting, drapes, softer furniture. Laundry rooms should cushion the sounds of their washers and dryers so that residents on the first floor are not intruded upon and similar garages should lessen impacts of cars on nearby neighbors.

Urban centers are impacted by construction of new buildings and designers and builders should consider employing quieter tools and using protective curtains to lessen noise impacts. The New York City Noise Code recommends ways to reduce construction noise. Diners are now asking that restaurants lower the decibel level so that they can better enjoy their meals and interact with the others in their party. Designers should be cognizant of this request as they design the interior of restaurants, whether they are new or being rehabilitated.

New York City has long been known for its large parks (e.g. Pelham Bay Park, Greenbelt, Central Park), but with increased

urban din there have been requests for smaller parks and garden areas while at the same time protecting and enhancing these larger parks. Parks can provide the quiet that so many urban dwellers appreciate and these quiet times add immeasurably to the joy of living in thriving, urban areas. New York City parks have playgrounds, soccer fields, hiking trails and running paths but they also have quieter areas. In March of this year, the former Parks Commissioner Henry Stern died. I know that Henry Stern was very much concerned with making sure there were quiet areas in parks while still supporting the playgrounds and sports areas in parks. In a panel discussion, at the Center for Hearing and Communication in May 1986, Commissioner Stern spoke of creating "quiet zones" in parks. He said the following in explaining the importance of these zones, "There are few enough places in this congested city where New Yorkers can escape the constant din of city life."

The present commissioner Mitchell Silver holds a Master of Urban Planning degree from Hunter College and has taught graduate planning courses and advocates for the improvement of parks. Asked about the five favorite things he likes to do in Fort Greene Park, he responded by naming the following as one of them. "I like to study the different ways the park gets used, from athletics and recreation and family events or just peaceful quiet alone time

Dr. Antonella Radicchi of the University of Berlin, an architect interested in urban design, has focused on improving the "sonic quality of urban public spaces and to reduce the harmful effects of noise pollution." Her goals are succinctly discussed in the following article on the Quiet Coalition's website: <https://thequietcoalition.org/urban-quiet-areas-vital-public-health/>. To strengthen the need for reducing noise and creating quieter urban areas, Dr. Radicchi takes urban dwellers on Soudscape walks through their communities in an effort to enlist them in protecting existing quiet spaces and planning for new ones in order to enhance the health and well-being of urban dwellers. Learning more about how to create quiet places in urban centers should be part of an urban studies curriculum.

While my research and writings have focused on the deleterious effects of noise, I have not ignored stressing the importance of quiet in one's life. My children's book "Listen to the Raindrops" (illustrated by Steven Parton) teaches about the beauty of the good sounds in life and warns children about the dangers of noise. As an educator, I believe we need to teach young people about sounds and noise as well as people of all ages. Hopefully, this article will "resound" with Columbia Urban Planning students as they become part of a profession that plans for healthier and more livable urban cities.