



**Negative Impacts of Major Construction in Senior Communities  
and**

**The building of New York City's Borough-Based Jail System**

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**For immediate release**

*“Construction is going to be a huge impact to us, because it’s right next to us. And to the 88 seniors, or actually, talking about 120 seniors that live in 80 units, it would be huge and dramatic impacts to those residents, that range up to 100+ years old.”*

*– Charles Lai, Executive Director of Chung Pak Senior Center, which is located directly adjacent to the Manhattan Detention Center. The Manhattan Detention Center is slated to be completely demolished. It shares a wall with Chung Pak Senior Center which houses over 100 low-income seniors.*

*“This is exactly why we have the ULURP Process. We absolutely value the fact that people are going to be impacted, and we have to address their needs. There’s no question about it. And a good ULURP Process front loads all of those questions. It is about the impact of the change, all of the things to do to mitigate the change, and the larger needs of the community. I have seen very productive processes, where issues that have been fought over and struggled over for 30 and 40 years got addressed, once and for all. But I don’t want to see seniors put in a horrible situation. We have to make them whole. And if you say, and the community says, our vision of making them whole is that we have to move them somewhere else in the meantime, so they have an absolutely stable environment, and then bring them back and guarantee they get to come back, we can discuss that, and many other options.”*

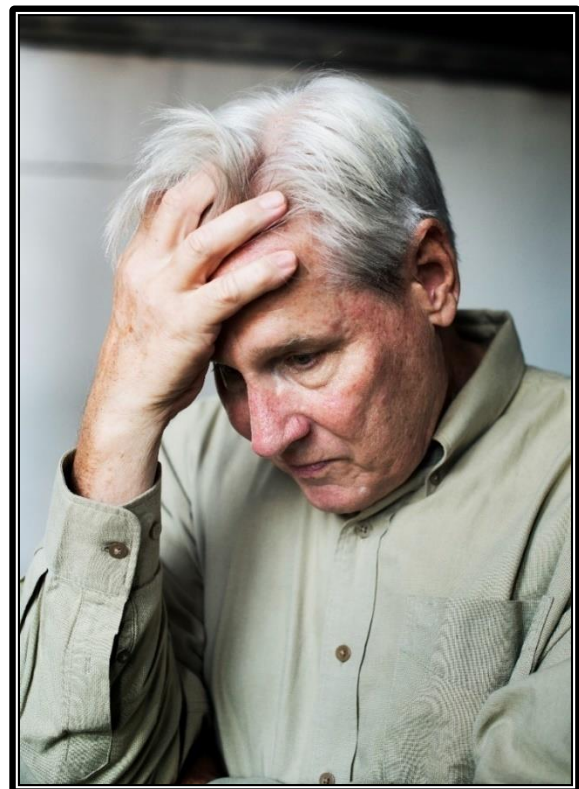
*– NYC Mayor Bill Deblasio, Chinatown December 2018*

<b>Move senior residents from Chung Pak</b>	<b>Demolish MDC&amp; build with seniors in place</b>
What steps are needed to ensure safe moving?	What steps are needed to ensure safe demolition?
Will seniors suffer from moving from home?	Will seniors suffer from demolition lasting two years?
Where will they be moved to?	Does demolition and construction cause stress to vulnerable seniors?
Will the City build new housing before moving the seniors?	What effects do noise, dust and restricted movement have on vulnerable seniors?
What precedent can we look at where the City has safely moved 120 seniors?	Given that 124/125 are jails, aren’t they super strong, and therefore hard to demolish?
Will the temporary location mirror the safe and specialized environment of Chung Pak? How will the City replicate the senior’s environment? Language, culture, familiarity?	How will seniors living in a construction site cope with severe change of environment, changes in visitation of doctors and family?

Research on the negative impacts of construction on the community is vast. In major urban areas, these negative effects have the potential to be more drastic, especially to vulnerable populations such as the elderly. In this report, research on relocation stress, air pollution, noise, and psychological impacts of construction can be generalized to the potential and likely detrimental impacts of New York City's Borough-Based Jail System's proposed action to build a new jail at 124 & 125 White Street, Chinatown, Manhattan. When planning a construction project, it is important to take into consideration the effects it will have on nearby communities.

### **Relocation Stress**

Over the past decade, Medical Professionals have increasingly been diagnosing and treating seniors with relocation stress syndrome (RSS), also known as “transfer trauma”. The syndrome is characterized by a combination of symptoms including anxiety, confusion and loneliness. Moving is right up there with death, divorce and getting fired when it comes to life's most stressful moments. While a move from one house or state to another may be stressful on anyone, for seniors it can be especially taxing. Relocation stress syndrome is a serious enough syndrome that in 1992, the North American Nursing Diagnosis Association added it as an official diagnosis. Now hospitals and insurance companies across the country are taking it seriously as well.



The “cluster” of diagnoses that characterize RSS include loneliness, depression, apprehension, anxiety, anger, and in older adults, increased confusion. The greatest incidences of RSS occur just before and during a three-month period following relocation. In addition, to determine if a patient is “at risk for RSS,” medical professionals evaluate the following as the



transition occurs: changes in eating habits and sleeping patterns, demonstration of dependency, changes in cognition, insecurity or lack of trust, decline in self-care, and change in relationship with family members. Risk of RSS increases if there is (1) little or no time to prepare for an impending move;

(2) a lack of predictability about the new environment; and (3) little or no time between notification to move and the move itself.

Involuntary relocation can be worse. Each year, millions of people worldwide are uprooted and relocated to make way for new development. The documented outcomes have been devastatingly negative. Depression has been one of the most commonly reported negative outcomes. The involuntary relocation process is very stressful to the elderly. It disrupts their normal life and to make it worse, the move is often forced by a powerful entity such as the government, further weakening their sense of control (Xi & Hwang, 2011). Forced relocation is widely considered to be a stressful event. Stressed individuals, and particularly members of high risk groups, may be maladapted, presenting deviant behavior patterns and eventually mental health problems (Andre & Jean, 1993).

The effects of relocation on an elderly person's quality of life have been assessed in previous research. In a pre-test/post-test mixed method design by Falk, Wilk and Persson (2011), older persons' quality of life, wellbeing, and perceived person-centeredness are evaluated. Results of this research find significantly larger deterioration in perceived person-centeredness among cognitively intact residents that moved compared to residents in the control group that did not relocate. Interviews with residents that relocated revealed that their experience of the move was uncontrollable and uncertain. See Table 1 for a more detailed analysis of the interviews with the residents experiencing relocation. In addition, it has been concluded that when relocation is forced or imposed, the opportunity for innovation combined with restriction, rather than promotion of one's personal autonomy and right of expression, is the result (Sverdlik & Oreg, 2009).

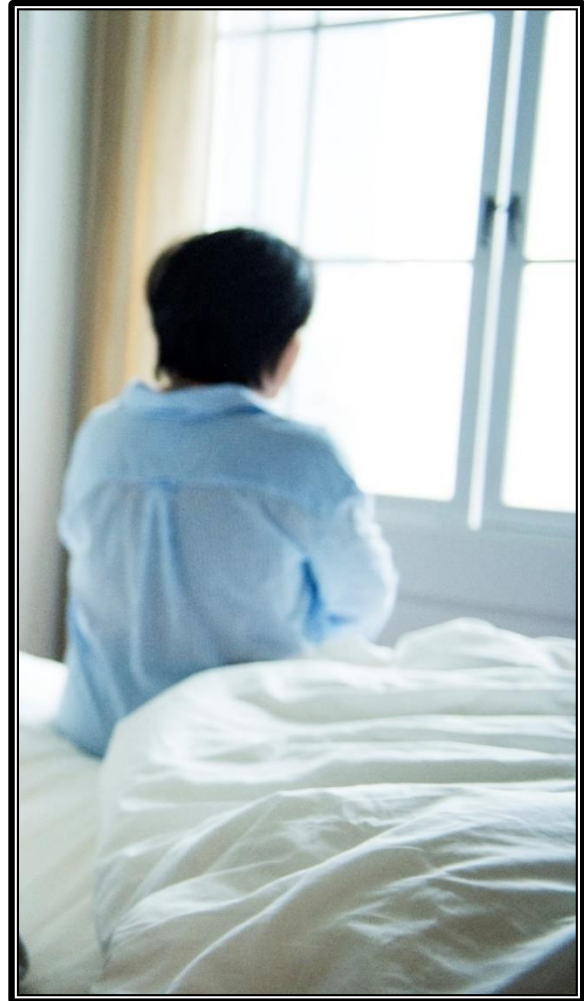
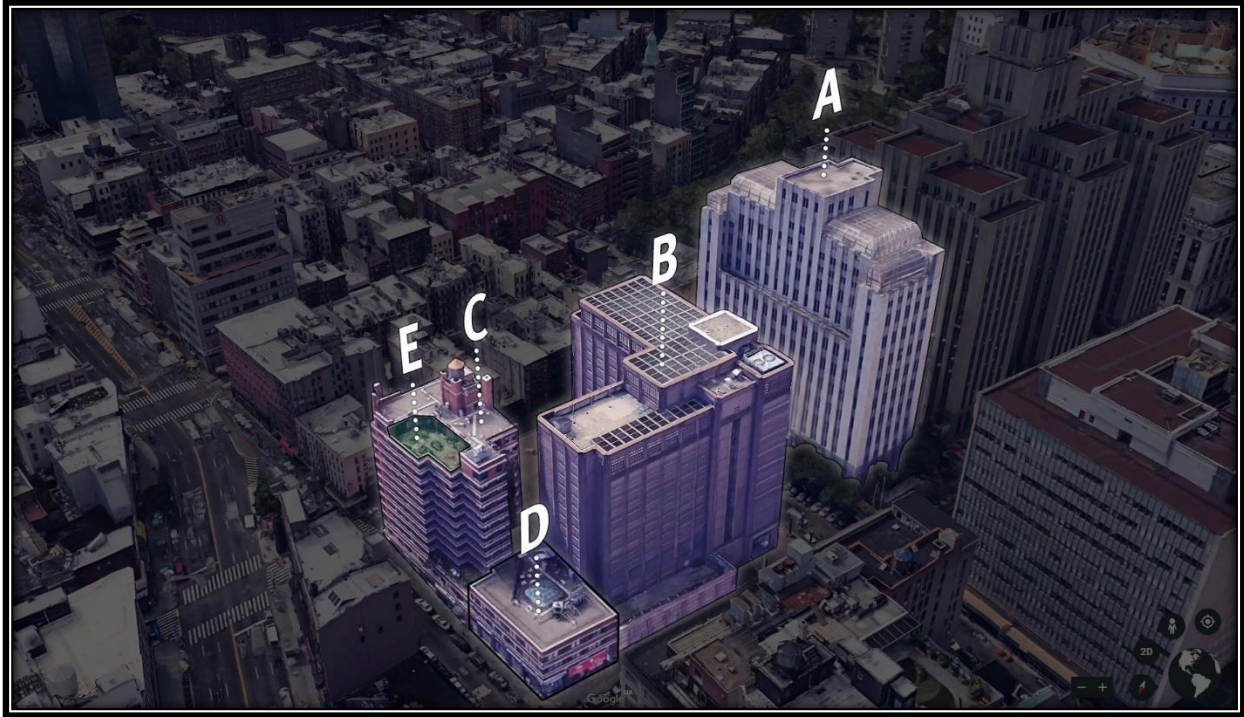


Table 1

Content Area	Code	Subcategory	Category
Experiences related to the actual move	■ It happened so fast	■ Being unprepared	■ The relocation was experienced as <i>uncontrollable</i>
	■ Others packed my private stuff	■ Feeling insecure	
	■ The move was sudden	■ Feeling excluded	
	■ To be unprepared	■ No one cares about your opinion	
	■ To be left outside		
	■ Not allowed to decide		
	■ There is no point in complaining		
	■ To have no saying		
Experiences related to the daily life at the transit facility	■ This is what you can expect from an institution	■ Feeling indifferent	■ The relocation was experienced as <i>un-affectable</i>
	■ This is where you await death	■ Feeling anxious	
	■ Nothing is in order	■ Feeling abandoned	
	■ The environment is unfamiliar	■ Feeling disappointed	
	■ The staff seem unhappy		
	■ Disappointment		
	■ Sadness		





*A. The Tombs jail*

*B. Manhattan Detention Center 125 White St.*

*C. Chung Pak Senior residence*

*D. Charles B. Wang community health center*

*E. Chung Pak open air roof top garden*

Elderly populations are particularly vulnerable to relocations and renovations due to construction. Research by Gallagher and Walker (1990) researched ninety-nine extended care residents over a fourteen-month period in order to compare outcomes associated with relocation and renovations. One group of residents was temporarily moved to other facilities during renovations, two groups were moved internally, and a control group in a similar home experienced neither relocation nor renovations. Results of this study concluded that the group of residents that remained near the construction and renovations showed the most negative changes. These residents showed sharp increases in PRN medicine use, diminished activities of daily living (ADL) functioning, and increased symptoms of pain while facing the multiple stressors as

a product of construction. The most aggressive symptoms occurred with ADL functioning as many residents' ability to eat, bathe, get dressed, and use the toilet decreased.

A frightening aspect of involuntary relocation is its relationship to mortality rates. According to Ann Laughlin (2005), mortality rates one year after relocation were significantly higher when compared to a control group that was not forced to relocate due to construction. Not only did the group that relocated have higher mortality rates, but they also reported feeling powerless, angry and had a sense of loss. In a later study by Laughlin (2007), she aimed to identify all risk factors associated with higher mortality rates among older adults who involuntarily relocate and found that the only variable to achieve significance in predicting mortality was relocation itself.

Mortality rates are a frequently studied outcome measure of forced relocation. Recent studies show a 50% increase in mortality among older persons after relocation. It has also been shown that relocation disrupts routines and social relations among residents, which are vital to their mental health. These disruptions are shown to potentially increase confusion and depression in those residents with dementia. Most researchers in this field agree that institutional relocation is major life change, and consequently, a stressful event (Hodgson, Freedman, Granger & Erno, 2004). We must recognize that a change in home environment does have a significant impact on older adults and their sense of place in the world.

The local Councilmember, Margaret Chin, who represents the District where the project is to take place, and the Manhattan Borough President Gale Brewer have been adamant that "The seniors will not be moved out." However, community members are concerned that demolition may force the removal of the Chung Pak residents if structural failure should occur at or near the



residence as a result of destabilizing the foundation of Chung Pak during underpinning as the construction of a foundation for the jail proceeds. They cite numerous examples where this has happened in the area. One such catastrophic failure occurred at the corner of Mott Street and Hester Street, causing a residential tenement to be completely evacuated in haste. In that case, a building on Mott Street suffered a huge crack in the foundation due to the neighboring lot being excavated.

Although discussion about senior safety can include measures to keep the seniors at Chung Pak in place during demolition and subsequent construction, the concern remains that forced relocation due to structural damage or environmental changes is a reality facing the seniors in and around 124 and 125 White Street and Baxter Street.

### **Close Proximity to Construction and Health Risks**

The Association for Professionals in Infection Control and Epidemiology (APIC) warns against construction and renovation projects in or near health care facilities. Risks include environmental distribution of microorganisms such as airborne contaminants and infectious agents, which are detrimental to the health of older populations.

In 2007, following a public controversy accompanying the construction proposal of a large-scale building on the edge of Boston Chinatown, a resident commented to researchers Brugge and Dhar (2008) that she noticed an abnormal number of elderly people in her building had died during the construction, thus motivating the researchers to further investigate the unexplored hazards of major construction projects. Brugge and Dhar found relationships between pulmonary and cardiac diseases and air pollution released from construction sites, concluding that more research needs to be done to investigate these risks at a larger scale.

Major construction sites are sources of gaseous and particulate matter, pollution, vibrations, and noise. These are byproducts of diesel engines, welding, abrasive processes, jackhammers, and pile driving, all necessary for large-scale building construction, such as prisons. Past literature has proposed that fine particulate matters are dangerous toxins that negatively affect cardiac and pulmonary health, which are among the top 3 leading causes of death among people over 65 years (Centers of Disease Control, 2017).

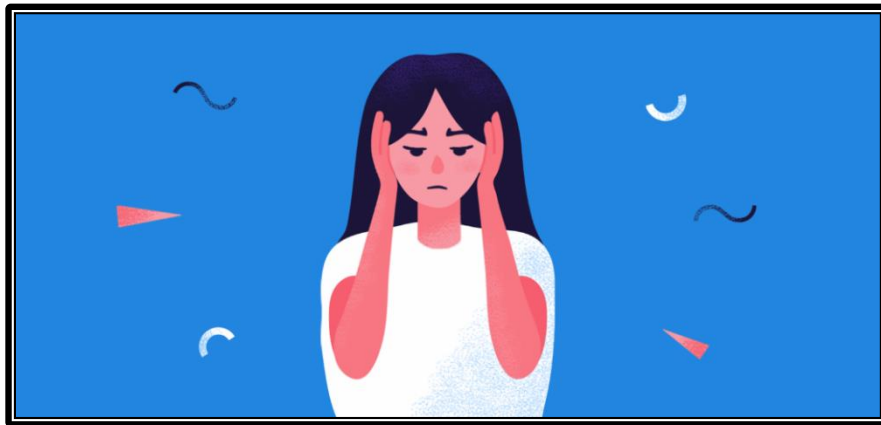


*Virtually all vehicles, demolition machinery and construction equipment are powered by diesel engines; these are sources of gaseous and particulate matter, pollution, vibrations, and noise.*

Fine particles released during major construction are more hazardous than larger particles as they can pass through the nose and throat and finally settle in the lungs, resulting in severe lung damage and premature death in persons with preexisting conditions such as heart or lung disease. Individuals with preexisting conditions only need one to seven days of exposure to particulate matter to increase the risk of cardiovascular morbidity and mortality. Recent research

suggests that elevated levels of particulate air pollution, even below the current limits set by the United States, increase health risk and mortality rates (Brugge and Dhar, 2008).

Noise is another harmful byproduct of construction and can be even more life-threatening to older populations. It is commonly accepted that excessive noise is unpleasant and affects the quality of life. It disturbs and interferes with activities of the individual including concentration, communication, relaxation and sleep. Aside from the psychosocial effects of community noise, there is concern about the impact of noise on public health, particularly regarding cardiovascular outcomes. Non-auditory health effects of noise have been studied in humans for a couple of decades using laboratory and empirical methods. Biological reaction models have been derived, which are based on the general stress concept.



Among other non-auditory health metrics, short-term changes in circulation including blood pressure, heart rate, cardiac output and vasoconstriction as well as stress hormones (epinephrine, norepinephrine and corticosteroids) have been studied in experimental settings for many years in relation to construction and urban noise. Classical biological risk factors have been shown to be elevated in subjects that were exposed to high levels of noise. In an overview of epidemiological studies carried out in the field of community noises, cardiovascular risk was

assessed. Researcher Wolfgang Babisch (2006), measured blood pressure, hypertension, ischaemic heart disease, and myocardial infarctions. Evidence of an association between noise and cardiovascular risk increased as constant noise increased. Older populations are at an even higher risk when exposed to increased levels of noise. It is vital we keep in mind the vulnerable population in senior centers, and that the research shown has the potential to be even more detrimental to the seniors in this case.

### **What are the hazards of dust?**

In construction, demolition, and renovation situations, dust from a variety of sources poses serious and recognized health risks to workers, causing acute and chronic respiratory diseases such as silicosis, sarcoidosis, asbestosis, coal miner's pneumoconiosis, and other pneumoconiosis-type ailments. In addition to potential health problem for workers, dust emissions in some sectors also create another threat by increasing the probability of fires or explosions.

Health risks occur when workers and residents around construction sites are exposed to excessive amounts of harmful dust. The harmfulness is based on the composition of the dust (i.e. chemical or mineralogical), the size and shape of the particle (i.e. fibrous or spherical), the concentration of the dust (either by weight or quantity of dust particles), and lastly, the exposure time.

For occupational health purposes, dust is categorized by its composition. There are two main types of dust that exist on a work site. The first of the two is fibrogenic dust. Fibrogenic dust has fiber-like qualities, making it



biologically toxic. If retained in the lungs, fibrogenic dust can impair the lungs' ability to function properly. Examples of this kind of dust include asbestos dust and free-crystalline silica.

The second type of dust is inert dust, which is essentially any dust containing less than 1% of quartz. Typically, health effects caused by inert dust are potentially reversible, as opposed to the more permanent effects of fibrogenic dust. However, inert dust has the potential to obscure visibility, cause unpleasant deposits in exposed bodily orifices, and potentially injure mucous membranes or the skin through chemical action.

Additionally, dust is classified by size into three categories: respirable dust, inhalable dust, and total dust. Respirable dust is small enough to penetrate deep into the lungs and bypasses the nose, throat, and upper respiratory tract. It is defined as being less than or equal to  $5\mu\text{m}$ , which is about 1/12th the width of the average human hair. Inhalable dust has a median size of  $10\mu\text{m}$  and, when inhaled, becomes trapped in the nose, throat, and upper respiratory tract. Total dust includes all airborne particles, without regard to size or composition.

Long-term exposure to certain harmful respirable dusts can cause a condition known as pneumoconiosis. Pneumoconiosis is a general name for dust-related respiratory diseases that are

categorized by a tissue response to the buildup of mineral and/or metallic dust particles in the lungs.

There are varieties of pneumoconiosis that are much more prominent and common in industrial situations. The first—and most prevalent ailment in the concrete industry—is silicosis,



which is a chronic, irreversible disease resulting in shortness of breath and eventually, death, due to scarring of the lung tissue. Crystalline silica is naturally present in some construction materials including many abrasives used for blasting, brick and refractory brick,

concrete, concrete block, cement and mortar (*present at 124 and 125 White Street*), granite, sandstone, quartzite and slate (*present at 124 and 125 White Street*).

### **Personal Perspectives**

Below are two perspectives from caretakers of older populations including the effects on them personally due to construction and relocation, as well as their view on the detrimental effects of construction on seniors.

#### **Case 1:**

“My crash course in care giving began in 2010, after my grandmother took a bad fall and broke her neck. While she retained limited mobility in her legs, she was unable to stand unaided and became wheelchair-bound. In addition to her physical limitations, she also suffered from mini-strokes and experienced speech difficulties. While I had assisted

her with some short-term needs in the past, care giving for days at a time was a new level of responsibility, helping with wheelchair transfers, restroom visits, and meals. No matter how helpless or frustrated she must have felt at times, she always treated me and other caregivers with such grace and respect.

Several family members were involved in the caregiving effort for the first few years, but as time passed and the task became more challenging, most began to step away from that role. My mother and I agreed that we both would continue our mission for as long as we were physically and financially able, and we also hired additional caregivers to meet what had become a 24-hour need.



By 2014, my grandfather's health had begun to deteriorate quickly as well. As his physical strength declined, he also began to suffer from some dementia. After sunset his mental state changed, and he could be particularly challenging to manage. We learned how to interact with him in this condition, playing along and redirecting his attention instead of arguing when he was perfectly convinced that we were all at his childhood home or in some other memory.

The confusion provoked a great deal of anxiety in my grandfather. While he was never violent or inappropriate, he would worry and fret over anything out of the ordinary. He was quite mobile with his walker, so we had to keep close tabs on him or he might



find his way to another room, investigating movement outside the window or attempting to escape the house to “go home.”

One of the most stressful changes to occur for both of my grandparents was their transition to hospital beds. The new beds were in the same bedroom, but they were on opposite walls. The couple had shared a bed for over 70 years, and suddenly, they were separated. Every night for

weeks, we would hear one call out the other’s name throughout the night, as it was no longer possible to simply reach out to the person lying beside them. It took a long time for them to



adjust to the altered environment, which negatively affected their health as they were not getting quality rest.

The following year, my grandfather passed away peacefully at the age of 93. My grandmother was sad but stoic, and while some in the family expected that she might pass on quickly, she actually regained some of the strength that had been sapped by constant anxiety during her husband’s last few weeks. There was some discussion of moving her into an assisted living facility, but we were able to keep her at home with the same care giving staff. I contributed as much time as I could while working full-time, and my mother also remained very involved. For over eighteen months, she continued to thrive at home, surrounded by loving caregivers and her sweet cat.

In late spring of 2017, the rest of the family decided that my grandmother should be in a nursing home. The morning of the move, my uncles arrived to explain the situation to my grandmother, and a short time later she was transported to her new home. The transition was difficult; while family members visited frequently over the course of the next few weeks, she was very withdrawn and did not interact much with anyone. Her speech difficulties increased her isolation; visiting family generally held conversations around her rather than with her. It took several months for my grandmother to really begin engaging with staff and visitors, but eventually she recovered her warm demeanor. Now 94 years old, she still resides in that facility.”

*Jennifer E., Michigan*

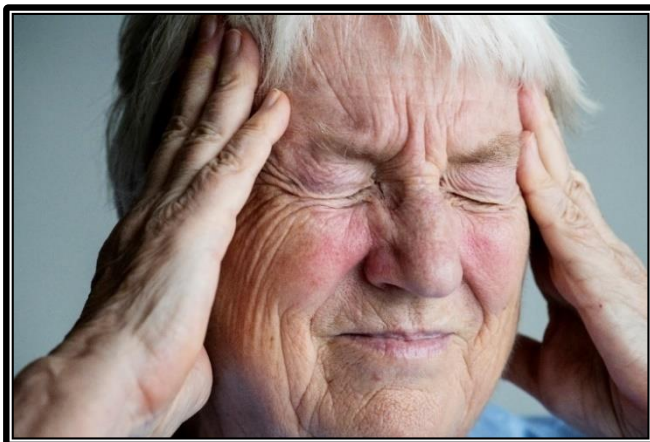
**Case 2:**

“I work as a social worker in a personal care unit in a large retirement community. From my years of experience, I have seen facilities expand and adapt to the cultural demands of long-term care. The need to advance the structural environment is met with ongoing challenges when striving to be a lead provider of retirement living. With this demand also come repercussions and negative effects for the resident group which the advancements are intended to benefit.

The personal care unit where I work can house up to 96 residents; the unit is not currently at full capacity. The renovation goal is to build a new secure dementia unit. For this renovation, the rooms which lined the hallways have not been affected, only the large common area is being transformed. This area was barricaded off by makeshift structural points.

The first step in this process was to move out all residents who currently reside in the unit that needed to be renovated. A formal resident meeting was held to announce details of the plan. During the meeting, many residents became angry and upset as they looked upon the plan and realized their rooms were the ones being affected by the renovation. Power of Attorneys and families were later notified and then the scheduling of moving out began. I can tell you with confidence that 100% of the residents who were asked to move were not happy with this decision. All residents wished to remain in their familiar and comfortable environment because it had become “home” to them. One 94-year-old resident, who has a diagnosis of anxiety, reporting that she “could not sleep” the night before the move because of how much she was not looking forward to it. This resident also was one who became tearful immediately when the initial announcement was made. Another 84-year-old resident, who is alert and oriented, became extremely irate at the announcement meeting. She self-propelled her wheelchair out of the meeting yelling at the CEO and Administrator. This particular resident was upset for several weeks until she was “convinced” that she had to move.

Within two months, the initial relocation of the residents was completed. It was recommended by Administration to begin moving in the residents who were going to



require this secure dementia unit. The common area that was being transformed had been the central hub for gatherings and activities. This area had to be relocated to the south side of the unit. Residents were

greatly affected by this change in location. They still verbalize uncertainty about where to go. They also express the new location is “too far away” and will sometimes opt not to engage in an activity that is taking place there due to location.

A handful of residents were chosen to move into this new unit as the construction was ongoing. They are now surrounded by drywall in pieces, spackle along the hallway, and light fixtures hanging from the bare and open ceilings. The construction crew walk back and forth with tools making loud drilling, hammering or sanding sounds. The noise does not only affect this 2<sup>nd</sup> floor north unit, it is heard on the lower level, where other residents reside. These sounds are distressing, which increases confusion to already cognitively-impaired residents, often causing fear and increased wandering. I have heard statements from an 87-year-old resident of “I hate coming out of my room. I hate seeing the construction.” This particular resident has a diagnosis of dementia and the daily use of construction was increasing her confusion. She ultimately had to move once again to another secure unit in our facility due to her increase in wandering behaviors.



One 80-year-old resident has exhibited signs of paranoia with statements such as “men are coming into my room.” She does not wish to be left alone. Another 79-year-old resident has vocalized concern about the walking distance. Her room was on the other side of the makeshift barricade. Before the construction, she would walk through the common area to get to her room, but now has to walk all the way around the makeshift pathway. I have heard her state, “I am tired. This is too long.”

The physical environment of noise and materials all over the area is distressing and poses potential safety hazards, despite educating the construction crew. Sanding down the drywall within a closed space has also placed an increased amount of dust in neighboring rooms. One 80-year-old resident living in the renovated unit was noted to have dust accumulating on the filter of her oxygen concentrator. Residents are always encouraged to keep their doors open to enhance socialization, but the effects of dust particles can be extremely hazardous for many residents especially with respiratory issues. Keeping the room doors closed was better for the health of the resident, although increases isolation and withdrawal. For this particular resident, it also increased her paranoia and anxiety.

The construction at the personal care unit is ongoing with tentative plans of completion in March 2019.”

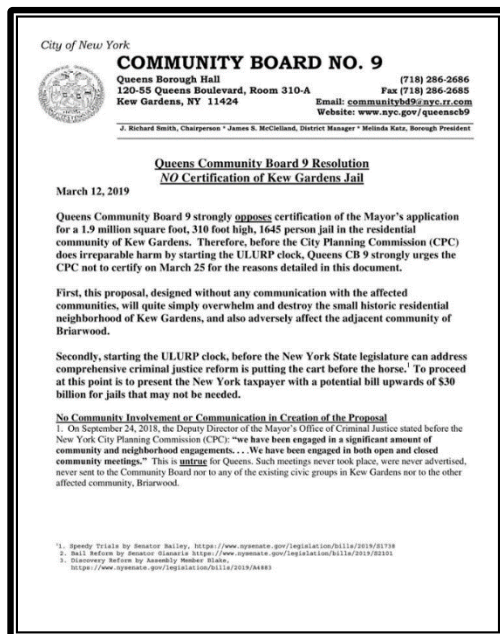
***Bobbi Jo C., Pennsylvania***

## Other communities oppose disruptive construction projects

On March 11, 2019, the New York Daily News reported that residents of the Bronx and Queens were raising questions about impacts to their neighborhoods as a result of the city's plan to replace Rikers Island with new jail facilities. The presidents of the two boroughs sent a letter to Mayor DeBlasio raising "substantial concerns" with the current plan. South Bronx and Kew Gardens are each slated to house a new jail as part of DeBlasio's plan. The full article can be viewed at



<https://www.nydailynews.com/news/politics/ny-metro-bps-jail-letter-031119-story.html>.



Queens Community Board 9 (CB9) recently passed a resolution opposing certification of the Mayor's application for the Kew Gardens jail project. Citing concerns about a lack of community involvement in the planning as well as negative impacts on their historic neighborhood, the board voted unanimously to advise the City Planning Commission to deny ULURP certification of the project. The full resolution can be found on the CB 9 Facebook page at

<https://www.facebook.com/CommunityBoard9/posts/2125197247588621>.

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“I have experience with statistical analyses using a variety of software including, SPSS, SAS, R and Excel. I have research consulted with hundreds of clients on a myriad of research topics including quantitative, qualitative, mixed-methods, and psychometric designs.

I also have skills that make me a great asset to non-profit organizations, including program evaluation, grant writing, budgeting, and data management. In addition to my research experience, I have worked in public health policy and have a strong understanding of legislative processes, with a specialty in telehealth policy.” – Sienna Trice