



June 27, 2019

Gale Brewer
Manhattan Borough President
1 Centre Street, 19th Floor
New York, NY 10007

Re: Testimony on the Borough-Based Jails – Manhattan

Dear Madam Brewer,

This testimony on the Manhattan Borough-Based Jail is submitted on behalf of the NYU Center for the Study of Asian American Health (NYU CSAAH), a National Institutes of Health (NIH) National Institute on Minority Health and Health Disparities (NIMHD) funded National Research Center of Excellence based at NYU School of Medicine.

We are limiting ourselves to one comment: **the impact of long-term demolition, construction and possible relocation on the health of older adults in Chinatown should be taken into consideration when coming to a decision on the Uniform Land Use Review Procedure (ULURP) and plan for the borough-based jail in Manhattan.**

On June 21, 2019, NYU CSAAH convened a meeting of interdisciplinary experts and Chinatown-based community stakeholders focused on reviewing the evidence-based, peer-reviewed scientific research of the impact of long-term demolition and construction on the health of older adults in New York City (NYC). The conclusions of the meeting are summarized below:

Construction Site Emissions

Particulate matter (PM) refers to the mixture of small and extremely small particles and liquid droplets suspended in the air. Fine particles, such as exhaust from diesel-powered construction equipment, are invisible and can penetrate deep into the alveoli in lungs, affecting both respiratory and cardiovascular system functions.

PM can cause and exacerbate chronic diseases. Exposure to such particles has been associated with the following acute and long-term health conditions(1):

- Cardiovascular disease
- Lung cancer
- Increased blood pressure
- Aggravation of respiratory diseases, such as asthma
- Decreased lung function
- Irritation of the respiratory system, eyes and skin
- Early onset dementia
- Premature death in people with heart or lung disease

The World Health Organization states that PM pollution causes 8% of all lung cancer deaths, 5% of cardiopulmonary deaths, and 3% of respiratory infection deaths. People with heart or lung diseases, children, and older adults are considered highly vulnerable for the adverse effects of PM

pollution. Concentrations deemed acceptable for the general population may not adequately protect the very elderly(2). Elderly subjects appear more vulnerable to PM, with particular effect on daily cardio-respiratory mortality and acute hospital admissions for pneumonia and asthma/Chronic Obstructive Pulmonary Disease(3). In NYC, nearly 3 out of 4 deaths attributable to fine particulate matter occur in older adults(4).

In summary, increases in exposure of the elderly to elevated levels of PM from construction sites, even short-term, can not only worsen co-morbidities, including cardiovascular and respiratory disease, but also result in hospitalizations, acute disease episodes, and/or death.

Noise

There is growing evidence that noise can lead to adverse physiological and psychological effects that degrade both health and well-being. Permanent hearing damage can be sustained when levels of sound exceed 85 decibels (dBA), especially when exposure lasts longer than 8 hours. However, it is important to note that sound does not have to be loud to be harmful. Sound that is deemed obtrusive and unwanted can lead to elevated stress, anger, agitation, mood swings, interference with concentration and communication, diminished productivity, and social conflict.

Repeated, long-term exposure to noise can lead to the following long-lasting physiological changes(5, 6):

- Blood pressure elevation and hypertension
- Sleep disturbances
- Cardiovascular and cerebrovascular diseases
- Cognitive decline in school-aged children

Lower-frequency sounds, especially those coming from industrial machines, are often accompanied by vibrations. Whole-body vibration can cause or exacerbate the following(7):

- Lower back pain (damage to vertebrae and discs, ligaments loosened from shaking)
- Motion sickness
- Bone damage
- Variation in blood pressure from vibration
- Stomach and digestive conditions
- Respiratory, endocrine and metabolic changes
- Impairment of vision, balance or both

Older adults are at increased risk to noise pollution due to sensory changes that take place in the aging process. Individuals' auditory perceptions change over time, and as they get older, their tolerance for loudness and high frequencies decreases, and low frequencies are magnified(8).

Health-Related Quality of Life

Long-term major demolition and construction will negatively affect the components of the physical environment that contribute to a "livable", aging-friendly community. Construction could adversely affect walkability and safety through blocked or broken sidewalks, missing or loose handrails, elevator shutdowns and inadequate lighting due to scaffolding or renovations. Transportation routes and route frequency could be changed. Increased traffic would cause congestion, blocked access roads, and contribute to poor parking access for older adults

with disabilities, to whom accessibility is critical for maintaining routine care. Construction-related water run-off and ice may lead to increased fall risk for seniors. Access to services and facilities such as community parks, retail stores, health centers and vendors selling affordable, nutritious, culturally desirable foods could be compromised.

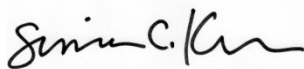
These changes in the physical environment could lead to the following:

- *Increased fall risk*: Falls are the leading cause of injury-related hospitalizations and deaths in older adults in NYC(9).
- *Restricted movement and reduced physical activity*: Long-term major construction may block off access to safe walking areas and other outdoor activities, exacerbating existing health conditions and increasing new ones(10).
- *Increased wandering*: People living with dementia who rely on routine and familiarity may find routes rendered unfamiliar by construction scaffolding and detours, leading to increased risk for wandering and becoming lost(11).
- *Disruption of established daily routine and social relationships*: There is substantial scientific evidence that social isolation significantly increases the risk for premature mortality in older adults(12).
- *Reduced sense of control, dignity and autonomy*: Older adults may feel disempowered and stripped of their decision-making capacity(12).

Construction activities may necessitate the relocation – planned or otherwise – of residents living in adjacent buildings. Relocation threatens people’s sense of control and comfort, and may reduce environmental access to essential components of healthy aging. Involuntary relocation and displacement, especially in later life, are well-known predictors of depression, anxiety and deterioration in mental health (13, 14).

Scientific research has identified the significant influence that long-term demolition, construction and possible relocation may have in undermining and negatively affecting the health of older adults in NYC’s Chinatown communities, a vulnerable population. As a global leader in the Age-Friendly Cities movement, NYC has invested significantly in innovative programs and supports for older New Yorkers. We hope that your office will strongly consider these scientific research findings in consideration of the ULURP and plan for the borough-based jail.

Sincerely,



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