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Major Projects Assessment
Department of Planning and Environment
GPO Box 39, Sydney, NSW 2001

RE: IMPACT TO LOCAL RESIDENTS FROM METRO CONSTRUCTION

To Whom It May Concern:

I am a resident of The Lyall, 605, 26 Clarke St, Crows Nest. I have enjoyed a peaceful coexistence with my neighbours in the Lyall during this time I have been living here, have never been troubled by traffic or construction noises and myself and neighbours contribute to the harmonious well-being of the area.

I am concerned about the proposed construction by NSW Transport of a metro in close proximity to my bedroom. I am also concerned that the proposed construction is to be 24 hours a day for 4 years. Lack of sleep for 4 years is not a viable proposition.

My primary concerns are with respect to noise, vibration, and safety, which are outlined below:

1. Construction Noise: construction noise is estimated to be least 90 decibels for 24 hours a day. As somebody who needs to sleep 8 hours a night, I am concerned that this noise level will be above a threshold that is tolerable for sleep and therefore have a catastrophic effect on my health and for my neighbours who have bedrooms and children's bedrooms that face Clarke Lane. Humans normally sleep in bedrooms of 30 decibels maximum, yet all residents with bedrooms backing onto Clarke Lane will have constant noise at 90 decibels. This will have deleterious effect to the sleep quality, and resultant health of these families.

Mistimed sleep disrupts circadian regulation of the human transcriptome.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Mistimed+sleep+disrupts+circadian+regulation+of+the+human+transcriptome+Simon+N.+Archer1>

Sleep deprivation and gene expression.

<http://www.ncbi.nlm.nih.gov/pubmed/25646722>

This Is What Happens To Your Brain On No Sleep

Time, April 2016-06-24

<http://time.com/4282023/this-is-what-happens-to-your-brain-on-no-sleep/>

Influence of sleep deprivation and circadian misalignment on cortisol, inflammatory markers, and cytokine balance.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Influence+of+sleep+deprivation+and+circadian+misalignment+on+cortisol%2C+inflammatory+markers%2C+and+cytokine+balance>.

Adverse metabolic consequences in humans of prolonged sleep restriction combined with circadian disruption.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Adverse+metabolic+consequences+in+humans+of+prolonged+sleep+restriction+combined+with+circadian+disruption>.

Metabolic effects of sleep disruption, links to obesity and diabetes.

<http://www.ncbi.nlm.nih.gov/pubmed/24937041>

Sleep disorders and oral health: a cross-sectional study.

<http://www.ncbi.nlm.nih.gov/pubmed/27178314>

We understand that the proposed acoustic apparatus that is intended to deaden this noise will not be built until after initial excavation, exposing myself and local residents to a prolonged, intolerable level of noise.

2. Vibration. Furthermore, the metro is only to be placed at 25 metres below ground upon completion, instead of 40 metres, like other stations, with no underlying rubber to deaden the noise subjecting locals to constant vibration noise. This is of urgent concern to all local residents and business owners. I have grave unease with regard to the vibration caused by the construction works and by the metro traffic itself once construction has been completed. Research conducted on rail traffic noise and vibration have shown a negative effect on human health with regard to sleeping heart rate, overall quality of sleep, cardiovascular health and the corollary of impaired sleep, such as deleterious effects on mental and general well-being and reduced day-time functioning.

Cardiovascular responses to railway noise during sleep in young and middle-aged adults.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Cardiovascular+responses+to+railway+noise+during+sleep+in+young+and+middle-aged+adults>.

Effects of train noise and vibration on human heart rate during sleep: an experimental study.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Effects+of+train+noise+and+vibration+on+human+heart+rate+during+sleep%3A+an+experimental+study>

Nocturnal road traffic noise: A review on its assessment and consequences on sleep and health.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Nocturnal+road+traffic+noise%3A+A+review+on+its+assessment+and+consequences+on+sleep+and+health>.

Vibration from freight trains fragments sleep: A polysomnographic study.

<http://www.ncbi.nlm.nih.gov/pubmed/?term=Vibration+from+freight+train+sleep+fragments%3A+A+polysomnographic+study>

3. Safety. I am anxious with respect to both the local residents, who comprise of not an insignificant number of elderly or families with young children. Traffic congestion due to changes in road direction and blockages, night transit of traffic and trucks, and sheer number of construction vehicles pose an alarming risk to the pedestrians.

In addition to the above, the extensive time frame for construction, the potential affects of the works to local building stability and increased traffic burden to an already busy area pose a very real concern to me, my business and livelihood and the peaceful existence to which local businesses and residents currently enjoy.

I submit that if construction is to go ahead, NSW transport look compensate and protect locals by **triple glazing** to all the windows, **placing rubber under the tracks** to reduce the ongoing noise and define for us how long we will have to endure the the construction noise, vibration, and traffic.

Yours sincerely,

Dr. Karen Rook
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