Health and Wellbeing Objections

I am writing to formally object to the Northern Beaches Tunnel plans and intent. My reasons for objecting are outlined below.

I object for the future of this city (why build road tunnels when we should be building public transport infrastructure? Why remove much needed and rapidly diminishing green space), however most importantly I object for the future of our children. What legacy are we leaving them?

1. **I object for the following reasons:**

    - Pollution
    - Contamination Risks
    - Safety
    - Noise
    - Loss of Green Spaces
    - Community fragmentation
    - Financial Stress

Pollution

- Particulate Matter is already higher than what is recommended or considered "safe" - PM2.5 and PM10 levels are already above the guidelines for both the 24-hour average and the annual average (including the 2025 goal set by NEPC (2016). However there is no local data for this and data from the temporary monitor put in place to establish our background levels at Naremburn was not used. Only long term monitoring has occurred in Chullora, Earlwood and Liverpool away from the project footprint
- Lost opportunity in not filtering/ treating stack pollution – although the EIS suggests PM2.5 levels will not be significantly changed with the construction and operation of unfiltered stacks, we are already living in an environment where levels of PM2.5 and PM10 is above the level of what is considered safe and the EIS demonstrates that this will continue well past the tunnel opening. Would filtering stacks reduce PM 2.5 levels to acceptable levels? Or could a public transport alternative address our growing PM levels. The government has a duty of care to do what it can to reduce these levels now that it has monitored and confirmed the issue.
- The Chief Health Officer is only required to comment on the contribution of the stacks and not the contribution of the project overall to our air quality. Transport for NSW's conclusion that the air quality across the area on average will not be substantially worse is predicated on the assertion that surface level traffic will reduce. This assertion is contradicted many times in the EIS however via data which demonstrates increased intersection delays, the potential of additional toll avoidance, slower bus times, intersection failures, the admission that rat running will be required to access changed access arrangements to the freeway, an increased

proportion of trucks through the area and several other factors. Both Willoughby Council and North Sydney Council have modelled poorer local traffic conditions resulting from the project and the operational model used did not include many key local corridors in order to verify findings ie) Eastern Valley Way and Military Rd. More work needs to be done to accurately model surface level changes as part of the project and an assessment of the project's contribution to air quality overall should be made on this basis. If in fact local traffic is made worse by the project this will have the net effect of far poorer air quality, with the additional pollution load delivered to our most vulnerable receivers at schools, parks, homes and hospitals in the area via dispersion from stacks.

- Regardless of surface level changes modelling shows that pollution is redistributed as a result of the project. Some key corridors receive less pollution ie) Military Rd but sensitive receivers such as schools and sports fields receive more. Children are particularly susceptible to the health impacts of pollution and so this redistribution is unacceptable. The Western Harbour and Beaches Link program of works cuts through the largest school corridor in Sydney with 500-1000 pupils at approx. 26 schools. The precautionary principle must be applied to ensure the health of children across the project footprint. Some examples of schools, pre-schools and parks that receive higher pollution levels are as follows (please note these points are indicative of the pollution expected in the nearby area):

  CR10 Neutral Bay Public School – 24 hr PM2.5 increases by 2037 if all projects proceed.
  CR16 Anzac Park School – largest increase in 1 hr mean NO2 if Beaches Link and WF only proceed, Increase in PM10 if all projects go ahead, PM10 24hr mean goes up by 2037, Annual Mean 2.5 will be increased by 2037 if all projects proceed.
  CR17 KU Pre-School Green Park – 24hr mean PM 10 goes up by 2037 if all projects proceed, 24hr PM 2.5 goes up by 2037 if all projects proceed,
  CR18 Cammeray Public School – increase in 1 hr NO2 by 2037 in all projects proceed, Annual Mean 2.5 will be increased by 2037 if all projects proceed.
  CR20 Berry Cottage Naremburn – increase in annual average PM10 if all projects proceed.
  CR25 Artarmon Sues Childcare: (Closest point to Willoughby Leisure Centre/ Bicentennial Reserve) – Max 24hr PM2.5 increases if all projects go ahead. This represents the largest increase of 24hr PM2.5 across the project.
  CR 26 Northside Baptist Preschool (only point assessed in Northbridge)– slight increase NO2 1 hr mean by 2037 if both go ahead, slight increase 24hr mean PM10 by 2037 if all projects go ahead.

  Given PM2.5 pollution levels are over limits already and WHO states that there is no safe level of PM2.5 any increase no matter how small is unacceptable.

- Modelling has been done for buildings at height 300 mtrs from the stack. This is initial modelling only but unacceptable levels have been detected for buildings at height and the EIS flags that further modelling is required and notes that restrictions to development may be needed. In the case of Northconnex a report was issued to council on completion outlining restrictions on buildings at certain heights more than 2km away from the stack. This has major implications for development across

an area which is currently planning to densify. Full modelling should be completed of each pollutant and various heights at a distance from the stacks and a cost/ benefit analysis completed. This should not be limited to a 300mtr circumference given that the Chief Scientists states that ground level pollution can be at it's highest 1km+ from from stacks.

- Air quality monitoring around St Peter's following the Westconnex opening are showing regular exceedances of air quality standards and there has been very limited epidemiologic research across the full burden of disease to substantiate placing more motorways - stacks or no stacks in and around children. In fact the air quality body of research worldwide points toward the need to reduce vehicle pollution around children and vulnerable adults. It is clear that this project will grow vehicle reliance and traffic volumes overall in already congested and polluted areas.
- No assessment of health impacts of climate change that will be accelerated by continuing to rely on a road network/cars rather than public transport

Contamination

- The main temporary dive site in the area is earmarked for Flat Rock Reserve which is confirmed as being part of the old tip site at the top of Flat Rock Gully.
- Currently there is inadequate information in relation to health impacts (secondary to landfill gas and odours) of proposed tunnelling works at Flat Rock Drive. A Phase 2 assessment is needed to check for contaminants and quantify risk. Approval should not proceed until the risks are known and mitigation possibilities scoped. Testing around the freeway and at Cammeray site has also confirmed contamination. Serious consideration of the cost/benefits of the project in light of the risk to residents and children as well as the cost to mitigate and remediate sites should be given.
- The EIS allows for a considerable amount of spoil to be held outside of sheds during construction which poses both a silica dust risk and contamination risk to nearby parks, residents and bushland
- The Northbridge Peninsular and Northbridge Baths have not been specifically risk assessed in terms of Human Health. Given that Northbridge is placed between the Flat Rock contaminated dive site (where up to 7 roadheaders will be in operation) and the Middle Harbour contaminated site during construction and between 3 unfiltered emissions stacks when operational it would be appropriate for a specific health assessment to be completed.

Noise

- Flat Rock – highest noise is day-time clearing, excavation, establishing buildings and widening of Alpha Rd and night-time Aplha Rd. estimated 9 months. Ground vibration at a human response level is recognised from Flat Rock Dive Site (P173) affecting 2 houses in Calbina South West. Site will be operational for 5 years.
- A key concern at Flat Rock Drive is the noise generated from truck air brakes as they slow down the long hill leading to the excavation site entry point at the bottom, and then the exhaust and engine noise from those fully loaded trucks accelerating up the hill from the site. This noise could be suitably attenuated by constructing a permanent acoustic wall along Flat Rock Drive fronting the bush - i.e. an acoustic

wall similar to those normally constructed during road infrastructure projects. Noise will also impact wildlife in the area esp. nocturnal species such as bats

- Middle Harbour – highest noise during construction of the 2 cofferdams and then when tunnel tubes are immersed and when pilings are driven. The tunnel tubes will need to be placed in a continuous process taking 24-48 hours each. Estimated high impact time is 18 months. Middle Harbour works will continue for 4.5 years with 88 vessel movements per day at peak times generating an ongoing increased level of noise.
- Northbridge - noise from tunneling Rock Hammering (following road headers) will be at a detectable level for several homes at either end of Northbridge (29 West , 92 East) however this will be less than 45dB so not expected to be intrusive. Vibration levels above screening levels will also be experienced by 295 homeowners around Middle Harbour (Seaforth, Castlecrag and Northbridge) in relation to the crossing works. Noise will be heard around the Flat Rock site esp. during site establishment works. One house in Calbina West (P93) is > 75 dB(A) so actual monitoring is required.
- Naremburn - 15 buildings will be impacted by roadheader operations and 227 by rock hammering as the tunnels pass below. 11 buildings will reach vibration levels above screening levels. Residents will also be affected by different stages of the project and coinciding works including the Warringah Freeway Works, Punch St and Flat Rock site establishment and briefer stints of night time noise. Please refer to the Appendices for specific information.
- Cammeray - the EIS states that the area North of the golf course in Cammeray will experience noise above limits across the duration of the project. Anzac Park School, Anzac Park, Cammeray Oval and KU Preschool (Green Park) will be noise affected above limits across various stages of the project. Noise from the Warringah Freeway works will impact 1917 receiver buildings between Cammeray and Naremburn during the project.
- Sporting Grounds - the EIS states that Bicentennial Reserve, the Baseball Diamond, Cammeray Oval and Shore Oval will experience noise impacts across the duration of the project (5 years)

Green Space & Active Transport Links

- see biodiversity objections on Flat Rock Gully. No guarantee FRG will be returned to bushland
- loss of greenspace at Cammeray Golf Club to make way for permanent utility sheds for the Beaches Link
- Green spaces have been extremely important during Covid and the area has a very low percentage available and a growing population - any impacts on green spaces in the area are likely to be significant
- Active transport links will be significantly impacted at Artarmon, Naremburn and Cammeray during construction and the EIS does not make clear

Safety

- The sheer volume of additional vehicle movements which will be on the road around a dense area of schools and children's sport presents a significant safety risk. Close to 5000 additional vehicle movements will be required across the route during construction.. Heavy vehicles should not be permitted to marshal or transport loads on residential roads or within school zones
- 900 additional vehicle movements will be required on Flat Rock Drive - this is a key transport corridor for children accessing North Shore schools and school sport. Given the site is contaminated the conflict between spoil trucks and children is even more concerning for the community. Flat Rock Drive/ Brook St is also a key active transport corridor for children accessing Cammeray Schools due to zoning.

Community fragmentation

- The local area has already been fragmented by the Warringah Freeway and Gore Hill Expressways. Communities have worked hard to regain a sense of place however these projects again create barriers bit during construction and after. Local communities should not be considered in the planning process and the best outcomes for both commuters and local communities found. A mass transit alternative should be considered.

Stress

- The Health risk assessment acknowledges construction fatigue, increased traffic and uncertainty as significant stress factors for the population. There are a large number of plans yet to be finalised, testing to be completed and known geological challenges across this project. The uncertainty created is and will create stress within the community. Given this is a highly populated residential and school zone all effort should be made to reduce uncertainty and the EIS should be re-issued with more information.
- Substratum acquisition (uncompensated) is likely to cause financial stress particularly given economic uncertainty following Covid. Both the Westconnex Inquiry and recent reports demonstrate issues with the process as well as pressure on housing prices and the ability to sell homes during the period of construction and sometimes beyond. Given the economic situation post Covid the stress associated with uncertainty and acquisition is likely to be heightened.

2. **Changes/Conditions I am asking for:**

- Local background data about current Particulate Matter levels to truly assess impact
- An alert style monitor near children’s playing fields that sporting groups and parents can subscribe to to determine if playing sport is a safe option given the potential for contaminated dust and heavy vehicle emissions to be high around Artarmon Park, Bicentennial Reserve and Cammeray Oval.

- Modelling of levels of particulate matter/other air pollutants in the environment if the stacks were filtered.
- Landfill gas investigations should be carried out within these areas to assess the potential presence or absence of gas which could potentially impact upon construction and/or operation of the project if not managed appropriately
- For tunnelling works proposed at Flat Rock Reserve, there is a risk of encountering odorous waste material and landfill gases from historical landfill in the locality. Detailed investigations have not been carried out to confirm the presence and extent of potentially odorous materials and landfill gases within the project site at this location
- If a short duration noise event during night construction, persons should be offered alternative accommodation for the period or other appropriate mitigation as required. For longer duration noise such as FRG and Cammeray Oval construct an acoustic wall around the site to protect residents and fauna from noise impacts - i.e. an acoustic wall similar to those normally constructed during road infrastructure projects. This wall would have to be high enough to ensure bird species such as the Powerful Owl do not fly into the trucks attending the site at Flat Rock. An acoustic wall at Anzac Park and one at Cammeray Oval would help to ensure that children have reduced level of noise impact.
- Reassess baseline noise level. For instance on Flat Rock Drive was the initial monitoring done when a double truck had their airbrakes on going down the hill? Given the geography of the area and 900 movements a day on a steep hill in a residential area it seems unlikely that noise will be undetectable as stated in documents
- Average noise readings pre-construction should be monitored over a 24 period and averaged to be a more indicative measure of current noise levels
- Greenspace - ensure all landfill exposed by tunneling is capped at the end of tunnelling and reinstate crushed sandstone as a contoured base for re-establishment of locally indigenous vegetation and habitat. Remove all temporary structures (including noise mitigation sheds). Decision making about the future of the dive site at FRG should not be left to the end of the consultation process and should involve the community. The EIS should confirm its rehabilitation and return to bushland
- utility shed at Cammeray Golf Club to be placed underground so that there is no loss of greenspace. Real time noise and air quality monitoring should be put in place to assure the community regarding the safety of using sports fields esp. for children's sporting activities
- Active transport links between Artarmon, Naremburn, Cammeray and the City should be made seamless and improved as a result of this project to compensate in part for community construction fatigue.. The current active transport links are fragmented at best and construction will make this worse with no clear plan to improve it. School P&C's should be involved in this planning to ensure the best routes for children accessing local schools.
- The Brook St/Flat Rock Drive Corridor is a key corridor for children accessing local schools. An active transport overpass or underpass should be put in place to ensure safe passage.
- Trucks should be fitted with noise and pollution control devices given the highly residential nature of the route and the large proportion of children.

Kind regards
Willoughby resident

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