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Director – Infrastructure Projects
Department of Planning and Environment
Number: SSI 13_6136
Major Projects Assessment
GPO Box 39
SYDNEY NSW 2001

Via online form: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6136

Dear Sir/Madam

NorthConnex Application Number: SSI 13_6136 – Submission in response to the EIS

Please find below my submission in response to the exhibition of the EIS for NorthConnex.

I would like to state **that I object** to the project as described in the EIS for the reasons set out below.

I am a resident in Wahroonga, and have a high level of concern regarding the following issues, and request that these be considered by NorthConnex and the Department of Planning, with regards to the NorthConnex proposed tunnel:

1. **I am concerned about placement of the northern exit portal and ventilation stack in the centre of a densely populated residential area in Wahroonga**, where myself along with 9,300 school children will be exposed, as well as multiple aged care facilities, hospitals, businesses and homes.
2. **I am concerned that the northern ventilation outlet will be the only northbound ventilation outlet along the entire 9km tunnel route, planned to be the longest tunnel in Australia by a significant distance – and hence has no precedent in Australia for emissions.** In addition, the northern ventilation outlet is located directly at northern exit portal, so not only will all northbound emissions be directed to the northern ventilation outlet as planned but also any emissions that escape from the northern exit portal will end up being concentrated in the same location as the ventilation outlets.

To put my concern into context, **100% of emissions from any single vehicle for the entire 9km route will be expelled from the northern ventilation outlet at the accompanying adjacent exit portal.** The result is that the unfiltered emissions and particulates from every single vehicle for the entire 9km tunnel multiplied by the tens of thousands of vehicles per day planned to travel north will be expelled from the northern ventilation outlet and from the adjacent exit portal over me, my property, other residents and the community located in very close proximity to the northern ventilation outlet and exit portal.

3. **I am concerned about the placement of the northern exit portal and ventilation stack in a valley in Wahroonga where there are often low wind speeds, which will result in poor dispersion** and exposure of me and the community to high levels of tunnel emissions.
4. **I am highly concerned about the multiple large scale research studies that suggest the impacts of air pollutants on health are serious.** These include increased death from heart disease, increased risks of lung cancer, stroke, poor lung growth in children, increased asthma, and recent research suggesting low birth weight for pregnant women, increased autism, and congenital heart defects. These studies confirm air pollutants have prothrombotic and inflammatory effects on humans which cause the above health problems.
5. I am concerned about portal emissions in densely populated areas, which will result in emissions remaining at ground level, and hence exposing the local population to pollutants. I **am extremely concerned at NorthConnex's claims that there will no exit portal emissions from the current proposal**, and hence NorthConnex claim that no modelling is required or has been undertaken to assess the effects of this. I am concerned that NorthConnex cannot verify this claim/statement that there will be no portal emissions. Past evidence from studies of other tunnels in Sydney (including the M5East tunnel – albeit configured differently with a central ventilation outlet) have indicated high levels of emissions at the exit portals as well as the ventilation outlets. Given that under the NorthConnex proposal, the northern ventilation outlet is adjacent to the single northern exit portal, I believe that there is a very high probability that there will be significant missions escaping from this northern exit portal.
6. **I am concerned about the large amount of diesel emissions which will be emitted from the NorthConnex tunnel, as it is being designed for heavy freight to bypass Pennant Hills Rd.** Diesel emissions have been classified as **carcinogenic** by the World Health Organisation, and also contain a larger number of fine particles which penetrate deep into lung tissue and remain there causing inflammation.
7. **I am concerned about the air quality within the tunnel which is shown in the EIS to have exceedences above standards for pollutants such as NO₂, and haze from particulate matter at the ends of the tunnel.**
8. I am concerned about the multiple flaws in the air quality modelling of the northern stack in the EIS. These include:
 - a. **extrapolation of meteorological data from other distant weather stations which do not reflect the local meteorology, local topography, and the valley location.** We were informed by NorthConnex at a community meeting that results from two weather stations (**one based in Lindfield and another based in Prospect**) were exclusively used to extrapolate data for the Wahroonga air quality impact study. Neither of these stations will be reflective of the meteorological conditions at Wahroonga

- b. The use of a coarse topographical model
 - c. The failure to consider polluted intake air from the Pennant Hills/M2 interchange as part of the project contribution to air quality at Wahroonga
 - d. The failure to include emissions for the northern exit portal as part of the project contribution to air quality at Wahroonga
 - e. The background air quality being based on air quality at Lindfield and Prospect
 - f. The lack of any actual data on PM2.5
 - g. No consideration given in the EIS regarding the potential for “acid rain” due to NO2 emissions around the northern exit portal and ventilation stack, given the high levels of precipitation in Wahroonga
 - h. The lack of placing any air quality monitoring station within a 1km radius of the Northern exit portal and ventilation stack prior to selection of the preferred route. Notwithstanding that such monitoring may not provide a sufficiently long history, it would be extremely meaningful in considering local meteorological and topographical data for the immediate location.
9. I am concerned that a **full and transparent** options assessment process was not undertaken to assess alternative designs and locations of the northern exit portal and ventilation outlet for the project. I am also concerned that if such an options assessment was undertaken, this has not been made publicly available to the community and directly affected residents, who have a right to know about this assessment. A simple example of this lack of transparency and lack of information provided to the community is below:
- a. The exit portal and ventilation outlet was originally planned to be located at the intersection of the M1 Pacific Highway and Pennant Hills Road.
 - b. During the tender process, NorthConnex claim that this location **would have had a significant impact on private property acquisition and permanent traffic flows, traffic management during construction and the community more broadly**, and hence NorthConnex “decided” to extend the tunnel some 1.3 km from its originally planned location - to adjacent to Woonona and Bareena Avenues. NorthConnex further stated that this relocation “**requires the acquisition of minimal property** as all remaining properties are separated by roads and are not directly adjacent to the ventilation facility”.

- c. In its Air Quality factsheet of June 2014, in response to community questions regarding potentially extending the tunnel a further 2km north, NorthConnex claim that such an extension **“would cost over \$450m in additional construction costs PLUS property acquisition and increased operating costs”**.
- d. **If, as NorthConnex claim that extending the route 2km North would cost \$450m in construction costs, then the extension of the 1.3km to Bareena Road would on a pro-rata basis have cost some \$300m more than the leaving it at the original planned location. It is unclear to me and the community how savings on land acquisition costs, benefits on permanent traffic flows and traffic management during construction could exceed this \$300m so as to justify NorthConnex moving the original location to the Bareena Road location?**

Also, unlike many other tunnel projects in Sydney there are other alternatives for locating the stack and portals in non-residential areas which would have a far less significant environmental impact on the community.

- 10. **I am concerned that the justification for not providing filtration for the ventilation stacks is cursory and unconvincing, and is explained by NorthConnex simply as a “cost benefit issue”. The fact that the community can, as a result of the project, be exposed to unprecedented amounts of harmful emissions can be explained away as a “cost benefit issue” highly concerns me.**

To address my concerns I respectfully request that the following actions are immediately undertaken:

- 1. The air quality and human health impact assessment needs to be revised and updated to address the issues raised above.
- 2. An independent assessment of the appropriateness and suitability of using the Lindfield and Prospect air quality monitoring stations as the primary basis for the extrapolation by NorthConnex of meteorological and topographical data for air quality at the northern ventilation stack and exit portal in Wahroonga.
- 3. An independent transparent options assessment process should be undertaken (and made available to the public) to assess alternative locations for the ventilation stack and portals (including a thorough assessment of why NorthConnex chose to extend the route from the previous location at the intersection of the M1Pacific Highway and Pennant Hills Road to the intersection of Woonona and Bareena Avenue; and also a thorough assessment of the possibility of extending the tunnel by approximately 2km to the north from its proposed location to locate the northern exit portal and northern ventilation outlet within the Ku-Ring-Gai national Park.
- 4. To undertake a Life Cycle Analysis and assessment for the provision of filtration in the ventilation outlet.

5. An independent review of the ventilation system is undertaken to ensure that NorthConnex's claim of no portal emissions can be justified, and if such a statement can be justified, the banning of any portal emissions from NorthConnex in the future. If the independent review identifies that there will be some portal emissions (no matter how insignificant – since when added to ventilation emissions at the northern stack could be significant) modelling to include the effects of emissions at the northern exit portal in the project contribution to air quality at Wahroonga.
6. Modelling to also include polluted intake air from the Pennant Hills/M2 interchange as part of the project contribution to air quality at Wahroonga
7. A long term health study on children and residents in areas impacted by ventilation stack and exit portal discharges be included as part of the conditions of approval.
8. A comprehensive air quality monitoring program is developed and implemented.
9. The Submissions Report/Preferred Project be exhibited to allow the community to respond to the revised information contained in the report.

I hereby also support the submission sent to you from CAPS (Community Against Polluting Stacks – NorthConnex)

I do not believe that the Department of Planning and Environment should approve the project in its current form as it will have a significant detrimental impact on air quality in the Wahroonga residential community – in particular it will significantly increase exposure of harmful emissions to school children, residents in aged care facilities, staff and patients in hospitals, staff at local businesses and residents and homes in the area. **Further, I do not believe the proposal meets the principles of Ecologically Sustainable Development as required by the Environmental Planning and Assessment Act.**

Yours sincerely



Candice Chapman