4 Mount View Place,
North Wahroonga, NSW, 2076
8 September 2014

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

NorthConnex Application Number: SSI 13_6136

Dear Director,

My name is Brent Penfold. My wife Katia and myself have two boys, Beau aged 9 and Boston aged 7. We live in the area that will be impacted by the northern ventilation stack of the proposed NorthConnex.

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

Firstly I would like to state I object to the project as described in the EIS.

As both my boys currently go to Prouille, and later will attend Knox, I am appalled by the expected impact the northern ventilation stack's concentrated emissions will have on the immediate area's schools and residents.

I have a high level of concern regarding the following issues and request that these be considered by NorthConnex and the Department of Planning. In regards to the NorthConnex tunnel, I am concerned about the following:

1. Placement of the northern ventilation stack in the centre of a densely populated residential area in Wahroonga, where my children and 9,300 other school children will be exposed, as well as multiple aged care facilities, hospitals, businesses and homes.

2. The placement of the northern ventilation stack in a valley in Wahroonga where there are often low wind speeds, which will result in poor dispersion and exposure to community to high levels of tunnel emission.

3. 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.

4. I am concerned about the project including future provisions for 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 also concerned that NorthConnex's claim that there will no portal emissions from current proposal cannot be verified.

5. 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.

6. 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.

7. I am concerned about the multiple flaws in the air quality modeling of the northern stack in the EIS. These include:

    a. extrapolation of meteorological data from other weather stations which do not reflect the local meteorology, local topography, and the valley location.
    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 background air quality being based on air quality at Lindfield and Prospect and the lack of any actual data on PM2.5.

8. I am concerned that there has not been a full and transparent options assessment process undertaken to assess alternative designs for the project. Unlike other tunnel projects in Sydney there are alternatives for locating the stack and portals in non-residential areas.

9. I am concerned that the justification for not providing filtration for the stacks is cursory and unconvincing.

To address the design flaws of the NorthConnex tunnel to safeguard our health I request the following actions are undertaken:

<u>Tunnel Design</u>
Consider extending and leveling the tunnel to reduce emissions. The current northern exit occurs at a steep gradient which creates the greatest emissions due to vehicle engines being under load. It appears a longer and level tunnel would only produce 20% of the emissions being projected by the current tunnel design. A level tunnel would not only dramatically reduce the concentrated emissions being dispersed from the ventilation stacks but it will also improve fuel consumption of motorist and freight companies. I support Equilibria's proposal in this regard.

<u>Ventilation Stacks</u>

1. Undertake an independent options assessment process to assess alternative locations for the ventilation stacks and portals. If not, then at a minimum;

    a. Place a third ventilation stack in the middle of the tunnel to;
        i. Lessen the concentration of emissions being dispersed through two stacks, and
        ii. Spread the burden of emissions fairly across the proposed tunnel length rather then penalizing the communities at either end of the tunnel.

    b. Move the northern stack to a non-residential area.

    c. Ensure all stacks are located on higher ground so each stacks' plum is not block from being adequately dispersed by any ridge line.

2. Install filtration in all stacks and ensure independent monitoring is establish to ensure filtration is switched on.

    a. Undertake a Life Cycle Analysis and assessment of the effectiveness of filtration.

3. As a condition for approval an independent study must be commissioned, funded and implemented to study the long term health impact on children and residents in areas impacted by stack discharges.

4. Undertake an independent review of the ventilation system to ensure that NorthConnex's claim of no portal emissions is justified.

5. Ban future portal emissions from NorthConnex.

6. Commission, fund and implement a comprehensive and independent air quality monitoring program of the immediate area surrounding each stack.

Resubmit the EIS
To remove criticism of "garbage in, garbage out" the EIS needs to be resubmitted by independent consultants. The EIS must use local meteorological, local topography and local valley data that is relevant to each stack's location. Accordingly the air quality and human health impact assessment needs to be revised in the EIS.

Ecologically Sustainable Development
The Department does not approve the project in its current form as it clearly does not meet the principles of Ecologically Sustainable Development as required by the Environmental Planning and Assessment Act.

Finally I would request that the Submissions Report/Preferred Project be exhibited to allow the community to respond to the revised information contained in the report.

Yours sincerely

Brent Penfold
4 Mount View Place,
North Wahroonga, NSW, 2076.