8 September 2014

# Submission to:

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

NorthConnex Application Number: SSI 13_6136

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 NorthConnex Project as set out in the EIS.**

I live and work in Wahroonga and I have two daughters who attend Abbotsleigh Junior School (approx. 500m from the proposed location of the Northern stack)

I have a high level of concern regarding several issues and I request that NorthConnex and the Department of Planning give due consideration to the following:

1. Densely populated residential area

I am appalled that an unfiltered stack (the northern ventilation outlet) will be placed in a densely populated residential area close to many homes, schools and aged care facilities.

Total Population around the northern interchange is **50,913** (refer to table on pg 533 of EIS:- Wahroonga = 15,726, North Wahroonga = 1,886, Warrawee = 2,912, Waitara = 5,370, Hornsby = 19,863 + Normanhurst = 5,156.)

Thousands of people (of all ages) will be exposed to a constant flow of high levels of tunnel emission. NorthConnex Cummunity Update 4 dated July 2014:- "putting more than 5,000 trucks a day underground".

2. Proposed height of the stack

The proposed site of the northern stack is in a valley and the anticipated height of the stack (23-25m) is insufficient to disperse emissions away from residents. Please refer to a presentation by Prof Richard B Chard at a recent forum. https://sites.google.com/site/drsagainstpollution/

Prof Chard estimates that the velocity from fans would only increase the effective height to about 50m whereas many other stacks are approximately 100m high. The fumes from the tunnel are not hot and therefore won't rise very much. On a still day (which is fairly common in Wahroonga) a low stack is likely to produce a fumigating plume which will fall towards the ground. When wind velocity is low, dispersion ability is poor. The data presented by NorthConnex is NOT LOCAL DATA and is therefore inaccurate. It is essential that LOCAL data is collected for the purpose of ascertaining the necessary height of the stack.

3. Health problems

Please refer to http://www.capsgroup.org/images/Doctors%20Letter.pdf - a letter from Dr Ray Nasser setting out the severe impacts that pollutants will have on our health.

See also presentations made by various health specialists at a recent forum:

https://sites.google.com/site/drsagainstpollution/

There are multiple large scale research studies that suggest the impacts of air pollutants on our health are serious. These include increased death from heart disease, increased risks of lung cancer, stroke, poor lung growth in children, increased asthma. There is recent research suggesting low birth weight for pregnant women, increased autism and congenital heart defects. The studies confirm that air pollutants have prothrombotic and inflammatory effects on humans which cause the above health problems.

4. Portal emissions

I am concerned that there are provisions in the EIS for possible portal emissions in the future. The resultant emissions will remain at ground level and expose the local population to pollutants.

5. Diesel

Diesel emissions have been classified as carcinogenic by the World Health Organisation. Diesel emissions contain a larger number of fine and ultra fine particles which penetrate deep into the lung tissue. The cumulative effect of this (from a constant outflow at the stack) needs to be considered.

6. Length of tunnel

Due to the length of the NorthConnex tunnel, there will be a higher concentration of pollution both within the tunnel and at each ventilation outlet, compared to other tunnels. Pollution levels will increase over time, as the volume of traffic increases. Even though the traffic with be more free-flowing than Pennant Hills Road currently is, the tunnel length will result in a very high concentration of pollutants, particularly fine particles and haze, at each ventilation outlet / stack. Even in the M5 tunnel (shorter than NorthConnex) emissions were greater than predicted and massive pollution resulted. The EIS for NorthConnex indicates high levels of anticipated pollutants such as NO2 which is a big concern.

7. Filtration

I strongly believe that there should be filtration at each ventilation outlet.

The EIS states (at pg 451) that a filtration system was constructed to filter the air in the westbound tunnel of the M5 East Motorway, that the system did remove nitrogen oxides and particulate matter and that the M5 East Motorway filtration trial removed 200 kilograms of PM10 per year.
I believe that NorthConnex's refusal to consider filtration amounts to negligence.

At a forum held at Abbotsleigh in August, [redacted], NorthConnex Project Manager admitted that they did not even investigate the cost of filtration for this project. They claimed the health risk to be negligible and therefore considered it unnecessary. Members of the NorthConnex team stated at the forum that "the best way of treating pollution is at its source." I would argue that the stack will now be a source of pollution and that it does warrant filtration.

The EIS suggests (at pg 452) a smoky vehicle strategy using smoke detectors, video and still cameras to detect smoky vehicles and the issuing of fines and suspensions to encourage vehicles to be repaired or removed from the road network. Who would monitor and control this? Who would issue fines / suspensions?

Although wood burning fires have been shown to cause higher pollutants than vehicle emissions (refer EIS pg 535), the former is usually a relatively occasional occurrence whereas the air emission from the NorthConnex ventilation outlet will be a constant flow of pollutants

EIS page 449: "During normal operation the tunnel would be longitudinally ventilated. That is, fresh air would be drawn in from the tunnel entry portals and through the tunnels by a "vehicle generated piston effect"- The EIS does not consider that air intake from Pennant Hills/M2 Interchange is polluted and further contributes to pollution of air at Wahroonga.

EIS page 450 : "Air pollution control technology has been used in a limited number of tunnels in a few countries including Norway, Austria, Germany and Japan as well as the M5 East Motorway tunnel trial in Sydney. This technology includes the use of electrostatic precipitators to remove particles as well as catalytic and biological processes and adsorption technologies to remove nitrogen oxides. Evidence to date suggests that the effectiveness of such measures when applied to road tunnels is questionable." – Questionable or not on filtration, some filtration removing particulate matter is 100% better than no filtration, particularly for the fine particulate matter.

EIS page :515 "The potential for congested traffic conditions to occur would be actively managed to ensure that acceptable in-tunnel air quality is maintained for motorists." – what is "acceptable air quality" in the tunnel? What is "actively managed"? Statements such as this bear no basis for accountability and provide indications that there is really no active plan in this regard.

EIS page 525 : "The in-tunnel air quality would be equivalent to or better than other road tunnels around the world. " = A nothing statement on key findings, as there are some bad road tunnels around the world and to use them as a benchmark defeats any comparison to a good tunnel design.

**To address my concerns I request that**:

1. The Department of Planning should <u>NOT approve the project in its current form</u> due to significant pollution and health concerns.

2. Even though this project is classed as Critical State Infrastructure, it would be <u>prudent for the Planning Minister to take all submissions into account</u> before making any decision in relation to the NorthConnex project .

3. The EPA must give careful consideration to all issues raised in submissions before granting any Environment Protection Licence required for construction of the NorthConnex tunnel.

4. More accurate LOCAL data needs to be collected.

5. Alternative options should be considered such as re-locating the stack to a non-residential area. Revised plans should once again be made available for public review and further submissions .

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