



The Director-Infrastructure Projects
 Department of Planning and Environment
 Number:SSI 13_6136
 Major Projects Assessment
 9/9/2014

Dear Sir/Madam,

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

I oppose the placement of the NorthConnex Northern Ventilation outlet in the residential area in Wahroonga.

I have a number of concerns about the stack.

1. There are many reports in the Medical literature regarding the health impact of Air Pollution.

A recent study published in the Lancet Oncology 8/2013 by Dr Raaschou-Nielsen et al looked at 17 European Cohorts over 12 years and showed particulate matter air pollution contributes to lung cancer.(1)

Air pollution has also been associated with heart disease, asthma, stroke and other illnesses.

The health effects of Smoking, Asbestos, prolonged sun exposure and many other Carcinogens were not known for many, many years after they thought their effects were negligible.

2. I am concerned the Northern Ventilation stack is in the middle of a residential area.

There are many schools very close to the proposed position of the ventilation stack.

Considering the impact of air pollution is a long term effect this is a serious concern. It is also close to aged care facilities, hospitals and many homes.

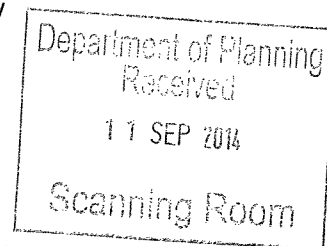
NHMRC document "Air Quality in and around traffic tunnels" 2008 stated "For people living near tunnel portals, particulate and NO₂ exposure may be the most critical in terms of general health. If VOC (eg benzene) exposure is increased, then there will be an associated increase in the lifetime risk for cancer. Other carcinogens may also be increased through road tunnel exposure"(2)

"A particular concern is the association between impaired lung development in children and emissions from traffic."(2)

There have been other examples where ventilation outlets have raised concern due to their position.

In a document "Managing Air Quality in and around road tunnels in New Zealand" is the following quote "At the same time, work was underway in Auckland to consent the Waterview Tunnel project. Air quality associated with the operation of the tunnel was a significant issue for the Board of Inquiry (BOI) and submitters. Concerns were raised about portal air quality and the location of 15 metre stacks at each portal, one of which was to be sited close to the Waterview Primary School.

The BOI approved consents in 2011 and required the stack near to the school to be relocated so that it was further away from school children. Due to the concern about the ventilation outlet being near schools it was moved." (3)



3. Increased pollutants around the ventilation outlet.

One of the reasons given for the NorthConnex tunnel was to take the trucks off Pennant Hills road. Trucks emit larger amounts of particulate matter and diesel emissions which are carcinogens. These will be released into the Wahroonga region.

I am concerned that a reduction in pollution along Pennant Hills Rd will result in a concentrated area of pollution around the ventilation stack in Wahroonga.

The NHMRC document from 2008 "Air Quality in and around traffic tunnels" states- "Road tunnels convert a line source (the road) into one or a few point sources (portals, stacks). This represents a redistribution of pollutants, generally reducing concentrations over a large area while increasing concentrations in a small area around the point sources. In the hypothetical case of an even population distribution (and an immobile population) over the district, a road tunnel asks a few people to bear a greater health burden on behalf of the majority who benefit from better air quality. This may seem unacceptable, especially if those living near the point sources do not gain as much from the transport benefits of the tunnel. However, this is not the case if the point sources (and their 'impact zones') can be located in areas of reduced or zero population density"(2)

This is stating that firstly that air pollution is shifted to the people living around the ventilation outlet.

It also states that the ventilation outlet should NOT be in a residential area.

4. The uncertainty of the effectiveness of "dispersion" model

The NorthConnex people talk about the fact that dispersion will result in minimal pollution to the area however the 2008 NHMRC document "Air quality in and around traffic tunnels" in regards to tunnels and effect on health states that

"Current dispersion models have some acknowledged weaknesses in their ability to accurately assess dispersion from stacks and portals "(2)

I am concerned that this questions the argument of the North Connex team that the pollutants will disappear by dispersion and have no impact.

The NHMRC report from 2008 also discusses the unreliability of air monitoring : "No clear evidence exists to show that monitoring such as that carried out to assess compliance with air-quality goals, especially for PM₁₀, can reliably predict the size, nature and course of adverse health impacts."(2)

5. The NorthConnex people have created a "Model" and then based their assumptions on long term health impact on this model.

Health impacts are not as formulaic as they have tried to state.

In developing Medications for use in disease for example, often the initial medication will be developed as a "model" or an idea. This will be developed and then go through drug trials where it is tested. There are many cases where a catastrophic side effect occurs which would not have been thought of in the modelling process. The medications even when approved and used in the population sometimes after some time of use then show side effects which were unexpected, some also catastrophic.

Long term data and use is a better indicator than a model-especially in children and pregnancy.

I am concerned that the same can be said of the ventilation outlet. This is a very long tunnel. Unless there has been an unfiltered tunnel of the same length, traffic and right in the middle of a

residential area such as this one and we then study the health of the population and see the long term effects-for many, many years then it is not possible to truly state the long term effects. I am concerned that if this tunnel is approved the people living around the ventilation outlet will be a test case of the long term effects of such a long tunnel.

6.Lack of filtration

I am concerned about the lack of filtration on this tunnel. Filtration has been used in a number of other tunnels around the world-in some where there is a large number of diesel vehicles. This would be the one of the reasons for the NorthConnex tunnel-to take the diesel/higher polluting trucks off the road and into the tunnel. The EIS discussed the reason for the lack of filtration was that it was pollutant specific-which is certainly better than no filtration, it only benefits the local related pollution-which is the concern about a ventilation stack in a residential area and the cost. I am concerned that it seems the main reason is a financial reason rather than a health reason.

7.Tunnel opening

The NHMRC document also discusses the impact of the tunnel opening on air pollution. The planned position of the opening of the tunnel in Wahroonga will also be near schools and in a residential area.

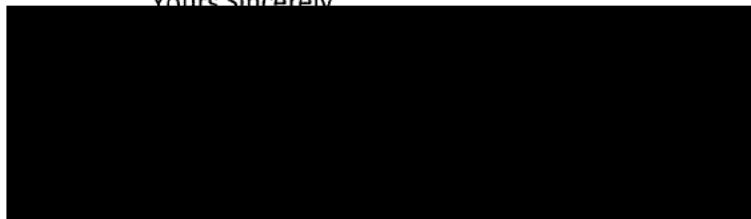
“ From the point of view of the local neighbourhood, it is at the tunnel openings that the air-quality impact of the tunnel is most keenly felt. This is the zone within which the road tunnel will inevitably worsen local air quality in comparison to an equivalent road without a tunnel.”(2)

There are so many reasons not to allow this stack, which is a choice rather than a necessity, to be placed in a residential area-close to houses and schools.

The NHMRC is Australia's leading expert body for the public and individual health. Their document on tunnels discusses the health effects of tunnels and ventilation stacks. It discusses the fact that a ventilation stack can release carcinogens and thus may have long term risks of cancer for the people around the outlet. It recommends ventilation outlets be placed in areas of “reduced or zero population density”. Yet this proposed outlet will be in the middle of a residential area and very close to many schools.

I am concerned that this is such a long tunnel and the proposed placement of the ventilation stack and northern tunnel exit is in the residential area of Wahroonga. As a result I strongly oppose the placement of the Northern Ventilation stack in the residential area of Wahroonga.

Yours Sincerely



References

- 1.Ole Raaschou-Nielsen et al. Air pollution and lung cancer incidence in 17 European cohorts:prospective analyse from the European study of cohorts for Air Pollution Effects.Lancet Oncology August 2013 Vol 14,Issue 9,Pages 813-822
- 2.NHMRC 2008 “Air Quality in and around traffic tunnels”
- 3.Managing Air Quality in and around road tunnels in New Zealand” Rob Hannaby and Barry Wright