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

9 September 2014

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

Dear Sir/Ms,

NorthConnex Application Number: SSI 13_6136

Please find below my **submission** in response to the exhibition of the EIS for the proposed NorthConnex tunnel project.

Firstly, as a stakeholder who are affected by this project I have deep concerns about a number of elements in the process and content of the proposal. This is particularly the case as I see daily allegations and revelations in the media surrounding a wide range of concerning features of public governance and decision-making. The information and assurances provided by public figures to stakeholders in public meetings over many years, and the results of government inquiries, appear to have been totally disregarded, in the above proposal.

In fact, I have been told by several RMS and NorthConnex officials that the current proposal is 'optimal', but no alternatives that may have been considered by either organization are available to the public. Any suggestions by residents of alternatives to these officials have been dismissed out of hand. This leads to lack of confidence in the process, and this proposal.

Accordingly, I **object** to the project as described in the EIS for a number of reasons. I set out below **the issues that cause me significant concern.**

I request that NorthConnex and the Department of Planning consider the following:

1. The **design of the proposal** is inconsistent with the clear preference of the RTA and the Department of Transport and Regional Services) for the 'Purple' option (of the 'Type A' options that is closest to the city from the F3) based on a range of technical analyses, see RTA and DoTaRS, *F3 to Sydney Orbital Link Study Report* (2004 pp.12-25). This proposal included several ventilation outlets.
   1.1. Despite claims in some pamphlets the current proposal is **not** preferred Purple Option in the Report nor as explained in prior meetings.
2. The Purple option (of the four considered) minimized the effects on properties and occupiers, which includes residential homeowners, schools, commercial businesses, and aged care facilities (Table 6, *F3 to Sydney Orbital Link Study Report*, p.21).
   2.1. Crucially, the preferred (Purple) option was overwhelming supported by stakeholders in the consultation process (see Figure 7 below). From our

attendance at public meetings and discussions with residents, **this remains the preferred option, with an extension of the tunnel to the north.**

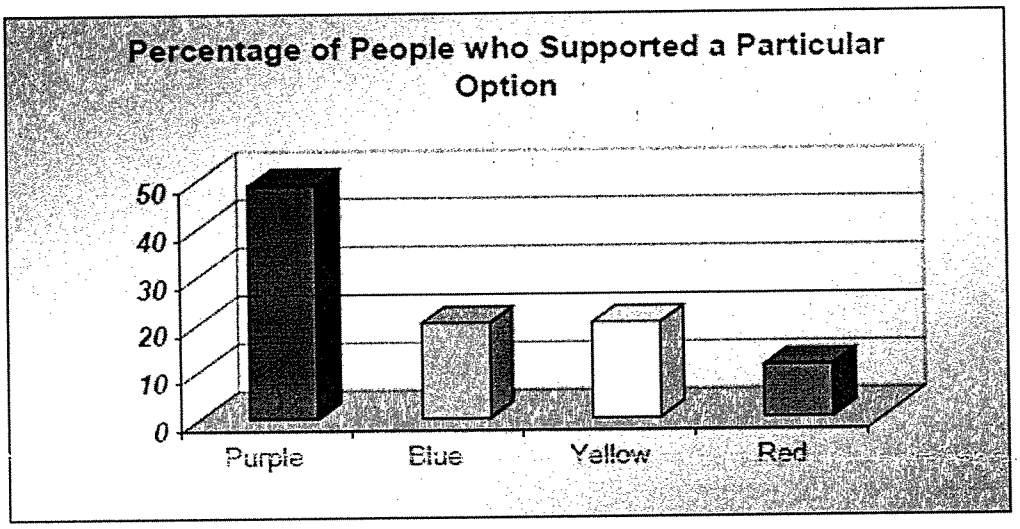

Figure 7: Option Preferences from Community Consultation.

Source: RTA and DoTaRS, *F3 to Sydney Orbital Link Study Report*, 2004 p.23

3. I am concerned that a full and transparent options assessment process was not undertaken to assess alternative designs for the project.
   3.1. With a proposal submitted earlier in 2013, with no details distributed to stakeholders, we find a DGRS issued 29 October 2013 and a preferred State government option decided a few months later. It was not until March 2014 that any substantive notice emerged for those affected. There has been no general, public and transparent consideration of options for this proposal. In fact, the proposal does not follow the advice and decisions of previous considerations.
   3.2. It seems that any alternative proposals are not available for public viewing, and indeed, it is unclear who other parties may be for any such alternatives. I ask if such 'commercial in confidence' dealings are contrary to public interest.
   3.3. On attending public meetings and in several discussions with RMS staff and NorthConnex staff, there appears to be no final information on specific aspects of the proposal.
   3.4. For example, unlike other tunnel projects in the Sydney area there are no alternatives for **locating the stack and portals in non-residential areas.**

4. I am concerned that the **route of the tunnels** has greater negative effects on more residents and properties than the preferred location in the Purple option outlined above. The previous recommendation location – **under Pennant Hills Road** minimizes the effect on closely located properties – in Lucinda Ave, Eastbourne Ave, Kingsley Close, and Hewitt Ave.
   4.1. The depth of the proposed tunnel means that the construction phase is more intrusive – with noise, dust and vibration leading to a greater risk of structural and other damage to properties.
   4.2. The proposed depth of the tunnel – some less than 20 metres (I am unable to confirm precise information) leads to greater negative effects on property

values. This disproportionate effect is unfair, especially in light of alternative proposals.

4.2.1. The cross-over tunnels are of insufficient depth and should **not be located under existing houses or minor roads when alternatives exist to locate these at a deeper level under main roads Pennant Hills Road or even Dept of Planning land.**

4.3. The **location** of the tunnels:

4.3.1. should be further west – under the ridge line of Pennant Hills Road, as this **reduces direct surface property impacts** as initially recommended by the RTA.

4.3.2. the length of the main tunnel should be extended to the lowest point past Wahroonga, approximately 1 kilometre north of the current proposal reducing the gradient and emissions over this section, and allow the depth of the tunnel to be at least 30 to 40 metres under fewer residential properties in Wahroonga and Normanhurst

4.3.3. **IF** required, any access tunnels be restricted to the existing footprint of Pennant Hills Road. Thus, the current loop design may be eliminated in favour of a more direct route using the 'stacked' design similar to the Eastern Distributor.

5. I am concerned about the **depth of the tunnels** under Eastbourne Avenue – especially as the watercourse – an underground spring that was piped in the past contributes to continuing high water content around this pipe and the actual water course below the pipe.

5.1. The depth of the excavations in numbers 21 and 23 Eastbourne Ave over the last decade exceeded 6 metres, as the builders needed to remove foundations of an older building that were on the banks of a creek (now piped). The construction of these properties (a duplex development) was held up – as the foundations had to be redesigned to strengthen them in light of the moisture and the water course, which runs under these properties and Eastbourne Avenue.

5.2. Placing large tunnels only relatively few metres below this water course risks damage to several properties – 8 to 12 properties at least, including ours.

5.3. Placing cross tunnels under the **lowest point** of Eastbourne Ave (at least 15 metres below main part of the road and the higher points to the West and East) is unsound, and had an excessively negative effect on properties.

6. Placing **polluting ventilation stacks** in populated areas does not make sense, where alternatives exist for the public interest.

6.1. The northern ventilation stack in currently in the centre of a **densely populated residential area in Wahroonga.** There are over 9,000 school children who will be exposed to pollutants, and the schools include Waitara Public School, Abbotsleigh Preparatory and Secondary Schools located only a few hundred meters from the stack. In addition, there are multiple aged care facilities, hospitals, businesses and homes. In total there are more than 60 facilities, which are at risk.

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

7. I am concerned that placing the northern ventilation stack in a valley in Wahroonga the local conditions make the information about the pollution dispersal

in the valley questionable. The valley experiences low wind speeds, which will result in poor dispersion and therefore exposure of the community to high levels of tunnel pollution emissions.

7.1. I am concerned about the multiple flaws in the **air quality** modelling of the northern stack in the EIS. These include:

7.2. Information on the analysis of the dispersal is based on mathematical and statistical models alone, rather than collation of direct research data in the area (see below).

7.3. extrapolation of meteorological data from other weather stations, which do not reflect the local meteorology, local topography, and the valley location. The use of a coarse topographical model is also inappropriate.

7.4. The EIS document contains **no independent research data** collected for the relevant area concerning wind speeds, wind directions, dispersal patterns, temperature, and similar data for the claimed dispersion of **particulates** in the populated area of Wahroonga valley.

7.5. the background air quality being based on air quality at Lindfield and Prospect and the lack of any **actual direct research data** on $PM_{2.5}$.

7.6. The failure to consider polluted intake air from the Pennant Hills/M2 interchange as part of the project contribution to air quality at Wahroonga.

7.7. The EIS report **contains no research data on ultrafine particulates <$PM_{0.1}$**

7.8. The NHMRC Report (2008) demonstrates significant **adverse health effects of exposure to particulates** – for child lung growth, pregnant women, birth weight, lung cancer and numerous other effects. People with conditions such as asthma, are placed in further danger, as our younger son would be with raised particulate levels.

7.9. Ultrafine particulates have particularly adverse effects on people, whether it is **short or long term exposure**, as the particulates penetrate deep into the lungs. The young, sick and the aged are especially affected.

7.10. **There are alternatives further north in less populated areas, and further removed from the above facilities.**

8. I am highly concerned about the **multiple large-scale research studies** that suggest the impacts of air pollutants on health are serious.

8.1. These include increased asthma (as mentioned earlier, this already affected our family), increased death from heart disease, increased risks of lung cancer, stroke, poor lung growth in children, 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. This has been the case in our family, with one of my sons suffering from asthma.

8.2. With the significant number of schools in the area and aged care facilities, **all efforts must be made** to remove or minimize the effects of the pollution from vehicle emissions.

9. 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.

9.1. The proposal includes **high gradient portal exits** in Wahroonga, which increase vehicle emissions by four to five fold.

9.2. **Diesel emissions** have been classified as carcinogenic by the World Health Organisation, and contain a larger number of **ultrafine** particles, which penetrate deep into lung tissue and remain there causing inflammation.
9.3. The estimates of fuel emissions do not recognize changes in the **mix of vehicle types** and **mix of fuel types** that can be expected in the future.

10. 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 NO_2, and haze from particulate matter at the ends of the tunnel. Exposure estimates in the EIS document exceed 25 times safe limits, and this number does not include traffic holdups and multiple tunnel exposures.

To address my concerns I request that the following actions be undertaken:

1. The air quality and human health impact assessment need to be revised to address the issues raised above.
2. An independent options assessment process should be undertaken to assess alternative locations for the portals for the tunnel, to minimize the ventilation stack and portals.
3. Similarly, an independent options assessment process should be undertaken to assess alternative locations for the ventilation stack and portals.
4. To undertake a Life Cycle Analysis and assessment for the provision of filtration.
5. A long term health study on children and residents in areas actually in the area be included as part of the conditions of approval, rather than relying on test simulations and extrapolated data to assess the impact of stack discharges.
6. A comprehensive air quality monitoring program be developed and implemented.
7. An independent review of the ventilation system is undertaken to ensure that NorthConnex's claim of no portal emissions is justified.
8. Portal emissions from NorthConnex in the future are banned.
9. All alternative proposals be available and actively considered and comply with the earlier RTA reports and recommendations
10. The Submissions Report/Preferred Project be exhibited to allow the community to respond to the revised information contained in the report.
11. 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. Moreover, the proposal is not consistent with health standards detailed in studies of similar developments

Yours Faithfully,

Dr David E. Morgan
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Wahroonga NSW 2076