I object to the Northern Beaches Link upgrade on behalf of myself and my children. This submission outlines my specific objections, where the EIS should be revisited and mitigations should this project go ahead.

This submission is in three sections: 1. Objections; 2. Revisit the EIS; and 3. Mitigation and Conditions of Approval.

1. Objections

My objections are due to:
1.1 Climate Change, Sustainability, Accessibility, Liveability

1.2 Health and Safety
1.3 Green Space

1.1 Climate Change, Sustainability, Accessibility, Liveability

On behalf of myself and my children, I object to these projects. Climate Change is the biggest concern facing our children's futures. Greenhouse gas emissions from transport emissions and environmental impacts from car and truck manufacturing must be reduced, not increased. These road projects are in complete conflict with our children's need to combat climate change. Furthermore, a more liveable, accessible, sustainable city will never be achieved with these road projects. Sydney needs mass transit, rapid public transport for congestion relief and future proofing for population increase, not more roads. These road projects will produce more traffic in Sydney, and in particular to the new Warringah Freeway interchange near my children's (and my community's catchment) school. Not to mention the surrounding road network.

If the problem is congestion, then more roads are not the answer.
By committing to the Northern Beaches tunnel, and signing a contract with Transurban (the likely contract winner), the contract will preclude a Public Transport option that acts in competition with Transurban toll road profits. This project permanently subjects Sydney residents to reliance on their cars, and permanently subjects our children and their environment to extraordinary amounts of additional pollution due to induced traffic demand.

1.2. Health and Safety

I object to these projects on the basis of their significant and numerous Health and Safety impacts.

1.2.1 I object to unfiltered ventilation stacks.

If these road projects are to be built, then they must be safe. Exhaust stacks (2 of which are proposed to be located within 300m of my children's school) must be filtered.

There will be over 40km of additional polluting vehicle emissions[1] being pumped out unfiltered from the stacks near our school. Regardless of how much air is blown out of the stack along with the pollution by mechanical ventilation, the dose of harmful particulates (PM2.5, PM10) and noxious gases that will be delivered to our community is undisputedly the largest public health experiment we have ever seen. And the effect of the dose is cumulative.

The project should not be permitted to add further air pollution over an area which the EIS shows is already higher than the ambient background National Standard of 8 mcg/m3 for PM2.5 fine particle pollution. [2]

It is entirely untenable in a modern country such as Australia to build such a double Stack within 300m of Primary schools & thousands of homes without filtration.

The RMS policy to not filter at any cost is wrong. The M5 East filtration trial cannot be extrapolated to determine whether or not to filter the stacks, which is what I am demanding . Other countries filter (eg. Spain, Japan, Hong King, Italy, Norway) or do not allow diesel trucks to travel in road tunnels of 5kms or longer (eg. France, Turkey). [3]

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[1] 40km is the cumulative polluting road of the Western Harbour Tunnel and Northern Beaches Tunnel – 15.8kms of 3 lanes each way from Seaforth to Rozelle.

[2] The EIS also ignores the fact that the NEPM goal for PM2.5, which the Federal Government has legislated and NSW has with other States committed to, is being reduced to 7 mcg/m3 from 2025 which is before the Proposed Tunnel will open. The Ventilation system with unfiltered exhaust stacks goes directly in the opposite direction to this requirement by choosing to deliberately add pollution that could be removed or reduced at levels of up to 95 % by ESP (Electro Static Precipitation) filters & the gases reduced by NOX filters. Both are proven, robust technologies in use for well over a decade in major international Road Tunnels. There are at least 4 manufacturers of the technology (CTAA, Norway, Panasonic Japan, AIGNER, Austria and FILTRONtech, Germany).

[3] In the M5-East Trial a partial quantity of air was removed from the Tunnel, run through filters and returned to the Tunnel. If you read the actual Assessment Report and not the Press Release cancelling the Trial, it shows that over 67% of

1.2.2 I object to the significant uplift in surface road pollution on the Warringah Freeway so close to my home and my children's school. 18 lanes of traffic within 150 metres of the school is unacceptable without mitigation. I object to the project being approved as detailed in the EIS until EURO 6 Vehicle Emission and Fuel Standards are implemented.

As you should be aware, Australia currently has the worst standards in the OECD.

1.2.3 I object to the 6 years of adverse construction noise and vibration that these projects will bring, impacting my children's ability to learn. Noise and vibration abatement must be installed in the affected schools including ours at APPS. Construction must be stopped during the school lunch break

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Particulates were removed and over 55% of NOX gases, which was pretty good for a retrofit attempt to simply see if Filters could remove pollution.

I note that the current Premier as Shadow Transport Minister strongly supported using Filters for the Ventilation Stacks for the 3.6 km Lane Cove Tunnel and 4 km M5 East Tunnel, as did the Roads Minister Duncan Gay and Shadow Planning Minister, Anthony Roberts. However in evaluating the filtration trial, focus was placed on TOTAL cost of the build not just the addition of Filters. Claims were made that the decision to not continue was about haze when the real concern is the PM2.5 fine Particulates, which do not generate haze and are far more dangerous to the respiratory system of children and adults.

It is with shock and sadness I discover those same politicians now in government, forcing through approval of unfiltered stacks on road tunnels of twice the length and therefore in greater need of filtration than tunnels of less than 5 kms.

Filtration **works** and provides a demonstrable improvement to air quality. Filtration removes up to 95% of Particulate pollutants. It is used by first world countries on long road tunnels (over 5km) in urban areas. There is no other tunnel of this length with longitudinal ventilation in an urban area in the world not using filters if it only has one air intake as in the proposed design as in the EIS. The E4 Stockholm Tunnel is a comparable 18 Km Tunnel under construction which will have 10 Air exchange and exhaust outlets as opposed to the one only in this EIS design to do a single air exchange at the end point of the Western Harbour Tunnel (WHT) before it joins the proposed Beaches Link Tunnel. The Stockholm design also mandates there must be no distance greater than 5 kms between exhaust Stacks being unfiltered. The proposed Northern Beaches link will be over 7 kms long

so that children can play outside without being subjected to construction noise and dust.

APPS currently has 2 dedicated classes for children with disabilities and special needs, predominantly children on the autism spectrum. These students have many special needs which are catered for in our school, including extreme noise sensitivity. Many studies have acknowledged extreme noise sensitivity in those with autism. The increased noise from construction and traffic noise will impact severely on these children. Loud noises can be physically painful. Construction noise will be untenable. Special needs students come to APPS school with the hope and intent that they can integrate with the general student population. APPS school therefore requires that all classrooms be installed with noise and vibration abatement, as I know that neighbouring residential properties are being provided with noise abatement and inside air filtration and include air conditioning of classrooms such that windows can be closed.
The ability for all students to focus and learn will be impacted unless this is implemented.

1.2.4 I object to increased truck movements in and around my local area, impacting my children's ability to walk safely to and from school.

1.2.5 I object to the Rosalind Street truck lay-by so close to APPS school, which is within 50m from school grounds, where idling trucks will pollute the air that my children breathe all day long, waiting to collect tunnel spoil.

1.2.6 I object to further encroachment of our beloved Anzac Park, where APPS children currently gather after school with their parents to play and climb trees and participate in the Community Garden. No Trees must be lost from the Park as this is an important visual, dust and noise buffer between the schools and the huge Construction site immediately opposite on the Warringah Freeway, not to mention construction on the Freeway upgrade.

1.3 Green Space

Green Space should be increased, not decreased. The North Sydney Local Government area has the highest density living on the North Shore and the least amount of green space as per head of population. This project must not make this worse. As currently planned, it will take approximately 2.6 hectares from the Cammeray Golf Course.

A green overpass, over the entire length of the Warringah Freeway between Miller and Ernest Streets should be built to mitigate significant

loss of green space and protect children's lungs from the surface road pollution of the Warringah Freeway. The air within this short overpass should be redirected to the ventilation stack for subsequent filtration and distribution through the stack.

The Ventilation/Motorway Buildings should be placed underground at the Cammeray Golf Course as is already proposed for the Rozelle Site in this WHT EIS. Green space should then be installed over these buildings with filtered air as per the CWB Bypass in Hong Kong opened in Feb 2019, should the government decide to follow suit.

2. Revisit the EIS

The EIS should be revisited to address the following:

- 2.1 Assess, then address Climate Change Impacts from the construction of the project, and resultant induced traffic demand and energy demand from ventilation facilities that this project brings;

- 2.2 Other options to address the problem of congestion must be considered in the EIS, as specified in the SEARS. Public Transport solutions must be assessed against the road proposal as specified in the SEARS;

- 2.3 A project Business case must be performed and released publicly for the project. The business case for all alternative options (eg Public Transport) must be considered and released;

- 2.4 A cost of stack filtration should be provided in the EIS. This cost should be the additional cost of the filters separate from the ventilation Stack & Building Construction which is a FIXED cost that would happen whether filters would be going in or not. (The M5East Trial artificially inflated the cost by including the cost of the Ventilation Building not just the incremental cost of installing the Filters);

- 2.5 The proponents should seek to clarify the cost benefit analysis against calculated loss of life and the 'cost of a life 'due to increased particulates. If the proponents will not use filtration, they should openly show how little they value our children's lives;

- 2.6 The EIS should be revisited to plan for a green overpass, over the entire length of the Warringah Freeway between Miller and Ernest Streets. This replanning should include a plan to redirect the air within this short overpass to the ventilation stack for subsequent filtration and distribution through the stack;

- 2.7 The EIS should be revisited to reflect accurate traffic data . Traffic projections in the EIS are based on 2016 data and do not therefore consider changes benefits or traffic reductions the B- Line Bus services which has proven popular since their introduction in 2018/19 and will affect the assumed need in the EIS for the WHT and the related B Link proposal.

- 2.8 The EIS should correctly reflect uptake of roads versus Public Transport as population increases. Many more people are turning to public transport and this is reflected in research, but not in the EIS. Recent TFNSW data shows at least a 27% increase in the use of public transport;

- 2.9 The EIS should be recalculated to reflect actual emissions data, as this will impact health assessment. The EIS currently calculates emissions assuming that Australia will be at Euro 6 standards by 2021. This is wrong, as the Federal Government has not legislated and there is no plan to achieve Euro 6 standards at all in the near future. The proponents cannot claim that there is. The recent Federal RIS Report recommends that it not proceed at present. There should be legal implications for a government body misrepresenting something so important. The Science on Health impacts of Air pollution has overtaken this project. We know so much more about the negative impacts of air pollution esp PM2.5 fine particulates. The Department would be wise to ensure that they adequately address the accuracy of air quality, number of sensitive receivers and health claims made by the proponents. I note the Chief Health officer, in her letter in the EIS, has noted that given Euro 6 is not in place, the NO2 estimates in the EIS are understated by at least 20%. In order for the proponents claims that the unfiltered Ventilation stacks will have minimal impact, then their assumptions about emissions and surface road traffic reductions must be accurate, which it is not. Furthermore, the proposed EIS Changes to the Warringah Freeway access will generate additional rat running across the North Sydney LGA and

when combined with extra vehicle movements on the freeway from the Beaches Link exits will increase not decrease surface road pollution in the same area where the unfiltered Stacks will disperse more pollution. The EIS acknowledges that there will be increased congestion in the LGA. There will be increased pollution in the North Sydney local area without any ventilation assistance;

- 2.10 I note that the recent technical paper on Road Tunnel Ventilation prepared in December 2019 for the NSW Chief Scientist ACTAQ Committee did a desktop update of current overseas Tunnels but surprisingly, in relation to the CWB Hongkong Bypass Tunnel, the author stated that they were unable to find out if air treatment is used.
  The CWB Hong Kong Bypass tunnel, a 3.6 km road Tunnel, has a full filtration system of ESP & NOX filtration. This system is clearly described on the Hong Kong Transportation Board & the CWB Project websites. Construction was by Leightons Asia, sister Company of the well known Australian multinational. I would be very pleased to provide a copy of those references and details to Minister Stokes for his information. The EIS should be revisited to correctly state comparisons of overseas road tunnels, by length, by traffic type and fuel and by ventilation (longitudinal, transverse) or filtration type;

- 2.11 In the Dust Impact Analysis in App H (Air Quality) the proponent has assumed for modelling purposes that each school receptor only has 100 Students. Minister Stokes as a former Education Minister would be more than well aware that schools in Sydney particularly the Lower North Shore has at least nearly 1000 students each. This causes them to have been under represented as dust receivers for this project. The EIS must be revisited to accurately represent sensitive receivers;

- 2.12 Similarly in the Air Quality analysis for pollution impacts the EIS has falsely equated educational premises with residential premises and made a percentage determination rather than a population basis. As a result in the GRAL, air quality analysis, school populations are grossly under-represented among sensitive receivers within the analysis around the Cammeray Stack and presumably also around the Balgowlah and Rozelle stacks. They are being given a value less

than 2% when the population proportion would be at least 23%;

- 2.13 These basic statistical errors are used as an input to the health Impact assessment and is likely to have led to significant under estimation of the affected school population impacted by the increased surface road & stack pollution projected for the WHT Project in the EIS documents;

- 2.14 I ask that the modelling be redone with the actual enrolment populations of the schools involved for both Dust and Air Pollution Impacts and that the full daytime population of the North Sydney Local Government Area (LGA) is used as the students at our local schools are included in Census population data only where they sleep at night. However, they will be spending 6-10 hrs a day at schools within the range of 200m- 2kms from the unfiltered stack and near increased freeway traffic, which is regarded as the Impact Zone within the GRAL analysis;

- 2.15 The proponents must be made to address all these things and our community see the resultant amended EIS before the Department makes its Recommendation & the Minister makes any decision.

3. Mitigation and Conditions of Approval

The following are mitigations and conditions of approval for the project. The proponents cannot be allowed to get away with not delivering on conditions of approval, such as they did for the Parramatta Rd bus lanes conditions for the Westconnex project. The proponents and previous sub-Contractors through Westconnex have form when it comes to ignoring conditions of approval and there must be significant penalty (not just a slap on the wrist) if not adhered to.

- 3.1 The Project and its future state must be carbon neutral;

- 3.2 Public Transport on the parallel routes must not be precluded in any contract with any future owner of this or interconnecting motorways;

- 3.3 Filtration of Particulates & Gases must be a condition of approval.

- 3.4 If the NBL is approved, as noted in the Chief Health Officers Statement ‘that will take the total number of Unfiltered Exhaust stacks for road tunnels in the Sydney Basin to 11’. This is far more than anywhere else in the world. In relation to the NBL project this is particularly concerning as they plan to put a double unfiltered stack at Cammeray - which is effectively a triple as the exhaust from the North Sydney exit will also be piped to Cammeray for release. Given the significantly increased load of Stack pollution at both Cammeray and Rozelle in densely populated schools and residential areas compared to single Stack localities its appropriate, and I believe necessary, for the Government to insist on filters being installed to the Ventilation Stacks;

- 3.5 If filtration is not approved, then diesel /heavy vehicles must be banned from using the Tunnels;

- 3.6 If filtration is not approved, there must be a condition that ventilation facilities have capacity for filtration systems at a later date;

- 3.7 Longitudinal health studies on the impacts of increased emissions on our community’s children must be performed as a condition of approval. Baseline health studies and ongoing monitoring of students at schools within range of the unfiltered ventilation Stacks must be done if the Filters are not installed, as there is a distinct lack of information worldwide as no other country takes the non-precautionary approach of not using filters or diesel is not allowed to use their long road tunnels. There is plenty of international and Australian medical research showing the short and long term damaging effects of vehicle emissions pollution on the health particularly children their lung development. I can provide references should you require them. There were health studies that identified respiratory issues with residents around the Lane Cove tunnel stacks and a cancer cluster around the M5 East Turella stack. The proponent claims that there were no health issues since these initial studies do not show causality. The follow-up studies were meant to understand causality but were deliberately not followed-up, even though follow-up study was recommended in the initial reports;

- 3.8 If Stack filtration for the dispersal of pollutants from the Tunnel is not implemented, Air Quality monitors at APPS school must be constructed as a condition of approval and operated on an ongoing basis with real time data of the 5 key pollutants. A plan for levels at which children must be moved indoors must be developed in conjunction with the Department of Health and the Department of Education. Indoor classroom filtration must be provided. All this must be a condition of approval;

- 3.9 If there is an accident in the tunnel and a fire, there should be a warning system installed at the Ventilation Stack to alert the school and local residents that an emergency release of smoke is imminent so that they stay indoors. The Burnleigh Tunnel Fire in Melbourne shows the importance of this;

- 3.10 There must be construction noise restriction during APPS school and Vacation Care lunchtime all year round, not just in term time. APPS has the largest Vacation Care footprint per area in NSW and hence the site is used year round;

- 3.11 There must be construction noise restriction around NAPLAN and other exam time;

- 3.12 Truck movements on arterial and local roads to and from the Construction Sites of the Project must be restricted to well outside of the times that children travel to and from school. APPS before and after school care starts at 7:30am and finishes at 6pm. There must be a 30 minute travel time leeway outside of before-school beginning time & morning school-zone end time and afternoon school-zone beginning time & after- school care end time. At a minimum, truck movement restriction must be enforced in the 40 km school zone timing;

- 3.13 There must be no truck movements at all in Anzac Ave and Rosalind St East. This is because of the health and safety of APPS children crossing roads, pollution impacts to APPS classrooms and

playgrounds and children that may abscond from the school[4] .

- 3.14 There must be no truck idling at any time in the new exit ramp truck waiting bay opposite Rosalind St or at the new Bus bay to be built in to the Golf course opposite the school;

- 3.15 There must be no movement of Trucks through the North Sydney LGA local streets for spoil removal;

- 3.16 A green overpass, over the Warringah Freeway between Miller and Ernest Streets must be built as a condition of approval as mitigation for the increase in surface road pollution near APPS school. The air within this short overpass must be redirected to the ventilation stack for subsequent filtration and distribution through the stack; and

- 3.17 The sub-contracting of works cannot enable the proponents to sub-contract or dilute the responsibility of any mitigation or conditions of approval that the government has to APPS children and APPS school community.

Lastly:
The Department of Planning must consider this project holistically on its impact to the planning of Sydney for future liveability and sustainability. Indeed, if they are the Department of **Planning** for NSW and not the Department of rubber stamps, then they must consider the project on its merits and whether this is the best plan for our future city.

[4] There is a risk that children in our 2 disabilities and special needs classes can abscond. The safety of these children must be ensured by prohibiting trucks in local and school streets