1 March 2021

To NSW Department of Planning, Industry

& Environment

Secretary for Planning

C/- Major Projects assessment

**Objection in response to the Beaches Link & Gore Hill Freeway connection EIS SSI-8862**

Dear Planning NSW and Minister for Planning,

We represent residents at Cammeray and wish to lodge our objections to the above project being approved in the design as detailed in the above EIS on the following basis:

1. Dredging Middle Harbour rather than tunnelling under the harbour, as has been done for the Metro train projects, is unacceptable. The destruction of seafloor in a pristine section of Middle Harbour where fish breed and threatened species are located is unacceptable. The dredging, as detailed in the EIS carries a risk of contaminating the waters with silt and affect the water quality for swimmers at Northbridge baths and rowers and other aquatic users. Please ask Transport NSW to specify a design option where the tunnel goes under not on the Middle Harbour seafloor

2. The closure of the Ernest Street ramps to the Sydney Harbour Bridge will cause rat running via Moodie Street or Lytton Street for drivers to get to the Falcon Street interchange to get to the Harbour Bridge. The unintended consequence is that the closure of the ramp access with cause the unintended consequence of increasing traffic on Military Rd as people seek to get to the bridge or rat running through Moodie Street, which does not have a footpath at its North end and through which many children and parents walk to Anzac Park Public School. Please ask Transport to review this and condition the ramp access or the traffic projections for Military Rd will not work – people will rat run around Mosman or stay on Military Rd from Ourimbah Rd, Mosman rather than leaving Military Rd.

3. **Noise**

   Construction noise is a major concern for residents and the nearby Anzac Park Public School. The Beaches Link northbound entrance will be beside Anzac Park and cause the loss of trees that screen the Freeway from local homes. The construction and then traffic noise will be intense. Please condition extension of the noise wall at the edge of the Freeway back towards the Ernest Street overpass as there is a gap at present and the additional traffic noise will flood out towards the apartment blocks and homes diagonally opposite. It is only a small gap in the noise wall and not a prohibitive cost to fix and it is so inconsistent that this is not in the plans. Please also condition the noise reducing road pavement for use in the

tunnel entries and exit and the approaching and exiting traffic lanes as there will be a large amount of extra traffic added to the Warringah Freeway by this project. TransportNSW has already offered in the EIS that they can do it so please condition this minor respite for residents and school children and staff.

4. Air pollution

During construction, please mandate dust suppression methods to be used on the major construction site at Cammeray Golf Course. This wonderful green lung is to lose all the trees fringing the Freeway and protecting the surrounding community and cleaning the air. The loss of grass and excavation work creates the risk of much dust form excavated sandstone and excavated topsoil into the air and the lungs and over the properties od many thousands of residents and school children in the surrounding area (according to the EIS's own dust pollution projections).

Please prohibit construction vehicles, particularly trucks, from travelling along Ernest Street between Park Avenue and West Street or Miller Street from Palmer Street to Berry Street during the hours of 7am to 6 pm on weekdays during school term. The Cammeray Golf Course site enables access too and from the Warringah Freeway and trucks are too dangerous to both pedestrians and for diesel fumes close by the numerous schools on the Ernest St and Miller St routes to be allowed. Please mandate that all loads be covered and that trucks are not allowed to idle on the Warringah Freeway near Anzac Park, Anzac Avenue, Park Avenue, Ernest St, or Miller ST as this is a major pollution problem for the schools and homes.

Operationally

Despite the Federal Govt confirming, yet again that it will not introduce Euro 6/Euro VI fuel and vehicle emissions standards, the EIS air pollution projections continue the fantasy that the Beaches Link tunnel will improve air quality "overall". That is overall in a very large GRAL area over which things are averaged and there are many areas here it is significantly worsened, by both the unfiltered stacks and extra surface road traffic at Cammeray, Balgowlah and Artarmon and Seaforth. Balgowlah and Cammeray tunnel portals and unfiltered pollution stacks are particularly close to many schools and Balgowlah Boys High School and Anzac Park Public School have classroom or roof terrace at the approximate height of the planned stacks – which are trying to distribute pollution out of manmade traffic valleys.

Filtration is essential given the length of the propose Beach Length main tunnel. Transport NSW argues that no filter is required as Northconnex does not have one, but Northconnex has an emergency smoke (exhaust) release (an extra unfiltered stack) within 4.5 kms of the entrance of the tunnel, that can be opened if necessary, in peak hour to release exhaust at that point and reduce the load of pollutants in the tunnel building up for the end stack at 9km.

Unfortunately, Western Harbour Tunnel was approved without a midway extra stack and the Beaches Link has been designed in that way too. This breaches the international design rule

for longitudinal tunnels with unfiltered stacks from CTEU the French tunnel organisation who the RMS (TransportNSW) cites positively in community air pollution and tunnel design commentary. The 4.5/5km limit for stack distance is on the basis that even with strong fans as proposed in the Beaches Link design by the 4.5/5km mark the piston effect no longer effectively moves air and the pollutant load in tunnels becomes high enough to exhaust stale tunnel air and to introduce, form height, fresh air. This process is done for the Western Harbour Tunnel by adding fresh air into the tunnel connection between Beaches Link and Western Harbour Tunnel to dilute the pollutants in the long tunnel to get drivers, albeit with windows wound up, safely to the end at Rozelle. Similarly, fresh air added at height at Cammeray will keep drivers connecting from the Western Harbour Tunnel underground into Beaches Link safe on the journey to exit at Balgowlah or Seaforth. Unfortunately, the stack at Cammeray clothed as a single appearance but actually the Beaches Link, if approved and Western Harbour Tunnel stack, if both are unfiltered will dump a double load over the dense residential and school district at Cammeray/ North Sydney and Neutral Bay. This is entirely unacceptable and not the practice of any comparable OECD country building modern long (over 5km road tunnels).

Those countries, where tunnels are in urban areas and to be heavily trafficked (as Beaches Link is predicted to be when fully operating() either filter , with both ESP (particulate filters) and NOx (gas) filters (M30 Madrid, which does operate its filtration stations and especially in peak hours), Japan, France (Mt Blanc 12 km tunnel), Italy and Hong Kong (CWB Bypass filtered tunnel stacks), built by Leightons Asia), ban diesel trucks and buses form using the tunnels (Paris Duplex tunnel, Turkey's Eurasia Tunnel – 6.5km long in Istanbul, opened 2016) or add more exhaust stacks no further apart than 5km on the tunnel length (E4 Stockholm Sweden actually has 10 air exchange stacks and 1 emergency smoke release on its 18 km length. Thus, these tunnels do not build up anything like the level of pollutants that are proposed as acceptable in the Beaches Link limits.

The Federal Govt has confirmed no Euro 6/Vi standards will be introduced (Feb 2021 Future Fuels paper) and that there will be no incentives for electric vehicles. The NSW Chief Scientist ACTAQ committee knows what a problem this is as in April 2016 they wrote to the Federal Government strongly urging the new standards be adopted and noting that air pollution from motor vehicles cost s over 2.7 billion dollars per year in Australia and kills more than twice the national road death toll.

Now that it is clear the level of pollution will continue to grow as Australians will not be adopting electric vehicles at any significant rate, and diesel fuels will stay at the same standard filters are a must for the Cammeray double stack unless more stacks are added 0 which given how people complain about the look of a stack, we do not expect Transport will add at Northbridge which would be the logical part way point. In fact, TransportNSW in consultations has sent flyers to Northbridge residents telling them there will be no ventilation stack at Northbridge as a positive of the Beaches Link project for their area. All we want in Cammeray is for filtration systems, which are taken as a given in every other developed country with a similar long road tunnel (42 kms of combined traffic lanes will exhaust at Cammeray if Beaches Link is approved) – that filtration systems will be installed and used to clean the exhaust air before it is dispersed form the emissions stack over our communities. Use the Cammeray stack as a trial site if you wish, the double stack causes an untenable outcome at that location, and the Beaches Link will discharge more traffic into the

Warringah Freeway and increase traffic on local roads (Ben Boyd Rd at Military Rd intersection will fail). We have to put up with increased surface road pollution, will be well over the 8 mcg/cubic metre PM2.5 limit for ambient air pollution set by the Federal NEPM goals, It is arguably negligent to approve this tunnel without filtration of the stack at Cammeray as based on the pollution charts Planning would be deliberately choosing to add more pollution in a polluted area – a relatively small increase form the stack is not "negligible" as claimed in the EIS in such circumstance by in the context of Western Harbour Tunnel becomes significant, especially against the background level. The background NEPM is reducing to 7mgms/cubic metre before 2025. This is Federal legislation that the NSW Govt is signatory too. The pollution levels will be made over 7 by the increased traffic and stack pollution of this project as noted localities. Therefore, mitigation is a must and must be filtration to operate until electric vehicles reach 50% of the NSW vehicle fleet or Euro 6VI fuel and emissions standards are implemented by the Federal Govt and in place for 5 years. We note that all the pollution modelling has assumed Euro 6 would be in from 2021, this has not happened and will not. Planning must intervene with a remedy and condition filters as the Cammeray stack is over 5km form the Balgowlah and Seaforth tunnel entrances.

**The design for Beaches Link which will be around 8 km when exiting at Seaforth should have at least an extra emergency release stack halfway along, certainly no more than 5km form the tunnel entrance, which is the design standard applied by CTEU and for the Swedish E4 Stockholm tunnel on which TransportNSW has relied in documents to the public and the ACTAQ committee to inform the EIS.**

There is no reason not to do this if Transport NSW still insist on not filtering the exhaust stacks or banning diesel heavy vehicles from the tunnel. The air exchange at Cammeray only puts fresh air in at the end of 8 kms south bound Beaches Link tunnel to enable drivers to go a further 7.5 kms underground using the Western Harbour Tunnel to Rozelle safely if their windows are wound up. Regrettably for residents of Cammeray and North Sydney and Neutral Bay, the children and staff at Anzac Park School, Cammeraygal High School (Senior Campus – Ernest St), Redlands (their Tennis facility is at the Corner of Ernest St and Park Avenue) and Cammeray Public School among others will receive the full southbound exhaust of the Beaches Link main tunnel and the full Northbound exhaust of all lanes of the Western Harbour Tunnel. This double pollution load makes approving the Beaches Link stack without filters untenable. The air pollution maps show the effective doubling of stack delivered air pollution to the surrounding area if this project is approved in addition to the Western Harbour Tunnel.

The Cammeray stack is unique in this project. It is effectively a triple stack (both Northbound parts of the tunnel are to be exhausted at the Ernest Street unfiltered stack).

**This is entirely unacceptable and easily fixed if the design of Northconnex was followed providing halfway stack on each leg or, less intrusive, simply add condition that fine particle (ESP filters) and noxious gases (NOx filters) must be installed to clean the exhaust prior to its dispersal over the community in high density residential and school areas and operate until low emission vehicles are over 50% of the Sydney vehicle fleet.**

5. **Beaches Link is Not a "well designed road tunnel" in terms of ventilation system design. This phrase is quoted as an excuse not to filter the stacks on Sydney's long road tunnels**

**but in fact only applies to those in operation by 2014 when the report was first written or in 2017 when the report was updated.**
**This line was quoted in the TransportNSW response to the Department of Planning over objections to the Cammeray stack on the Western Harbour Tunnel not being filtered. It appears to have been accepted at face value by your office but applies to tunnels of completely different design.**

It is an apples and oranges comparison and is based on data only from road tunnels then operating in Sydney. Not One of those road tunnels are as long or heavily trafficked as the Beaches Link or the other recently approved long Sydney road tunnels (Northconnex, WestConnex and Western Harbour Tunnel) are designed to be. The longest road tunnels then were the 4km M5 East and the 3.6km Lane Cove Tunnel.

The longitudinal ventilation system does not become problematic until the 4km mark, which is when the French, Spanish, Japanese, Hong Kong add filtration or ban heavy diesel vehicles from the tunnel (the Paris Duplex tunnel/ Eurasia Turkey 6.5 km tunnel or add another stack at least within 5 km of the tunnel entrance. The Beaches Link ventilation design fails all these international standards and is not even as well designed as Northconnex with the extra vent. A simple remedy would be to ban trucks and diesel buses form the tunnel, but we realise this will likely offend the business model for the tunnel – although the applicant pretends not confirmed yet if there will be a toll.

The Beaches Link is objectively NOT a "well designed road tunnel". The NSW Chief Scientist ACTAQ committee technical report of December 2019 handed out by TransportNSW on ventilation systems in overseas road tunnels also contains clear errors. This is surprising as though a desktop analysis, the correct answers are easily found online from the relevant road authorities. That technical paper states it is "unknown if air treatment is used" in the Hong Kong CWB tunnel, however that tunnel opened in April 2019 has both particle (ESP) and gas (NOx) filters installed and the design with the approval of these systems had been publicly available online at least since 2016. The E4 Stockholm longitudinal road tunnel (18km – 17km in tunnels, still under construction) described in that paper does not have exhaust air filtration systems but the author fails to mention that the ventilation system design in fact has 10 air exchange outlets plus 1 emergency smoke release along its length making the ventilation design much more analogous to our current Sydney Harbour Tunnel where the tunnel length of 2.3 km is served by single end stacks and nothing like the single end stack after 7.5 and 8km lengths of the Beaches Link main tunnels.

The UK and USA do not even have any road tunnels of greater than 5km. They put trains in such tunnels. NSW is building a network of very long longitudinal ventilated tunnels without sufficient air flow or filters despite having one of the worse air pollution vehicle fleets in the OECD. The approvals have been given based on modelling that cannot be validated as there is no real-world data against which to do so (as noted in the Chief Scientist review document by Dr Longley) submitted with the EIS. **There is no real-world data as no other comparable country now risks building urban heavily trafficked long (over 5km) road tunnels to this second-rate design – all use filters (Spain, Italy, France, Japan, Hong Kong), or ban heavy diesel vehicles using the tunnel (France, Turkey) or add more exhaust stacks along the route (Sweden) to make them behave like the short road tunnels (4km and under) that we have operated successfully in Sydney without filters.**

**Please go back to Transport NSW, and the NSW Chief Scientist, and ask for the Technical report to be updated and corrected and for data from the Northconnex tunnel to be collected for a full 12 months and then used to validate or invalidate the modelling on the Beaches Link unfiltered stack air pollution impacts.** Transport NSW has a representative on that ACTAQ committee so not hard to ask for the work to be done. The independent air quality expert for the Beaches Link project, Dr Ian Longley of NIWA, also sits on that committee, although I find it very unusual that an expert working for the same organisation (RMS and TransportNSW) on a succession of similar projects can be regarded as still "Independent".

There is no safe level of PM2.5 particulate pollution (WHO 2017 Air pollution and deaths report) and the main source of that pollution in Sydney is vehicle pollution. It is unconscionable for a Government agency (TransportNSW) to propose a design that will deliberately increase the air pollution burden on local communities (Seaforth, Balgowlah, Artarmon, and Cammeray) when technology is readily available to clean the exhaust air before release. It is not good enough that in the health impacts section and air pollution section of the EIS it is stated that the increase is negligible because as a percentage of increase over the background it is not above 10% as the background level. Especially at Cammeray and Balgowlah regularly hits the maximum allowed ambient limit of PM2.5 8mcg/cubic metre under the Australian NEPM national air quality goals, to which NSW is a signatory. Therefore, any increase because of the unfiltered design of this project should be regarded as significant and mitigated as the technology is readily available and used overseas. Hong Kong's CWB road tunnel is the most recent to instal it. Lend Lease (Asia) who installed the ventilation system from FiltronTEC could be consulted.

6. **The green space and bushland of Cammeray Golf Course/Cammeray Park and Flat Rock Gully will be damaged, likely contaminated (both involve drilling through unknown contaminants that the EIS states are yet not properly analysed) and have been the green lungs of our community during the COVID-19 and working from home periods. The Balgowlah Golf Course is similarly loved as a community park**. There is no funding and conditions proposed to require TransportNSW to fund the rehabilitation and return of these areas to the community. Wetland and other areas and land trade-offs have not been delivered in other tunnel projects despite being promised – please condition that funds for rehabilitation be put in trust before the project commences and only used for those purposes. We again ask for a green bridge to be built across the Warringah Freeway as a trade oof for the land to be lost at Cammeray Golf Course permanently for the Beaches Link infrastructure. Mature trees need to be retained along the edge of the Freeway to preserve the amenity of resident or replaced with mature trees not just small tree stock that will take a decade to grow.

   The decision only revealed in this EIS to now divert Burnt Creek at Balgowlah rather than tunnel under it is very concerning. The diversion of downstream water flow will kill the precious rainforest area at the edge of the Balgowlah Golf Course and home to rare species such as water dragons. There are echidna colonies in the Beach Link construction area too and the regenerated gem of Flat Rock Gully which is to be a major Tunnelling site. Cammeray Golf Course (also known as Cammeray Park) acts as a green wildlife corridor to Green Park and Primrose Park bushland. We have had wallabies come through the golf

course. All this is to be lost in the name of removing 10% of traffic off Military Road which we know will only be temporary until induced demand fills it again. The project as designed does not meet the objectives of the project in a minimal environmental cost manner. There are many better road tunnel paths or design features or alternatives such a public transport that should be explored before approval of this project. The EIS states that the Beaches Link is a long-required bypass of the Spit bridge but fails to mention that Beaches Link in the 2012 Transport masterplan was a plan to investigate a bus tunnel under Military Rd – it has now morphed into something to connect Brookvale and Frenchs Forest with the M2 and WestConnex toll roads system, encourage driving, cause more pollution and cement Sydney's status as the most tolled city in the world. This is not what the people of Mosman, the lower north shore or the Northern Beaches asked for.

**If the project is to proceed please condition the minimum standards to mitigate the impacts on this community:**

**Filtration of the double stack at Cammeray as a minimum and ideally the filtration of all stacks on the Beaches Link, otherwise ban diesel trucks from using the tunnel.**

**Permanent air pollution monitors – no removing at 24 months as there will then be no data available for the EPA to enforce anything or for Planning to know if the modelling has been validated or not. There will also be no longitudinal health studies possible unless ambient air pollution monitors continue indefinitely (like on the Brisbane Airport link and Clem 7 road tunnels – both operated by Transurban but for which real time data is still available for the stacks, ambient and in tunnel air)**

**Install air pollution monitors at the local schools where air pollution is shown in the EIS to be increased by the project – install in time to monitor air quality during construction and afterwards and make the data available in real time to the school and parent bodies.**

**Mature trees to replace any removed from the con=striction site or Freeway surrounds**

**Reduce the amount of green space permanently lost to the projects and tunnel under Middle Harbour and under Burnt Creek as originally planned.**

**Noise wall extended at Anzac Park edge of Freeway.**

**Noise reducing paving to be used.**

**No trucks going to or from the project to use Ernest St or Miller Street between the hours of 7 am and 6 pm on school days – after hours, all trucks to use only the Warringah Freeway site access to Cammeray Golf Course site to allow residents to get sleep.**

**All loads to be covered on trucks delivering or removing spoil or equipment form the construction sites.**

**The health cost projected in the health effects volume uses an inappropriate measure. The incidence of asthma or other conditions is to be measured by hospital admissions – most asthma and lung conditions are managed in the community by GPs and do not end up in hospital** so will not count. It does not mean they are not severe, do not cause lung damage/restrict growth and cause lost days at school or work. Please estimate these effects. If no ongoing ambient monitoring occurs there will be no way to do long term health studies on the effect of the project. I note that a longterm data analysis by Prof Hibberd was possible in relation to the M5 East and Lane Cove tunnels because of monitoring data being available. Unfortunately, those tunnels are half the length of the proposed Beaches Link, so the data and conclusions are not comparable.

**Otherwise, it is surely simpler to require filters until diesel vehicles no longer use the tunnel, and the majority can go electric. It will make such a health difference to a generation of children – the Cammeray /North Sydney district, affected by the double stack at Ernest Street, in the largest education precinct in the country with over 12,000 public and private school children plus preschool and university students. The $1 million-dollar annual operating cost is minor in a $1 billion per km project cost.**

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