

## **INQUIRY INTO IMPACT OF THE WESTCONNEX PROJECT**

**Name:** Ms Alison Taylor

**Date Received:** 31 August 2018

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Parliamentary Inquiry

27 August, 2018

**Re: WestConnex Parliamentary Inquiry**

Dear Sir/ Madam,

I am writing in regard to the Parliamentary Inquiry to Westconnex. My submission relates primarily to:  
(g) the relationship between WestConnex and other toll road projects including the Sydney Gateway, Western Harbour Tunnel, F6 and Beaches Link

Under this heading, I question the business case, the assertions made by the RMS in relation to air quality, and their position in relation to filtration.

**Westconnex, Western Harbour Tunnel, Northern Beaches Tunnel Business Case – What Business Case?**

WestConnex was conceived by the Board of Infrastructure Australia to fix transport of freight. It had a benefit cost ratio of less than 0.4, which is a dumb idea by anyone's Business Case standard. Then a grab-bag of roads had been pulled together to feed these roads in order to improve the benefit cost ratio! Tony Abbott backed this and made it part of his 'Roads of the 21<sup>st</sup> century' and funded it. It has nothing to do with strategic infrastructure projects or building better public transport.<sup>1</sup> It was just another barrel of pork for another election.

The Western Harbour Tunnel and Northern Beaches Tunnel (aka Beaches Link) are to be built in order for WestConnex to funnel enough cars to be financially viable. And so that the Government can privatise them to companies such as Transurban.

Rozelle is to be completely dug up and dug under to facilitate getting more cars into the spaghetti mess from North Sydney via the Western Harbour Tunnel. Check out the picture of the interchange and tunnels below! This may (or may not) be the design for the interchange. The project has been approved without due process of a design, let alone an Environmental Impact Statement (EIS). It really is frightening, the disregard that our State government has for its people. The project already has State Significant Infrastructure status, meaning that the government can ride roughshod over Environmental, Heritage, Aboriginal Heritage and Health concerns. A design and an EIS (though expected to be ignored anyway) is the **very least** that residents should expect to be able to understand the impacts that they are about to face.

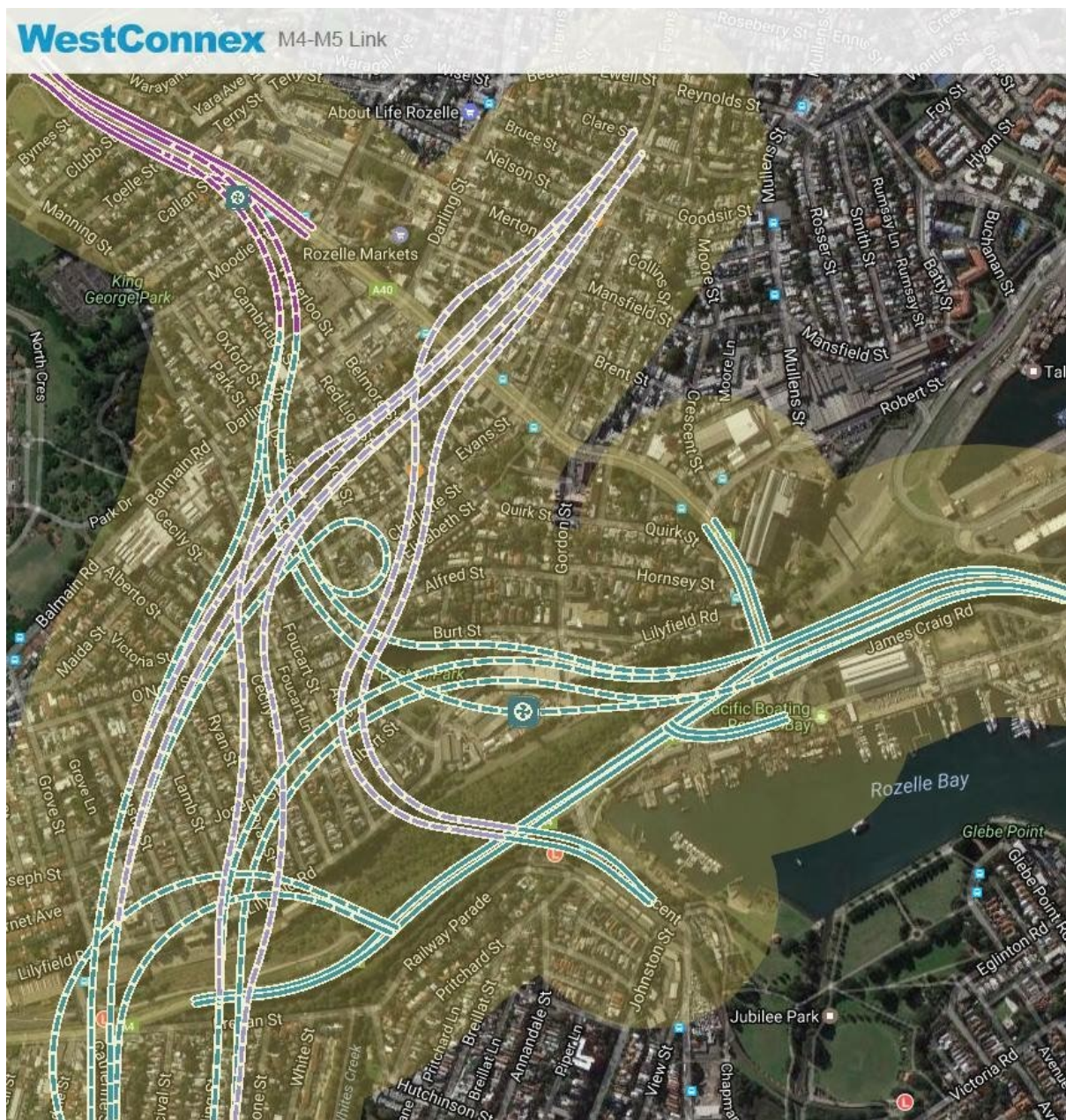
The residents of the inner west are currently going through several levels of hell as WestConnex bores underneath their suburb, with vibration and noise so dreadful, while WestConnex hands out earplugs to those that complain. The government does not care as it spreads its tentacles wider.

If there is no design and no EIS, was there ever a Business Case? What are the objectives of the project? Is the project only serving to bump up the Transurban coffers?

A more liveable, accessible, sustainable city will **never** be achieved with these Westconnex infrastructure projects. And the citizens of NSW know it. There is no greater good here. There is no public transport. There is no traffic relief. There is no future-proofing for population increase. There is only destruction and pollution. I would argue that people would be willing to put up with some of the pain of construction and development if it were for Public Transport and a government that truly cared about and listened to its citizens.

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<sup>1</sup> Peter Newman, ex-Board member of Infrastructure Australia on WestConnex (in a YouTube video)



### Where is the Business case for Roads over Rail to the Northern Beaches?

The Northern Beaches tunnel was dreamed up to 'fix' the car park of the Spit bridge and cars travelling through Mosman. In actual fact, the Northern Beaches tunnel was at the last minute, pork barrelled in to the North Shore electorate (which looked like being won by an independent after being a safe blue ribbon Liberal seat) for the 2017 NSW by-election. Tony Abbott wants the Northern Beaches tunnel, which was his proviso for giving out the federal funds in the first place. And he is currently lobbying the State government to fast track the Beaches link.<sup>2</sup>

As if a 10 lane freeway running through the middle of Naremburn, Crows Nest, Cammeray and North Sydney were not enough, the Northern Beaches tunnel will funnel an extra 6 lanes of traffic (3 lanes each way for each of the two tunnels above) into the mess. Not to mention the extra traffic on the local roads pouring off the new M8.

<sup>2</sup> <http://tonyabbott.com.au/fast-track-tunnel/>

A metro line will **always** outperform a road solution in a business case. I would suggest that there is no business case to consider the option for Public Transport over a Motorway, the M8. The NorthWest Metro will carry 40K people per direction per hour. At best, the Northern Beaches tunnel will carry 8K people per direction per hour.

The latest Northern Beaches Tunnel reference design from July 2018 states that there will be a 27 minute saving\* on the travel time from Brookvale to the CBD and that the journey will take 30 minutes. The journey currently takes 34 minutes in peak hour by bus. Are they allowed to claim a 27 minute saving, or should they only be claiming 4 minutes? I would seriously question every single assumption made by Treasury if this is the type of rubbish that they are publicly documenting. \*Note that in October 2017, the journey time saving was estimated at 40 minutes. How could a 34 minute journey ever save 40 minutes? Were there ever any considered figures behind these numbers or does someone pick a figure out of a hat?<sup>3</sup>

How can a \$14 Billion project for a 7.5km journey to save 4 minutes be justified?

#### **Why the Northern Beaches want better public transport over roads**

The Northern Beaches residents need better Public Transport. 54.5% of Northern Beaches residents drive to work. Every day. The public transport on the Northern Beaches is inadequate and inconvenient. As a *single* example, take a look at the Northern Beaches Council Facebook page and search for the Chatswood Challenge video. It follows several councilors trying to get from Newport to Chatswood, a 27km journey. Here are the options and the time taken.

Bike: 57 minutes

Car: 64 minutes

Bus to Mona Vale, Bus to Gordon, Train to Chatswood: 91 minutes

Bus to Mona Vale, B-Line to Warringah Mall, Bus to Chatswood: 116 minutes

I'll reiterate that these times are for a 27km journey.

It's a complete fallacy that the Northern Beaches do not want a train or metro. They don't want a Motorway, with cars spilling out of a tunnel down the Wakehurst Parkway towards Narrabeen. A train has not been considered because I believe that the purpose of the Northern Beaches tunnel is to feed WestConnex. The Northern Beaches community has not been consulted about public transport in the last 40 years by the State Government. Should this not be part of the Business Case? Public Transport would fulfil an existing need for these residents. Development is what the Northern Beaches fear most. With a rail line, development would be limited to the train stations. With a motorway, development will occur all along the road network.

It is also a complete fallacy that the population numbers and topography of the Northern Beaches precludes it from having a rail or metro solution, which is what the RMS keep saying at their consultation sessions to Anzac Park Public School parents. The Northern Beaches population is 300K people. This is compared to a population of 80K in a topography of the Blue Mountains with the services of a train!

The Northern Beaches population demands a better public transportation solution to enable access to the business districts that are so close, but so far, so inaccessible. If road tunnels are built, the road will quickly fill up as the public transport currently available to those on the Northern Beaches will be abandoned in droves. It will simply make it easier for them to say "Public transport here is a joke. I'll just drive!"

Where is the Business Case to justify roads over rail to the Northern Beaches?

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<sup>3</sup> On Thursday 30 August at 6:15pm (peak hour traffic to the Northern Beaches from the city) the large electronic RMS Freeway information sign at the Brook St entrance to Warringah Freeway stated that it would take 27 minutes for car drivers to travel to Manly. You only need to look at a map in relation to the equivalent distances (CBD to Brookvale) to determine that the benefits stated in the latest (July 2018) Northern Beaches tunnel documents are fabricated.

## Westconnex, Western Harbour and Northern Beaches Tunnels – A Public Health experiment

### **Sydney Air Quality is set to get significantly worse**

The Australian Government is building over \$50 Billion worth of new road tunnels which will pump out hundreds of kilometres of unfiltered pollution over schools and residents.

More than 10 pollution stacks are being built in residential areas, close to schools. Nowhere else in the world are governments imposing this level of new, unfiltered emissions over their population. In the case of the Northern Beaches and Western Harbour tunnels, two ventilation stacks and two tunnel exits will be built together (Northbound Western Harbour tunnel and Southbound Northern Beaches tunnel), adding to the existing pollution from the 10 lane Warringah Freeway. These particular ventilation stacks and tunnel exits are less than 300 metres from schools, preschools and a sports ground. Thousands of children are affected.

As noted by the European Environment Agency in the Air and Health publication,

*“Pollutants enter the human body in three main different ways: by inhalation, ingestion or skin absorption. The amount of any given pollutant that is received is often termed the **dose**. The **dose** will be dependent on the duration and intensity of the exposure. organ dose refers specifically to the amount that reaches the human organ where the relevant effects can occur, e.g. the lung”*

<https://www.eea.europa.eu/publications/2599XXX/page006.html>

There will be **hundreds of new, additional kilometres unfiltered polluting road being pumped out** of the stacks in these new projects. Regardless of how much air they blow out of the stack along with the pollution (ventilation), the **dose** the Australian Government will be delivering to our community is undisputedly the largest public health experiment we have ever seen. And the effect of the dose is cumulative.

### **The RMS promised baseline air quality monitoring at Anzac Park Public School**

The RMS have come to Anzac Park Public School 3 times. The first time, in July 2017, they came without their Air Quality representative. At this first meeting, the RMS Project Manager visited the Anzac Park Public school and outlined the project. The RMS had advised that they had promised the principal that they would install baseline air quality monitoring at or near the school.

At the second meeting on 14 November 2017, specifically for the RMS Air Quality representative, Andrew Mattes, to address parent's queries, the RMS said that they would now **not** monitor air quality at our school and furthermore, that they wouldn't do monitoring where the stacks would be located. The RMS told parents that if we wanted baseline air quality monitoring done as part of the EIS, then **we parents** would have to request it of the Planning Department.... We had 2 weeks to request that baseline air quality monitoring and filtration design into the SEARS. Despite our request, neither of these things were added and the Department of Planning person that I spoke to, Kane Winward, kept confusing Ventilation for Filtration and mixing up these very different words. Ventilation is not enough for the EIS, or for the final design of the stacks. We want filtration in the design and we want baseline air quality monitoring at our school **before** the EIS comes out. How can anyone assess the cumulative health risk otherwise? Who is monitoring our public servants? Who is coordinating this project if not the RMS? Why did parents have to ask for this? Where is the Department of Health? Is there any coordination across departments?

Why have the RMS reneged on their initial promise to monitor air quality at our school? What are the RMS afraid of? Have they already measured the air quality near the school and know that it violates current standards? How can we citizens trust what is happening to us, when there is such a culture of cover-up from our public servants?



The RMS keeps telling us that our air quality at the school is “really really good”. We would ask that they prove it.

The RMS acknowledged at this November 14 meeting with Anzac Park Public School parents that air pollution causes permanent lung damage, cognitive delay, heart problems etc. They then proceeded to say that these effects are **theoretical only** and that they would **improve** air quality in the local area even with the additional pollution that they would pump out over the top of the school. It really was Alice In Wonderlandesque and I am concerned that the RMS are operating: a. in isolation of; or worse, b. in a parallel universe to – other government departments including the Department of Health.

If I squeezed my talcum powder bottle harder so that the talc is ventilated higher into the air, it doesn't mean it is safe to breathe in. I said this to the Andrew Mattest and the RMS spin doctor side kick when they visited our school on 14 November 2017. The RMS advised that actually, the particulate matter from the tunnel stacks is worse than talcum powder (!).

At the most recent RMS meeting with Anzac Park Public School parents on 7 August 2018, they presented the reference design. They said at this meeting that there would be negligible air quality impact, despite having both exits and two stacks within 300m of the school. They presented a graph which showed: 1. the background air quality; then 2. the increase from surface road traffic; then 3. the impact from the ventilation stack. Their purpose was to show that the impact from the stack was smaller than the other two parts. The problem is that each of these measurements on the graph will be significantly larger than what the RMS are showing. The background air quality is not even known – see the paragraph below. The impact of surface road traffic is significant due to the existing 10 lane freeway. Additionally, pollution from surface road traffic will increase as the traffic from both exits will impact greatly on this measure. And finally, the impact from the ventilation stacks will be significantly larger, with 2 tunnels that are more than twice as long as the tunnel which the RMS are presenting. The RMS should be made to measure what each part actually is, as well as estimating what additional impact will be in the EIS. They should be made to monitor air quality at the school before the EIS comes out.

#### **Does Sydney have amazing ambient air quality? – we don't even measure it**

RMS propaganda leaflets to the Lower North Shore about the Western Harbour and Northern Beaches tunnels state that our air quality is better than that of similar sized Canadian cities. In addition, the RMS are bombarding our local communities' Facebook feeds with false advertising, claiming that our air quality is “really really good by International standards”. Firstly, “really really good” is not a measure that the WHO or OECD uses to describe air quality. And furthermore, this information is completely untrue and misleading when there is no air quality monitoring in our area and the one monitor in existence that is closest to our area (ie. Lindfield) is nowhere near a road (it is sitting in the Lane Cove national park). Additionally, the Office of Environment and Heritage that runs the monitor advises on its website that the monitor is not compliant with Australian standards (see error message on their website, below). I also note that there are no air quality monitors in the vicinity of the CBD or anywhere one might consider that monitoring is necessary. The Rozelle, Chullora, Earlwood, Callan Park monitors are either non-compliant or have been taken offline. The Office of Environment and Heritage may be tasked with monitoring air quality, but they obviously don't take their obligations seriously. And the RMS is producing propaganda about management of air quality on the back of this vacuum of information.

<http://www.environment.nsw.gov.au/topics/air/monitoring-air-quality/sydney/~link.aspx?id=16151FF24071464FB5E713D2A2410E90&z=z>

**NOTE:** The site does not currently comply with **Australian Standard AS/NZS 3580.1.1:2007 - Methods for sampling and analysis of ambient air - Guide to siting air monitoring equipment** as the clear sky angle is < 120° due to trees within 20 metres to the north-east and east of the monitoring site.

#### **RMS do not currently *manage* air quality**

When I go to the RMS website to see "How is Air Quality Managed?" page, I am presented with a glossy brochure and a statement about the M5 East tunnel that states:

*"The M5 East Tunnel is fitted with a smoky vehicle camera.... This deters drivers of smoky trucks from using the tunnel and encourages them to repair their trucks."*

I can't work out whether the RMS are seriously presenting this to the public as air quality management, or if it's a deliberate finger in the air to public concern and scrutiny.

<http://www.rms.nsw.gov.au/projects/key-build-program/building-sydney-motorways/sydney-tunnels/ebook/index.html#/12/>

There is no monitoring of the 5 recommended indicators of pollution either in-tunnel or ambient in relevant locations. There is only a smoky vehicle camera for the M5 East, and only Carbon Monoxide is measured and reported for the Lane Cove tunnel.

Sydney tunnels have nothing like the air quality monitoring happening on the two Brisbane tunnels (Airportlink and Clem7 tunnels) built in 2013 and 2015. There are ambient air quality sensors at more than 5 sites and in-tunnel sensors and all 5 air quality pollutants are measured. These tunnels also have no filtration and the ambient air quality numbers are **very worrying**.

<http://brisbanenetwork.linkt.com.au/sustainability/airportlink-air-quality/?date=2018-08-15&type=external#graph-type>

These are real time numbers and there are very large readings in peak hours. Once the daily readings are averaged out, these readings do not appear to breach minimum standards, but I note that they have bumped up the minimum standard for PM2.5 from 25 micrograms/m3 (Australian minimum standard) to 45 micrograms/m3 (I have no idea where on earth they come up with this number as a standard. Even the US has a minimum standard of 10 micrograms/m3).

#### **Children expected to die**

There is no safe minimum level of PM2.5 according to the WHO.

According to an Australian Federal Government paper regarding the economic cost of air pollution:

"Researchers have identified several health effects of air pollution on both adults and children. However, because children's physiological responses to air pollution are quite different from that of adults, they are more susceptible to the effects of air pollution. Children differ from adults in their activities, their rate of breathing, their lung anatomy and physiology, and their organ maturity. For example, children take in more air per unit body weight at a given level of exertion than do adults. In a comparable activity children may take in 20–50 per cent more air, and hence more air pollution, than an adult. The air pollutants that are of special concern for children include airborne particles, carbon monoxide, ozone, nitrogen oxides, sulfur dioxide, and acid aerosols (Mathieu- Nolf 2002).

Children are more vulnerable to ambient air pollutants due to greater relative exposure. While adults typically spend 5–15 per cent of their time outdoors, children may spend more than 20 percent of their time outdoors. There are definite health benefits to having children participate in outdoor activities. However, scientific evidence suggests that air pollution exposures can injure children's lungs and other organs during their physiological growth period (Kleinman 2000)."

There will be increased morbidity (dying slowly) and mortality (dying) due to the dose of pollution that the community (residents, school children and workers) will receive. And there are at least 100 schools impacted by the new tunnel stacks being built from the Westconnex and related roads and tunnels projects. But the RMS (Roads & Maritime Services) have advised that their policy is not to filter, despite the Australian government putting a figure on a statistical life, which would enable the RMS to calculate the benefit of filtering (ie. Lives not lost and no public health expense) against the cost to filter. The RMS won't even consider filtration in the design of their stacks, despite a 2006 Parliamentary Inquiry saying that future tunnel projects should include the design of filtration in them.

Why won't the RMS calculate whether we are "worth it" when it comes to filtration?

### **RMS Policy is wrong - World's best practise is to filter tunnels in urban areas**

The RMS policy to not filter at any cost is wrong. They say that this approach is World's Best Practise. In fact, the only report that mentions world best practise in relation to not filtering tunnel exhaust emissions is a report written in 2009. It is almost certainly outdated, and it seems that the RMS have conveniently only read the last line of the report. The final conclusion, which in fact states that:

*"Without taking aspects such as urban design into consideration, the most effective way to treat portal emissions appears to be the GRP-fan installation without filtration. At minimum cost and minimum energy consumption, the pollutants are removed from the portal area and diluted to immeasurable concentrations at ground level."*

[http://www.hbi.ch/fileadmin/downloads/pdf/publikationen/11\\_Possibilities-and...\\_13th-ISAACVT-2009\\_New-Brunswick.pdf](http://www.hbi.ch/fileadmin/downloads/pdf/publikationen/11_Possibilities-and..._13th-ISAACVT-2009_New-Brunswick.pdf)

It seems that they have ignored the beginning of that particular conclusion and urban design does not factor into their approach. Furthermore, the actual report states that the findings only relate to this particular project.

If the RMS had taken the time to understand the original report, which is in German, rather than the short, English abridged version that was pulled together for a PIARC (World Road Association) conference, they would know that the case study discussed is the housing of an existing motorway, the Einhausung Schwamendingen in Zürich, Switzerland in order to limit current pollution exposure to residents.

[https://awel.zh.ch/internet/audirektion/awel/de/luft\\_klima\\_elektrosmog/veroeffentlichungen/\\_jcr\\_content/contentPar/publication\\_5/publicationitems/reinigung\\_von\\_abluft/download.spooler.download.1286795254469.pdf/RAS+Gesamtbericht\\_2008\\_03\\_19.pdf](https://awel.zh.ch/internet/audirektion/awel/de/luft_klima_elektrosmog/veroeffentlichungen/_jcr_content/contentPar/publication_5/publicationitems/reinigung_von_abluft/download.spooler.download.1286795254469.pdf/RAS+Gesamtbericht_2008_03_19.pdf)

This is an artist's view of what the tunnel will look like.





Construction will begin in 2018. Note the people-friendly walkway at the top, and the tram tunnel at the bottom. Unlike Sydney, Zurich has one of the largest public transport networks per capita in the world.

The full German language report looks at the various methods available to filter the air of particulate matter (PM<sub>2.5-10</sub>) and NO<sub>x</sub> (nitrous oxides). The costs of filtering the Einhausung are presented. As are the costs of filtering at the source. That is, filtering the exhausts of the vehicles themselves. The report does say that the figures relate only to this particular Einhausung project AND that the effectiveness of a portal air extraction is increased with tunnel length. The new Einhausung in this report will be 940m and will add to an existing tunnel to make an overall length of 1.7km. I would hazard a guess that the RMS have not even reviewed this report, only the rolled-up summary in English. The RMS policy is simply 'that we do not filter'.

The report advises that it in this *singular* instance, it would be more cost effective to implement a higher air quality standard than filter the ventilation stack. This is true for this road, which is not a new road, but the enclosure of an existing one. Also this statement can only be relevant in Switzerland, where they implemented the higher EURO 6 air quality standards several years ago for cars and trucks alike. Switzerland's democratic process is very thorough and indeed, approvals for building the Einhausung Schwamendingen have only recently been received from all of the areas of government for construction to begin.

Switzerland, unlike Australia, require vehicles to retrofit filters on their cars and trucks to align to the new standard. Switzerland's vehicle fleet is not as old as Australia's. Cars over the age of 10 years must submit to an annual, government run, centralised vehicle check which includes strict emissions checks. A switch to a new standard gives a very quick uplift in air quality. Unlike Australia, which is very slow to implement improved standards and when they are implemented they only apply to new cars. It should also be noted that unlike in Australia, Switzerland does not allow trucks to travel on the road network at all on the weekend. Many European countries have already outlined a plan for the phasing out of diesel and petrol vehicles. Australia is one of the only OECD countries that has no such plan.

<https://www.weforum.org/agenda/2017/09/countries-are-announcing-plans-to-phase-out-petrol-and-diesel-cars-is-yours-on-the-list/>

The RMS should take the time to understand the reports that they are using and the frame of reference in which they are written. If they did, they would know how absurd the extrapolation of this report is to any of the tunnels in Australia. The RMS should commission recent, Australia specific research to assure themselves and the public that their policies are sound.

### **Tunnel design is important**

At the 7 August 2018 meeting with Anzac Park Public School parents, the RMS advised that they won't add ventilation outlets to the design of Western Harbour and Northern Beaches long-road tunnels (despite this being contrary to any longitudinal ventilation tunnel design in the world) because of the pushback by residents!

This admission by RMS (that proper design takes a back seat over perceptions from the uninformed public) means that they will only ever design tunnels with longitudinal ventilation, even though transverse is the best standard to dilute pollutants in the tunnel and therefore also to dilute pollutants for the surrounding population.

Other countries, such as France with the Duplex tunnel, and India with 3 very long new tunnels are doing semi transverse or transverse ventilation (full air tube parallel to main tunnel) for air exchange along the tunnel length. The Lane Cove Tunnel has some Transverse ventilation with some extra air passage - RMS now say it was over designed having that better ventilation and they won't do it on other tunnels. The Sydney Harbour Tunnel was built with transverse ventilation but has been able to operate as longitudinal with end stacks because it is a short-road tunnel with only 2.3 km, 2x lane each way and the emissions are subject to Harbour breezes, without the topography of inland stacks.

Overseas, if there are 5+ km tunnels using longitudinal ventilation with end stacks, governments are either banning diesel/ large vehicles or putting filters in the stacks. If not, longitudinal ventilation, as is intended to be used by the RMS for the Western Harbour and Northern Beaches tunnels, needs lots of stacks. The E4 Stockholm at 18 km (which the RMS has advised that the Northern Beaches and Western Harbour tunnels are modelled on) is getting 10 stacks plus 1 emergency smoke vent.

The RMS has its head up a tailpipe and can't see that the issue of proper ventilation and filtration cannot be circumvented whilst ever the RMS shows its utter disregard for the health concerns of the people it is supposed to serve.

### **Tunnel filtration works**

Filtration and scrubbing of pollutants is not new. It works. The RMS bloody mindedness in refusing to consider filtration borders on the criminal. They are wilfully poisoning people with these stacks. There is no consideration of the cumulative effect of this pollution on the Sydney population. And NSW Health is absent.

The Japanese and Norwegians pioneered filtration of road tunnels. Long road tunnels in urban areas in other countries are now routinely built with filtered ventilation stacks. Stack filtration technology is available from Norwegian, Austrian, German and Japanese manufacturers. This is international best practice. The filtration systems remove fine particulate matter, a category 1A carcinogen, and noxious gases such as nitrogen dioxide, a known trigger for asthma and other respiratory disease. Recent examples with stack filtration to prevent emissions into the air of surrounding communities include the Madrid's Calle tunnels (opened 2008, multiple tunnels, totalling 50 km length , 6 particle filtration stacks and 4 gas filtration systems), Tokyo's Yamate tunnels (latest opened 2015) and the HongKong CWB bypass & tunnel (opening 2019). Countries which do not filter long road tunnels include India and Turkey. But even then, the 5km unfiltered Turkish Eurasia tunnel, which opened in Dec 2016, bans trucks and is only 2 lanes each way and vents its emissions out over the water of the Bosphorous.

The UK & USA have no long road tunnels - they put trains in theirs. The July 2014 Chief Scientist Committee report was informed by outdated RMS reports (the latest referring to tunnels up to 2012). It is not only outdated but it wrongly says the future Hong Kong tunnel will not be filtered. That tunnel , known as the CWB bypass is 3.6km long being built with a full air purifying system (filtering air inside the tunnel, not just at the outlets) at the moment by Leightons Asia and will open in early 2019.

If the RMS insist on building 5km plus between stacks, it is irresponsible not to filter stacks or add extra stacks midway on each leg plus an emergency smoke vent.

When asked, RMS have told us they can't go overseas to check out these newer, filtered tunnels and yet they claim "World's Best practice" for a system of ventilation that objectively is not. Australia lags in air quality standards and policy and this is borne out by a refusal to address vehicle emissions, consider policy amends to transition away from petrol and diesel vehicles and review pollution stack filtration at work. And the RMS continue to lie about the M5 East filtration trial.

**The M5 East filtration trial filtered of a small amount of in-tunnel air. The filtration worked, despite false assertions from the RMS. This trial cannot be extrapolated to filtration of stacks, which is what residents are demanding**

The M5 East filtration trial 'not having worked' is really a red herring in all of this. Filtration works and provides a demonstrable improvement to air quality. It is used by first world countries on long road tunnels in urban areas.

The M5 east filtration trial was filtration of a small part of the air in the tunnel, not the ventilation stack. The M5 east trial was so costly because they dug an additional tunnel to draw out and filter emissions. The tunnel air was put through the filtration plant and then pumped back into the tunnel. The cost of the actual filter was a small proportion of the cost. Furthermore, though the filter was only turned on for about 4 hours per day, it removed 65% of particulates. Pretty good for a retrofit. There were about 20kg of particulates removed in the year it was turned on. The ongoing cost was scaled up by the RMS to 1 tonne (about 50 years of operation – a number which if it weren't so serious, it would be funny) and therefore the cost benefit was poor. So the cost was overinflated to get the outcome that the RMS wanted – further weight to the recommendation of no filtration. The RMS have drawn a line in the sand that they will not filter and will do and say anything to "prove" their point. And they keep trotting out the example of the M5 East filtration trial to back up their argument that filtration doesn't work. They are deceiving the public and they know it.

So, all in all, this filtration trial was successful (ie. removed pollutants) but the report was doomed to fail because the RMS wanted it to.

[http://www.chiefscientist.nsw.gov.au/data/assets/pdf\\_file/0017/51911/060814-FINAL-Initial-Report-Tunnel-Air-Quality-WEB.pdf](http://www.chiefscientist.nsw.gov.au/data/assets/pdf_file/0017/51911/060814-FINAL-Initial-Report-Tunnel-Air-Quality-WEB.pdf)

The report in the link above contains no scientific analysis that would help the RMS to understand what is the point at which they would ever consider filtration. That is, what is the length of tunnel where filtration would be necessary? There is no scientific study (even a graph) to show the length of a tunnel against pollution stack height where air quality is deemed to be safe for a particular ventilation rate. There is no measurement of the actual change in ambient air quality per tunnel length. What is the effect on air quality of two long road tunnels and their pollution stacks in such close proximity to one another and to a 10 lane freeway – as will be the case for our community in the vicinity of the Northern Beaches and Western Harbour tunnels and Warringah Freeway? This scientific analysis would be something that would be expected to be contained in a report from the chief scientist influencing whether exhaust stacks should not be filtered. Instead, this report is simply spin – and again references those bogus air quality readings from the Office of Environment and Heritage.

The NSW chief scientist the RMS Chemical Engineer (Air Quality representative) and the RMS need to get on board with what the rest of the world is treating as urgent. They need to stop treating NSW residents and children with contempt. We are a first world nation. Whilst the World Health Organisation (WHO) and Australian government guidelines say that there is no safe minimum of PM2.5 levels, it seems there is no upper limit of pollution at which the RMS will consider filtration.

The RMS talk of downwash zones and sensitive receptors, yet they say there is no difference in air quality from filtration. They need to back this up scientifically before they complete the long road tunnel Environmental Impact Statement for the Northern Beaches and Western Harbour tunnels.

### **Health and Research**

All of this additional pollution (these are brand new roads, not replacements) will be detrimental for our health. This is indisputable. Where is there ANY mitigation against this risk? Where (anywhere?) have the RMS or the Health Department considered this?

New research on the impacts of air pollution are coming out on almost a weekly basis. It is becoming an increasing concern in all OECD countries, except seemingly, from Australia. As previously mentioned, many European countries have already outlined a plan for the phasing out of diesel and petrol vehicles. Australia is one of the only OECD countries that has no such plan. Even India is in the list.

<https://www.weforum.org/agenda/2017/09/countries-are-announcing-plans-to-phase-out-petrol-and-diesel-cars-is-yours-on-the-list/>

The RMS and the NSW State Government should consider that willfully poisoning people from vehicular air pollution has consequences. As an example of how serious this is, a German VW executive was jailed for 7 years (he was picked up in the USA when on a family holiday!) for the faked diesel emissions scandal. Governments are responsible for ensuring that they do not willfully poison their people<sup>1</sup>.

What measures are in place to track this massive Public Health experiment, if the risks are not mitigated? I would suggest that it's a pretty substantial and unique opportunity to test pollution effects on children, the elderly and the general population.

### **Please help us**

Thousands of school children are depending on government departments making the right decisions for their future.

I ask you to demand that the Business Case for each of these projects be produced. That the Business Case for a Road over Rail solution for the Northern Beaches tunnel be produced. And that the benefits be reviewed for accuracy.

I ask you to demand that the Office of Environment and Heritage do their job and measure the air quality of our city. That they measure in realistic areas to produce real results of air quality in Sydney, in the city, in North Sydney, in urban areas, next to major roads, not in National Parks.

I ask you to demand that the RMS and NSW Chief Scientist undertake a scientific study (with independent scientists – not the same mob that keep getting rolled out to write what the RMS want them to say) with appropriate terms of reference to understand what is the point at which they would ever consider filtration. What is the length of tunnel where filtration would be necessary? They should produce scientific analysis to show length of tunnel against pollution stack height at various ventilation rates over the course of a day (with traffic peaks and troughs) where air quality is deemed to be safe (at every time of the day). They should produce scientific results using accurate measurement instruments that can gauge the actual change in ambient air quality (of all pollutants) per tunnel length. They should do real checks against the real-time emissions data of the only operating long road tunnel in Australia (the 6.7km long, Brisbane Airport Link) and expected impacts of unfiltered pollution<sup>4</sup>. They should produce a scientific assessment of the effect on air quality of two long road tunnels and their pollution stacks in such close proximity to one another and to a 10 lane freeway, as in the case of the Cammeray double stack.

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<sup>4</sup> The Brisbane Airport Link Tunnel has not yet reached its anticipated traffic volume and the EIS documentation prepared in October 2006 noted that ventilation stacks would be built with the capacity for installation of filtration equipment.

The Office of Environment and Heritage should measure the current ambient air quality around the Anzac Park Public school. All Environmental Impacts of the Northern Beaches and Western Harbour tunnels should be assessed together, cumulatively, not separately. The EIS for these tunnels should be using the actual background air quality experienced by the The Anzac Park Public school that is next to a 10 lane freeway. The degradation of air quality can only be fully understood if the current situation is known.

And finally, I ask that the cost benefit analysis of filtration be considered in the project design not just by the RMS and the NSW Chief Scientist, but in conjunction with NSW Health and experts in the field of health impact from pollution. It should not be left to the RMS and their self appointed experts to determine the health implications of 24 hour a day unfiltered pollution on a population.

This is Public money. This is our city. This is our future. And this is the air that we and our children will breathe **every** day.

Yours faithfully,

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<sup>i</sup> "Is the Government serious about air quality issues, the environment and health issues?...We do not know the quantum of unfiltered air that people are inhaling and we do not know the impact that that may have in the future. ..Schools in our electorates are situated in very close proximity to the stacks..."

"The Government does not think it is important to safeguard the health of local residents, ensure air quality or take out insurance for the future health of people who live, work and play in the vicinity of these stacks... I take this opportunity to explain my absolute frustration at the way the State Government has failed to consult on this issue. The Government has failed to address residents' concerns about air quality and many other associated issues. It has treated the community with contempt..."

"Members of Parliament should examine their conscience and consider how they would feel if their children or the children of loved ones were exposed to this level of fumes every day and they were part of a government that could have put in place measures to reduce the impact of the fumes."

Gladys Berejiklian:

<https://www.parliament.nsw.gov.au/Hansard/Pages/HansardResult.aspx#/docid/HANSARD-1323879322-79039>