

INQUIRY INTO IMPACT OF THE WESTERN HARBOUR TUNNEL AND BEACHES LINK

Organisation: Cammeray Public School P&C

Date Received: 18 June 2021

18th June 2021

Cammeray Public School P&C
Palmer St, Cammeray
cammeraycommunity@gmail.com

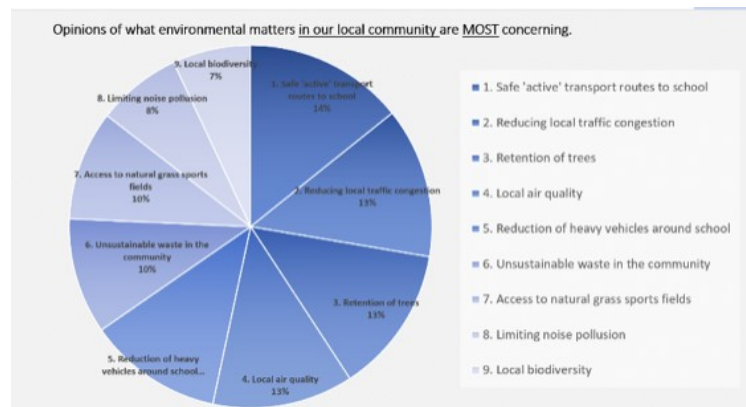
The Hon. Daniel Mookhey MLC
Chair
Public Works Committee
NSW Legislative Council
Parliament House
Macquarie Street
SYDNEY NSW 2000

**Cammeray Public School P&C
Submission to the Inquiry into the Impact of the Western Harbour Tunnel and Beaches Link**

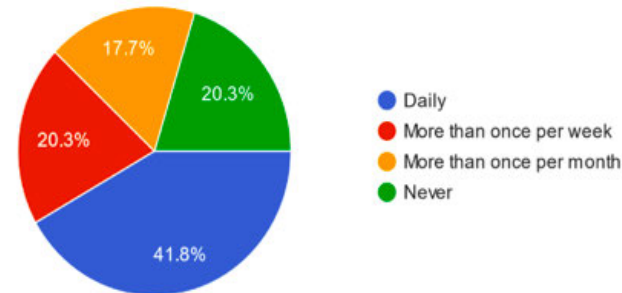
Dear Members of the Public Works Committee,

Cammeray Public School families and the school will be heavily impacted across many aspects of these projects. Cammeray's catchment is uniquely situated bordering on and intersecting with several key stages and sites including the main Cammeray Golf Course construction site, Warringah Freeway support sites, Flat Rock Gully dive site and Middle Harbour. Our school also regularly uses many of the sports fields which stand to be placed under significant construction strain (noise, dust, trucks) from 7 years of overlapping works. These fields and parks include Cammeray Park (next to Cammeray Dive Site), Bicentennial Reserve (next to Flat Rock Dive Site) and Tunks Park (downhill from Flat Rock Dive/ Tip site). Long term there is clear evidence, documented in the EIS, that pollution levels at the school will increase as a direct result of the project. The school sits at elevation putting it closer to the height of stack dispersion and within a high impact range. Questions remain about the impact of being at elevation in relation to the double stack at Cammeray and whether even greater pollution levels can be expected. In addition, the school and its families commute to and from school across Brook and Miller St's. Brook St/ Flat Rock Drive is estimated to see up to 70 trucks per hour during the 5 years of operating the dive site at Flat Rock Gully and it has been recently confirmed with the school community that hundreds of large spoil trucks per day will need to access Miller St (one block from the school) to return to the Cammeray Site. In addition, both these streets are major arterial roads leading toward the Warringah Freeway. With extensive access changes planned for the Warringah Freeway, to prioritise through traffic, it is plainly evident that substantial local rat running will have to occur to access preferred Harbour crossing points – this rat running will heavily impact our schools transport corridor. There is also concern that, should the Warringah Freeway be independently tolled, further rat running and local congestion will occur. Local congestion impacts and scenarios have not been fully modelled in regard to the project, the focus is on through traffic at the expense of local commuters. A survey completed this week of Cammeray School Parents found that 62.1% of kids ride or walk to school more than once per week and the

greatest concern for parents is safe active transport routes. Both the construction and operational traffic implications of this project stand to have extremely detrimental impacts on our children's health and safety.



Does your child walk or ride a bike to/from school?
(Including both with or without a parent)



The business case for the project has not been released to the public, the travel time savings quoted don't add up based on known km's travelled and speed limitations and the impacts in Sydney's largest school zone (20,000 children at schools along the route between Rozelle and Balgowlah) and sensitive Harbour environments appear to be far greater than the stated benefits. Plugging two tunnels into the Warringah Freeway rather than bypassing it is at the heart of many of these issues as impacts are brought into the main school corridor and conflicts are created with local traffic, other issues such as impact on environment and air quality could be addressed by looking at a mass transit alternative to a toll road tunnel. We object to the Western Harbour Tunnel (including the Warringah Freeway Upgrade) and Beaches Link (including the Gore Hill extension) projects and urge you to recommend that the NSW Government stop these projects immediately and fully scope alternative options. There are considerable issues of intergenerational equity here with children bearing the weight of both the construction impacts and future financial burden of a project with a questionable BCR and a poorly scoped risk profile. We would recommend that the committee review the project in context of the burden it presents to the next generation who are currently in school across the route of this proposal.

We have previously submitted detailed reasons as to why we have objected to these projects. Please find attached these submissions. The submissions relate to the following terms of reference in particular:

(a) the adequacy of the business case for the project, including the cost benefits ratio, in the absence of a publicly available business case this is difficult to assess however it would appear that costs such as health and environment have not been factored in as well as costs related to contamination. Early Works have commenced in and around our school zone and it appears that the bare minimum is being done to address the contamination risk. It is not acceptable that contamination and risk in school zones is poorly addressed to save on costs.

(b) the adequacy of the consideration of alternative options, alternative options have been briskly dismissed in the EIS rather than assessed in depth. An apples to apples comparison with public transport alternatives would be helpful in understanding the cost/benefits. Our school community wants more active and public transport links not more pollution and traffic.

(c) the cost of the project, including the reasons for overruns, Given that there are dozens of additional plans required as a condition of the Western Harbour Tunnel approval and many areas of uncertainty documented in the Beaches Link EIS it is conceivable that overruns and delays will be common place. The contamination at the Flat Rock tip site is a significant concern for the school as this will be difficult and costly to mitigate.

(e) the extent to which the project is meeting the original goals of the project, We have been repeatedly told that local traffic will improve and Military Rd traffic will be reduced. Transport for NSW documents this however it is evident from the EIS that our transport corridors will be adversely impacted due the limitations of local access to Harbour crossings and freeway onramp routes. It is also evident that actual vehicle numbers on Military Rd quoted in the EIS sit at today's level of traffic after the tunnel is built i.e. there is no improvement beyond today's levels of traffic.

(f) the consultation methods and effectiveness, both with affected communities and stakeholders, consultation with the school P&C has been poor overall. We have continually had to initiate contact. Our considerable submission into the Design Phase resulted in no change to the project and we were not followed up. The EIS resulted in submissions with much the same issues being raised. Consultation with the community during Covid was extremely difficult and problems around face to face access were exacerbated by the EIS documents being released over Christmas. Requests to postpone public exhibition of the Western Harbour Tunnel when COVID-19 broke were denied and requests to extend the Beaches Link submission time frame were refused. These difficulties were exacerbated by the fact that on the weekend submissions were due the planning submission system was shut down for "scheduled maintenance" - with no way of contacting planning or the school many parents gave up trying to submit. Again, consultation has been poor with regard to Early Works despite our submissions raising clear issues for our catchment that directly relate. We have had to again approach the Department of Transport for more information and make first contact. One of our requests to planning was that the P&C 's be treated as key stakeholders and communicated with regularly. The approach that has instead been taken is that the Department of Transport has spoken to School Principals in the area. This places public school principals in an untenable position within the school community and, given their position as Government employees, it is difficult for them to speak up for all of the community concerns. There are current concerns around the fact that contamination testing of support sites has not been published (or possibly completed) prior to work starting at risk identified sites and trucks being approved to run on local roads despite previous assurances that would not occur.

(g) the extent to which changes in population growth, work and travel patterns due to the Covid-19 pandemic have impacted on the original cost benefit ratio, clearly Covid-19 has changed our work and transport patterns. Whilst some of our parents have returned to the office others are now working at home at least part-time. The need for this project should be reassessed and the shift toward flexible work arrangements, local work centres and active transport supported. We are seeing a significant surge in families/ children walking and riding to school however our cycleways are disjointed, and crossings are unsafe. Our infrastructure has clearly fallen behind the change that has occurred.

(h) whether the NSW Government should publish the base-case financial model and benefit cost ratio for the for the project and its component parts, we would not approve funding for a school project without reporting to the community the costs and funding model - a project of this size and expense should be transparent. The impacts to the community are clearly high and we need to better understand why it is necessary and how much it will cost.

(i) whether the project is subject to the appropriate levels of transparency and accountability that would be expected of a project delivered by a public sector body, We do not believe the project is transparent or accountable to the public. The fact that the full business case has not been released to the Upper House and there is an inquiry to find out basic information testifies to that. Public funding should not be allocated until due diligence is completed

and it can be demonstrated that the cost/benefits are accurate. In particular, the travel time savings quoted do not seem possible based on local knowledge - these need to be verified in relation to the BCR as much of the benefit has been derived from savings in travel times.

(j) the impact on the environment, including marine ecosystems, The impacts and risks are extensive and unreasonable. We teach our children about the environment and protecting our waterways - it is difficult to then see a project be approved where there are so many detrimental impacts including dredging of harbours, pumping waste down local creeks, loss of water dam for local park watering, impacts on biodiversity, loss of green space and tree cover etc

(k) the adequacy of processes for accessing and responding to noise, vibration and other impacts on residents, during construction and operationally, We noted that the school will require noise attenuation however we have not yet been contacted. We have a heritage school with many windows and replacing those could have a very detrimental impact on the school's heritage character. We have also noted that noise levels are expected to be unreasonably high at the facilities we use for sports at Cammeray Park and Cammeray Tennis Courts. Coaching children with high levels of noise is not an enjoyable or healthy experience but may also be unsafe when trying to care for large groups or children with special needs. We have also repeatedly asked for air quality monitors to be placed both at the sporting fields and school so that teachers can be notified of high dust and pollution events. With thousands of diesel trucks and 4500m3 of spoil allowable outside sheds there are considerable concerns around Silica Dust but also Contaminated material becoming airborne. The Cammeray Golf site will have hundreds of trees removed and is an old fill area. The EIS identifies contamination risks at this site which is of considerable concern. Despite clear evidence in the EIS that Cammeray Public and other School air quality will deteriorate as a result of the projects there is continued denial and inaction around this fact with the response often being that the Chief Scientist has stated that "well designed road tunnels have a negligible impact on air quality". This broad brushed statement is highly unscientific when you are dealing with areas of undulating topology, high density and a high proportion of sensitive receivers and in the face of a predictive analysis that demonstrates otherwise. We have approx. 70 children with registered asthma plans. Asthma Australia have submitted their concerns as part of the Beaches Link Submission which can be found here: <https://www.planningportal.nsw.gov.au/major-projects/submission/783901>. A letter from Sydney Children's Hospital Specialists can also be found here: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-11439174%2120210308T210623.026%20GMT>

(l) the impact of the project on nearby public sites, including Yurulbin Point and Dawn Fraser Baths, and many public sites are impacted. In fact the project relies on public sites for it's many construction and dive sites. The issue is that these tunnels are being built in highly dense areas where sufficient green space for the community is already a problem. Schools and children are traveling long distances to access sports fields - this is evidenced by the high levels of traffic on weekends. Many sporting groups are struggling to find space. As a school we are concerned that our main sports fields may be unhealthy to use for a period of up to 7 years. A generation of children may be impacted by reduced sporting field accessibility and access to open space. There is also a permanent loss of green space as a result of the project which the area can't afford.

We would be happy for members of our P&C committee to be called to present to the inquiry.

Yours Sincerely,

Anna Bragg

P&C President

Cammeray Public School P&C

Larissa Penn

Chair Environment and Sustainability Committee

Cammeray Public School P&C

Appendix A: Submission re: Western Harbour Tunnel and Warringah Freeway Upgrade

Submission to Western Harbour Tunnel and Warringah Freeway Upgrade EIS 30th March 2020

Attention: Director, Transport Assessments
Planning & Assessment, Department of Planning
Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

30th March 2020

Objection: Western Harbour Tunnel and Warringah Freeway Upgrade - SSI-8863



Anna Bragg
President P&C
Camberay Public School P&C
Palmer St, Cammeray 2062

cammeraycommunity@gmail.com

Camberay Public School P&C has not made any reportable political donations in the past two years

Background

Statement of Position

“Following extensive review of the Western Harbour and Warringah Freeway Upgrade EIS, Cammeray Public School P&C **formally objects to the project as presented**. The basis of our objection, in summary, is the clear risk to children’s/ resident’s health and safety, the use of incomplete or inaccurate data, the lack of business case and that no comparative analysis has been done with regard to public transport alternatives. The documentation makes it clear that impacts during construction from dust, diesel fumes, truck movements and noise (especially at night-time) place children’s health at unreasonable risk and that these risks cannot be satisfactorily mitigated. Possible impacts on large numbers of residential properties will cause our families undue stress and the placement of major construction sites next to our key green spaces will inhibit our children’s access to sport. Long term, the EIS demonstrates that traffic and pollution in and around the school, our playing fields and homes will increase. The project has poor sustainability and climate outcomes, which contradicts what our children are learning at school, and there is insufficient evidence presented to show a positive cost/benefit overall.

The EIS represents schools across the area as only having 100 children (Camberay has 900), it assumes better vehicle standards than are legislated and basis it’s traffic modelling on 2016 and older data sets all of which make conclusions unreliable and the probable outcomes worse than documented. Cammeray Public School is part of a wider precinct of schools which is the largest in Australia and whose children have a right to live healthy lives, travelling to and attending school in safety. It is evident from the EIS that the cumulative risk to thousands of children far out way any supposed benefit to motorists. We object to the road tunnel project presented in the EIS and call on the government to provide the business case and a feasibility study into alternative public transport options.

During this time of extreme stress for our school and its’ families we would like it noted that we along with 4 other schools and 15 community groups requested a suspension of the project in light of the COVID-19 crisis. We have cancelled P&C meetings, community meetings and all of our school community has been busy rearranging life and work to follow government directives and keep their families safe – we have not had time to fully engage with a 9000+ page overly complex technical document. Reading an EIS full of risk that so heavily impacts the 26 school communities and many more pre- schools along the route has added to the stress and several parents have been very distressed. We call on the government to re-exhibit the EIS after the COVID-19 crisis and fairly consult. We also call on the government to delay the exhibition of the Beaches Link (which will also impact CPS) to a time when jobs and schooling can again be secured. This is no ordinary tunnelling project – it is essentially a proposal to rebuild the Warringah Freeway to fit in two tunnels. Many of our schools were in place before the Freeway was built and many schools have been built here since. The government has an obligation to ensure the thousands of children living, traveling and going to school in the largest schooling precinct in Australia can do so in safety.

Health and Safety Objections

Our objections with regard to Health and Safety concerns are as follows:

During Construction

1. **Dust:** These risks have been assessed as high in the EIS for CPS, it's families and parks. Dust is known to negatively impact children's health and of particular concern is dust from the Cammeray Golf Course Site and along the Warringah Freeway may be contaminated. The EIS admits that dust risks cannot be fully controlled. Our school, homes and sports field at Cammeray Park will be impacted limiting our children's ability to play sport during the 5-6 years of construction works. Schools have been estimated at only 100 students which vastly under weights the sensitive receivers in the area as schools range from 500-1000 generally in size.
2. **Contamination:** Has been identified as High Risk at the Freeway sites and at the Rosalind St site. Contaminants can run into ground water and into parks as well as be trucked through our streets on tyres etc. Contaminants identified include Heavy Metals which are extremely detrimental to children's health. The route of trucks is not defined.
3. **Volume of Trucks on the Street:** Over the whole project there will be 6000+ construction movements per day needed. Most will operate between North Sydney and Willoughby where there will be 3045 vehicle movements at Cammeray Golf Course and 12 support sites. There is a large schedule of dangerous goods to be transported. This is an immense health and safety risk in residential areas full of children. Our children and families cross the busy roads of Brook St, Miller St and Amherst St to get to school and their safety must be considered. Many parents drop off, park and catch public transport into the city. This will become more difficult due competition with worker parking and the removal of 150 parking spaces across the North Shore. The area has already experienced a fatality with one construction vehicle. An illustration of sites, truck locations and location of schools is attached in [Appendix A](#).
4. **Noise:** The EIS demonstrates that noise will considerably impact Cammeray Public school and it's surrounds throughout the 5-6years of the project. Our school is located at (31.2) but our catchment covers (28.1, 29.1, 30.3, 31.3, 31.1, 31.2, 31.3, 32.1, 30.2) and we use Bicentennial Reserve, Green Park and Cammeray Oval/ Tennis Courts and Golf Course for sport. The noise tables are complex and cumulative noise from different activities isn't shown. During stages 1, 2, 8 of the Golf Course Works sound levels will be >75 dB making coaching impossible. During the Miller St to Willoughby Rd surface works out of hours noise exceedances will impact our catchment during 16 stages/ coinciding locations. Noise will impact our children's health and learning outcomes.
5. **Mental Health and Wellbeing:** The cumulative impacts and risks of living in a construction zone is substantial for the 900+ primary school students who attend the school and their families. We are a densely populated residential and school zone and the mental health of our families is a major concern due to the scale and duration of works particularly if the project is due to start n the back of COVID-19.

Health and Safety Objections Con't

After Opening

Pollution: (Here [for a summary table of pollution impacts](#)): The ventilation stack servicing the 6.5km stack at Cammeray will not be filtered. The EIS demonstrates concerning impacts in terms of pollution for CPS and its' catchment. All areas will see overall PM2.5 levels well about national criteria when project opens. CPS will experience increases in pollution across NO2, PM10 (annual) and PM2.5 (which WHO states no safe limit). Concerningly our local parks will also be impacted by increased pollution including Green Park, Cammeray Oval, St Leonard's Park and Bicentennial Reserve. Children are most susceptible, particularly at higher respiration rates. The stacks have no emergency ventilation outlets and so fumes from any high pollution events or emergencies will be dispersed over schools in the area. A summary of the CR sites that show an increase in pollution across both projects is attached. Air pollution has been averaged out across a wide span of CR sites which appear unrelated to the Western Harbour Tunnel. As no traffic analysis has been done on Willoughby Rd for example it is hard to claim Roseville is impacted. FOR WHT only relevant sites should be included in the analysis and results should be weighted by number of sensitive receivers. One graph has results covered by the key and the PM2.5 tables do not show the correct criteria level with criterion to be lowered by 2025. [Appendx B](#). Increased rat running due to ramp and accessibility changes will also re-distribute pollution to residential areas increasing the burden on sensitive receivers.

Substratum Acquisition: the land under houses will be acquired approx. 50mtrs either side of tunnelling, ventilation shafts and other underground works. The EIS does not make clear where the substratum will occur and there is no compensation.

Operational Noise: our noise levels are set to increase after the project opens (a testament to increased local traffic) many buildings are eligible for noise attenuation however this needs to be made a condition of approval. Cammeray PS is eligible for noise attenuation as it will be noise impacted (as will most local schools)

Visual Amenity: the stack can be seen from a long distance – maps can be found in the guidance document. Most of Cammeray will be able to see the stack once built. This degrades our visual amenity and may affect house prices creating financial stress.

Mental Health – Traffic, Loss of Green Space and other Impacts. The changes to on and off ramps, increased bus travel times from Amherst St, intersection failures, loss of visual amenity, reduced park lands and stress regarding additional pollution levels all degrades our community's mental health. This is of particular concern following COVID-19 as the project is due to start at the end of 2020 when families will still be recovering lives and livelihoods from the crisis

Traffic and Congestion

Our objections with regard to Traffic and Congestion are as follows:

During Construction

1. **Volume of Trucks on the Street:** The bulk of vehicle movements will occur between North Sydney and Willoughby where there will be 3045 vehicle movements daily at the main Cammeray Golf Course and 12 support sites – with over 2000 close to or in Cammeray schools' catchment. This is an immense health and safety risk in residential areas full of children. Our children and families cross the busy roads of Brook St, Miller St and Amherst St to get to school and their safety must be considered. Many parents drop off, park and catch public transport into the city. This will become more difficult due competition with worker parking and the removal of 150 parking spaces across the North Shore and does not support the governments objectives of supporting a mode shift to public transport.
2. **Intersection Delays:** The EIS identifies six intersections within the school's catchment that will be delayed during construction including Willoughby Road/Gore Hill Freeway interchange (morning and evening peak), Brook Street/Warringah Freeway off ramp (morning peak), Amherst Street/West Street (evening peak), Amherst Street/Miller Street (evening peak), Miller Street/Warringah Freeway off ramp (morning peak) , Miller Street/Falcon Street (morning peak)
3. **Closure of Warringah Freeway/ and onramps** The EIS states that this will be needed at times. Traffic is already backed up around the school in the mornings and this will create even more issues.

Once Open (Operational)

1. **Trip times:** Travel to and from Cammeray to nearby destinations Crows Nest, North Sydney and beyond will become extremely difficult and much slower than we are currently used to. The data used to model traffic is from 2016 which is now very out of date esp. given the B-Line and new North West Metro has come online since that time. Limited trip times have been modelled but of those that have it is clear from the EIS that through traffic is being prioritised over local traffic. The data shows that the AM Peak Delay at Amherst/Miller and Amherst/ West will increase considerably in the AM with a delay of +30sec and >95 sec respectively this will have the effect of slowing trips.
2. **Bus Times:** Many trip times have not been modelled in the EIS including the impact on the Naremburn Bus to and from the school which brings children across busy intersections from the West of our catchment. Several others that have been modelled get slower: *"Travel times on bus routes through North Sydney from Pacific Highway would increase during the busiest peak periods. This is due to the increase in demand and congestion between Berry Street and Miller Street as a result of redirecting traffic from Miller Street (resulting from the removal of the existing right turn from Miller Street northbound to Berry Street eastbound)"* Parents working in North Sydney will need to leave earlier. Afternoon peak service would increase from 11 minutes to 23 minutes, potentially forcing routes onto Miller St.

Cammeray Public School Position Statement

Traffic and Congestion con't

Once Open (Operational) con't

Intersection Delays: There are increased intersection delays across the area i.e. Intersection of Amherst & West St goes from an A to an F and the delay in the morning peak goes from 5 seconds to > 100 seconds. This will negatively affect parents coming to drop kids off at school. **82.5%** of local intersections will fail or get significantly worse (10), worse (15) or will remain the same (8) as compared to today by 2037 if the Western Harbour Tunnel is built. **92.5%** of North Shore intersections during the PM peak will fail or get significantly worse (25), worse (4) or will remain the same (8) as compared to today by 2037 if the Western Harbour Tunnel is built.

4. **A higher proportion of Trucks:** The EIS states that: *"Peak period heavy vehicle demands across Sydney Harbour would increase by up to 15 per cent; Daily heavy vehicle demands across Sydney Harbour would increase by 10 per cent"* More trucks bring more diesel pollution which will be discharged through the unfiltered stacks (Diesel is a Class 1 Carcinogen). The school will also experience a higher dose of pollution from local traffic due to the changes to access on the Freeway. The EIS states that there would be considerable time savings for truck times "providing a route that has been specifically designed to meet the requirements of B-Double high productivity vehicles. This is in keeping with the motorway network strategy established for the WestConnex program,". It would appear our school zone is planned to be used as a truck thoroughfare. The EIS assumes that Euro IV fuel standards will be in place (not yet legislated) whilst at the same time predicting a large rise in Diesel vehicle use.
5. **Project justification:** "The intersection of Ben Boyd Road and Military Road would operate with longer delays as a result of the project due to changes to access and travel patterns at the Ernest Street and Falcon Street interchanges" The EIS also states that bus times along Military Rd will remain unchanged even if Beaches Link is added on. One of the promised benefits of the project was to improve trip times on Military Rd – this is not achieved.
6. **Out of Data Date:** The EIS has been put on exhibition more than 2 years after the SEAR's was issued so much of the data is out of date.
7. **Change to Local traffic controls:** Any traffic control changes should be carefully studied and the flow on effects understood. The current morning is gridlocked trying to leave the school via Amherst St and Bellevue St with very few other options for diversion

Climate, Sustainability and Environment

Our objection due to poor climate and environmental outcomes are as follows:

Sustainability: is a key unit of learning across many of our subjects and we have an active sustainability club at the school however these projects do not present as a sustainable option.

Waste: The EIS states that > \$6 Million Tonnes will be produced with 1 219 200 Tonnes of waste dumped out to sea. The metro tunnel, by comparison, is far smaller and goes under the Harbour. The waste profile of the project is further exacerbated by trying to fit more traffic and infrastructure into an already busy road which necessitates huge amounts of reconfiguration. Given alternative routes and options have not been fully compared it is hard to claim that this is the most sustainable option.

Water Use: The project will use 1327 000 Litres of water used per day (a majority potable).
alternative public transport options.

Green Space: We will lose 7.29Ha of green space in an area where green spaces are already under pressure due to population and pollution. Wastewater (treated) is to be discharged into Willoughby Creek. The EIS identifies a high risk to down street waterways such as Quarry and Flat Rock Creek due to earthworks at construction sites. These creeks already suffer from pollution and are classified as sensitive fish environments so any change in water quality could have a significant impact.

Water Availability: the dam at Cammeray will be lost during the project which puts parks (already drought impacted) at risk as it is the major water supply for Cammeray Oval, St Leonards Park and Tunks Park. These are Cammeray Public Schools main sports fields and weekend sport locations.

Tree Canopy and Urban Heating: 687 Trees will either be removed or put at risk – this will significantly impact our urban heating particularly in and around the Freeway which has large spans of concrete. This will further impact parklands nearby and exacerbate pollution impacts.

Increased Emissions: Our children have suffered through high levels of bushfire smoke which experts confirm were exacerbated if not caused by climate change. This project will produce 784 000 Tonnes CO2e above and beyond doing nothing. The cumulative impact of the smoke event and increasing urban pollution on our children's health is not fully known and should be researched before adding more pollution.

Threatened Species: Our children learn in class about our precious flora and fauna however this project puts at risk 26 threatened species including little penguins, sea eagles, bats and whales.

Contamination found across the route and suspected at Cammeray Golf Course site combined with the local geology combines to increase the risk of contamination reaching ground water In addition the high level of truck movements with makes it clear that this is not a project footprint that works for children, residents or the environment. Sydney Harbour will need to be dredged and the EIS highlights an alarming amount of contamination risk including the risk to threatened habitats...an immersed tube construction has been chosen (i.e lay down on Harbour Floor). Other options would have far less contamination risk but have not been compared.

Flat Rock: The Gore Hill extension has been mentioned in several places however a full risk assessment has not been done. The Gore Hill extension (which crosses into Flat Rock should be the subject to a full EIS and not included in the Conditions of Approval

Action and Mitigations

Health and Safety

Reconsider: Re-consider the route away from densely populated residential areas with a high proportion of children and/or consider a public transport alternative. The project will take place over 5-6 years i.e. a generation children's primary schooling in the area. The Rosalind St site should not be able to be used due to proximity to schools and toxicity risk.

Reissue: the air quality analysis should be completed showing the actual risks to each school in the area (ie CR's should be weighted based on sensitive receiver) taking into account relative elevation and risk, clear information about which houses will have substratum acquisition should be published, reissue visual amenity pictures with clearer artists impressions showing actual buildings.

Conditions of Approval: restrict truck movements to between school hours and outside school 40km zone, restrict dusty activities on Friday afternoons and Saturday mornings due to thousands of children playing sport, institute a dust hotline for schools and pre-schools to call, implement all recommended dust control procedures and provide ongoing independent inspection across all sites for dust and dangerous goods handling. Consider moving schools most impacted to healthier locations and/or providing alternate sports field arrangements for the duration of construction. Include a schedule of staged works as a condition of approval to avoid cumulative impacts. Install an air quality monitor at Cammeray Public School as a Condition of Approval.

Traffic and Congestion

Reconsider: Re-consider the route away from densely populated residential areas with a high number of children. Reconsider works on Willoughby Rd which will directly impact the bus stop used by dozens of children to get to/ from school (opposite Naremburn shops)

Conditions of Approval must include: a plan developed with North Sydney AND Willoughby Council to agree truck routes and contractor parking as a Condition of Approval. All parking must be accounted for and workers/ construction vehicles must be kept off Palmer St Bellevue St and other local roads used by children. Based on evidence (attached) that sensitive receivers are receiving the greatest increases and that future pollution will be above PM2.5, all buildings identified as eligible should be granted noise attenuation (especially schools and preschools such as Cammeray Public School), return the same amount of **usable** green space the community....polluted parks are not usable green space. The stack height (or filtration) needs to be reconsidered given the two-storey height and elevated position of schools like Cammeray and Neutral Bay (as per sensitivity analysis) Increasing the stack height however will have greater visual amenity impacts – filtering the stack would not necessitate an increase in height and may facilitate better visual outcomes for Cammeray and surrounding suburbs.

Climate, Sustainability and Green Space

Reconsider: An alternative to the immersed tube design.

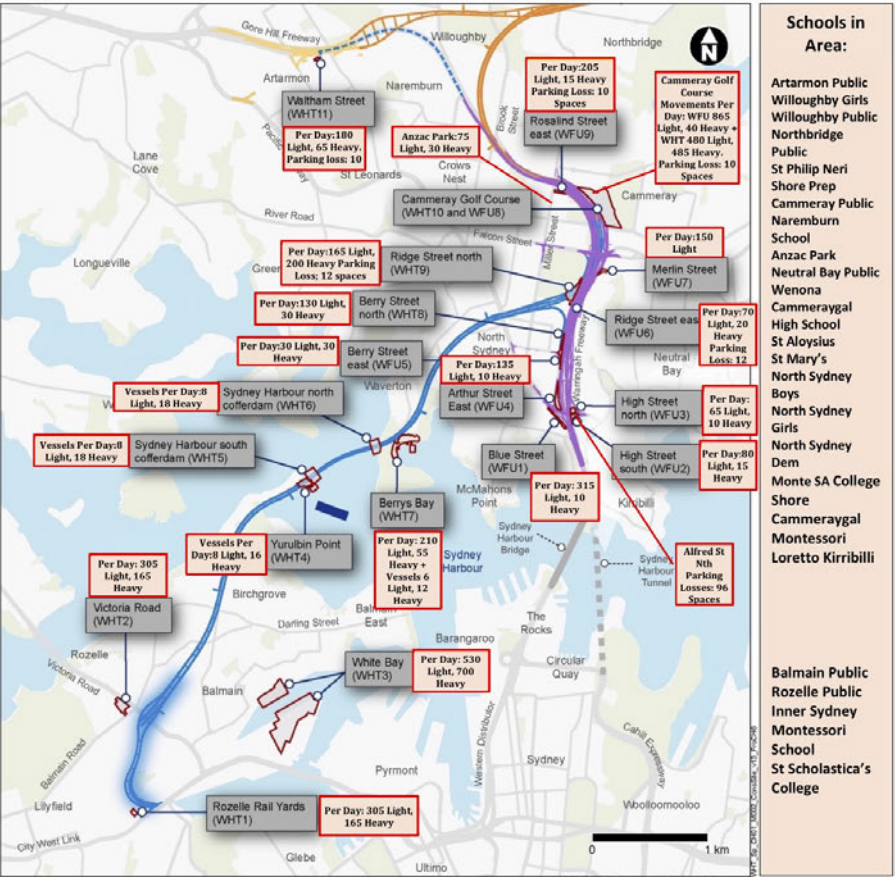
Conditions of Approval: The SEARS requires a full analysis of public transport alternatives, but none has been done. Publish a comparative study showing comparison against all risks and impacts. Replace all lost trees, provide an alternative water source for parks and look for ways to improve the sustainability profile. Gore Hill extension should not be included.

Appendix A: Construction Sites, Traffic and Schools

Western Harbour Tunnel and Warringah Freeway Upgrade
Construction Sites and Vehicle Movements

EIS Exhibition Closes 30th March

Total Construction Vehicles Movements Daily = 6343* (peak 2021-2024)
Total Known Parking Space Losses = 150 (does not include construction worker parking)



Appendix B: Pollution Graphs with Sensitive receivers in Range of Project

An analysis of increased air pollution and local sensitive receiver sites can be found here:

Figure 12-22 Annual mean PM_{2.5} concentration at community receivers
7 µg/m³ legislated by 2025

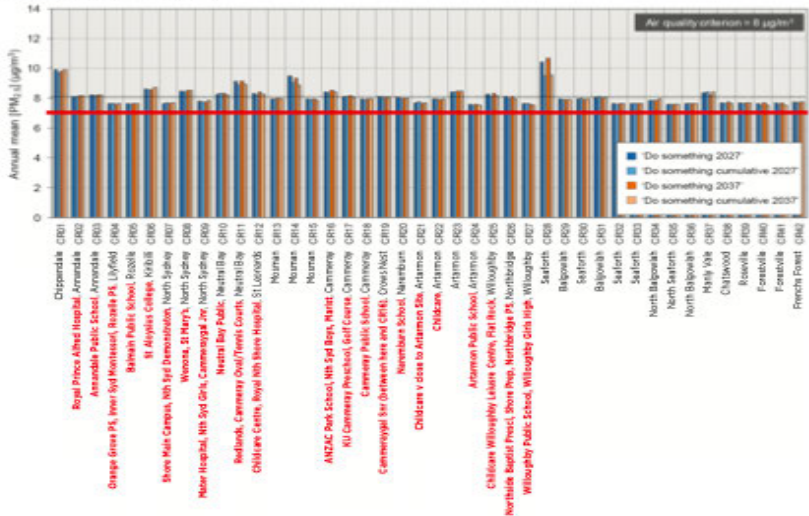


Figure 12-23 Change in annual mean PM_{2.5} concentration at community receivers



Conclusions

The Western Harbour Tunnel and Warringah Freeway project clearly places the motorist over and above the health and welfare of children, thousands of children. When looking for evidence as to why this would be justifiable it is hard to find in the documents presented. The project does not appear to meet the requirements of the Protection of the Environment Administration Act 1991. The precautionary principle in regard to children's health and welfare has not been taken with regard to the choice of construction method (immersed tube and unfiltered stacks) nor the route (contaminated locations in proximity of 26 schools and residential areas). With regard to generational equity the quality of air will worsen as does congestion on local streets and future generations will be asked to pay tolls both ways on the crossings. The project does not achieve better public transport efficiencies either on Military Rd or on local streets. Given public transport alternatives have not been considered it is difficult to claim that this is the best plan from a biodiversity or ecology perspective and locally it does nothing to improve the valuation of environmental resources.

With regard to project objectives, the project claims to afford the opportunity to relieve congestion on local streets but the data demonstrates otherwise and the documents contradict themselves - in one place saying Military Rd improves and in another that it doesn't. There are many uncertainties with regard to risk assessment and mitigation, such as contaminated soil, work schedules and unknown substratum acquisitions - with many plans and investigations to be done once a contractor is assigned. Given the very sensitive nature of the area (both ecologically and socially) this does not give the school community a high degree of confidence in the project. When looking for reassurance that the project affords benefit the community sought the business case but was refused access to it. The only real benefit appears to be for heavy vehicles (increase of 15%) with large increases in diesel emissions predicted in the EIS. This is again at odds with children living healthy and productive lives in and around the Warringah Freeway... particularly if vehicle standards do not change and filtration is not made part of the project. There are 16 other higher priority projects on the Infrastructure Australia Priority list 2020 it is very difficult to understand why a project with so much inherent risk and poor outcomes would be prioritised above any of these - particularly those in Regional Australia or Western Sydney where investment is so badly needed.

Conclusion: based on the evidence presented in the EIS it is evident that

References: Click here to access the Summary Table of pollution impacts associated with the Western Harbour Tunnel:
https://drive.google.com/file/d/1UhJnbDh2Lf0g_mLJe8rJYbRvqzXBcXiq/view?usp=sharing

Appendix B: Beaches Link and Gore Hill Freeway EIS Submission

Cammeray Public School P&C



Project: SSI_8862

Introduction

Cammeray Public Schools catchment sits between the Cammeray Golf Club site to the South, the Flat Rock Gully Construction Site to the West and the Middle Harbour construction works to the East. Our children will be impacted heavily by the construction works for the Western Harbour Link and Warringah Freeway (WHTWF) as covered in our previous submission and now the Beaches Link and Gore Hill Extension Proposal (BLGHE). These impacts do not appear equally distributed between the suburbs who will benefit and those who won't with a vast majority of works centred around Cammeray and Naremburn. The alignment of the proposed tunnel runs along Sydney's largest school zone, which includes multiple sports fields, and so the project disproportionately affects children which is the P&C's greatest concern.

Given the extent of impact and the poor cost/benefit evidenced within the EIS Cammeray Public School P&C **objects** to the project until such time as:

- 1) A full phase 2 contamination study is completed and published to accurately assess risk and decide if adequate mitigation is possible and cost effective
- 2) A comparative public transport review is completed that demonstrates the best option in terms of traffic, construction impact, health, biodiversity and sustainability.
- 3) A business case is published which evidences the travel time savings claimed and the congestion benefits assumed

Note: The EIS for this project was released just prior to Christmas when the school was winding down after a difficult Covid year and parents were taking an opportunity to go on holidays. Our P&C was not scheduled to meet until one week prior to the closing date of submissions – we appreciate the opportunity to send the submission in one week late however we have not been able to fully consider all aspects of the project in this time. The 12,000 pages are highly technical, and more time would have allowed for a far more informed response which would help protect our children in the future. Our requested extension letter submitted with 13 other impacted schools is attached. It is also noted that the P&C have not had any consultation regarding our previous submission to the WHTWF project and works in the area have commenced. We look forward to being contacted to discuss our concerns further.

Our school catchment in relation to proposed construction sites (orange):



Health and Safety Objections

Our objections with regard to Health and Safety concerns are as follows:

1. **Dust:** Dust risks have been assessed as moderate to high in the EIS for CPS, it's families and parks. Dust is known to negatively impact children's health and of particular concern is dust released from the Cammeray Golf Course Site, along the Warringah Freeway & at Flat Rock which will likely contain Silica and/or be contaminated. This was raised during the WHT EIS but the Beaches Link EIS confirms that contamination testing is not yet complete. The EIS also states that dust risks cannot be fully controlled. Our school, homes and sports fields (Cammeray Park, Tunks Park, Bicentennial Reserve) will likely be impacted limiting our children's ability to play sport during the 5 years of construction works for the WHT and an additional 2 years for BL. 4500m3 of spoil is allowed to be stockpiled outside of sheds at Cammeray & 500m3 outside at Flat Rock
2. **Contamination:** Has been identified as a moderate risk along the Warringah Freeway and high to moderate at Flat Rock Gully as an old landfill site is the proposed dive site. It is very concerning that testing has not been completed before the issuance of the EIS. Cammeray Public uses this area for various activities and many of our children live in and around it. There is concern that leachate may move down the valley toward Tunks Park which is noted in documents as a flood zone and has recently experienced sewage overflows. The Northside Storage Tunnel which holds 500 Million Litres of Sewage and Stormwater in the same area has not been assessed as part of the project, this may create contamination issues and further limitations on our sports fields in the area.
3. **Volume of Trucks on the Street:** During the WHT and WF project there will be 3045 vehicle movements at Cammeray Golf Course and various support sites. An additional 580 movements will take place from the Cammeray Site during Beaches Link. It is not yet clear where all these trucks will turn around and whether this can be done safely among children. There is a large schedule of dangerous goods to be transported. This is a considerable health and safety risk in residential areas around schools. There will also be 900 vehicle movements per day on Brook St, once of our key transport routes.
4. **Worker Parking and Movement:** The BLGHE requires a large volume of workers to move through the area to access local work sites incl. the Balgowlah site. There is concern about underassessed traffic implications on Military and surrounding roads. It is also clear from documents that not all workers can be housed on site for parking. Our streets are already at maximum capacity when it comes to parking.
5. **Noise:** The EIS demonstrates that noise will considerably impact Cammeray Public school and it's catchment (NCA 28.1, 29.1, 30.3, 31.1, 31.2, 31.3, 37.1 etc) The area behind the Golf Course and past Green Park will be noise affected throughout the project as will Bicentennial Reserve. Whether children will be able to safely hear and follow instructions if noise mitigation is needed. Also, the EPA has raised an issue regarding works 24/7 in and around residential areas.
6. **Mental Health and Wellbeing:** The cumulative impacts (7 years) of living in a major construction zone is substantial for primary school students and their families. We are a densely populated residential area. The mental health of our families is a concern due to the scale and duration of works. This has been raised in the health assessment.

Cammeray Public School Position Statement

Health and Safety Objections Con't

7. Pollution: The double ventilation stack at Cammeray will not be filtered. The EIS demonstrates concerning impacts in terms of pollution for CPS and it's catchment. All receivers will experience PM2.5 levels well above national criteria when project opens. Concerningly our local parks will be impacted by increased pollution including Green Park, Cammeray Oval, St Leonard's Park and Bicentennial Reserve. Increased pollution has been modelled (2037) at various community receptor points within our catchment as follows: CR17 KU Pre-School Green Park (CR17)- increased 24hr mean PM 10 & 24hr PM 2.5; CR18 Cammeray Public School (CR18)-increase in 1 hr NO2 & Annual Mean 2.5; CR25 Artarmon Sues Childcare: (Closest point to Willoughby Leisure Centre/ Bicentennial Reserve)- Max 24hr PM2.5 increases which represents the largest increase of 24hr PM2.5 across the project. It is disappointing that a specific CR point was not modelled at Bicentennial & Tunks Parks & local background data was not used ie) Naremburn or Artarmon. Children are most susceptible to pollution, particularly at higher respiration rates. The stacks have no emergency ventilation outlets and so fumes from any high pollution events or emergencies will be dispersed over schools in the area. The EIS confirms that the project will contribute to increased air pollution overall but relies on fuel efficiencies to offset this increase (see Table 8-10). These efficiencies are not yet legislated and a review has been delayed - the project will open before fuel efficiencies are able to be realised. In addition, the sensitivity analysis for CPS demonstrates increased pollution at lower temperatures. Also, the Chief Scientist has raised a question as to whether surface road traffic and induced demand have been sufficiently included in the air quality analysis. Given the evidence and uncertainty the precautionary principal should be employed in an area with such a high density of children. A letter is attached from the Sydney Children's Hospital regarding the concerns around pollution

8. Pollution at Height: Cammeray Public School sits at height above the double stacks, and it is not clear if a sensitivity analysis has been completed to assess the impact of this. The EIS identifies buildings 300m away will receive an unacceptable risk of pollution and that more work needs to be done to establish risk at height over greater distances. We would like clarification of Cammeray Public Schools additional pollution risk given it's relative height to the stack.

9. Substratum Acquisition and Property Damage: the land under houses will be acquired approx. 50mtrs either side of tunnelling, ventilation shafts and other underground works. The EIS does not make clear where the substratum will occur and there is no compensation. In areas of high drawdown it is not clear if damage to these properties will be covered.

10. Operational Noise: our noise levels are set to increase after the project opens (a testament to increased local traffic) many buildings are eligible for noise attenuation however this needs to be made a condition of approval. Noise mitigation should be in keeping with heritage values.

11. Visual Amenity: the stack can be seen from a long distance (see map below). Most of Cammeray will be able to see the stack once built which degrades visual amenity and may affect house prices creating financial stress at a difficult time for many families post Covid.

12. The rights of children: children have the right to the "enjoyment of the highest attainable standard of health". It is evident that many aspects of this project limit this right in school zones.

Traffic and Congestion

Our objections with regard to Traffic and Congestion are as follows:

During Construction

1. **Volume of Trucks on the Street:** The volume of trucks is particularly concerning for the Brook St corridor as many children cross this area to and from school via active transport, bus and car. The access to the area is already difficult due to previous road projects which have fragmented the school catchment zone ie) Warringah Freeway and Gore Hill Expressway works
2. **Local Traffic Impacts:** The EIS identifies intersection delays and changed traffic conditions during construction. There is also a concern about traffic diverting through Northbridge and along Miller St to avoid the Flat Rock Drive construction site and lights. The area is already very congested before and after school – the delay to cross or access Miller St is a significant issue during these times.

Once Open (Operational)

1. **Trip times:** The EIS demonstrates that trip times to the Beaches will not improve substantially for Cammeray families as the only on and off ramps are via Berry St and Artarmon. The trip time to Dee Why and Manly will be roughly the same as today.
2. **Project justification:** The traffic levels on Military Rd do not reduce from today's levels as a result of the project which was a main aim of the project. The 10% reduction claim is based on a future predicted growth in traffic rather than today's level so there are no tangible improvements to the local area.
3. **Increased Traffic:** The EIS confirms that Vehicle Kilometres travelled will increase overall due to the project creating a higher reliance on car travel. The project also demonstrates that there will be more than 20% increase in traffic (current growth rate plus induced demand) delivered to the Northern Beaches as a result of both the project and failure to consider alternative options. No public transport alternatives, recommended by planners and engineers, have been compared to a toll road.
4. **Toll Road avoidance and other inputs:** the EIS confirms that the project is a toll road however toll avoidance scenarios have not been fully scoped therefore the impact on local roads is unknown. The impact of the B-Line, new Metro and changed work habits/ population shifts post Covid have also not been considered.
5. **Reduced access to Warringah Freeway ramps** The school continues to have a concern about the changed traffic conditions as a result of ramp changes to the freeway. The EIS demonstrates that there will be higher traffic levels around the Warringah Freeway as a result of the project. Of particular concern is the impact on Amherst St & Miller St which goes from a B level of service to a D and the Amherst St & West St intersection which goes from an A to an F. These are both key intersections for school traffic leaving and accessing the school from Cammeray and Naremburn.

Climate, Sustainability and Environment

We object to the project due the poor outcomes demonstrated in the EIS with regard to:

Sustainability: is a key unit of learning across many of our subjects and we have an active sustainability club at the school, these projects do not present as a sustainable transport option as evidenced by the following:

Waste: The EIS states that 3 Million+ Tonnes will be produced with 153,000 Tonnes of waste dumped out to sea. 10,000 m3 of contaminated spoil will be barged out past beaches. The dredging of Middle Harbour puts our Marine Ecology at risk and the location of the dive site in an old area of landfill creates the need to truck contaminated spoil through residential areas and school zones. This risk would be avoided if an alternate location was chosen.

Water Use and Wastewater: The project will use more than 1M Litres of water per day (a majority potable). Wastewater (treated) is to be discharged into Willoughby and Flat Rock Creeks. The EIS identifies a high risk to down street waterways. These creeks already suffer from pollution and are classified as sensitive fish breeding environments so any change in water quality could have a significant impact. The creeks regularly flood Tunks and Primrose Parks which will create a greater risk to children should contaminants be mobilised through flood waters or discharge.

Green Space: Overall 20.9Ha of green space will be lost due to the project in areas where green spaces are already under pressure due to population and pollution.

Water Availability: the dam at Cammeray will be lost during the project which puts parks (already drought impacted) at risk as it is the major water supply for Cammeray Oval, St Leonards Park, Tunks Park. These are Cammeray Public Schools main sports fields and weekend sport locations. The Beaches Link project also creates a substantial amount of drawdown which will impact the ability of parks i.e. Bicentennial and bushland to retain water –further reducing children's access to fields. Due to urban densification our sports fields are already at capacity across the area and this issue is a key point of objection.

Tree Canopy and Urban Heating: Over 3000 Trees will be removed as part of the project in addition to significant losses from the WHTFU project– this will significantly impact our urban heating and biodiversity.

Increased Emissions: The EIS confirms that this project will produce more emissions above and beyond doing nothing. The emissions produced when compared to the Metro project are also higher both during and after construction. When benchmarked against a public transport alternative this project is not the most sustainable option.

Threatened Species: Our children learn in class about our precious flora and fauna however this project puts critical habitats, wildlife corridors, waterways and places 23 threatened species at further risk including little penguins, powerful owls and endangered seahorses.

Loss of Heritage: The alignment of the tunnels cuts through several heritage areas in the CPS catchment and the EIS confirms that it will also impact on Aboriginal sites. The area has already suffered great deal of loss to heritage due to historical mismanagement and development. Our school is proud to be named after the Cammeraygal – all remaining heritage should be carefully preserved for future generations - construction should take place away from these sites.

Mitigations

We object to the project and ask that:

Before Approval:

1. Reconsider the route to place the dive site away from contaminated landfill, sewage facilities and flood prone areas and stacks away from our largest school zone
2. Complete a full Phase 2 Contamination study to quantify the risks at Cammeray Golf Course, Warringah Freeway, Flat Rock and Middle Harbour and establish the feasibility and affordability of effective mitigation measures before making decisions
3. Consider public transport alternatives to a toll road to provide for intergenerational equity, adherence to our climate commitments & the protection of biodiversity
4. Reconsider the Immersed Tube design of the harbour crossing to avoid dredging and reduce impacts on the harbour and the potential for contamination events
5. Provide some clear benefits for the children of the area after a long period of construction ie) a joined-up public/ active transport network between Willoughby and North Sydney, more green space, a biodiversity and local heritage education program, a properly sealed/ air-conditioned hall and classrooms.

If Approved, mandate conditions of approval that:

1. Provide for traffic marshalling at key intersections before and after school during construction and better intersection performance/ local traffic flows operationally
2. Provide an alert (subscriber) style air quality monitor at Cammeray Oval and Bicentennial Reserve and the school. These should be permanent given the growth of traffic expected over time and a lack of surety around fuel emission improvements
3. Provide for surface & ground water quality monitoring and alerts for Tunks Park. Ensure the tunnel is fully lined to minimise drawdown
4. Mandate all spoil is to be kept inside and surveillance to ensure compliance
5. Install sound walls at Cammeray Oval and Flat Rock/Bicentennial Reserve
6. Provide an over or underpass of Brook St for safe active transport access and/or stage the project so spoil trucks can remove spoil underground to the Freeway rather than use the school's local transport corridors.
7. Filter or treat pollution emitted from stacks or provide all areas of the school with HEPA filtered air-conditioning as a condition. Include a review of window efficiency and the ability of demountable classrooms and our open style hall to efficiently keep out pollutants and be sustainably air conditioned. Review pre-schools and homes in the area where children are living to ensure their health and safety.
8. Ensure families are properly consulted and fairly compensated for damage and substratum acquisition to minimise stress and uncertainty
9. Ensure Cammeray P&C is consulted with regarding these objections and as part of traffic planning and the air quality committee given the considerable risks presented and the complexity of the catchment area and our transport routes.

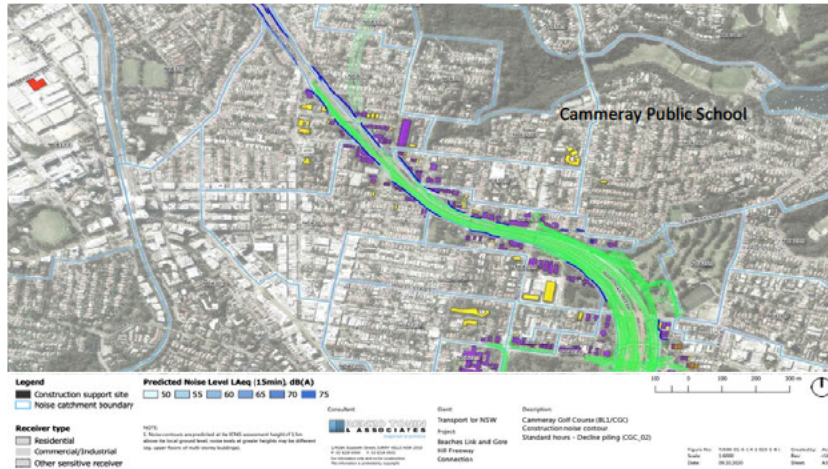
Cammeray Public School P&C Position

"Following review of the Beaches Link and Gore Hill Extension EIS, Cammeray Public School P&C formally objects to the project as presented. The basis of our objection, in summary, is the clear risk to children's/ resident's health and safety, the use of incomplete or outdated data, the lack of business case and that no comparative analysis has been done with regard to public transport alternatives. The documentation makes it clear that impacts during construction from dust, diesel fumes, truck movements and noise (especially at night-time) place children's health at unreasonable risk and that these risks will not always be satisfactorily mitigated. Possible impacts on large numbers of residential properties will cause our families undue stress and the placement of major construction sites next to our key green spaces will inhibit our children's access to sport for up to 7 years. Long term, the EIS demonstrates that traffic and pollution in and around the school, our playing fields and homes will increase. The project has poor sustainability and climate outcomes, which contradicts what our children are learning at school, and there is insufficient evidence presented to show a positive cost/benefit overall. In light of considerable risk we would ask that the Department of Planning ask for a re-issue of the EIS for public consultation containing a Phase 2 Contamination Study, a public transport comparative analysis (as per the SEARS requirements) and a business case that clearly evidences the claims made regarding the projects benefits."

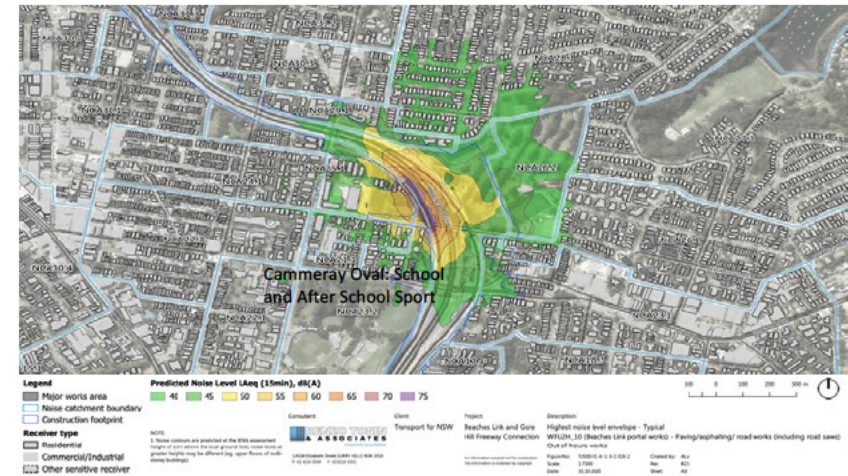
Cammeray Public School P&C has not made any reportable political donations.

Appendix A: Noise Examples

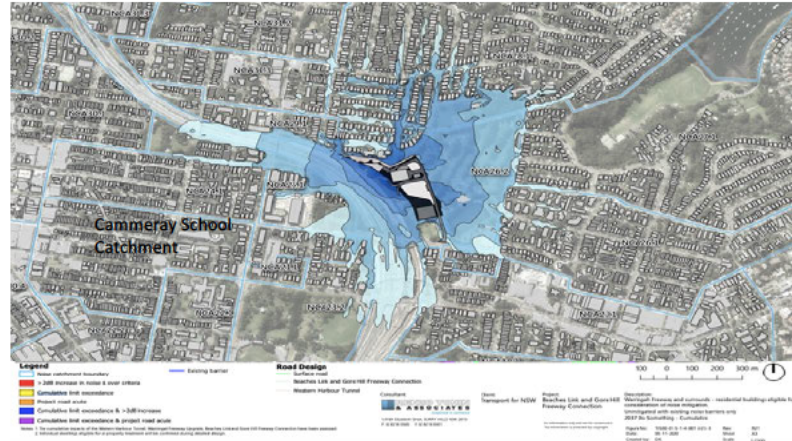
Appendix G Noise and Vibration Part 2, Annexure N; Receiver building identified for additional operational road traffic noise mitigation with existing noise barriers only (Once built)



Appendix G Noise and Vibration Part 2, Noise from Out of Hours Road Works Cammeray Golf Course Site



Residential Buildings Eligible for Noise Mitigation Consideration - Construction



Appendix G Noise and Vibration Part 2, Noise from Flat Rock Gully Site Establishment



Appendix B: Air Quality Examples

Annual Contour Plot showing dispersion of NO_x pollutant over the school catchment area

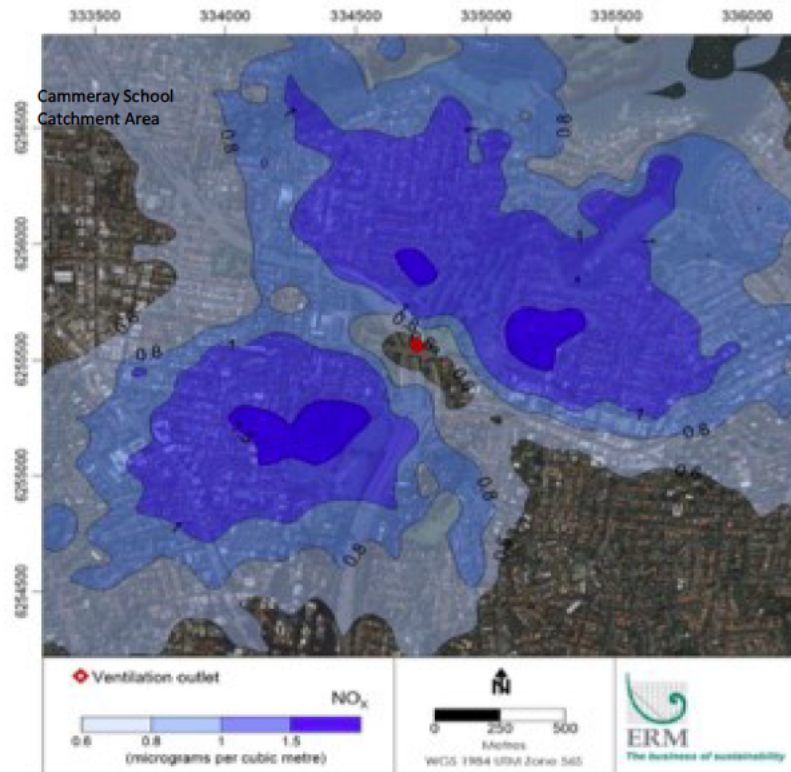


Figure J-8 Local contour plot of annual mean NO_x for Warringah Freeway in 2027-DSC scenario

Figure I-15 Contour plot of change in maximum 1-hour mean NO₂ concentration in the 2027 cumulative scenario (all sources, 2027-DSC)



Table 8-66 Results of sensitivity tests for ventilation outlet temperature – percentage changes

ID	Name	Change in PM _{2.5} relative to central estimate (%)								
		HT01 (15°C)			HT02 (25°C)*			HT03 (35°C)		
		Max 1h	Max 24h	Annual Average				Max 1h	Max 24h	Annual average
CR08	Wenona School	9%	20%	31%				0%	2%	-18%
CR10	Neutral Bay Public School	-2%	28%	40%				-10%	-21%	-22%
CR11	Neutral Bay Medical Centre	10%	20%	24%				-29%	-28%	-32%
CR17	KU Cammeray Preschool	4%	18%	24%				-12%	-6%	-12%
CR18	Cammeray Public School	18%	-4%	8%				-3%	-14%	-20%

*No values presented for 25°C as the percentage change is compared against this central estimate.

There is a significant

Appendix V: UDLCVIA. Stack Field of Visual Influence (Yellow). Cammeray Public School and the majority of it's catchment will see the stack once built. Many Naremburn families will be able to see the Artarmon Stack.



Cammeray Public School

Reductions in emissions are based on external factors which are not yet legislated - this presents a significant risk that pollution will be higher than modelled.

Table 8-10 Percentage changes in total traffic emissions in the Beaches Link GRAL domain

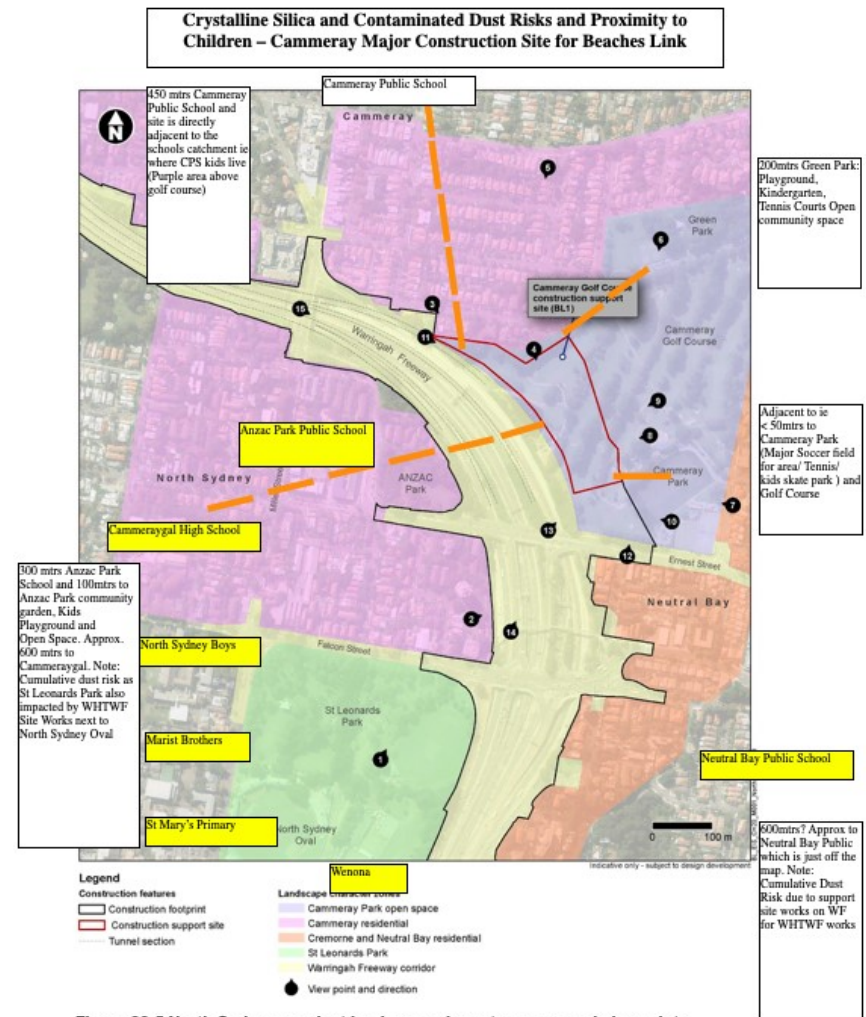
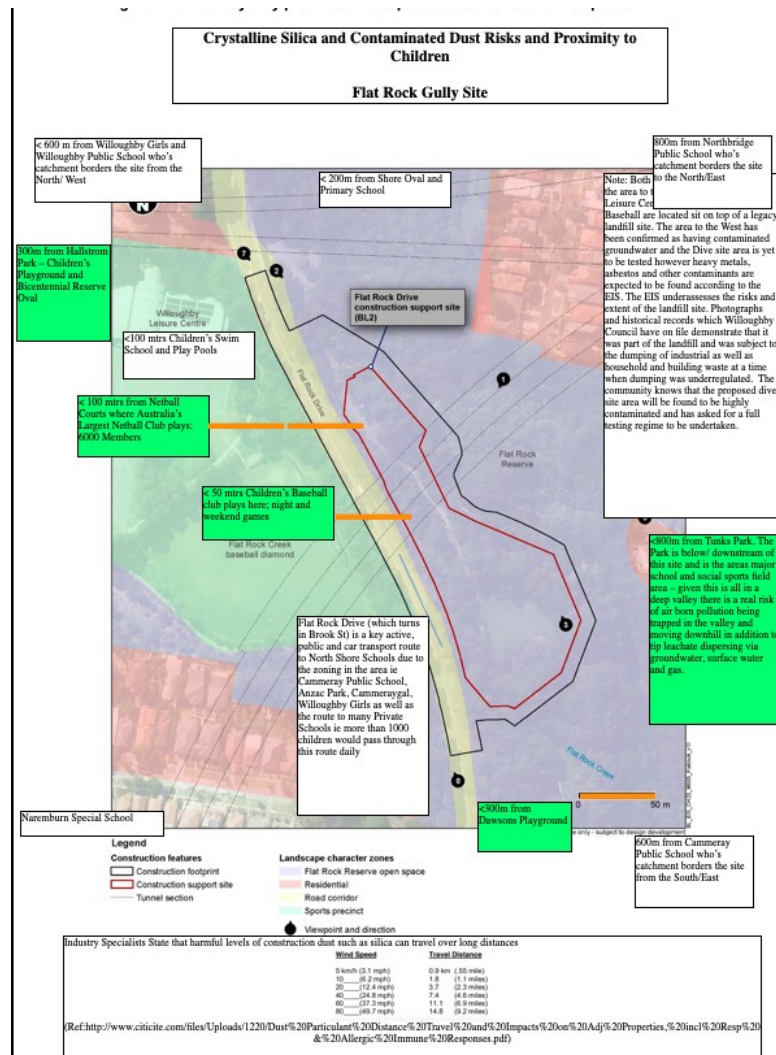
Scenario comparison	Change in total emissions (%)				
	CO	NO _x	PM ₁₀	PM _{2.5}	THC
Underlying changes in emissions with time ^(a)					
2027-DM vs 2016-BY	-55.4%	-46.1%	-10.4%	-19.7%	-56.7%
2037-DM vs 2016-BY	-65.9%	-51.8%	-9.9%	-21.1%	-67.2%
Changes due to the project in a given year					
2027-DS (BL) vs 2027-DM	-4.0%	-4.8%	-4.6%	-4.6%	-3.2%
2027-DSC vs 2027-DM	+4.7%	+1.3%	+0.8%	+1.0%	-3.0%
2037-DS (BL) vs 2037-DM	-0.2%	+0.1%	+0.2%	+0.3%	-2.5%
2037-DSC vs 2037-DM	+8.4%	+6.5%	+7.1%	+7.1%	0.0%

(a) The 2027-DM and 2037-DM scenarios include the WestConnex M4 and WestConnex M5 projects. The 2016-BY scenario does not.

Comparing the 'Do something 2027' scenario with the 'Do minimum 2027' scenario, emissions of CO, NO_x, PM₁₀, PM_{2.5} and THC decreased by around four to five per cent. In 2037, emissions of all pollutants remained relatively unchanged, with the exception of THC which decreased by 2.5 per cent.

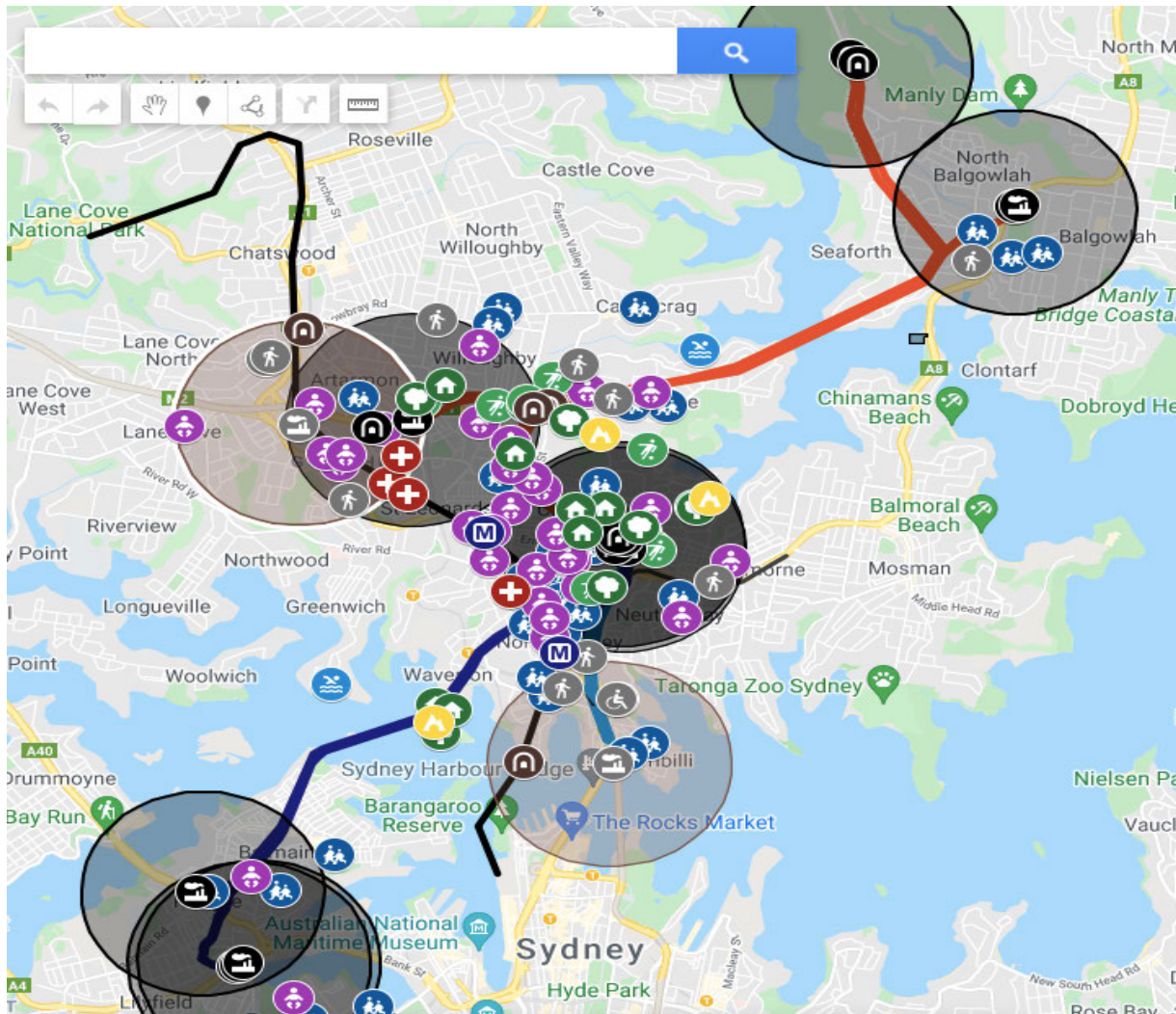
For the 'Do something cumulative 2027' scenario, emissions of CO increased relative to the 'Do minimum 2027' scenario by 4.7 per cent, emissions of NO_x, PM₁₀ and PM_{2.5} increased by 0.8 to 1.3 per cent, and emissions of THC decreased by 3.0 per cent. In the 'Do something cumulative 2037' scenario the emissions of all modelled pollutants increased, with the exception of THC which remained unchanged.

The overall changes in emissions associated with the project in a given future scenario year (2027 or 2037) would be smaller than the underlying reductions in emissions from the traffic on the network between 2016 and the scenario year as a result of improvements in emission-control technology. Although there are some differences between the definitions of the 'Base case' and 'Do minimum' scenarios, between 2016 and 2027 the total emissions of CO, NO_x and THC from the traffic on the road network are predicted to decrease by between 46 and 57 per cent. Between 2016 and 2037 the reductions range from 52 to 67 per cent. For PM₁₀ and PM_{2.5}, the underlying reductions are smaller. This is because there is currently no anticipated regulation of non-exhaust particles, which form a substantial fraction of the total. In the case of PM_{2.5}, the underlying reductions in emissions are similar



Appendix C: Impact Map

An impact map showing to approximate location of schools and childcare centres in proximity to the areas of construction and permanent facilities can be found here: https://www.google.com/maps/d/u/3/edit?mid=1MZFWHRitOo1juqhogCSb2JOZ_uynRAwM&ll=-33.829038679739234%2C151.19422309404297&z=13



Appendix D: Correspondence

Correspondence between the school P&C and relevant decision makers can be found here:
<https://drive.google.com/drive/folders/1oYavZt8x9HiczqYXPpO3sAwIcXhVNG6D?usp=sharing>

This includes letters to the Premier (Local Member), Requests for Extension on behalf of schools, Expert Papers and refusal of extension during Covid.

Note: Cammeray P&C would be happy to provide representatives to give further information if required