Submission No 395

INQUIRY INTO IMPACT OF THE WESTCONNEX PROJECT

Organisation: Cammeray Public School P and C

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Inquiry into the Impacts of the WestConnex Project

Response on behalf of
Cammeray Public School P&C

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Introduction

A number of the processes used by the government and RMS to deliver the WestConnex project, and a number of other large projects, have identified serious issues in the business case analysis, cost/ benefit analysis and governance framework in the delivery of large road projects in NSW. The Western Harbour Tunnel and Beaches Link are the final link between WestConnex and the north of Sydney. In this submission we highlight a number of concerns that have arisen during the planning process for the Western Harbour Tunnel and Beaches Link project as well as the consequences those planning decisions may have on the highest density of sensitive receivers in Sydney.

The Western Harbour Tunnel and Beaches Link program of works includes:

- The Western Harbour Tunnel and Warringah Freeway Upgrade project, comprising a new tolled motorway tunnel connection across Sydney Harbour, and the Warringah Freeway Upgrade to integrate the new motorway infrastructure with the existing road network and to connect to the Beaches Link and Gore Hill Freeway Connection

- The Beaches Link and Gore Hill Freeway Connection, including a new tolled motorway tunnel connection from the Warringah Freeway to Balgowlah and Frenchs Forest, and upgrade and integration works to connect to the Gore Hill Freeway.

The catchment area for Cammeray Public School falls across the intersection of these projects, at the point where the Western Harbour Tunnel (WHT) is planned to meet the Beaches Link (BL). Additionally, our families will be directly and heavily impacted by the two key construction sites for the project at Ernest Street, Cammeray and the main temporary construction site in Flat Rock Gully. The school and it's community will be within range of all three unfiltered stacks, as the school sits along one of the key transport corridors into the city. Cammeray families stand to be substantially impacted by increased congestion both during and after construction, putting thousands of children in the area at risk. Our streets are already suffering from increasing congestion from both commuter parking and high density developments. Additionally, our school, like most public schools on the North Shore, is at capacity and has many demountable classrooms taking up valuable playground space. We are forced to rely heavily on sports fields and open spaces in the area to ensure our children are able to exercise. Likewise, afterschool facilities and sports clubs across the area are at full capacity with no alternatives should plans proceed which will impact these facilities. We believe that the planned route, construction methods and locations will have a substantive adverse impact on the health and welfare of the children and families of Cammeray Public School and the other 11 schools directly impacted in the area. We ask for the project to be fully reviewed in that light. Addressing Sydney's congestion needs should not be placed above the health and welfare of its children. In addition, better and more sustainable solutions which reflect world's best practice need to be sought.

1. Business Case

Inquiry Criteria: (a) the adequacy of the business case for the WestConnex project, including the cost-benefits ratio

1.1 At this stage the NSW government has committed $550 million to the WHT&BL projects with final costing to be determined when a final design and financing options from the private sector have been finalised. No business case for the projects have been released. Our community questions the validity of proceeding with a project that does not have a transparent cost-benefit/ business case. According to the NSW 2021 goals "Projects must be affordable and economically viable to ensure that the net result for the State economy is positive; and the Budget impact is minimised"[1] As a business case has not been published or reviewed it would seem impossible to establish viability.

1.2 There has been no consideration of alternative public transport options and traffic monitoring has not been undertaken in key areas of congestion such as Naremburn/ Cammeray and North Sydney. The focus on congestion is within the Northern Beaches and Spit/ Mosman Area. There is a widely held concern however (based on transport research) that the Beaches Link tunnel will transfer congestion from one end of the Beaches Link tunnel to the other. There is no plan to provide commuters with parking in the city so it is likely that the Lower North Shore will become a park and ride zone for commuters accessing transport hubs. The streets around our schools and homes are already overflowing with commuters and there is no capacity for additional vehicles. This will be further exacerbated by commuters being forced to exit onto local streets to access the Western Harbour Tunnel from the Beaches Link tunnel and visa versa as these tunnels are not connected. Additionally, should local residents wich to access the tunnels they are forced to travel through local streets to access ports at Artarmon and North Sydney creating more congestion in the local area.

1.3 Figures show that, since the introduction of B-line buses, congestion at the Spit has dropped significantly and in fact traffic figures have remained relatively stable over the last 10 years. This brings into question the justification for building the Beaches Link tunnel in particular and shows that a range of public transport options may be both financially viable and effective in meeting the goal of reducing congestion.

1.4 An auditor commissioned by the City of Sydney observed that "Previous toll road projects have overestimated the travel time savings and drivers propensity to use the toll road to the point where the toll roads have been financial disasters. This includes the Lane Cove Tunnel[23], Cross City Tunnel and the Clem 7."[2]

[1] https://www.westconnex.com.au/sites/default/files/WestConnex%20Updated%20Strategic%20Business%20Case%20-%20November%202015.pdf

[2] http://www.cityofsydney.nsw.gov.au/__data/assets/pdf_file/0008/227690/140511-Final-Report_150409.pdf

1.5 Given the findings of the NSW Auditor General from its report into the CBD and South East Light Rail Project in November 2016[3] where the processes followed departed from the Major Project Assurance Framework and Transport for NSW's own Investment Gating and Investment System by not requiring a preliminary business case and two early independent assurance gateway reviews, the project suffered a number of problems including: tight timeframes without justification, project scope defined too narrowly, underestimated costs and overestimated benefits. The conclusion of the Auditor General was that Transport for NSW pursued tight deadlines for the project without fully documenting its consideration of the impact on costs, risks and benefits, and it presented a business case with an inadequate economic appraisal. As a result the cost to benefit ratio on the project decreased from 2.4 to 1.4.

1.6 Given the findings of the Auditor General on the CBD and South East Light Rail Project, NorthConnex[4], WestConnex[5] and other large construction projects about mandatory Major Project Gateway Reviews not being conducted particularly at key GO/NO GO stages and during the business case phase we believe it is in the public interest that the business case for the Beaches Link and the Western Harbour Tunnel be released including traffic forecasts.

1.7 In addition, in line with the Auditor General's recommendation from its performance report on WestConnex we believe that Infrastructure NSW should ensure that the Major Projects Assurance Framework is fully and effectively implemented for all major capital projects above A$100 million including the Beaches Link and the Western Harbour Tunnel and that the findings of these are reported publicly. In light of the systemic non-compliance that the Auditor General found in its performance reports on WestConnex, NorthConnex, the CBD & South East Light Rail project and a number of other audited major construction projects we believe it is in the government's and the public interest that major construction projects are independently assessed at all stages of their life cycles and that they deliver real value for money. In the case of the Beaches Link and the Western Harbour Tunnel we do not believe that the project stacks up and that real public transport options have been considered.

Recommendations:

- ***That the Business Case for the Western Harbour Tunnel and Beaches Link be released to the public.***
- ***That Infrastructure NSW revisit public transport options including a Chatswood to Dee Why heavy rail option.***

[3] https://www.audit.nsw.gov.au/publications/latest-reports/cbd-and-south-east-light-rail-project
[4] https://www.audit.nsw.gov.au/publications/latest-reports/northconnex
[5] https://www.audit.nsw.gov.au/publications/performance-audit-reports/2014-reports/westconnex-assurance-to-the-government/westconnex-assurance-to-the-government

2. Cost

Inquiry Criteria: (b) the cost of WestConnex project, including the size and reasons for overruns

2.1. Final costing of the Western Harbour Tunnel and Beaches Link program of works has not been disclosed. At this stage the NSW government has committed $550 million to the project with final costing to be determined when a final design and financing options from the private sector have been finalised. However there is significant precedent for toll roads in NSW to run over budget and not meet business case expectations:

- **Sydney's Lane Cove Tunnel** which cost A$1 billion to build was opened in 2007 and went into receivership in 2010. It was finally purchased by Transurban for $630m. It has been the subject of a lawsuit, whereby two investor funds sued the two consultancies that provided traffic forecasts for the tunnel on the grounds that they "failed to exercise reasonable care and diligence" and that they made "misleading or deceptive" traffic predictions. Their forecasts were more than twice the actual traffic flows observed 5 years later;

- **Sydney's Cross City Tunnel** was completed in 2005 for $1b. It has twice been placed in receivership and was bought by Transurban in 2014 for $475m. Eight years later the traffic flows were 40% of the original traffic forecasts on which the concession was based;

2.2. WestConnex has a history of repeated design changes, with the NSW Government's projected costs have shifted from $10 billion in 2012 to $17 billion today. City of Sydney analysis estimates WestConnex and its connecting roads and future stages combined will cost $45.3 billion.[6]

2.3. Planning the tunnel route through the most densely packed area of sensitive receivers (children, hospitals and aged care facilities) in Australia presents significant cost to the community in terms of health, amenity and environment. These costs do not seem to be factored into the assessment of the projects despite the OECD and EPA calculations being available to accurately assess these costs. The overall cost of Morbidity and associated with Particulate Matter in Australia was assessed by the OECD as $14 936 000 in 2015[7] Worldwide the cost of road based pollution based on OECD figures is substantial and the health impact is undisputed[8]

[6] http://www.cityofsydney.nsw.gov.au/__data/assets/pdf_file/0008/286163/12625_West-Connex-12pp-public-summary-report-June-2017_DE12-singles.pdf.
[7] https://www.oecd-ilibrary.org/docserver/d1b2b844-en.pdf?expires=1535653479&id=id&accname=guest&checksum=B1900D4A358EEBA45163A197CC29F3A4
[8] https://www.oecd-ilibrary.org/docserver/d1b2b844-en.pdf?expires=1535653479&id=id&accname=guest&checksum=B1900D4A358EEBA45163A197CC29F3A4

Table 2.21. **Indicative estimate of road transport's share of the economic cost of deaths from ambient air pollution in OECD countries in 2010**

	Economic cost of deaths from ambient air pollution, USD millions (from Table 2.13)	Share of economic cost attributable to road transport if road transport share = 50%
OECD countries	1 571 170	≈ 785 585

Source: Data in middle column extracted from Institute for Health Metrics and Evaluation (2013), *The Global Burden of Disease (GBD) Visualizations: GBD compare*, Institute for Health Metrics and Evaluation, Seattl,. *http://viz.healthmetricsandevaluation.org/gbd-compare/*; and OECD (2013), *OECD.Stat Extracts*, *http://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE1#*

2.4. Due to poor route selection through high risk areas, the cost of mitigating risks in residential areas, will increase project costs considerably. High risk sites such as landfill sites at Naremburn/Willoughby, quarry sites (heavy metal soil contamination), acid sulfate soils at Middle Harbour and the dam/watercourse at Cammeray. These sites could have been easily avoided with better informed project planning.

2.5. In 2014, the Chief Scientist quoted a "damage cost"[9] when assessing the affordability of filtration. This damage costs recognises the cost of mortality/morbidity related to not filtering stacks.. According to this report the cost of removing 200kg of Particulate Matter was $760 000 whereas the damage cost (mortality/ morbidity) was $56 000 (2013). Since this time the OECD and WHO have published information which shows an increasing link between disease and pollution (esp. diesel/ road pollutants) suggesting that the cost to human health would be far higher than this calculation suggests. Regardless it appears that the cost of filtration would be only a fraction of the overall project costs and therefore the financial viability of filtration should be re-considered, particularly in light of the route selected and the high cost of retrofitting filtration in the future should dispersion efficiency not be accurately estimated.

2.6. The OECD publishes data on the costs associated with the damage or destruction of natural environments.[10] The chosen construction methods and route pose significant risks to the foreshore and estuarine environments i.e. Immersed Tube Construction, placement of the main construction site within Flat Rock Gully etc The cost of damage to the environment should be factored into costings for the project. The OECD Values Coastal Systems at $28 918 per hectare and Coastal Wetlands (i.e. Middle Harbour) at $193 844 per hectare.

[9] www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0017/51911/060814-FINAL-Initial-Report-Tunnel-Air-Quality-WEB.pdf

[10] https://www.oecd-ilibrary.org/docserver/5jm2f6w8b25l-en.pdf?expires=1535708998&id=id&accname=guest&checksum=0478D17F6072DAC4B39AC87D9FF0235D

Recommendations:

- ***That costings for the Western Harbour Tunnel and Beaches Link projects be released and reviewed by the Minister for Roads.***
- ***That the costings include the cost to health, environment and community.***
- **That the route be re-considered to reduce costs of mitigating risk.**

3. Governance

Inquiry Criteria: (c) consideration of the governance and structure of the WestConnex project including the relationship between Sydney Motorway Corporation, Roads and Maritime Services, the Treasury and its shareholding Ministers

3.1 We have significant concerns about the governance and structure of the Beaches Link and Western Harbour Tunnel projects given the findings of the Auditor General's report in the performance audits mentioned above. In the report on WestConnex the Auditor General found conflicts between those delivering, commissioning and providing assurance on the project.

3.2 We have significant concerns regarding the objectivity of scientific and planning data informing the project. For example, the data ownership of air quality monitoring from temporary monitoring sites is controlled by the RMS. Data has not been made publicly available, following request, and so there is no ability for the public to make an informed assessment of what our background air quality levels are and how unfiltered stacks may impact health in the area.

Recommendations:

- ***That independent governance of the project be mandated to ensure that conflicts of interest are removed, including independent traffic forecasts and business cases.***
- ***That measuring and monitoring data be collected, managed and published independently from the RMS or those involved in the project. That data is presented to the public both in real time and as trends over time.***

4. Acquisition Process

Inquiry Criteria: (d) the compulsory acquisition of property for the project

4.1. The compulsory acquisition of property for the WestConnex project has resulted in, among other things:

- detriment to areas of heritage and conservation value;
- uncertainty and stress for landowners due to lack of forewarning by RMS and lack of understanding about property acquisition;
- inadequate compensation of affected landowners; and
- increased legal costs for the NSW Government.

4.2. Detriment to areas of heritage and conservation value. WestConnex has proceeded with adverse impact on areas of heritage and conservation value, notwithstanding their protected status under the NSW State Heritage Inventory. More than 50 properties in the designated heritage conservation area of Haberfield were acquired for WestConnex.[11] The National Trust has described the destruction of homes in Haberfield as the worst hit to heritage in Australian history.[12] This sets a concerning precedent for other proposed projects such as Western Harbour Tunnel and Beaches Link for which the proposed route runs through areas of heritage and conservation value.

4.3. Uncertainty and stress for homeowners due to lack of understanding about property acquisition and lack of forewarning by RMS. A resident impacted by WestConnex reported the acquisition notice received in his letterbox in January had "come as a shock….We got the letter almost a year after they started and we were told if they found any problems they could acquire the rest of the property too…We didn't realise how close the tunnel was coming underneath the house. I don't think people understand that you don't own the land beneath you — just a few centimetres under the surface…".[13]

4.4. Inadequate compensation of affected landowners. RMS have stated that "…payment for land acquired by negotiation (or through compulsory acquisition) must be in accordance with the Land Acquisition (Just Terms Compensation) Act 1991. It is based on the assessment of the ***market value, unaffected by the road proposal***)".[14] However, the reality experienced by homeowners has

[11] https://www.smh.com.au/national/nsw/lucy-turnbull-not-aware-of-destruction-of-heritage-haberfield-homes-for-westconnex-20160816-gqtnrg.html
[12] https://www.nationaltrust.org.au/news/worst-hit-to-heritage-in-our-history-says-trust/
[13] https://www.dailytelegraph.com.au/newslocal/inner-west/land-under-homes-aquired-for-tunnelling-on-westconnex/news-story/e78504caedca64ba68a448be5dd768ef
[14] http://www.rms.nsw.gov.au/documents/projects/factsheet-property-acquisition.pdf

been to the contrary, as reported by a number of news outlets.[15] In addition, there is only limited compensation available for homeowners affected by subsurface acquisitions[16] and no compensation available for properties neighbouring acquired properties in terms of the loss in value due to the proximity of the project (and its associated adverse impacts). Limited or no recourse is available for properties that fall outside the declared zone of potential impact determined by the Australian standards governing a condition survey (notwithstanding any inaccuracies in limiting or determining the declared zone of potential impact).[17]

4.5. Increased legal costs for the NSW Government. Compulsory acquisitions inevitably result in increased legal costs for the NSW Government – this is a poor use of taxpayer funds (in addition to the overall poor investment the project represents for NSW taxpayers).[18]

Recommendations:

- ***That legislation be implemented to bolster the protections for areas of heritage and conservation value, from the adverse effects of projects such as WestConnex and WHT&BL.***
- ***That the proposed route for projects such as WestConnex and the WHT&BL be altered to align with existing commercial zoning (rather than going through residential zones).***
- ***That the avoidance of property acquisition be a key/priority consideration in the design & planning phase of projects such as WestConnex (and WHT&BL).***
- ***That there be earlier notification of, and increased transparency concerning, the property acquisition process to all stakeholders.***
- ***That the availability of compensation be broadened to all properties affected by projects such as WestConnex (and WHT&BL), including properties affected by subsurface acquisitions and properties neighbouring acquired properties.***

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[15] http://www.mondaq.com/australia/x/562296/agriculture+land+law/Proof+that+its+worth+challenging+NSW+governments+compulsory+property+acquisition and https://www.stacklaw.com.au/news/business-disputes/compulsory-acquisition-property-stand-rights-dont-let-bullied-free-help-available/?utm_source=Mondaq&utm_medium=syndication&utm_campaign=inter-article-link

[16] https://www.dailytelegraph.com.au/newslocal/inner-west/land-under-homes-aquired-for-tunnelling-on-westconnex/news-story/e78504caedca64ba68a448be5dd768ef

[17] https://www.dailytelegraph.com.au/newslocal/inner-west/residents-in-haberfield-and-beverly-hills-claim-westconnex-work-is-cracking-the-walls-of-houses-near-motorway-construction-sites/news-story/d1fe2685fa896aaa90fed7767cd0003d.
See also http://www.valuergeneral.nsw.gov.au/compulsory_acquisitions , http://www.rms.nsw.gov.au/documents/projects/factsheet-property-acquisition-of-subsurface-lands.pdf and http://www.projectlawyers.com.au/2016/08/20/land-owner-denied-compensation-for-the-construction-of-a-tunnel-under-his-property/

[18] https://www.smh.com.au/national/nsw/legal-bill-for-forced-property-purchases-jumps-to-more-than-650-million-20171028-gza5td.html

- ***That a review be undertaken of the suitability of the Australian Standard governing a condition survey in determining the declared zone of potential impact of a project.***

5. Audit Office

Inquiry Criteria: (e) the recommendations of the Audit Office of New South Wales and the Australian National Audit Office in regards to WestConnex

5.1. NSW Auditor-General released a report in December 2014 into assurance processes associated with WestConnex, and highlighted that the process undertaken to date was not considered satisfactory. The focus of the audit was to determine whether WestConnex assurance processes were consistent with key principles underlying NSW Government major projects assurance frameworks and whether they had been effectively implemented to provide sound, independent assurance to Government and project sponsors. The report found that additional independent gateway reviews should have been conducted. Only one review was conducted which found that the preliminary business case was deficient and fell well short of the standard required for such a document. Four additional gateway reviews should have been conducted. A number of other conflicts of interest were raised in relation to governance arrangements and the board members of WDA. The final conclusion of the report was that "There were a number of deficiencies in governance and independent assurance over the early stages of the WestConnex project. Going forward, these need to be rectified to ensure that WestConnex achieves the expected benefits at a reasonable cost". Further to this, the report notes that "The preliminary business cases submitted raise deficiencies in business cases on which decisions have been made".

5.2. In addition, in the 2015 NSW Auditor General's Report Performance Audit into Large Construction Projects – Independent Assurance[19] the audit looked at 17 projects from 6 agencies. The audit focused on the framework's key assurance elements:

- Gateway reviews by independent reviewers at key stages of the project life cycle against seven criteria: service delivery, affordability/value for money, sustainability, governance, risk management, stakeholder management and change management. Such reviews provide independent assessment of a project's readiness to proceed to the next stage; and
- Sponsor agency reporting to, and monitoring by, Treasury for capital projects costing less than $100 million and by Infrastructure NSW (INSW) for projects costing $100 million or more.

5.3. The audit found low compliance with the independent assurance requirements and in particular:

- No mandatory reviews were undertaken at the justification/ option consideration stage.

[19] https://www.audit.nsw.gov.au/ArticleDocuments/362/01_Large_Construction_Projects_Independent_Assurance_Complete_Full_Report.pdf.aspx?Embed=Y

- Mandatory final business case reviews were common, but not universal.
- Several final business case reviews were conducted after funding was approved.
- Mandatory post final business case reviews were generally not undertaken.

5.4. Given the significant deficiencies identified by the Auditor-General in relation to WestConnex and other projects it is our view that the business case for the Beaches Link must be published (including all traffic forecasts) and be submitted to independent review. We believe that whatever benefits are being proposed have been overstated and that the costs of the project, including non-economic costs, have been underestimated.

5.5. We have significant concerns about the governance and structure of the Beaches Link and Western Harbour Tunnel projects including the relationship between Sydney Motorway Corporation, Roads and Maritime Services, the Treasury and its shareholding Ministers given the findings of the Auditor General's report in the performance audits mentioned above. In the report on WestConnex the Auditor General found conflicts between those delivering, commissioning and providing assurance on the project.

Recommendations:

- ***That the business case for the Beaches Link and the Western Harbour Tunnel be published (including all traffic forecasts) and be submitted to independent review.***
- ***That the GO / GO NO decisions on each project be reassessed to ensure that viable and sustainable public transport options are considered.***

6. Goals of the Project

Inquiry Criteria: (f) the extent to which the project is meeting the original goals of the project as articulated in 2012

6.1. In the 2012 Infrastructure NSW Strategy document[20] an inner west bypass and enhanced north south links to the M2 was mentioned. This conceptual option proposed a motorway from the airport to the Victoria Road corridor, with a potential extension North to the M2. The road would form a Western bypass of the CBD to relieve pressure on the harbour crossings. In addition, a Northern Beaches link was mentioned which would link the Gore Hill Freeway with the Burnt Bridge Creek Deviation via a tunnel under Mosman and a new bridge over the Spit. At the time Infrastructure NSW undertook prioritisation analysis on all the projects to be looked at and both projects were given a lower priority.

[20] http://www.infrastructure.nsw.gov.au/media/1127/sis_report_complete_interactive.pdf

6.2. In the 2014 report[21] Infrastructure NSW concluded that Northern Beaches Link was a lower priority for Government funding support because of the lower traffic volumes, the lack of through traffic, limited population growth on the Peninsula and the limited role of Military Road in the freight distribution network.

6.3. Finally, in the 2018 Infrastructure document the comment was made that Infrastructure NSW considers that the F6 Extension and Beaches Link both need to be weighed[22] carefully against other potential government sector investments. In a constrained fiscal environment, a near term decision to invest in these new motorway connections serving the Eastern Harbour City may mean deferral of projects elsewhere in Greater Sydney which may have greater city-shaping impacts. Infrastructure NSW supports an increased focus on public transport (such as the Northern Beaches B-Line and SmartRail), demand management and continued investment in pinch points to ensure fast and reliable access in these locations over the next 20 years.

6.4. The original goals of the Western Harbour Tunnel project have changed significantly since 2012 which proposed a Western Harbour bypass that would link from the airport to the Victoria Road corridor, with a potential extension North to the M2 designed to relieve pressure on Harbour crossings. Now the Western Harbour Tunnel is planned to link with the Warringah Expressway and into the Beaches Link and Gore Hill Expressway which would send more traffic into the most congested areas. According to the RMS's own documents Sydney Harbour Tunnel and Sydney Harbour Bridge are at the heart of Sydney's road transport network. Both are now at over-capacity and a single incident can have a major flow on effect on travel times across the network and impact our economy. People living on the Northern Beaches who work in the city will use the Beaches Link to get faster access to the city and will then use the existing crossings – Sydney Harbour Bridge and Sydney Harbour Tunnel to access the city putting more strain on the already congested network. Linking the 2 projects looks like justification for the debacle that is WestConnex – not a smart solution to the problem.

6.5. The North West Metro is an example of a project based on needs analysis and a very well thought out business case not just a justification for building more toll roads to sell to Transurban.

6.6. Issues around RMS traffic numbers - A key goal of the proposed Beaches Link and Western Harbour Tunnel is to reduce peak period congestion along arterial corridors connecting to the Northern Beaches particularly on Spit road, Mona Vale Road and Warringah Road. The traffic numbers quoted in the RMS 2017 scoping documents are significantly above the actual RMS data collected by their fixed live traffic counts in 2018. This is of great concern; that the published numbers significantly overstate the actual congestion. Also with a greater number of people

[21] http://www.infrastructure.nsw.gov.au/media/1090/inf_j14_871_sis_report_book_web_new.pdf
[22] http://www.infrastructure.nsw.gov.au/media/1090/inf_j14_871_sis_report

working from home we question the growth rates used by the RMS with their estimated numbers for 2027. Again we believe it is in the public interest for the business case for the Beaches Link and Western Harbour Tunnel and the traffic forecasts to be published and submitted to true independent review. We advocate, as Infrastructure NSW has said itself, that greater focus should be on public transport and a near term decision to invest in these new motorway connections serving the Eastern Harbour City may mean deferral of projects elsewhere in Greater Sydney which may have greater city-shaping impacts.

	RMS claim in scoping documents	Actual 2018 Daily Average RMS monitoring
Spit Bridge	69,000	65,000
Mona Vale Road	57,000	61,200
Warringah Road	78,100	54,000

Recommendations:

- ***That the project justifications for the Western Harbour Tunnel and Beaches Link be revisited as they do not meet the goals originally planned in 2012.***
- ***In addition, in line with Infrastructure NSW's comments, we believe that there are projects that are better value for money and will deliver more sustainable solutions for NSW such as a Dee Why to Chatswood rail link.***

7. Other Matters

Inquiry Criteria: (j) any other related matter.

In addition to the concerns above Cammeray Public School P&C also have concerns about the impact and risks associated with the project both during and after construction as follows:

7.1. Limited Scoping of Area; History, Ecology and Community

7.1.1. The scoping of the projects have failed to recognise the significant historic and ecological value of several of the most impacted areas on the North Shore. A significant number of Aboriginal sites in Waverton, Flat Rock and along Middle Harbour have not been detailed. Naremburn, for example, is one of the oldest settlements on the North Shore with its first land grant in the late 1700s, and is home to many original buildings. Henry Lawson lived and wrote his poetry in the area; in particular at a cave in Flat Rock.

7.1.2. Cammeray and Naremburn have already been dissected by expressways with residents experiencing loss of homes, community, environment and amenity. It has taken decades to re-build community and re-establish bushland. Further road development along the same corridor seems grossly unfair given that the area will receive little to no benefit from planned construction. The impact of historical construction has not been considered sufficiently.

7.1.3. The tunnel directly passes under four conservation areas which could have been avoided. Sydney has already lost a substantial amount of its heritage and putting additional buildings at risk is unnecessary. Old buildings built on clay soils are subject to vibration damage but of even greater concern is the dewatering that will occur (particularly given drought conditions) which will subject historic homes to movement, damage and potential loss. For the families and children at Cammeray a loss of heritage would mean a loss of learning opportunity and community but would also place an unnecessary emotional, psychological and financial strain on the many families who live in conservation areas. Families have invested large amounts of money to meet council conservation guidelines to maintain these buildings and it is unclear how they would be compensated should damage occur. Anecdotal evidence from WestConnex shows that damage is generally not compensated by the RMS. Putting these areas at risk is unnecessary and does not appropriately recognize their value to community and our National history.

Recommendations:

- **That the scope of the project is re-assessed to include the social, historical, Aboriginal and the environmental context of the most impacted suburbs at Cammeray, Naremburn, Artarmon and Northbridge.**
- **That the route is altered to avoid areas of conservation and heritage which should be retained in the National interest.**

7.2. Limited/Insufficient Consultation

7.2.1. Consultation has been very limited in the area. No direct consultation has occurred in some of the most heavily impacted areas i.e. Naremburn. Cammeray Public School P&C has had one consultation attended by an RMS communications representative in mid-2017, technical questions were unable to be answered and the community was told incorrect information about spoil handling. Cammeray Public School P&C have requested consultation with both the RMS and The Premier however to date no further consultation has occurred. Given the extent of impact on the Cammeray School catchment we believe that this is unacceptable.

7.2.2. The RMS Interactive feedback maps are proving difficult to use and many community members are reporting that their “pins” have disappeared after saving them to the website. This has been reported to the RMS on several occasions and we have been told that there is a delay due to the need to review the comments. Often pins do not appear for several days and some have not appeared at all. This has not given our community confidence that RMS are engaging in a transparent and open consultation process. Over 270 letters have been written to the Premier from our community and responses have included incorrect, misleading or insufficient information. For example, early responses stated that stacks had moved away from

schools, whereas in fact the plans show stacks have been moved closer to 11 schools in the area (Appendix 1)

7.2.3. New drop-in consultation times, based on the reference designs, have been announced by the RMS however the most impacted suburbs of Naremburn, Cammeray, Artarmon, Northbridge have not been included. Manly and Mosman have been scheduled for sessions however these suburbs remain largely unaffected by the proposed tunnels. This leads us to believe that the RMS is engaging in selective and biased consultation aimed at garnering positive feedback.

Recommendations:

- ***That meaningful and extensive consultation occur directly with the communities most impacted by the planned Western Harbour Tunnel and Beaches Link.***
- ***That planning reflects the needs and concerns of the communities impacted.***
- ***That all stakeholders are treated as valued partners in the planning process.***
- ***That consultation tools such as the interactive maps ensure transparency and reliability i.e pins are immediately saved to the map and are only removed by exception.***

7.3. Route Selection and Sensitive Receivers

7.3.1. The routes proposed for the WHT and BL cuts through the highest density of sensitive receivers in Australia (see Appendix 1). The route planned will directly impact:

19 Schools (11 which will be in the dispersion zone of double stack emissions)

30 Pre-Schools / Kindergartens

4 Hospitals

8 Aged Care Homes

12 Sports Fields/ Facilities used by children

7.3.2. Cammeray Public School is a school of 940 children. The combined total of school children in the impact zone of the tunnels is estimated at well over 10,000. It is widely recognized by

the medical profession that children are extremely susceptible to the effects of pollution and any level of exposure causes harm.

7.3.3. In 2014 the Chief Scientist stated that; "Computer and wind tunnel modelling, as well as observational studies, suggest that the greatest impacts from a stack occur some distance from the stack (eg 600 – 1,200min the case of M5 East (Hibberd, 2003))"[23] In the absence of plume modeling data the attached map shows the dispersion from stacks at 1.2kms as per this advisory. With the existing stacks in place for the Lane Cove Tunnel and the Harbour Tunnel dispersion would spread across much of the most densely populated areas of sensitive receivers. Cammeray Public School like many others sit within the dispersion field of 2 stacks.

7.3.4. The Advisory Committee also stated that "The accuracy of dispersion modelling for road tunnel stacks hinges on accurate estimates of ...several factors...all of which are difficult to specify before the tunnel opens"[24] This is concerning as we will effectively be asked to rely on this data modelling (within the future EIS) to determine whether schools and school children will be safe. Given that these tunnels will be in foreshore areas, prone to varied weather conditions such as inversions it seems reasonable to apply the precautionary principle when considering that these tunnels are in and around so many schools - modeling may not be able to effectively predict the impact.

7.3.5. Australia has one of the highest rates of asthma in the world. Approximately 70 of the children attending Cammeray Public School have registered asthma plans. Construction dust, increased pollution and odours can all aggravate asthma and significantly impact children's health in general. When assessing the route options for the WHT&BL the RMS has reviewed aspects including ease of access, visual sensitivities, cost, acquisition and property impacts, however the impact on sensitive receivers does not seem to have been adequately assessed during route selection. Tunnels require ventilation stacks and large construction sites – aligning tunnel routes with the highest density of sensitive receivers puts those receivers at the greatest risk of bearing the associated costs.

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[1] www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0005/52988/Road-Tunnels_TP05_Road_Tunnel_Stack_Emissions.pdf3

[23] www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0005/52988/Road-Tunnels_TP05_Road_Tunnel_Stack_Emissions.pdf3

[24] ditto

7.3.6. The route selected cuts through old sites of high risk including: old coal and petroleum processing sites at Waverton, Landfill sites at Waverton and Naremburn/ Willoughby, a substantial old quarry site at Cammeray/ Naremburn and Acid Sulfate Soil Areas in Middle Harbour. All of these high risk sites have the potential to contaminate groundwater, surface water, creeks and estuaries, local parks and bushland and air quality. During construction at the St Peters landfill site there was a significant spike in air pollution - this is of particular concern for the school and its sporting grounds if asbestos is disturbed. The areas around these high risk sites are highly residential and ground disturbance of contaminants would put these residents at increased risk and add a substantial amount of cost to the project. Costs that could easily be avoided by avoiding high risk sites in route planning.

7.3.7. The route and project has been planned to coincide with Metro tunneling and a proposed Military Rd upgrade. The impact of coinciding projects will further compound the risks listed below in a relatively small area of the Lower North Shore full of sensitive receivers.

Recommendations:

- ***That the route for the Western Harbour Tunnel & Beaches Link be re-assessed based on the risks to sensitive receivers in the area.***
- ***That the route (or alternate solution) chosen minimizes risks to children, their play grounds, sports fields and facilities.***
- ***That the route avoids high risk sites such as landfill sites.***

7.4. Air Quality and Stack Filtration

Following a detailed review of air quality literature, advice from air quality experts and medical professionals, we have the following concerns and comments with regard to air quality. The scientific literature is extensive with regard to the link between air pollution and disease and organisations such as WHO[25] and OECD were referenced in formulating the following response:

7.4.1. Since the publication of health research around the M5 and Lane Cove Tunnel there has been a large body of scientific evidence that proves, beyond doubt, that small particles produced by roads have a detrimental impact on human health. Children and other sensitive receivers are particularly sensitive to these particles and many scientists are stating that there is no safe level of Fine Particulate Matter (PM2.5)[26]. The research shows that these particles bypass the lungs and become lodged in the cardiovascular system creating inflammation which leads to heart disease, vascular disease and more recently brain related deficits (i.e learning, memory, dementia etc).

7.4.2. Health research into the health related pollution impacts of unfiltred tunnel is relatively limited. Some research was conducted following the M5 and Lane Cove Tunnel projects. The results were as follows:

Phase one of the Turella study looked at reports of Leukemia and Lung Cancer in the area around the stack - an increased incidence of Lung Cancer was confirmed; “When the 2002-2007 post-operation period was compared with the 1996-2001 pre-operation period an increase was observed in the incidence of lung cancer in the Turrella population (1.36, 99% CI: 1.00-1.85 or increase of 36%). This increase was statistically significant.”[27] However the study concluded that the occurrence was probably not due to the stack due to a number of factors and called for the health department to complete ongoing research.

The M5 East Study Phase 2 looked into generalised symptoms and stated that “ there are limits in the study's ability to detect an effect. This study was not designed to assess long-term health impacts of emissions”[28] Whilst generalised symptoms were found around stacks they weren’t significant enough to recommend further research.

Research into respiratory impacts around the Lane Cove Tunnels found that lung function was impaired in the area around the stack but again the link to the stacks was unable to be

[25] http://www.who.int/sustainable-development/transport/health-risks/air-pollution/en/

[26] http://d3n8a8pro7vhmx.cloudfront.net/edonsw/pages/253/attachments/original/1380614001/130308ANEDOhealth_impacts_of_air_pollution.pdf?1380614001

[27] https://www.health.nsw.gov.au/environment/Publications/m5-east-tunnel.pdf

[28] https://www.health.nsw.gov.au/environment/Publications/phase2report.pdf

proven.[29]Each body of research was focused on a particular health outcome ie lung cancer, generalised symptoms or respiratory effects and didn't cover the full complement of possible health impacts identified in the literature associated with road pollution. The outcomes from these studies were relatively inconclusive overall; increased illness/ symptoms were noted in the areas around unfiltered stacks but researchers were unable to relate causality to the stacks. Several other health studies were reviewed by the National Health and Research Council and health impacts have been correlated to tunnel emissions worldwide. In many cases recommendations have been made that further long term health research and monitoring is needed.

7.4.3. In July 2014 the Advisory Committee on Tunnel Air Quality produced a report "Initial Report on Tunnel Air Quality" which concluded that "well designed road tunnels cause a negligible change to surrounding air quality" this appears to be the principle on which the RMS is basing the claim that unfiltered stacks are safe as emissions will be indistinguishable from background levels. This pre-supposes that we are able to accurately measure and monitor our air quality (rather than sampling it) and that it is the concentration rather than presence of pollutants which cause harm. This is at odds with emergent research which states that any level of PM2.5 causes harm. If all PM2.5 particles cause harm stack dispersion effectively spreads these harmful pollutants further amongst the population.

7.4.4. Relying on air quality sampling cannot give us the accurate picture of the health impacts of air pollution from unfiltered stacks and far more medical research is needed in this area to substantiate a claim that this technology is truly safe. In the absence of long term health studies the precautionary principle should be applied -in line with overwhelming international research that demonstrates the impact of pollution from road sources on human health. As a minimum placing stacks around sensitive receivers has been recommended to be avoided.

7.4.5. Permanent air quality monitoring in Sydney does not occur in congested areas as was advised in a report by the National Health and Research Council in 2008[30] . The closest monitor to the proposed WHT and BL Tunnels is in Lindfield and the monitoring site states that it does not comply to Australian Standards. In addition, it does not monitor PM2.5 particles and so is not a reliable source of information to determine out background levels of pollution.

[29]https://www.smh.com.au/national/nsw/doctors-fear-health-impact-of-northconnex-tunnel-pollution-20140829-10a6o0.htm

[30]https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/eh42_air_quality_traffic_tunnels_150717.pdf126

7.4.6. These monitors are used to gather data to collate a 24 hour average. Whilst 24 hours averages are useful for understanding improvements in air quality or overall trends they are not particularly useful for understanding health impacts as it is the peaks during high road usage times that cause the most damage to health. Looking at the permanent station data, Sydney regularly exceeds national standards for air quality however the claim that we have comparatively good air quality is based on a 24hr average (which includes night time data when there is little road usage). Other countries reporting to WHO report from stations in congested areas and WHO warns that, due to differences in different countries' data sampling methods, countries' data should not be compared. The RMS has within their planning documents made the claim that our air quality is good on a world scale despite these cautions.

7.4.7. Temporary stations have been set up both historically and currently to establish background air quality and monitor changes in the initial year of a project. The data from temporary stations on the North Shore have not been made available by the RMS so we are unable to determine whether our background levels sit within recognised standards. Temporary stations in the Inner West have reported consistently high (exceedances) following WestConnex construction however there is little that can be done to address this once an unfiltered stack is put in place. Again the precautionary principle should be followed here particularly around sensitive receivers such as schools and pre-schools.

7.4.8. The WHT&BL are particularly long tunnels which gather pollution from the length of the tunnel, concentrating it, to then disperse it over a particular area. Data from shorter tunnels such as the Lane Cove and M5 cannot be compared as they don't emit the same volume of pollutants. There appears to be no precedent worldwide for tunnels of this length being built in residential areas without some kind of treatment. Modern tunnels being built in Tokyo, Madrid, Norway and Hong Kong are building tunnels with filtration. An article in the Hong Kong Engineer Journal (Vol 43, May 2015) stated that the system put in by Leighton Contractors (Asia) "is capable of removing 80% of respirable suspended particles (RSP's) and of absorbing 80% of the nitrogen dioxide (NO2) and nitric oxide (NOx) from the tunnel's air, prior to discharge". We are not keeping up with world's best practice with regard to treatment of tunnel air.

7.4.9. Historically, expressways have been built along commercial corridors or open space. Building an expressway (whether underground or above) in residential areas is a relatively new evolution but not one that many countries worldwide are advocating. According to the Advisory Committee on Tunnel Air Quality those within 300-500 metres of an open expressway may experience pollution impacts along the expressway. However the same report states that those living within 600m-1.2km (or further) from a stack may experience an impact. Generally speaking, those who choose to live next to a main road will undertake a risk assessment based on their known health and sensitivities. Installing a stack which distributes pollution broadly across a residential population takes away that choice. Those suffering from respiratory disease/ asthma, for example would not choose to live next to a main road if they can afford it

however that choice is taken away from those asthma sufferers when a stack is installed and pollution is dispersed over a wider arc.

7.4.10. Sydney is prone to inversion conditions which exacerbate the effects of pollution. We are also prone to bushfires and need to undertake hazard burning activities. There are elements of our environment which we can't control however these are not an excuse to ignor (or even increase) the pollutants we can control, in fact these factors should be a reason for us to have tougher standards not weaker ones. For children, the sick and the elderly in particular any increase in pollutants can have a significant impact on their well being and we have a duty of care to those in our population to provide clean air and avoid projects which negatively impact health.

7.4.11. The research that has emerged around the impact of fine particles is extremely concerning and all care should be taken to reduce their incidents in residential areas. "The Asthma Foundation believes we don't have a true picture because particle sizes are getting smaller. It is the smallest particles that are the most damaging." As research emerges around the health impacts of fine particles and other pollutants our government has a duty of care to respond. The evidence worldwide is clear and our own research and monitoring contains many question marks. In light of major road projects should not be built through residential areas and other sustainable , less harmful options to relieving congestion need to be explored.

7.4.12. A final word from National Health and Medical Research Council (2008):

> ***"Road tunnels convert a line source (the road) into one or a few point sources (portals, stacks). This represents a redistribution of pollutants, generally reducing concentrations over a large area while increasing concentrations in a small area around the point sources. In the hypothetical case of an even population distribution (and an immobile population) over the district, a road tunnel asks a few people to bear a greater health burden on behalf of the majority who benefit from better air quality. This may seem unacceptable, especially if those living near the point sources do not gain as much from the transport benefits of the tunnel. However, this is not the case if the point sources (and their 'impact zones') can be located in areas of reduced or zero population density, or dispersion can be designed in such a way that the increased burden is negligibly small. This should be the goal of good tunnel design."***[31]

Clearly according to this criteria these tunnels do not represent good tunnel design as the point sources are to be located in the highest density area possible.

Recommendations:

- ***That the route for the WHT&BL Tunnel be re-assessed based on the risks to sensitive receivers in the area.***
- ***That the route (and/or transport solution) chosen minimizes/ removes risks to children, their playgrounds, sports fields and facilities.***

[31] https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/eh42_air_quality_traffic_tunnels_150717.pdf

- ***That the route avoids high risk sites such as landfill sites.***
- ***That tunnel stacks are filtered.***

7.5. Noise Impacts

7.5.1. The scientific link to sleep and learning, health and development is well established. A World Health Organisation Study conducted across Europe over 10 years came to the conclusion that, "**there is overwhelming evidence that exposure to environmental noise has adverse effects on the health of the population.**" [32]

7.5.2. WHO ranked traffic noise second among environmental threats to public health (the first being air pollution) as noise, especially during the night, leads to increased blood pressure amongst other health issues. Given that the construction of the WHT&BL is predominantly through residential areas near the foreshore where sound travels extensively, families are extremely concerned about the impact of noise on their health and wellbeing. The evidence from suburbs such as Ashfield and Habberfield shows that noise disruption can be extensive. Flat Rock Gully is a deep valley which runs down to Middle Harbour and is surrounded by 5 residential suburbs. The scoping and design documents state that extensive tunneling works will take place from within the gully 24/7 – given the duration of the project this will impact children at our school for the whole period of their primary schooling.

7.5.3. The noise from construction in Middle Harbour is also likely to be very disruptive due to sound echoing around the enclosed harbour as will the sound of extensive construction at Cammeray Golf Course/Expressway for local residents.

7.5.4. There are limited sports grounds in our area, the placement of major construction sites next to or in St Leonards Park, Bicentennial Reserve (Flat Rock), Tunks Park and Cammeray Park (includes Oval, Tennis Club and Golf Course) places competing pressure between children's sport and noise from construction. It is not safe to conduct children's activities in areas where they cannot be properly supervised or where their hearing may be impacted and so many sports across the area will suffer. With so many sports fields impacted and thousands of children across the area participating, there are no alternative fields to move sports to and children's health and wellbeing will be negatively impacted.

Recommendations:

- ***That the route for the WHT&BL Tunnel be re-assessed based on the risks associated with noise pollution***
- ***That the route (and/or solution) chosen minimizes risks to children, their playgrounds, sports fields and facilities.***

[32] https://www.science.org.au/curious/earth-environment/health-effects-environmental-noise-pollution

7.6. Additional Health Risks

7.6.1. There is significant concern regarding the health impacts of the project, particularly given the density of sensitive receivers in our area. Health is likely to be impacted due to pollution, construction dust, noise pollution and contamination of parks and waterways. Children's health may also be impacted due to the limited green space in the area. Children at Cammeray Public School use Cammeray Park, Tunks Park, Artarmon Reserve and Bicentennial Reserve (Flat Rock Gully) amongst others. All of these parks are threatened by increased pollution from unfiltered stack emissions and contamination due to construction run off. Of particular concern to the school is that route and placement of the main temporary drill site (with drilling in three direction) is within an old landfill and quarry site close to the school and its families.

7.6.2. Residents have reported high lead levels in soil and there is a methane outlet in the area very close to Netball and Baseball fields. As the landfill was in use prior to environmental regulations being put in place (from mid 1800's - 1985), residents have reported that asbestos and lead paints were previously dumped and buried in the area. Using it as a major construction site will put ground water, creeks and residents at risk. The Netball Association next to the proposed construction site at Flat Rock is the largest in Sydney with over 6500 members which includes thousands of children. Dust from construction and transportation presents a carcinogenic risk. The wisdom of choosing a route through such a high risk site surrounded by residents and utilised as a key sports site for the area is questionable.

Recommendations:

- ***That a thorough, independent health impact assessment be conducted assessing the risks to human health associated with the route.***
- ***That the route (and/or solution) chosen minimizes risks to children, their playgrounds, sports fields and facilities.***

7.7. Risks to the Environment and Green Spaces

7.7.1. Every public primary school on the North Shore is facing capacity issues and the majority are forced to provide teaching in cramped demountable classrooms. School yards are dangerously overcrowded resulting in the need to stagger lunch times and sporting fields are at an absolute capacity putting strain on local parks. With high density living being added to the mix at St Leonards and Crows Nest, our schools and parks are under increased strain. Utilising or contaminating green space due to tunnel construction will result in further loss of amenity for the community.

7.7.2. Green Spaces are also under threat due to loss of water supply and contamination. As tunnels pass through, the process of dewatering removes moisture from the soil. The WHT&BL are planned to pass under several bushland areas and parks. In addition, the dam at Cammeray is ear marked on RMS maps as a temporary construction site for the projects. The loss of dam

water which waters many parks in the area such as St Leonards and Tunks Park would put these much used and needed spaces under threat particularly given drought conditions.

7.7.3. The bush at Flat Rock has taken community groups and the council decades to regenerate. The planned major construction site at Flat Rock (with road headers tunnelling in three directions from that location) threatens bushland in terms of clearing, dust, vibration, contamination of water supply/ Flat Rock Creek and, as it is a catchment area, contaminated runoff from there threatens Middle Harbour. The water quality of Flat Rock Creek is already far from perfect due to the upstream impacts of the Artarmon industrial area. This Creek runs down through the old tip and quarry locations and into Tunks Park (one of the largest sports fields/ parks in the area) and then runs out into Middle Harbour. There have been sightings of green sea turtles and whales in Middle Harbour and this contamination combined from runoff contamination with other construction sites (i.e. Golf Course) and dredging for the Immersed Tube Tunnel puts these protected species at risk.

7.7.4. Flat Rock Gully is home to an abundance of native wildlife including 160 species of native birds, dozens of wasp, bee and butterfly species, Ringtail Possums, Burtrams Legless Lizards, Bibron's Toadlets, Tawny Frogmouth to name a few. Recently Wallabies have returned to the area, there is a colony of protected Microbats and it is a feeding route for a pair of Powerful Owls. Given that the scoping documents did not adequately highlight the importance of this bushland area there is a high level of community concern that it will not be fully considered and protected by the EIS. Given that the area is the location of an old landfill and quarry within a catchment area the risks to the ecosystems due to runoff from the multiple temporary tunnel ports is significant. Whilst Microbats, for example, don't live at the top of the Gully (the earmarked construction site) their habitats (downstream) are likely to be heavily disturbed by 24/7 noise and vibration and their food and water supply contaminated. A full environmental assessment needs to be undertaken taking into account the fact that drilling through the landfill/quarry site adjacent to bushland (and residential areas) may carry risks to the whole ecosystem which cannot be reasonably contained. The community questions the wisdom and the necessity of choosing this route which risks one of the last remaining areas of native bush habitat in the area.

7.7.5. The choice of an Immersed Tube Tunnel puts Middle Harbour at risk due to changed tidal flows and dredging. It is not known what heavy metals and contaminants may be contained with the sludge of Middle Harbour. Given the industrial nature (i.e. quarry) at Flat Rock there are likely to be contaminants. Middle Harbour also contains areas where there are naturally occuring Acid Sulfate soils. Disturbing these can also harm the ecosystem and present a risk to health. Of particular concern is the delicate nature of the marine ecosystem with mangroves in close proximity to the dredge area. Mangroves absorb 6 times the amount of carbon as rainforests and provide the breeding grounds for numerous fish species. Changes in tidal flow, silt and water quality will have a detrimental impact on these sensitive environments and a detailed environmental review is needed to assess if the proposed tunnel design is ecologically

viable. The community questions the wisdom of choosing an immersed tube tunnel in this delicate area.

7.7.6. Northbridge Baths is frequented by many families at the school and due to the reasons outlined above water quality (which is already heavily impacted by stormwater runoff) is likely to be affected over the life of the project.

Recommendations:

That a thorough environmental assessment be undertaken which assesses the impacts to the whole foreshore ecosystems including the Flat Rock Creek Catchment, Willoughby Creek Catchment and Middle Harbour.

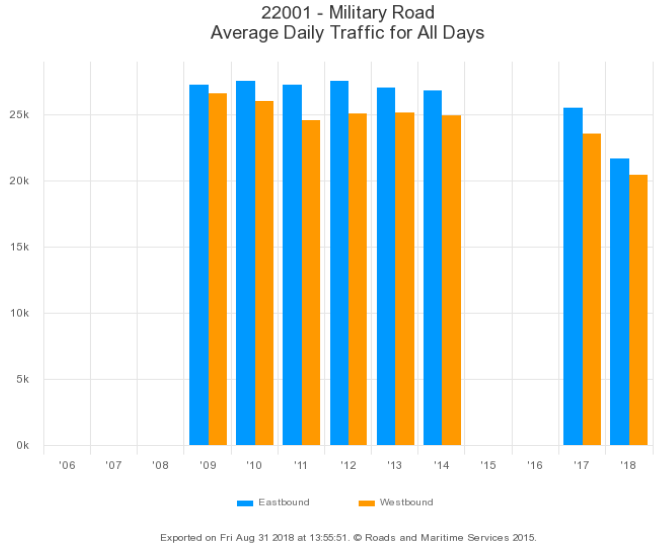
That native and endangered species and their habitats are protected from harm

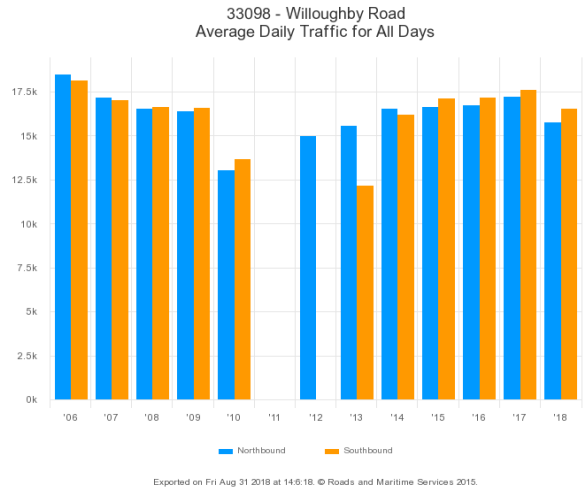
That the use of an immersed tube construction in Middle Harbour be reconsidered due to the detrimental environmental/ water quality impacts.

7.8. Traffic, Safety and Congestion

7.8.1. As previously mentioned the total traffic volumes within the RMS documentation appears to be misrepresented. In addition, the claims that traffic volumes are increasing appear to be inaccurate. The introduction of the B-line buses have affected an immediate decrease in traffic along Spit and Military Roads[33], in fact traffic volumes along this corridor have been decreasing or relatively stable for 10 years, suggesting that there is an uptake of public transport or a shift in working modes. The closest monitor to Cammeray Public School is on Willoughby Rd which suggests and overall increase in congestion over the past 10 years. A full assessment of traffic congestion, at both ends of the proposed tunnels, needs to be undertaken and reviewed as part of the business case. Transferring congestion from one area to an already congested one does not justify a tunnel and suggests that further public transport infrastructure is both needed and utilised when it is put in place.

[33]http://www.rms.nsw.gov.au/about/corporate-publications/statistics/traffic-volumes/aadt-map/index.html#/?z=13&lat=-33.81358121885223&lon=151.24319791650532&yr=2018&tb=0&id=22001





7.8.2. The local catchment area for Cammeray School is already experiencing high levels of congestion with parking becoming increasingly difficult as commuters seek to use our transport hubs and as density increases so do our parking problems. It is not clear from the planning or design documents whether any traffic volume studies have been conducted in Cammeray or Naremburn. Given the congestion in the area the addition of 100's of heavy vehicles is likely to make life very difficult for residents and those travelling through. It is likely that cars will be diverted through Northbridge during the period of the project due to Flat Rock Drive/ Brook St being used as a spoil and construction thoroughfare which will place great strain on this already congested peak hour route.

7.8.3. The school and it's community have huge concerns over the safety of school children travelling to and from school. Due to zoning 100's of Naremburn children and their families are forced to cross Flat Rock Drive/ Brook St to get to school, as does the school bus. With Flat Rock earmarked as the key temporary construction site and Cammeray as the key permanent site our children will be wedged between the too with high risk exposure to large trucks, dust

and noise. Again this situation could have been avoided with more appropriate route planning near or under main roads away from schools.

7.8.4. There are also safety concerns about school children travelling to sport and after school care at the Cammeray Park area due to the extent and type of construction planned to take place there. There is an extremely large site planned to house hundreds of construction personal and to support the extensive construction planned (4 connections to surface, 2 stacks and large support buildings) there will need to be a very large number of trucks. NorthConnex residents reported 70 Heavy truck movements per hour which is an unacceptable number of heavy vehicles in and around children. The parents and citizens have grave concerns for the health and safety of their children in this regard given the accidents that have occurred elsewhere.

7.8.5. This area is also what is termed in planning as an "innocent area" which will bring 100's of workers in and around thousands of school children.

7.8.6. As there is no published business case and little information on any benefits to the Cammeray/Naremburn and surrounding areas it is difficult to assess the long term benefit of this project for our area. Given the Northern Beaches and Western Harbour Tunnels do not join at Cammeray traffic wanting to transfer from one tunnel to the other will be forced onto local streets. As there is no easy local access locals who want to access the tunnels will need to travel through local streets to access the tunnel entrances either at North Sydney or Artarmon. With limited parking in the city it is felt that the Northern Beaches Tunnel in particular will add to traffic, safety and parking issues in the area as commuters leave the expressway and search for parking near transport hubs. This would absorb any time savings gained by the tunnel and adds weight to the argument for a train/metro solution for the beaches.

Recommendations:

That a thorough, independent traffic study by conducted which includes traffic congestion in the Cammeray/ Naremburn Area

That the route consider through flow of traffic to avoid travel through local streets

That children and school buses are able to safely travel to school

That the public transport options be considered

Conclusion

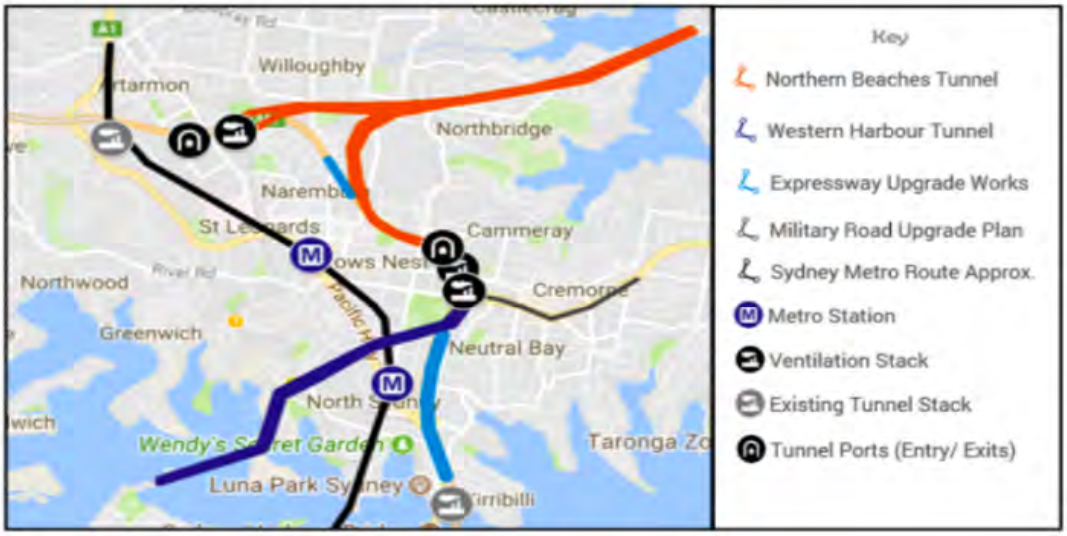
The Western Harbour Tunnel Beaches Link Projects do not have a clear business case, do not meet the original goals of the WestConnect project and available data does not indicate that they will achieve the aim of reducing congestion. Information to date has been misleading and consultation has been non-existent in the areas most impacted by the proposals. Route planning is poor as it cuts through the heart of the most sensitive receivers in Sydney as well as impacting many heritage and conservation areas. The route also passes through highly sensitive bushland and foreshore areas, of national historical significance, in addition to high risk areas that, if disturbed, will put residents and the environment at considerable risk. The costings of the project do not appear to take into account the cost to human health, the environment and risk mitigation. Given the experiences of many WestConnex residents around acquisition and damage there is a low level of confidence that this stage of the project will be managed differently and a high level of concern that it won't bring any long term benefits.

Final Recommendation

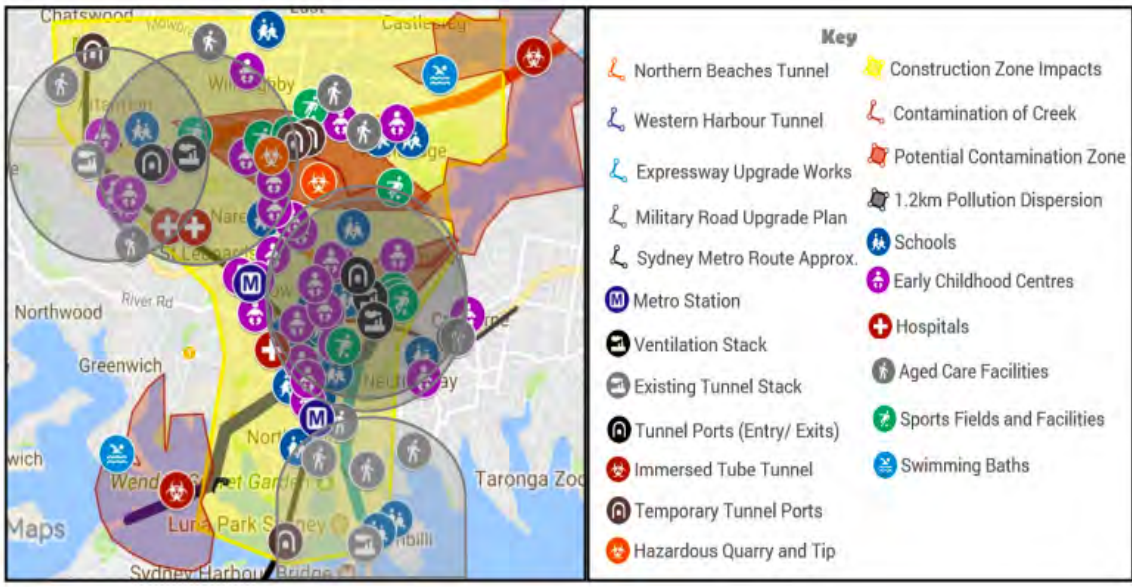
The Parents and Citizens of Cammeray Public School ask that the Western Harbour and Beaches Link Road Tunnel projects be stopped and sustainable public transport options be considered.

Appendix 1

Map of Coinciding and Proposed Major Infrastructure Projects
Lower North Shore (2019-2025 est)



Map of Works including all Sensitive Receivers



Appendix 2

Parents & Citizens Statements

We regularly walk through Cammeray golf course and I am concerned that our beautiful green open space will be destroyed. My two teenage boys will study for their HSC through the noise and stress of the major Cammeray construction site 100 metres directly behind our house. Inevitable rat running on our street (Amherst St) will become unbearable and to the rear we will view TWO UNFILTERED stacks, which scares me as one of my sons is asthmatic. All for the sake of putting more cars on the road (we would be willing to put up with the disruption for proper public transport). Victoria Rands, Cammeray

Victoria Rands, Cammeray

I honestly cannot believe that you would consider digging up Flat Rock Gully especially the regenerated bushland area which has just started maturing. As very close residents we have seen baby turtles, black cockatoos, wallabies and heard frogs (a sign that the environment is healthy) in this area. We've heard microbats and seen nesting owls, water dragons and ducks. It's also a very important place for local families to have passive recreation in beautiful bushland. I do not think any of the site should be messed around with. Destroying and rebuilding an ecosystem of more than twenty years after it has been finally gone back to bushland is a travesty. At least the baseball diamond option is a man made structure that, although some of the same problems exist can be relatively easily replaced without affecting the delicate ecosystem that has now developed after years of degradation from the tip use.

The dangerous particulates are a huge concern for all residents in the gully too. A noise and dust barrier is not foolproof! The heavy trucks in the area will be detrimental to the community too.

I can not believe that Willoughby Council who are trying to be so green and wonderful with their Flat Rock Management plan actually put forward this as an option. As an ecology graduate it really disturbs me that you think this is replaceable and viable and better than the baseball diamond. Green space is so precious, the whole of Flat Rock is an important green corridor in the area for all sorts of fauna and has a good diversity of plant species and microclimates.

The whole project is short sighted catering for car travel, putting massive exhaust stacks unfiltered near residents and children's developing lungs and it's so frustrating that the government is not listening to local opposition

Charlotte Hunter, Northbridge

"My family live in Flat Rock Gully across the road from the Baseball Diamond and right next to the site considered for the option B construction site. I am very concerned about the impact of construction noise

and dust as well as the potential removal of asbestos and other hazardous waste and the impact this will have on the environment, wildlife and water catchment".

Jane Adams Naremburn

“I'm simply over the metro dive site works, I was on my way to drop off my child and on Gordon Avenue, this morning and so much of our treescape has changed, with felled trees.

On the Sydney Metro website, I noticed the Sydney Metro City & Southwest – Tree Impact Assessment Report, revised on 21 August 2018, (465 pages long), which lists hundreds of felled trees and an impact assessment dated February 2018.

Am I missing something in the report, which states, that for every tree felled a comparable tree of the same size and condition will be put in it's place, even if its somewhere else? I'm happy to be proved wrong.

When the work started at the dive site, we had ant piles everywhere, very confused bush turkeys, possums, cockatoos, rainbow lorikee, an owl, two varies of myna birds looking for a new place to call home.

I'm really disappointed, that so much of nature around us is being destroyed because it's not an exotic species or it can find another habitat.”

Andy Martins, Artarmon (Resident experiencing realities of construction on wildlife in the area)

“My family live, work, school, play and shop entirely within a two kilometre radius of Cammeray. For the entirety of 2017, we suffered through excavation works next door to our home, exacerbated by poor geological surveys which failed to identify the sandstone boulders that much of Cammeray around Flat Rock Gully sit on. The excavation had such a detrimental effect on the mental and physical health of my family (pets included), I often feared that our family unit would break down. Both my husband and my daughter are now under the care of mental health professionals, directly related to the stress caused by the noise, vibration and constant intrusion of the excavation. If a residential building site can cause such devastation to one family, I cannot imagine the effect that 24/7 vibration, noise, increased traffic and sleep disturbances for the next ten years will have on an entire community. Having lived and worked in this community for over 20 years, I know that Cammeray and the surrounding suburbs are an extraordinary and unique example of a small-town "village" lifestyle only 5km from the biggest city in the southern hemisphere, with a rich history that cannot be replaced or moved. The construction of these tunnels, effectively funnelling the majority of trans-city traffic through one portal, will destroy this wonderful community, turning it into yet another industrialised, lifestyle-poor suburb. Many people will leave the area, unable to tolerate ten years of suffering for no relief at the end. Do you really need to destroy a thriving and vibrant community in order to fulfil a short-sighted plan that can only reduce the quality of life in Sydney?”

Resident/ CPS Parent Request for In Confidence, Cammeray

"My son trains at Cammeray Oval twice a week for soccer and my daughter trains at the Baseball Diamond and I am very concerned about the impact of the construction sites in terms of dust and traffic. I am also concerned about the impact of unfiltered smoke stacks being located so close to children's sporting fields and parks"

Ian Cameron Cammeray

"I regularly walk my dog through Flat Rock Gully and go for walks with my family through the bushland and I am concerned about the water quality and contamination of the park as I know there have been issues in the past"

Victoria Watson, Naremburn.

“As a mother of an asthmatic child I am extremely concerned about the impacts on air quality which may occur from having thousands of diesel engines on local streets, carcinogenic dust being transported throughout the area, asbestos contamination and noxious odours from the tip site and the impact of multiple stacks intersecting across the area. As a lifelong resident of the area I am also concerned about the impact on the significant heritage (both Aboriginal and non) in the area. As a scientist I am concerned about the choice of route through such a sensitive area in terms of ecology and human health. As an International Quality Assurance Auditor I am disturbed about the lack of transparency, governance and business case for this project. And as a previous student, school captain and current Mum at Cammeray Public school I am concerned about the safety of all the children in the area who will have to live through the construction site that this area is due to become and the congestion it will late bring. There are other route options and other solutions which would ensure that thousands of children are not impacted for the duration of their primary school life. We have a duty of care to protect their childhoods and find better solutions.”

Larissa Penn, Naremburn