THE WESTERN HARBOUR TUNNEL (WHT) AND WARRINGAH FREEWAY UPGRADE (WFU) EIS – APPLICATION SSI-8863

OBJECTIONS TO Chapter 25 - SUSTAINABILITY

My name is John Berry and I am a resident of Cammeray and I have a particular interest in sustainability.

Preamble

The planners are to be commended for applying the principles of sustainability to the WHT & WFU project where possible.
However the project, because of its nature, can only be described on a broader scale as unsustainable. The project is predicated on the use and promotion of the private motor vehicle which at present and for decades to come is the least sustainable transport option.

The Proponents has failed to provide an assessment of any alternatives to carrying out the project or an assessment of the consequences of not carrying out the project.

This project profoundly conflicts with the NSW state Government's commitment to an objective of achieving net-zero emissions by 2050 and the commonwealth government's Paris Agreement target of a 26-28% reduction in greenhouse gases below 2005 levels by 2030.

The WHT would be a significant impediment to the state and federal government's meeting their climate change goals and commitments.

The project's sustainability potential is grossly compromised because a public transport comparison analysis has not been undertaken.

25.1 Overview

Sustainable development refers to "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987).

The Infrastructure Sustainability Council of Australia provides a definition specific to sustainable infrastructure development, being that which is "designed, constructed and operated to optimise environmental, social and economic outcomes over the long term" (Infrastructure Sustainability Council of Australia, 2016).

I object to the EIS not meeting the World Commission on Environment and Development's definition of sustainable development and The Infrastructure Sustainability Council of Australia's definition of sustainable infrastructure development.

The EIS fails to meet the above definitions because it does not meet the needs of the present generation and compromises the needs of future generations in several communities impacted by this proposal.

The primary need of any society is an environment which protects the health of the community.

The EIS has failed to demonstrate that it meets the needs of the current and future generations because -

- Over the long term this project would lead to increased traffic because of induced demand and any benefits to traffic congestion would be short term, particularly considering a fast growing population in Sydney.

- The project would expose current and future citizens to hazardous levels of vehicle emissions from a long road tunnel utilising unfiltered emission stacks. A planning document prepared for the NSW government in 2017 explored the risks of breaching air safety and said that-
  "In North Sydney, "existing residential buildings" are identified as a "potentially significant constraint" around shafts. At other locations on the route the document recommends further air-quality modelling to identify pollution concentrations in neighbourhoods.

  "Background pollution in North Sydney is also elevated by nearby freeways, and the ..... project may cause "cumulative air quality impacts."

  "A data set shows unsafe levels of PM2.5 and PM10 recorded in nearby monitoring stations. The microscopic particles are found in exhaust fumes and were declared carcinogen by the World Health Organisation in 2013." Source -
  https://www.abc.net.au/news/2017-07-17/pollution-ventilation-shafts-for-western-harbour-tunnel-revealed/8711020

- The project would decrease public green space for present and future generations contrary to NSW state government vision and policy. Sydney has an increasing population and requires more, not less, green space.
  The project would be in conflict with the policies and visions of the NSW state Government, the NSW Department of Planning and the Greater Sydney Commission as well as the state government's Greener Places vision and policy.
  e.g. NSW Dept. Planning
  "Our programs are focused on delivering two important Premier's Priorities that will help make NSW a more resilient and liveable place:
  Provide greater access to quality, green, open and public spaces closer to homes
  Increasing the tree canopy by planting one million trees in Greater Sydney by 2022."

25.2.1 Legislative and policy framework

Transport for NSW policies and guideline - Sydney's Cycling Future, Cycling for Everyday Transport

(SYDNEY'S CYCLING FUTURE Cycling for everyday transport December 2013

CYCLING FOR TRANSPORT The overarching goal of Sydney's Cycling Future is to make cycling a safe, convenient and enjoyable transport option for short trips. We want to create more liveable

towns and centres by helping to reduce the burden of congestion on our roads and increasing capacity on the transport system. Our target is to increase the mode share of cycling in the Sydney metropolitan region for short trips that can be an easy 20 to 30 minute ride. Increasing the number of people riding a bike for transport will have a positive impact on travel time for people using other modes of transport. Some bicycle paths on roads in the Sydney CBD are already moving more people than adjacent lanes in the morning peak. There are numerous opportunities for growing the number of people riding bikes and growing the frequency with which people ride.)

Table 25-3 Relevant sustainability legislation, policies and guidelines

I object to the EIS failing to consider **Transport for NSW's Cycling for Everyday Transport** policy.

The EIS fails to meet the policy and guidelines because -

- This project would increase traffic overall and would lead to greater congestion in the long term due to induced demand and hence works against the NSW government's goal of "make(ing) cycling a safe, convenient and enjoyable transport option for short trips". This project would make cycling a less attractive and a less safe option on local roads impacted by the project.
- There would be no opportunities for cyclists to use this infrastructure.
- This project would make suburbs such as North Sydney and Cammeray less liveable due to increasing road congestion and areas of concentrated vehicle pollutants affecting the wellbeing of the community.
- This project would make the target "to increase the mode share of cycling in the Sydney metropolitan region for short trips that can be an easy 20 to 30 minute ride" far less achievable.

PROPOSAL:

a) Ensure that existing bike routes on local roads are quarantined from increased traffic as a result of the project.
b) Explore opportunities to create new bike tracks and calmer local streets during the design and implementation of the WHT & WFU.

I object to the EIS failing to consider **Transport for NSW's - Sydney's walking Future - connecting people and places**

The EIS fails to meet these policies and guidelines because it -

- It promotes motor vehicle use at the expense of walking and public transport (which indirectly promotes walking).

- It makes local streets such as Berry St in North Sydney and Miller St in Cammeray more congested. This would deter people from walking in local streets particularly since many of them have narrow footpaths. This project worsens connectivity between suburbs on the Lower North Shore and hence deters walkers.

- This project fails to "focus on solutions that promote the many benefits of walking for health and well-being, the environment and communities". Walking would become a less attractive option in Nth Sydney and Cammeray due to increased road congestion, increased air pollution and concerns for pedestrian safety.

PROPOSAL:
a) Revisit the design of the project to ensure that local streets are not subject to an increase in traffic as a result of the project and remain walker friendly.

I object to the EIS's failure to ensure that the project is consistent with the goals of the NSW state government's "**BEYOND THEPAVEMENTURBAN DESIGN POLICY PROCEDURES AND DESIGN PRINCIPLESROADS AND MARITIME SERVICES CENTRE FOR URBAN DESIGN -The goals of urban design The physical design outcomes that must be achieved are: 'Road and maritime projects, and the networks of which they are a part, must fit sensitively with the landform and the built, natural and community environments in which they are situated. 'Road and maritime project planning and design must contribute to the accessibility and connectivity of communities and a general permeability of movement through areas.' The design and management of road and maritime projects must contribute to the overall quality of the public domain for the community, including transport users."**

The EIS fails because -

- This project does not "fit sensitively with the landform and the built, natural and community environments in which they are (it is) situated" at Cammeray.

- This project would permanently destroy 17,000 sqm of public green space at Cammeray Golf Course by widening the freeway and literally moving it into the existing boundaries of the golf course. Further greenspace would be lost due to the construction of 3,000sq meters of "motorway facilities" within the golf course.

- The North Sydney LGA already bears the distinction of having one of the lowest levels of green space per head of population. There should be no permanent net loss of green space as a result of this project.

- The population of the North Sydney LGA is increasing. It is incumbent on the state government and its agencies to meet the green space needs of both existing and future generations. The lack of green space in the Nth Syd LGA has been identified by the local council as a growing problem particularly in relation to sporting groups.

- The "community environment" would be degraded as a result of this project due to increased traffic congestion in local streets, harmful vehicle emissions through unfiltered

stacks for which there are no safe levels of exposure and a less pedestrian and cycle friendly area.

PROPOSAL:

- RMS requested to investigate alternatives to the destruction of green space at Cammeray Golf Course. If an alternative site cannot be found the motorway facility buildings should be located underground to preserve existing green space, as is the case in Hong Kong.

- Cover the air space over the freeway at certain points to create "green bridges" which would promote walking and help to compensate for the permanent loss of green space.
  One such location could be the freeway air space between the Cammeray Golf Course and Anzac Park. Creating green space above the freeway would be consistent with several NSW state government policies and visions including **Sydney's walking Future, Cycling for everyday transport December 2013 and the Sydney Green Grid.**

- Emission stacks should be filtered to minimise the exposure of pedestrians to harmful motor vehicle exhaust.

- Investigate alternatives to the use of Berry St in Nth Sydney as an entry Rd to the tunnel portal. One possible alternative could be the intersection of The Pacific Highway and the Warringah Freeway in North Sydney. The use of Berry street would further alienate and isolate pedestrians in the Nth Sydney CBD. Nth Sydney is already burdened with high levels of traffic congestion from the Warringah Freeway and the Pacific Highway which are impediments to walking.

- Consider other ways in which the Warringah Freeway upgrade could enhance walking and cycling capability.

25.2.2 Sustainability vision and policy

"The policy acknowledges the need to deliver services and infrastructure that benefit the community and minimise negative environmental, social and economic impacts while maximising positive outcomes. The vision and policy may continue to be refined as the project progresses."

VISION - The project is "committed to improving quality of life for current and future generation."

I object to the EIS's failure to "Improve(ing) the quality of life for current and future generations" of residents living in North Sydney and Cammeray and to "deliver services and infrastructure that benefit .... and minimise negative environmental, social and economic impacts while maximising positive outcomes.".
The project in fact would have a significant negative environmental, social and economic impact on North Sydney and Cammeray residents by -

- Exposing several thousand residents and school students to harmful levels of vehicle emissions through the use of unfiltered stacks. Increasing the risk to nearby residents and students of serious illnesses caused by concentrated vehicle emissions, including childhood

asthma and other respiratory illnesses, stroke, cancer and heart disease. Children and the elderly are most vulnerable.
During the recent bushfire crises the air quality in Sydney dramatically worsened as a result of smoke haze. The CSIRO states that climate change.... caused an increase in the occurrence of extreme fire weather and in the length of the fire season across large parts of Australia since the 1950s." and has predicated that bushfires will be more frequent and intense.
The problem of air quality in Sydney is further exacerbated by the fact that on fuel quality , Australia ranks 66th in the world and the worst among developed nations. Its record on fuel efficiency and emissions standards is worse.
It is imperative that planning authorities implement measures to improve the air quality in Sydney. The WHT would cause a deterioration in air quality, not improve it.

- Exposing nearby residents to increasing levels of harmful road noise by widening the freeway and increasing traffic on the freeway and local streets.

- Permanently reducing greenspace leading to fewer opportunities for exercise, recreation and social events which can lead to poorer physical and mental health outcomes.

  Approximately 26,0000 sqm meters of green space would be lost to the public from the acquisition of land at the Cammeray Golf Course. The population of the NS LGA is growing and it is incumbent on governments to increase green space to meet the recreational and physical and mental health needs of citizens. The loss of green space would contribute to the rising obesity epidemic and contribute to poorer health outcomes and would add to government health expenditure.

  Urban greenspace contributes to:
  •Reduced morbidity and improved physical health outcomes
  •Improved mental wellbeing
  •Increased social cohesion
  •The provision of important ecosystem services such as cooling and air pollution
  •Maintaining biodiversity and the conservation of native species

  Reduction of green space in Cammeray would contradict the policies and legislation of the NSW Office of Open Space and Parklands whose "focus is building and promoting places that meet the needs of our unique communities and are used as a part of everyday life..... to secure and improve green space across Greater Sydney.

  The Cammeray Golf Course is public green space, which under Crown Land Management Act 2016, has been vested to the local council to be used as a public reserve.

  The destruction of this public green space would flout the intention of the act and the principles of crown land management -
  (a) that environmental protection principles be observed in relation to the management and administration of Crown land, and
  (b) that the natural resources of Crown land (including water, soil, flora, fauna and scenic

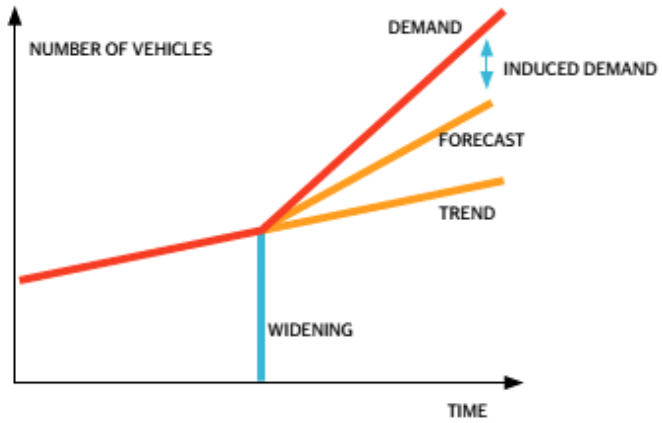
quality) be conserved wherever possible, and
(c) that public use and enjoyment of appropriate Crown land be encouraged.

Two prominent examples of Crown land in Sydney are Hyde Park and Bondi Beach. If it were proposed that a significant part of these two public spaces were to be used for the construction of a motor way the public would rightly outraged. The public will be outraged at the proposal to use public green space in Cammeray for a motor way.

- Making local roads and footpaths more congested and alienating.
- Increasing road congestion in the long term through induced demand and hence adding to the economic drag of road congestion which costs the greater Sydney economy $8billion annually. Major new road projects temporarily relieve congestion but ultimately increase traffic levels due to induced demand and congestion returns at similar or worse levels.

As an example China has increased its expressway network from 16,300 km in the year 2000 to around 70,000 km in 2010, the average commute time in Beijing for 2013 was 1 hour and 55 minutes, up 25 minutes from just the year before.* http://sbi.sydney.edu.au/roads-really-mean-less-congestion-commuters/
The Committee for Sydney further highlights this problem -"Urban roadway expansions tend to reduce congestion in the short-run, but this benefit tends to decline over time as generated traffic fills the additional capacity.' The discussion of congestion solutions in Sydney needs to be informed by an understanding of the generated or induced demand problem."

Figure 1: Induced Demand
The net increase in total vehicles surpassing forecast levels as a consequence of induced demand eliminates any benefit of congestion relief in the short or longer term[23]



The estimated annual health cost of mean ambient pollution levels in Sydney is approximately $7 billion annually. This project would increase traffic on Sydney's road network and as a consequence would increase air pollution resulting in increased rates of illness and further adding health bill.

- Contributing to climate change through increased CO2 emissions due to increased demand for private motor vehicle use and through the use of building materials, such as concrete, with a very high carbon footprint.

PROPOSAL

- Filter emission stacks to minimise exposure of residents to harmful emissions.
- Ensure that there is no net loss of green space by putting motor way facility buildings underground and by creating green bridge parkland across the freeway.
- Implement traffic measures to ensure that local roads are not burdened with increased car traffic and to ensure that rat runs are not created.

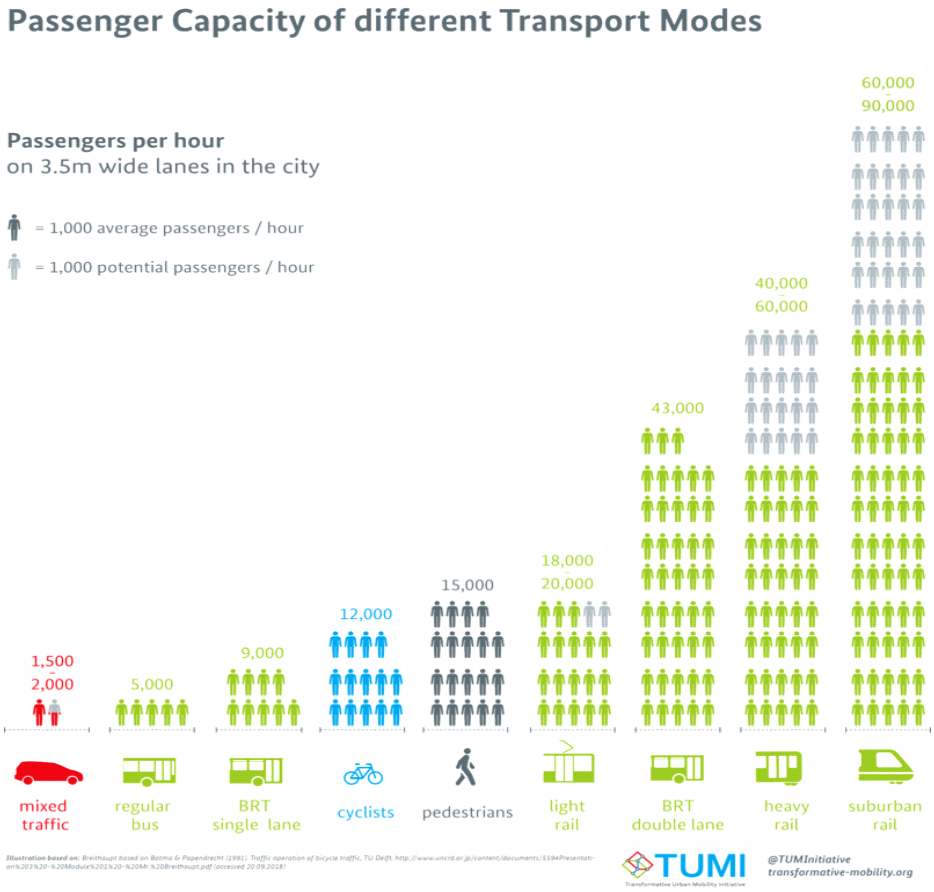
25.2.2 Sustainability vision and policy

POLICIES

I object to the EIS's failure to apply all the policies to the project that the proponent states it is "committed to", specifically-

- The project does not **"optimise(ing) sustainability outcomes"** for the reasons previously outlined and would provide an inferior "transport service quality" compared to other options, such as public transport infrastructure.
  Promoting private motor vehicle usage through major road building in cities ultimately leads to further congestion. Traffic congestion in the greater Sydney region currently costs the economy $8 billion annually.

  The project further impairs sustainability outcomes because it would -
  Expose citizens and several thousand school students to harmful levels of vehicle emissions in an area of Sydney with a very high population density - 6,207 people per km2.
  Traffic congestion would become unsustainable because the project would induce new traffic ultimately leading to increased congestion both on the freeway and in local streets.
- This project would lead to a drop off in **service quality** because it would displace potential new and efficient public transport options which would transport a far greater number of people and produce far less pollution.



- This project would in the long term prove not to be **cost effective** because -

  A) Due to induced demand it would contribute to traffic congestion. Despite a massive investment in new roads in Sydney in recent decades congestion continues to worsen. The annualised cost of road congestion in Sydney, Hunter and the Illawarra in 2016 was approximately $8billion.
  "The annualised cost of road congestion in the Sydney, Hunter and Illawarra region is forecast to almost double to approximately$15.7 billion in 2031. By 2031, peak congestion will be much more common on Sydney's major routes in both directions –towards and away from the CBD despite the massive investment in road infrastructure that has already taken place.

  "https://www.infrastructureaustralia.gov.au/sites/default/files/2019-08/sydney_-_audit_fact_sheet.pdf

  Inducing new traffic and hence new congestion would add to this staggering cost.
  This project would add to the state's health expenditure due to concentrated pockets of dangerous vehicle emissions and to users of the road tunnel who would potentially be exposed to very dangerous levels of vehicle emissions.

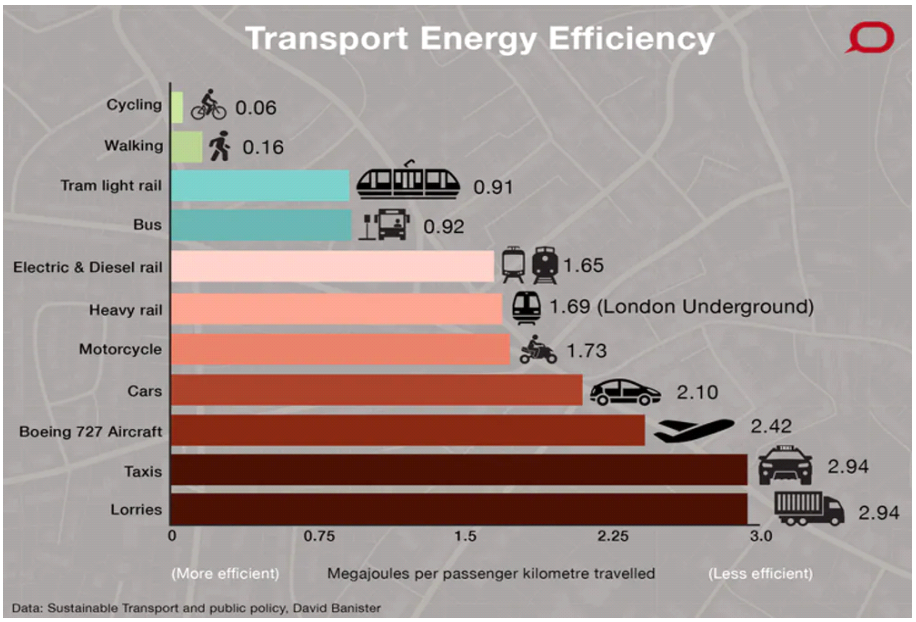
  "Air pollution is a persistent concern in the capital cities of Australia. Continued exposure to

high levels of common air pollutants such as ozone (O3), oxides of nitrogen (NOx), carbon monoxide (CO) and particulate matter (PM) can result in serious health impacts, including premature death and cardiovascular and respiratory diseases. Those particularly susceptible are the very young, the elderly and those with pre-existing health conditions."

https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Air/air-pollution-economics-health-costs-greater-sydney-metropolitan-region-050623.pdf

This project encourages citizens to use transport which is highly sedentary and would contribute to the obesity epidemic and several serious illnesses related to a sedentary lifestyle.
The estimated annual health cost of mean ambient pollution levels in Sydney is at least $7 billion.
https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Air/air-pollution-economics-health-costs-greater-sydney-metropolitan-region-050623.pdf

- I object because the WHT project would not be **"environmentally responsible by avoiding pollution"** because it promotes the use of the private motor vehicle which increases Sydney's burden of pollution and carbon footprint when compared to other transport options e.g. mass transit public transport.
  Motor vehicles are an important contributor to emissions, contributing 14 per cent of PM2.5, and 62 per cent of nitrogen oxides. These pollutants increase the risk of heart attack, stroke and lung cancer. They cause abnormal lung development in children and worsen asthma and chronic lung disease.
  While 1224 Australians lost their lives due to vehicle accidents in 2018, about 1715 died as a result of vehicle pollution - this figure is believed to be conservative.
  (Source: Melbourne University's Energy Institute's 2017 submission to the Australian Senate)



- I object because this project would not **"enhance(ing) the natural environment"** but in fact degrade it by increasing air pollution overall and by concentrating air pollution in Nth Sydney and Cammeray through unfiltered emission stacks. It would further degrade the natural environment through the dredging of half a million tons of toxic sediment from the floor of Sydney Harbour and harming aquatic wildlife in the process. The "ecological footprint" of this project would clearly neither be "reduc(ing) or maintained(ing) for the reasons stated immediately above.

- I object because this project would not provide a **"safe and accessible motorway integrated into the urban environment"** because tunnels are inherently less safe than surface roads because of the risk of major accidents and fires, particularly in a long tunnel of 8km, and the difficulty in mitigating against such risk and dealing with an accident and or fire.

  "Within Europe alone, in the past decade there have occurred within road and rail tunnels at least 10 major fires, and countless minor fire situations. These fires have resulted in a major loss of life (221 dead in four fires that took place over a period of just two years) and in all cases significant structural damage occurred, not to mention substantial economic costs to the community." https://www.promat-tunnel.com/sitecore/content/sites/promat/portal/portal/home/fpi/tunnel?sc_lang=en

- I object because this project would not create **"desirable places" or promote "liveability and cultural heritage"** for the reasons outline above. Additionally, many of the properties which have been and will be acquired and destroyed for this project have cultural and heritage value. The suburb of Cammeray would become a less desirable and less liveable place as a result of this project due to destruction of about 15 homes, the permanent loss of 20,000 sqm of green space and the exposure of residents to concentrated toxic vehicle emissions from unfiltered stacks.
  The amenity of residents would be further degraded because this project would increase traffic on the Warringah Freeway and the already substantial noise impact on nearby residents would increase.

  PROPOSAL:

A) Redirect funding for this project to improve existing public transport networks and to create new public transport corridors.

B) If it is determined that this long road tunnel should proceed employ International Best Practice be employed by ensuring that filtration is installed in the emission stacks to protect the health of both the affected residents and users of the road tunnel.

C) Ensure that there is no net loss of green space for residents in the NS LGA. This might take the form of covering the freeway at certain points to create green bridges. This has been successfully carried out on both a small and large scale overseas e.g. The Klyde Warren Park - a 5.2-acre public park in Downtown Dallas over the Woodall Rodgers Freeway.

25.2.3 Sustainability objectives and targets

Table 25-4 Indicative sustainability objectives and target themes

Objective - Minimise energy use and greenhouse gas emissions

I object to the proposal not meeting the objective of minimising energy use and greenhouse emissions. This project would significantly increase greenhouse gas emissions during its operation because it promotes the private motor vehicle over energy efficient public transport.
Motor vehicles carry far fewer passengers than public transport and emit greater levels of greenhouse gases per km travelled.

This project would use vast quantities of concrete during its construction. Cement, a prime component of concrete, is the source of about 8% of the world's carbon dioxide (CO2) emissions, according to Yale University. If the cement industry were a country, it would be the third largest emitter of CO2 in the world.

https://e360.yale.edu/digest/the-cement-industry-one-of-the-worlds-largest-co2-emitters-pledges-to-cut-greenhouse-gases

Objective - Maximise resilience to climate change impacts

I object to the EIS because the WHT would make the wider Sydney community less climate change resilient. Whilst measures have been put in place to make the project resilient to climate change the irony is that the project would be a contributor to climate change both during the construction and operational phases. This project would help to damage the resilience of the greater Sydney community to climate change by -

- Inducing new traffic and hence vehicle emissions and thereby increasing Sydney's contribution to global warming.
- Using large amounts of energy to construct concrete tunnels. Cement production is recognised as the 3rd largest emitter of Co2 gases in the world. Diesel combustion and electricity consumption would be very high for this project and are both large contributors to global warming.

Objective - Minimise pollution generated by the project

I object because the EIS fails to demonstrate how pollution generated by this project would be minimised. I assert that harmful levels of pollution would be generated, specifically -

- During the construction phase thousands of residents would be impacted by intolerable levels of noise, vibration and dust during the sensitive night-time hours for approximately 5 years. Normally, such high levels of noise would be considered a breach of Protection of the Environment Operations Act 1997
- This project would not minimise polluted generated because less polluting transport options have not been considered the proponent proposes to release vehicle emissions from a long high volume tunnel through unfiltered emission stacks (stack dispersion). In order to minimise pollution measures such as filtration would need to be employed. The project would induce new traffic and hence increase the baseline levels of pollution.

This project would significantly increase road noise pollution for residents living near the freeway because the freeway would be widened at Cammeray to accommodate additional traffic.

Objective - Enhance liveability of local communities

I object because this project would degrade the liveability of local communities, particularly in the suburbs of North Sydney and Cammeray by -.

a) Destroying homes with **heritage** value

b) Destroying **public open space** at the golf course

c) Creating concentrated pockets of harmful air pollution through stack dispersion of large volumes of vehicle exhaust.

d) Increasing noise pollution during both the construction and operational phase

e) Degrading the visual amenity through tall and overbearing emission stacks and the destruction of visually appealing green space with motor way construction and buildings.

Objective - minimise impacts on biodiversity - Ecological value and biodiversity

I object to the WHT project because the EIS has chosen a seabed harbour tunnel option which maximizes the potential to cause serious damage to biodiversity in Sydney Harbour through the dredging of half a million tons of contaminated sediment.

The sediment of Sydney Harbour is heavily contaminated with heavy metals, pesticides, polynuclear aromatic hydrocarbons, petroleum hydrocarbons and Tributyltin It has been the policy of the NSW EPA that the contaminated sediment should be left undisturbed and that measures should be put in place to ensure that the movement of contaminants into the water column does not occur.

The dredging of Sydney harbour to construct a road tunnel would contradict EPA policy and the resulting toxic plumes would be a serious risk to aquatic life in the harbour.

A high-level study undertaken by consultants for the NSW government in 2017/18 states that more than 70 threatened species are listed as at risk from the project, including fragile seagrasses which support more than 20 species of endangered seahorses and sea dragons.

Rare fauna, such as the critically endangered black cod, dolphins, sea turtles and little penguins could also be affected.

Connecting habitats used by many species of juvenile fish may also be affected by dredging.

PROPSAL:

a) Investigate public transport surface options as an alternative to eliminate the risk to biodiversity in Sydney harbour.

b) If a decision is made to build the tunnel then investigate tunnelling through sandstone below the harbour.

c) Ensure that residents are protected from construction noise, dust and vibration to the highest standards possible.

25.3 Ecologically sustainable development

Table 25-5 Application of the principle of ecologically sustainable development to the project

- **"Precautionary Principal"**

  I object to the fact that the application of the precautionary principal in the EIS is flawed because the project proposes to encourage the least sustainable mode of land transport - the private motor vehicle. The project has not considered modes of transport that are inherently more sustainable such as public transport.

  The project is at odds with the NSW state government's Transport Vision 2056 which states- "The Future Transport vision is one where urban spaces in our cities and centres are great places for people; and moving more people from high-emitting vehicles to more sustainable public and active transport will reduce our state's emissions intensity, improve air quality and support better health and wellbeing for all who live in and visit NSW." https://future.transport.nsw.gov.au/designing-future/six-outcomes-for-nsw/sustainable

- **"Carried out using the best available technical information and has adopted best practice environmental standards, goals and measures."**

  I object to the EIS because "the best technical information and adherence to "best practice environmental standards, goals and measures" has not been adopted. Specifically -

  The proposed WHT would be a relatively long tunnel of 6.5km and 6 lanes wide carrying a very large volume of traffic daily. It is arguably best practice to filter the large volume of harmful vehicle exhaust captured in the tunnel rather than exposing nearby residents and school students to concentrated vehicle emissions.

  Robin Smit, adjunct professor at the University of Technology Sydney, found that CO2 emissions from passenger cars in Australia had .....began to grow from 2015.

  The reason is a rising population – meaning more kilometres are travelled – and a growing number of heavier, thirstier SUVs on Australian roads.

  Hugh Saddler, an energy expert and honorary associate professor with the Australian National University's Crawford School of Public Policy, found annual carbon dioxide emissions from burning diesel increased by 21.7m tons between 2011 and 2018.

  On fuel quality alone, Australia ranks 66th in the world and the worst among developed nations. Its record on fuel efficiency and emissions standards is worse.

A separate study conducted by progressive thinktank the Australia Institute found vehicle emissions had risen 10% over the past decade as Australians had increasingly opted to purchase larger diesel vehicles.

Hugh Saddler, an energy expert and honorary associate professor with the Australian National University's Crawford School of Public Policy, found annual carbon dioxide emissions from burning diesel increased by 21.7m tons between 2011 and 2018.

- **"Potential environmental risks associated with the project identified and considered, with safeguards and management measures developed to manage and reduced identified risks"**

I object to the EIS because it has not adequately identified the following environmental risks and considered prudent International Best Practice safeguards and management measures to mitigate and reduce the risks -

The risks associated with exposing several thousand residents to concentrated toxic vehicle emissions through unfiltered stacks.

The risks to exposing thousands of motorist daily to highly toxic vehicle emissions in the tunnel.

The risks associated with exposing residents to harmful levels of noise pollution during both the construction and operational phase, particularly during the sensitive night time hours.

The risks associated with dredging Sydney harbour to more than 70 threatened species including fragile seagrasses which support more than 20 species of endangered seahorses and sea dragons as wells as rare fauna, such as the critically endangered black cod, dolphins, sea turtles and little penguins could also be affected. Connecting habitats used by many species of juvenile fish may also be affected by dredging.

- **Intergenerational equity - the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.**
  I object to the WHT & WFU EIS because **Intergenerational Equity** would not be achieved because the project would meet the **needs** of some citizens in the short term due to a temporary easing of congestion. In the longer term the needs of the wider community would not be met because congestion is likely to worsen because of induced demand and an increasing population. Improved public transport is the most sustainable mass transit option for meeting the needs of the current and future generations.

  Equity would not be achieved in the suburbs of North Sydney or Cammeray which would bear the brunt of many of the worst environmental impacts of the project but receive little benefit from it.

Some of these impacts would include - an increase in harmful air pollution, increased traffic congestion in local streets, permanent loss of green space, a permanent increase in road traffic noise pollution.

I further object to the project because it would ultimately be a drag on **economic productivity** because it would induce new traffic and lead to further congestion. Even with the extensive road building that has occurred in Australian cities in recent decades the Bureau of Infrastructure, Transport and Regional Economics estimates that congestion cost Australia more than $16.5 billion annually.

With major future road factored in, congestion costs are predicted to reach between $27.7 and $37.3 billion by 2030. This is unsustainable and is evidence that continued major road building would not solve congestion and be a major economic burden.
Road congestion also adds significantly to the health budget. The estimated annual health cost of mean ambient pollution levels in Sydney is approximately $7 billion annually. This project would increase traffic on Sydney's road network and as a consequence would increase air pollution resulting in increased rates of illness and further adding health bill.

Capacity and functionality
I object to the assertion that the project would improve the capacity and functionality of Sydney's transport network because it would ultimately worsen traffic congestion due to induced demand.

In an urban environment improving the capacity and functionality in the transport network is best maximised through public transport and harmed by the promotion of private vehicle use.

Infrastructure Australia supports an increased investment in public transport in order to relieve congestion -

"Infrastructure Australia believes that, to maintain the economic success and environmental sustainability of Australia's cities, the time has come for an unprecedented commitment to the creation of world-class public transport in our cities. Infrastructure Australia is therefore recommending, for the first time in Australian history, significant Australian Government investment in public transport in our cities. (Infrastructure Australia 2010)".

In addition Congestion is determined by the weakest links in the road network. If road capacity expansion does not involve widening of these bottleneck links, congestion may simply move to another part of the network without solving the congestion problem. Moreover, it could potentially make congestion even worse.

In isolation, building more roads can certainly improve traffic conditions but these effects may only be local and only in the short run. Congestion may become worse in other parts of

the network and experience shows that spare road capacity is quickly filled up with new cars. this in turn would lead to new greenhouse emissions.

- **Safety**
  This project would not contribute to the **safety** of the Sydney road network but would in fact make it less safe by inducing new traffic onto Sydney's roads.

  Also, tunnels are inherently less safe than surface roads because of the risk of major accidents and fires, particularly in a long tunnels, and the difficulty in mitigating against such risk and dealing with an accident and or fire. "Within Europe alone, in the past decade there have occurred within road and rail tunnels at least 10 major fires, and countless minor fire situations. These fires have resulted in a major loss of life (221 dead in four fires that took place over a period of just two years) and in all cases significant structural damage occurred, not to mention substantial economic costs to the community."
  https://www.promat-tunnel.com/sitecore/content/sites/promat/portal/portal/home/fpi/tunnel?sc_lang=en

- **"Reduction of operational greenhouse emissions on Sydney's roads compared to the project not being built"**

  I object to the EIS's assertion that Sydney will benefit from a reduction in operational greenhouse gas emissions on Sydney's roads compared to the project not being built. No evidence of this assertion has been provided and it cannot be supported by the evidence.

  I believe that the evidence supports the assertion that operational greenhouse gas emissions on Sydney's road would increase as a result of this project as a result of induced demand.

  The construction of the Sydney Harbour Tunnel demonstrates the phenomenon of induced demand. Between 1986 and 1991, 180,000 cars crossed the Sydney Harbour Bridge each day. The harbour tunnel opened in 1992, and by 1995 the almost 250,000 cars crossed the harbour daily, an increase of 38%, when population only increased by 4%.

John Berry

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