Submission No 520

INQUIRY INTO IMPACT OF THE WESTERN HARBOUR TUNNEL AND BEACHES LINK

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Submission to NSW Legislative Council Inquiry into
the impact of the Western Harbour Tunnel and Beaches Link

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This submission is made as a private citizen living in Fairlight. I make my submission based on a 30+ year career as a research scientist, national environmental liaison officer for a national NGO, fulltime consultant to a former Federal Environment Minister, then 20+ years as a partner in a successful small environmental consultancy business specialising in bringing together diverse interests involved in projects requiring sustainable outcomes.

The focus of the submission is on the proposed Northern Beaches Link Tunnel, to which I am strongly opposed, based on major concerns about the cost-benefit aspects of the Beaches Link, its environmental impacts, failure to adequately consider both alternatives to the proposal and recent changes to demand for private vehicle travel to work, impacts on local residents, and inadequate consideration of the fundamental principles of ecologically sustainable development more generally.

The remainder of this short submission addresses the Terms of Reference for the Legislative Council Public Works Committee Inquiry.

a) Adequacy of the business case for the project

While the Western Harbour Tunnel is of strategic importance in providing a second Sydney Harbour crossing, no similar strategic importance attaches to the proposed Beaches Link. The imperative for the Beaches Link appears primarily to be political – the promise once made in an election campaign in 2017 (in the absence of substantive evidence) has become an imperative despite the absence of an adequate business case.

A small group of local residents, each of whom comes with a long and successful career in planning, assessing and evaluating major infrastructure projects in Australia and/or elsewhere, has done a detailed analysis of the tunnel projects[1]. Their conclusions from this group (supported by separate work by UTS Senior Researcher in Sustainable Futures Transport Analytics) are that the Beaches Link Tunnel "is worth less than $4 billion, but will cost more than $12 billion (end-of project costs) to build". No stand-alone business case for the Beaches Link Tunnel project has been provided. However, the local analysts conclude that as a stand-alone project, the benefit-cost ratio for the Beaches Link Tunnel project is approximately 0.8 – significantly less than the minimum of 1.20 usually applied to major infrastructure projects. As these analysts point out, even a benefit-cost ratio of 0.8 is predicated on traffic flows prior to the COVID-19 pandemic and resulting increases in people working from home rather than commuting daily. Furthermore, the project proponents do not appear to have taken account of a documented trend towards decreased vehicle ownership, especially among younger people.

b) Adequacy of the consideration of alternative options

Consideration of alternatives to the Beaches Link Tunnel is seriously inadequate.

Rather than beginning from a premise that the tunnel should be built and canvassing alternative routes, the EIS and other aspects of planning should consider:

[1] Le Roux T, Levy N & Kitson B June 2021). Beaches Link Tunnel: An assessment of its value to an investor. Prepared for Northern Beaches Resident Group.

- The ‘status quo’, providing a current baseline for comparison
- A Chatswood to Dee Why Rapid Bus or trackless tram project
- A public transport option in which a renewable-energy, battery-powered rapid transport option connects the Metro System with Dee Why via the expanding Northern Beaches Hospital precinct
- Significantly improved connectivity of active transport options, particularly bike paths enabling use of regular bikes and/or e-bikes for the whole of journeys to work or to major transport hubs at which secure cycle storage is provided.

c) The cost of the project, including the reasons for overruns

The NSW Government has a poor track record of delivery of major projects on time and within budget (e.g. Sydney Light Rail, Metro Project, WestConnex). The Beaches Link Tunnel project involves a complex mix of engineering works, increasing the potential for significant cost overruns, all of which would involve very substantial contingency provisions in construction contracts.

To this must be added consideration of the likely ‘under-performance’ of the proposed tunnel because of a State Government commitment to a fixed toll price ($7 per trip + CPI increases), lower demand than is used in the project calculations, which were done in 2016 and fail to consider ongoing increases in working from home as a result of experience during the COVID-19 pandemic, increasing support by Northern Beaches Council and others for locally decentralised business hubs on the Northern Beaches, and decreasing private vehicle ownership/reliance among younger people.

d) Consideration of governance and structure of the project, including use of a ‘development partner’ model

Unlike previous toll-financed tunnels in Sydney, the Beaches Link Tunnel (as a project considered in its own right) is not a route to a defined destination. Its ‘success’ as a financially viable project relies on its role as a funnel to the Warringah Freeway and Western Harbour Tunnel. It is extremely unlikely to generate enough traffic for the tolls to provide a financial return that might attract a development partner. Much more likely will be the need for the government (and thus the taxpayers) to fund the full costs of the project’s development – with the short-falls discussed in response to criterion (a) a major concern.

e) The extent to which the project is meeting the original goals of the project

This is a difficult aspect to assess. The goals of the Beaches Link Tunnel relate, in broad general terms, to:

- Reducing congestion; and
- Decreasing travel times

However, these goals are addressed in the EIS for the combined project, rather than for the Beaches Link Tunnel alone.

The reductions in congestion will be localised, with likely increases in congestion for people living in the Balgowlah area and for those close to the northern end of the Tunnel.

Similarly, the decrease travel times presented by the proponents in promoting the Beaches Link Tunnel are completely unrealistic. This seems to be confirmed by the fact that the traffic projections in the EIS indicate increased traffic volumes and longer travel times on the Northern Beaches (the

exact opposite of the government's promised outcomes). This will be exacerbated during weekends, when visitors from other areas are attracted to the Beaches.

Throughout the world, there is evidence that building freeways leads to induced demand, such that within a small number of years, congestion returns to its previous levels[2] – an outcome recognised by Hounsell in his UTS study. In considering possible reductions in traffic congestion, Hounsell[3] concludes that while some reductions would occur on Mona Vale Road, Warringah Road, the Spit Bridge and Military Road in the short-term, it is likely that induced local trips would occur and fill available capacity within a few years, as has occurred with other motorway openings in Sydney. To this, Hounsell adds concerns, based on experience elsewhere in Sydney, that increased use of the Beaches Link Tunnel will be encouraged by significant increases in the capacity of the local distribution or feeder networks, impacting local communities and bushland areas.

f) Consultation

Release of the EIS, requiring review of several hundred pages of material close to Christmas holidays and with relatively limited time until close of submissions, was not a sound consultation process. Similarly, while it is understood that COVID-19 restrictions limited the capacity for face-to-face consultation sessions, extremely limited opportunity for obtaining responses to sometimes detailed questions, to help community members clarify aspects of the project proposal and the related EIS, could not be described as 'best practice' consultation.

g) The extent to which changes in population growth, work and travel patterns due to COVID-19 have impacted the original cost-benefit ratio

As noted in response to earlier criteria (above), little regard appears to have been given to the impacts of COVID-19 on the business case, cost-benefit analysis or traffic projects. In an interview on ABC Radio today while I am preparing this submission a senior academic from the University of NSW re-enforced earlier findings that some of the changes in travel patterns (in particular working-from-home) are likely to be relatively lasting. They should therefore be considered and appropriate re-assessments done in relation to both the cost-benefit analysis and the business case for the Beaches Link Tunnel.

h) Whether the NSW Government should publish the base-case financial model and benefit cost ratio for the project and its component parts

Transparency is important to sound democratic practice and it essential to the credibility of the whole analysis of the proposed Beaches Link Tunnel. This need is enhanced in the face of recent major cost overruns in other large infrastructure projects in Sydney (see above) and given alternative analyses (le Roux et al, Hounsell) which highlight deficiencies on the current base-case and benefit-cost ratio calculations, and the absence of a stand-alone analysis of these parameters for the proposed Beaches Link project.

The analyses should be provided with comparisons for other transport alternatives discussed above, and not simply for the various route options addressed for the tunnel.

[2] Deloittes (see https://www2.deloitte.com/us/en/insights/industry/public-sector/transportation-trends.html)

[3] Hounsell, M (2017). Western Harbour Tunnel & Beaches Link Transport Study. Prepared for North Sydney Council. UTS Institute for Sustainable Futures, Ultimo

i) Whether the project is subject to the appropriate level of transparency and accountability that would be expected of a project delivered by a public sector body

See response to criterion (h) above. As there are clearly expectations that a large amount of taxpayer funding will be required for the Beaches Link Tunnel to proceed, the methods used and assumptions made should be publicly available prior to any decision to proceed.

j) The impact on the environment, including marine ecosystems

The impacts on the environment are numerous, and of significant concern.

That many of these are addressed by the EIS through "Biodiversity Offsets" is inadequate. The Offsetting process (using the Biodiversity Development Assessment Report process, BDAR) requires that avoidance and minimising of environmental impacts are considered ahead of any decision to move to 'offsetting'. However, the lack of adequate consideration of other transport alternatives (as identified in responses to earlier Terms of Reference for this Inquiry) means that this hierarchy of environmental considerations has not been addressed. Too often 'offsetting' is used as an easy way out for development, however, the whole offsetting process is flawed in significant ways, as highlighted by EDO's Head of Policy & Law reform, Rachel Walmsley[4] and others.

In particular, the extent to which 'offsets' are appropriate or able to prevent further loss of 1.38ha of directly impacted Endangered Duffys Forest Ecological Community and a further 1.36ha predicted to be indirectly impacted, remains highly uncertain. The BDAR (p.207) identified this as a significant 'risk of a serious and irreversible impact'.

In 2017 the updated profile for Duffys Forest EEC (https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10254) identified only approximately 240ha of an original 1450ha of this EEC remaining – much of it in the area impacted by the proposed project. Numerous developments in recent years have further eroded the remaining area of Duffys Forest EEC. These include housing development, the Belrose Supercentre development, school expansions, the Northern Beaches Hospital and Mona Vale road widening.

When these losses are considered in concert with ongoing professional concerns about capacity to create complex ecological communities or to 'restore' them from a severely degraded state, reliance on 'offsetting' will do little to ensure the ongoing survival of this EEC. Already severely fragmented, one of the priority threats to the survival of Duffy Forest EEC is "loss and fragmentation of habitat through clearing and development" (see TEC Profile, referenced above). Other recognised threats relevant to this proposed project include:

- Habitat degradation by weed invasion {a threat already apparent on roadside verges along Wakehurst Park and likely to be exacerbated by the proposed project)
- Stormwater, soil erosion and nutrient enrichment
- Boundary encroachment
- Infrastructure

The Departmental Secretary's Environmental Assessment Requirements (SEARs) associated with the tunnel EIS, in s.19.1.3 requires that the BDAR "must document the application of the **avoid, minimise [**emphasis added] and offset framework. The EIS goes to considerable lengths to address offsetting of impacts, and Sections 4 and 5 of this BDAR (Appendix S) address the efforts taken to

[4] Walmsley R: https://www.edonsw.org.au/political_endorsement_of_extinction.

identify an alternative **route**, more fundamental alternatives receive scant attention (see General Comments, above).

The BDAR s.19.1.4 dismisses as 'Not applicable' a requirement to take 'reasonable steps' to identify 'like-for-like' when assessing offsetting. Given the heavy reliance of the EIS and the Biodiversity Assessment on offsetting, and the extent to which the Endangered Duffys Forest EEC is fragmented and highly at risk, it is difficult to reasonably consider how the EEC might be retained other than by a very strong commitment to a 'like for like' approach.

In addition to the Endangered Duffys Forest Ecological Community, **13 flora species** listed as threatened under the NSW Biodiversity Conservation Act (several of them Endangered or Critically Endangered at national level, as recognised by listing under the provisions of the EPBC Act) are recorded within 1.5km of the subject land (see EIS Appendix S, section 3.6.1). Many of these were assessed as at moderate to high risk, with two species *Callistemon linearifolius* and *Syzygium paniculatum* known to occur within the land that is subject to the tunnel's proposed development.

Further adding to the environmental impacts of the proposed project on threatened flora are the likely impacts of the project on **11 threatened fauna species** "recorded or considered highly likely to occur in the subject land" (EIS Appendix S, Section 3.6.2). To this must be added the threat to the ancient Climbing Galaxias fish, the only known local population of which relies for its survival on the water quality in Manly Creek. That the water quality of Manly Dam and its feeder creeks (including Manly Creek) will likely be affected is acknowledged in the EIS (Chapter 19, p.67).

The proposed clearing of 20.92ha of threatened species habitat and an estimated loss of some3500 trees, much of this in the biodiverse-rich Wakehurst Parkway area, is an unacceptably high risk from a project for which real alternatives to any tunnel have not been properly considered.

To these serious impacts on the biodiversity of the area must be added several matters of concern in relation to water quality and availability to sustain natural environments.

The EIS states that construction of the tunnel in North Balgowlah and Seaforth will cause the water table in these areas to fall, with a consequent 96% fall in natural groundwater flows into Burnt Bridge Creek (an area in which Local Government and volunteers have invested considerable effort in restoration). This drop in flows will impact on wildlife and their habitat in the vicinity of the Creek and will have flow-on downstream effects on input to Manly Lagoon.

The EIS acknowledges that widening of the Wakehurst Parkway between Seaforth and Warringah Road will, during even moderate rainfall events, lead to polluted runoff to Manly Dam War Memorial Park – an impact that is difficult to control due to the local topography.

Silt curtains proposed to provide protection to the local marine environment during construction dredging risk allowing escape of toxic sludge on the Harbour floor to the surrounding environment, with potential for significant adverse impacts on the marine life and nearby swimming areas.

k) The adequacy of processes for assessing and responding to noise, vibration and other impacts on residents, during construction and operationally

From the information available to date, it is difficult to assess just how much impact noise and vibration will have on local residents, either during construction or when the tunnel is operating if built.

If the WestConnex Tunnel provides any guidance this is a serious concern. Residents in that area were seriously impacted, and a 2018 parliamentary inquiry found that "the various noise mitigation

measures offered by Roads and Maritime Services are wholly inadequate to substantially reduce heavy construction noise".

l) The impact of the project on nearby public sites, including Yurulbin Point and Dawn Fraser Baths

While there are sites in other areas adversely affected by the proposed Western Harbour Tunnel and the Beaches Link Tunnel, in this submission with my focus on the Beaches Link Tunnel, attention must be drawn to the impacts of the proposed project on:

- Indigenous sites of significance close to the Wakehurst parkway

While Chapter 15 of the EIS and its supporting assessment report (Appendix L) appear to substantially address the 'Secretary's environmental assessment requirements' (SEARs) as they relate to Aboriginal heritage, some significant concerns remain about the possible impacts of the proposed project on Aboriginal heritage.

In particular, SEARs 2B (Table 15-1) requires only "discussion of alternative locations and design options" considered to reduce heritage impacts. As is addressed elsewhere in this submission, consideration of fundamental alternatives to the proposed Beaches Link and Gore Hill Freeway Connection receives minimal consideration.

SEARs 2f (Table 15-1). requires consideration of measures "to avoid" and minimise identified impacts, and Requirement 6 (Table 15-1) mandates that the Aboriginal Cultural Heritage Assessment report (ACHAR) "must demonstrate attempts to avoid impact upon cultural heritage values" and identify any conservation outcomes. By failing to adequately consider major alternatives to the Beaches Link and Gore Hill Connection, the EIS fails to adequately address **avoidance** of impacts on some important Aboriginal areas and sites, both within the project construction footprint and within proximity (i.e. within 50 metres) of the site.

Reliance on mitigation measures, in several instances measures that would be implemented only after construction is under way (see Appendix L, Table E-1) is inadequate. Concern about this aspect of the project's potential damage to significant Aboriginal heritage is heightened by references in Table E-1 to uncertainties around construction vibration impacts. Of particular concern in this regard is the inclusion, in relation to AH3, to measures being taken "where possible".

The commitment to protection of Aboriginal sites of significance in the Wakehurst parkway area appear inadequate.

- Impacts on & loss of Balgowlah Golf Course

Plans to use this area as a dump site for tunnel spoils, and when works have finished to convert part of the area to sporting fields and a parking area will see the loss of green open space that has provided recreational opportunities for golfers and local residents enjoying the amenity of the Burnt Bridge Creek corridor since as far back as the 1920s. As the role of green space and opportunities for passive recreation in community health and well-being are increasingly recognised, this loss is a serious consideration.

Furthermore, mature trees in the area provide important nesting and roosting sites for various threatened species and are part of a 'green corridor' linking larger natural habitat areas northward across the Northern Beaches area.

Potential impacts on Clontarf Beach from toxic silt pollution and on habitat and water quality in Manly Dam War Memorial Park, as discussed briefly in (j) above must also be addressed.

m) Any other related matter

It is of significant concern that the tunnel project as proposed, and the EIS relating to it, fail to meet either the statutory objectives of Ecologically Sustainable Development (ESD) or objectives of the Environmental Planning & Assessment Act as amended in 2017.

Ecologically sustainable development (ESD)
Deficiencies in meeting the statutory requires relating to ESD, which are pertinent to the proposed Beaches Link tunnel project include:

(a) **the precautionary principle**—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
(ii) an assessment of the risk-weighted consequences of various options.

As has been discussed earlier, "**careful evaluation**" of alternatives which could **avoid** serious impacts on the environment is grossly inadequate. Rather than beginning from a premise that a tunnel should be built and any environmental impacts 'offset', alternatives that address demand management based on current and future projections, rather than 'induced demand', should be thoroughly addressed.

Given the high risk of extinction of some flora and fauna species that will be affected by the tunnel project, reliance on 'offsetting' as the mechanism for 'risk weighted consequences' is also inadequate.

(b) **inter-generational equity**—namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

While it is current vehicle-dependent generations that will be responsible for this project if it goes ahead, future generations will bear the costs of added vehicle emissions and the associated exacerbation of climate change – along with the additional impacts of vegetation loss and of ventilation, water treatment and other factors associated with the tunnel's ongoing operations.

(c) **conservation of biological diversity and ecological integrity**— should be a fundamental consideration

Consistent with the focus of this chapter of the EIS, it is clear that there will be biodiversity loss through the loss of threatened species and a threatened ecological community, and ecological integrity will be eroded as habitat corridors and connectivity are fragmented by the expanded road systems associated with the proposed tunnel project.

(d) **improved valuation, pricing and incentive mechanisms**—namely, that environmental factors should be included in the valuation of assets and services

Given the over-reliance of the EIS on 'offsetting' and the risks that that brings to species and their habitat, there is little evidence that value of environmental factors has been properly considered alongside the tunnel proposal, the costs of which risk being seriously under-estimated.

Objects of the Environmental Planning & Assessment Act

Considered from a biodiversity perspective, there are inadequacies in the ways in which the Beaches Link and Gore Hill Freeway Connection project, as proposed, meets the Objects of the Environmental Planning and Assessment Act, as amended in 2017.

In particular, there are deficiencies, as follows, in relation to Objects b), c) and e).

> (b) "to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,"

As discussed above, environmental considerations and alternatives to those proposed, have been inadequately considered. The focus of the EIS is on 'planning' rather than on integrating environmental considerations into the decision-making.

> (d) "to promote the orderly and economic use and development of land,"

In failing to inadequately consider the environmental values of the biodiversity and other aspects of the proposed project, the EIS provides a very imperfect basis for considering 'orderly use and development of [the] land' that will be affected by this proposed project.

> (e) "to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats",

It is on this point that the EIS (Chapter 19 and Appendix S) fail most dramatically to meet the Objects of the EP&A Act. Through an over-reliance on 'offsets' (the success of which as a conservation tool is too often likely to fail) the proposal fails to ensure the conservation of threatened species, ecological communities and habitats.

In conclusion

The Beaches Link Tunnel as proposed is not justified in its present form for the reasons addressed in response to the Terms of reference for the legislative Council inquiry.

It should be rejected and, after proper consideration of a transparent business case and updated cost-benefit analysis for the Beaches Link Tunnel as a stand-alone project consideration, replaced with more comprehensive consideration of alternatives, including:

- a 'Do nothing' option, providing a base-line for comparison
- Travel demand analysis and management, and
- Improvements to alternative transport modes