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I object to the overall increase in the number of trees to be removed.

The loss of 700 trees is unacceptable and a further increase as a result of design modifications such as the realignment at Alison Road and at the Alison Road/Anzac Parade intersection, and changes to the construction method for the Anzac Parade tunnel is abysmal.

This project does not seem to be taking into consideration the short and long term negative impact it will have on the people living in the affected and surrounding areas due to the very real consequences of removing these trees. Social and community aspects, health issues, local habitat, air purification, air temperatures etc.

I'm disturbed because if you choose to ignore the growing concerns from Sydney residents, are you also prepared to ignore the research and advice from respected bodies such as the 'The Centre of Excellence for Climate System Science at the University of New South Wales' and the 'NSW Government Public Works?

I have supplied the following information with links to the reports.

Report 1:

The Centre of Excellence for Climate System Science at the University of New South Wales examined the "urban heat island effect" in Sydney, and in 2013 released a report — **Temperature response to future urbanization and climate change**.

In the report researchers say

- Urban areas closer to the CBD may see temperatures rise up to 2.5 degrees by 2050
- Urban planners need to include more trees, bodies of water and parks to mitigate temperature rise.
- Temperature increases will be most noticeable at night, as structures that have accumulated heat throughout the day release it.
- Temperature increases will have implications for health problems related to heat stress accumulation
- At an economic level there will be higher energy consumption required to power air conditioning.
- Cooler suburbs will have a social advantage, with leafy suburbs tending to see an increase in real estate value.

a. Reference:

http://www.climatescience.org.au/content/291-sydney%E2%80%99s-urban-areas-be-hit-hardest-global-warming

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Report 2:

The NSW Government has developed Technical Guidelines for Urban Green Cover in NSW to provide practical advice on best practice. These guidelines will be released in early 2015.

The Green Cover Demonstration Project, by the Office of Environment and Heritage (OEH) in collaboration with the NSW Government Architect's Office, showcases leading landscape design principles for urban green cover. The report offers achievable strategies for mitigating heat impacts by increasing urban green cover and has potential to be implemented by NSW local councils to assist community resilience to climate change.

Below I've highlighted just a few points from the report that recommend the opposite of what you are proposing to develop.

1. Strategy 4: Cool Streets

a. Cool streets can be achieved with an increase in canopy trees within the verge or carriageway, increased understorey planting, bioswales/ raingardens and verge and median planting.
 Reference:

http://www.publicworks.nsw.gov.au/sites/default/files/pdf/Greencover Report Sec.5.0.pdf

2. **4.0** Proposition: The Benefits of Green Cover

- a. Increasing green cover in urban environments can be achieved in a number of ways, from **protecting local green spaces** and designing eco-friendly buildings, through to creating a green space network.
- b. In the report it quotes the following:

"A study by Dr Stephen Lesiuk (1982, People, Plants and Buildings - Micro climatic modification of plants) Micro climatic modification of plants) found *one mature tree potentially provides as much cooling as five, 3kW air-conditioners*. Trees can cool buildings through intercepting most of the solar radiation that arrives at the top of the canopy"

Reference:

http://www.publicworks.nsw.gov.au/sites/default/files/pdf/Greencover Report Sec.4.0.pdf

c. Liverpool and Penrith case studies

The case studies highlight the benefits of reduced hard pavement surface area, reduced heat absorption and radiant heat, shading to pavement and cars, aesthetic value and habitat creation.

Ironically these two case studies hope to achieve what suburbs like Randwick already have in regards to large trees and reduced hard pavement surface area.

Reference:

http://www.publicworks.nsw.gov.au/sites/default/files/pdf/Greencover Report Sec.6.0.pdf

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6.3.3 Bathurst Street Carpark, Liverpool

This surface carpark is typical of many in Liverpool and other urban centres, lacking in shade and amenity for users and a significant contribution to the heat island and surface stormwater.

Existing issues:

- · Large surface areas of exposed hard pavement;
- · High absorption of heat;
- · Lack of shade;
- Glare and radiant heat:
- Contribution to Heat Island Effect; and
- Increased surface runoff.



Bathurst Street Carpark, Liverpool: Existing Condition









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I support the minor change that would ensure the preservation of trees in Tay Reserve, Randwick. However, I do have strong concerns over other suggested modifications.

I object to the realignment of light rail along Alison Road and flood mitigation changes at Centennial Park (as described in Section 3.7)

It is my understanding that an **additional 50 trees will be removed** along Alison Road within Centennial Parklands. This is going to have a devastating effect on wildlife. In January 2013, 2,000 flying foxes died in heat waves across Sydney (Centennial Park included). In November this year in northern NSW over 5,000 flying foxes faced the same tragedy. Heat waves aren't going to go away, so where are these poor endangered mammals supposed to live? Also the **loss of the new and very popular bike and pedestrian tracks** is unacceptable.

I object to the realignment of light rail at the Anzac Pde /Alison Rd intersection.

An additional four fig trees set to be removed. There is so much destruction. Is this really necessary?

I object to the new retaining wall, approximately 200 metres long and up to approximately three metres in height.

This wall would extend along the eastern side of the tracks within the central section of the proposed alignment, between Doncaster Avenue and Darley Road next to Alison Road, Randwick. Not only would it look ugly it is not necessary if you re-align the tracks into the centre of Alison Road as some residents have already suggested.

Finally, I object to report claims that these modifications will result in an overall improvement, yet *no* improvements have been proposed with regards to tree loss, natural habitat, climate change issues etc.

Please take my concerns seriously as I am writing on behalf of the local green spaces and natural habitat that cannot protect themselves and other Sydney residents who for one reason or another have been unable to make a submission, but are concerned about this project.

Just take a look at a recent news report that clearly states that trees are important. ABC.NET.AU – December 2nd 2014 - 'Treeless' outer suburbs put people's health at risk, researchers warn planners http://www.abc.net.au/news/2014-12-02/treeless-outer-suburbs-warning-issued-to-urban-planners/5933514

Negative changes to any suburb in Sydney, will have a knock-on effect from an environmental point of view and will affect the health and wellbeing of all Sydney residents long term.

We reap what we sow and this project still has the opportunity to lead by example and do the right thing. Thank you.

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