

Submission
No 122

INQUIRY INTO IMPACT OF THE WESTERN HARBOUR TUNNEL AND BEACHES LINK

Organisation: Bicycle NSW

Date Received: 11 June 2021

Ms Bastien Wallace
General Manager of Public Affairs
Bicycle NSW
PO Box Q178 Queen Victoria Building
Sydney, NSW 1230

The Hon. Daniel Mookhey MLC
Inquiry into the Impact of the Western Harbour Tunnel and Beaches Link

11th June, 2021

Dear The Hon. Daniel Mookhey MLC,

RE: Impact of the Western Harbour Tunnel and Beaches Link Inquiry

Thank you for the opportunity to submit to this inquiry. Bicycle NSW has been the peak bicycle advocacy group in NSW for over forty-four years, and has over 30 affiliated local Bicycle User Groups. Over the past three years we have prepared a range of relevant submissions on the

- Western Harbour Tunnel & Beaches Link Projectⁱ
- Western Harbour Tunnel and Warringah Freeway Upgradeⁱⁱ
- Beaches Link and Gore Hill Freeway Projectⁱⁱⁱ

These submissions have, at times, been developed to be read together with submissions by Bike North^{iv} or members who ride in the Northern Beaches^v. These riders are able to speak to the detail and ‘fine grained’ impact of projects on local communities, specific streets and cycleways. We will address the criteria outlined in the inquiry, but recommend that stakeholder consultation include people with local expertise.

Bicycle NSW remains and independent, non-profit funded by the contributions of our members. It makes and receives no political donations.

(a) the adequacy of the business case for the project, including the cost benefits ratio,

The benefits calculations for road infrastructure projects such as the Beaches Link and Gore Hill Freeway or Western Harbour Tunnel rely on assumptions that have proven baseless as follows:

Building more roads will alleviate congestion X In fact the evidence is that providing more kilometres of roadway for car travel increases vehicle kilometres travelled by current residents, increases commercial traffic, and does not divert traffic from other types of road.^{vi} Previous warnings from City of Sydney Council, the National Trust and Infrastructure Australia about the ineffectiveness of building more roads to reduce traffic and congestion,^{vii} have proven true and Sydney’s large number of toll roads are not delivering on predicted decongestion promises to taxpayers, or income generation promises to toll operators.^{viii}

Building major road projects can help with conservation X Past projects have not delivered on their promises. The M7 Motorway has failed to deliver promised conservation offsets fifteen years on from development,^{ix} and Westconnex has not reduced traffic on Parramatta road.^x

We can determine in advance how much the road project will cost X The forecast cost to build the Beaches Link and Gore Hill Freeway is \$14 billion, but the forecast cost of Westconnex was \$10 billion and actual cost was \$15.8 billion.^{xi} On this basis we believe the cost forecasting process needs revising.

(b) the adequacy of the consideration of alternative options,

(02) 9704 0800 | info@bicyclensw.org.au | www.bicyclensw.org.au
Bicentennial Drive, Bicentennial Park, Sydney Olympic Park NSW 2127

ABN 26 511 801 801

The socioeconomic calculations in road projects are not compared with well researched, meaningful alternatives. The Beaches Link and Gore Hill Freeway project captures the loss of community facilities and social infrastructure^{xii}, some likely impacts on local communities represented on maps,^{xiii} and some health impacts,^{xiv} fails to properly reflect the increased risk of injury and loss of life for bike riders and pedestrians given the location of construction relative to schools, childcare facilities, parks and on routes large numbers of bike riders and pedestrians use regularly. Grieving families will not accept 'economic arguments' for the death of their relatives, nor will local people feel that they have 'benefited' from life altering injuries.

North Sydney communities have been actively deterred from supporting rail infrastructure alternatives by demands that high density apartment developments be imposed as a condition of rail provision. No model has been presented that includes dedicated bus lanes, or incentives for electric car use, or other measures to counteract induced motor vehicle demand or carbon pollution.

These projects involve works being carried out over 5 years or more, involving denial of access to active transport connections and hundreds of movements of heavy vehicles on roads and in communities where people are highly likely to be hurt. Too often the danger construction activity and traffic poses to bicycle riders and pedestrians is trivialised, ignored or active transport planning is left till it is too late to make a meaningful difference. Bicycle NSW reiterates recommendations we have made on a range of projects to bring forward active transport planning to the start of the project, to ensure safety audits related to bike riding are conducted by bicycle riders (preferably with local knowledge of the area and its travel connections), and that CLOCS heavy vehicle standards are required on all State Government Projects.

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

These multi-billion dollar projects are a once in a generation opportunity for transport improvement. When they fail to deliver or costs blow out, taxpayers deserve to know what went wrong. Bicycle NSW has been involved in, and advocated strongly for revisions of the Westconnex Rozelle Interchange Project. Several have been costly, but could have been avoided had we been involved earlier and our advice followed, or if safety audit reports had been made available. Transparency provides opportunities for feedback from people with local knowledge and relevant expertise that can help highlight, and avoid, costly mistakes. It is impossible to learn from projects that have cost overrun if a careful post-project review is not conducted and findings reported. This is vital information to the success of future projects and to ensuring taxpayer funds are well spent.

(d) the consideration of the governance and structure of the project including the use of a 'development partner' model,

Bicycle NSW has faced problems with the governance of multiple projects including Westconnex Rozelle Interchange, Newcastle Light Rail, Sydney Light Rail and Parramatta Light Rail. We have found it difficult and at times impossible to get issues rectified in a timely manner. Sadly, our member Danny Egan paid with his life in Newcastle, in spite of our warnings. Other riders have also been injured.

The problem is that project incentives are misaligned. Project contractors are focussed on maximising profits and therefore reduce expenditure on safety measures or infrastructure for pedestrians and cyclists. When initial commitments to safe practices are broken, there is no consequence for doing so. Transport for NSW staff assigned to the project, when challenged over these issues, appear to have little power to demand rectification. The other challenge is that the drawing of project boundaries and forcing diversions outside them is then used by 'development partners' to avoid responsibility or force them onto under-resourced Councils.

Future contracts should contain a requirement to comply with the Providing for Walking and Cycling in Transport Projects Policy CP21001^{xv}, Road User Space Allocation Policy CP21000^{xvi}, Austroads Guide to Road Design – Part 6A Walking & Cycling^{xvii}, Austroads Guide to Temporary Traffic Management^{xviii}. Transparent planning, reporting and significant financial penalties must be imposed for non-performance.

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

These projects are supposed to be to improve transport infrastructure and reduce motor vehicle congestion. Unfortunately they are unlikely to achieve this because the evidence is that providing more kilometres of roadway for car travel increases vehicle kilometres travelled by current residents, increases commercial traffic, and does not divert traffic from other types of road.^{xxix} Increasing public transport provision has also not demonstrated a reduction in vehicle kilometres travelled, and neither additional roadways or public transport provision reduce congestion.^{xxx} Instead, by making commutes faster, people are enabled to live further from their jobs, education, workplace and services. This encourages more motor vehicle travel, more energy consumption, and the generation of more pollution.

This undermines efforts to reduce carbon pollution outlined in treaties, legislation and policy as described in the Beaches Link and Gore Hill Freeway EIS at 26.2.1^{xxxi} It also contradicts the NSW Government's Road User Space Allocation Policy which requires the avoidance of "...an overall increase in general traffic lanes for private motorised vehicles."^{xxxii} Reducing commuting traffic for example on Military Road, will simply mean more people use it to complete other car journeys, rather than walking, cycling or using public transport. This undermines the stated goal of the NSW Government's Future Transport 2056 Plan^{xxxiii} to have most short journeys completed by foot or bicycle, in order to enable a significant population increase in NSW.

Providing physically separated networks of cycling infrastructure that enable kilometres travelled by car to be replaced with travel by bike, and reducing the speed of motor vehicle travel, all improve cyclist safety.^{xxxiv} At the same time they discourage unnecessary motor vehicle journeys. Reducing motor vehicle use makes the road related environment safer for bike riding and active transport. Unfortunately, these projects as currently designed, provide little additional cycling infrastructure and seek to increase the speed and volume of car kilometres travelled.

Bicycle NSW recommends reconsidering tunnels for cars and replacing them with train tunnels, and then developing high quality separated cycling infrastructure to connect local people to stations. If this is not feasible, dedicate the majority of tunnel space to lanes for busses, taxis, freight and electric vehicles, in line with the Government's Road User Space Allocation Policy.^{xxxv}

Bicycle NSW recommends enhancing these projects by developing safe cycling infrastructure within a 5km radius of the project, to enable more people to travel to work, education and services by bike. If developed in the initial stages, mode-shift to active transport could assist in alleviating road congestion during the works, and separating vulnerable road users from heavy vehicles.

(f) the consultation methods and effectiveness, both with affected communities and stakeholders,

The problem with consultation is that it remains a check-box exercise and the NSW Government continues to build massive road projects whilst ignoring the objections of local residents, bicycle riders, pedestrians, environmental, health and public transport advocates. Consultation also does not provide meaningful alternatives to road projects, and the NSW Government does not allow anything that is said to meaningfully change the course of projects, or to halt them. Government and contractor transparency and accountability for safety are low, many hazards are created, and it is left to non-profits and volunteers to struggle, sometimes for years, to get basic safety standards to be met.

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

The Future Transport 2056 Plan and the Greater Sydney Region Plan were developed years before the COVID-19 pandemic, and whilst chapter three of the EIS for the Beaches Link and Gore Hill Freeway Project acknowledged the likelihood of changes in the way people work, it was still developed on a forecast of the population of Greater Sydney growing to eight million people over the next 40 years, and a model of daily commutes to work.^{xxxvi}

A new public service policy announcement by the Deputy Premier of NSW requires that senior government roles be able to be based anywhere in NSW,^{xxxvii} Infrastructure Australia reports high levels of remote learning continuing for university students, and a strong shift to active transport.^{xxxviii} Urbanist Richard Florida^{xxxix} forecasts that workers in the knowledge economy and creative class will increasingly eschew lengthy commutes in favour of working and meeting at local hubs in suburbs, high-streets and close to residential areas with high local amenity.

This suggests a need for greater development of active transport connections that focus on local neighbourhoods, on technology infrastructure to enable digital connections to work and study, rather than on the old models of commuting from suburbs to central work hubs. Work travel patterns and office occupancy in Sydney have changed and the impact on the cost-benefit ratio of these projects needs recalculating.

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

The NSW Government must publish the base-case financial model and benefit cost ratio for the for the project and its component parts, and allow for its scrutiny. Projects have had flimsy cases made for them at best, and the resulting toll roads created with tax-payer revenue have become a blight on the landscape that impoverishes people, whilst damaging the environment irreparably.

(i) whether the project is subject to the appropriate levels of transparency and accountability that would be expected of a project delivered by a public sector body,

Bicycle NSW has found NSW Government road and light rail projects fail to conform with the level of transparency and accountability that would be expected of a project delivered by a public body. Faced with multiple safety failures, a refusal to act in a timely manner or to provide or publish safety audit reports we have had to resort to the GIPPA process. This is shameful failure.

Transport for NSW Projects are obliged to comply with the:

- Austroads Guide to Road Design – Part 6A Walking & Cycling^{xxx}
- Australian Standards:
 - AS2890.3 Parking Facilities: Part 3 – Bicycle Parking Facilities
 - AS1742 Manual of Uniform Traffic Control Devices
 - AS1743 Road Signs - Specifications
- RMS 2013 supplements to the Australian Standards including AS1742 Part 9: Bicycle facilities
- Austroads Guide to Temporary Traffic Management^{xxxix}
- Austroads Guide to Road Design^{xxxii}
- Austroads Guide to Road Safety^{xxxiii}
- Road Safety Plan 2020 (Towards Zero)^{xxxiv}
- Providing for Walking and Cycling in Transport Projects Policy CP21001^{xxxv}
- Road User Space Allocation Policy CP21000^{xxxvi}

Unfortunately, State projects such as the Westconnex Rozelle Interchange^{xxxvii}, Sydney Light Rail, Newcastle Light Rail^{xxxviii} and Parramatta Light Rail^{xxxix} projects have failed to comply with some or all of these standards at various points. This has endangered people who ride bikes, walk, use prams and wheelchairs, discouraged active transport use, led to injuries and fatalities. It has also produced diversions, pathways and interim infrastructure that are incoherent, unsafe and difficult to navigate. According to the Road User Space Allocation Policy the project must avoid:

“...adverse impacts on road safety for all road users including a focus on vulnerable road users, particularly when considering re-routing heavy vehicles or public transport...discriminatory barriers to access an adjacent place or service due to people’s physical ability...”^{xl}

It should not take over a year to get dangerous diversions or damage to paths corrected, we should not have to launch social media and political campaigns to get the law, regulation, policy and guidelines of the NSW Government followed. This represents a gross failure of accountability to standards set by the NSW Government, SafeWork and Austroads. It should not fall to a non-profit to have to fight for them to be met on multi-billion dollar projects.

Three critical failings of previous projects could be easily rectified on this project to improve safety, reduce costly re-work, and prevent these problems being repeated. Bicycle NSW recommends that:

- active transport plans to enable safe cycling and walking during the project be drafted early to allow for review and project adjustment, rather than delayed until it is too late to make changes, and made public
- prior to opening any temporary or permanent facility for bike riders, an independent ride through audit be conducted on a bicycle to evaluate safety, coherence and conformity with relevant laws, regulations and guidelines, as proposed previously to Ministers Constance^{xii} and Toole^{xiii}
- safety audits, near misses and incidents on projects be reported transparently and in a timely fashion so that cycling, walking and community advocates can better advise project and contract managers on how to rectify issues

Heavy vehicle safety standards used on most NSW Government projects currently fall well short of international best practice. This endangers the lives of all road users,^{xiiii} especially people who walk and cycle, and it makes the job of heavy vehicle operators more difficult. Bicycle NSW recommends that the CLOCS standards used in the United Kingdom and Europe be adopted and implemented on this project,^{xiv} to improve heavy vehicle safety. This includes planning and publishing heavy vehicle routes and ensuring people are protected, especially vulnerable road users.

Finally, project managers should be compelled to plan and publish plans, work programs and safety audits transparently. Incidents should be followed with safety reviews and lessons learned published to ensure mistakes are not repeated. This would enable greater collaboration, early intervention and the avoidance or early rectification of hazards before people are exposed to them.

(j) the impact on the environment, including marine ecosystems,

Chapter 26 of the Beaches Link and Gore Hill Freeway project went to great trouble to assess the vulnerability of the project to climate change in accordance with the NSW Government's climate change projections,^{xv} and a range of relevant policies and standards,^{xvi} without properly addressing the contribution this project will inevitably make to inducing more motor vehicle journeys that will further exacerbate the problem. It contemplated increased bushfires, rising sea levels, more storms and increased temperatures,^{xvii} but hoped that congestion reductions, electric vehicles and reducing stop start journeys will be effective to somehow offset inducing a far greater number of journeys by motor vehicle. If electric vehicles run on energy generated from fossil fuel sources such as coal-fired power stations, their journeys will continue to contribute to environmental damage.

The Beaches Link and Gore Hill Freeway project neglected to address the probable impact of increased storm activity and rising sea levels on coastal communities such as the Northern Beaches. Amongst its many warnings, the Commonwealth report of the Senate Environment and Communications References Committee found that:

“...Collaroy-Narrabeen Beach—the committee was advised that this beach is the most vulnerable to erosion from coastal storms in northern Sydney (and is considered be the third most at risk area from coastal processes in Australia). The Environment Institute of Australia and New Zealand noted that in 2016 an estimated \$30 million in damage was caused by severe storms that eroded away about 50 metres of beach and caused extensive property damage....”^{xviii}

Dramatic images show storm impacts,^{xlix} and Northern Beaches Council currently acts to try to repair or prevent storm damage.ⁱ These projects have a once-in-a-generation opportunity to play a part in reducing the transport contribution to climate change, rather than compounding the problem. It currently undermines the policies, treaties and strategies set out in 26.2.1 of the EiS.ⁱⁱ

Substituting electric vehicle journeys, if run on renewable energy, could assist in reducing carbon pollution and the contribution of this project to climate change. However, at no point in the EiS does it mention incentives likely to improve the environmental impact of this project. Limiting or banning fossil fuel vehicles from using the new toll-ways, providing toll discounts for electric vehicle use, or providing a designated lane to make travelling by electric vehicle faster, could all help incentivise behaviour that will deliver on the government's stated objectives and the urgent need to reduce greenhouse gas pollution.

The best way to deliver improved environmental outcomes would be to reallocate above ground road space from motor vehicle to active transport use. For example, removing one road lane to create a bi-directional separated cycleway on Military Road would prevent the road-space freed up by this project being filled with additional motor vehicle journeys. Narrowing road lanes to calm traffic speeds and reallocating space to wider footpaths, could help improve pedestrian amenity and increase journeys by foot. Reallocating road space to trackless trams or 24/7 bus lanes could also improve public transport amenity and efficiency, whilst preventing road space freed up by the project being filled with additional motor vehicle journeys. Bicycle NSW recommends implementing these measures that would help maximise positive environmental impacts of the project, enhance transport amenity and accessibility for residents, businesses and the community, deliver on the government's stated objectives, and help prevent induced demand and negative environmental consequences.

(k) the adequacy of processes for accessing and responding to noise, vibration and other impacts on residents, during construction and operationally,

Bicycle NSW can attest that riders, schools and residents have been unable to get adequate responses from projects to the hazards presented by heavy vehicles driving at speed through residential areas, past schools, running red lights, ignoring pedestrian crossing lights and signs, parking in residential neighbourhoods and on cycleways. Multiple reports of damaged pavement, unsafe impacts on the road environment have taken weeks to even as long as a year to be fixed at the Westconnex Rozelle Interchange Project. They were repeated daily on the Sydney Light Rail Project and the absence of proper rideable diversions in Parramatta by the Parramatta Light Rail Project makes a mockery of our efforts to improve safety during the consultation process. There are no consequences or effective appeal processes when projects are dangerous, forcing community members and advocates to resort to political process and social media campaigns to get basic safety standards met.

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

We do not have the requisite background or local knowledge to address this.

(m) any other related matter.

Transport for NSW Projects need to comply with the:

- Future Transport 2056 Plan^{lii}
- Disability Inclusion Plan^{liii}
- Older Persons Transport and Mobility Plan 2018-2022^{liiv}

In order to do so they need to ensure that the infrastructure they develop enables and promotes walking and cycling for short journeys, and is accessible to all. Many of the diversions on the Westconnex Rozelle Interchange Project and Parramatta Light Rail Project have severed cycling connections, diverted bike riders onto busy or dangerous roads, provided incoherent wayfinding, introduced dangerous features into the road related environment or completely excluded use by bicycle riders and users of mobility

assistance devices. Lessons must be learned from previous projects and these negative impacts avoided.

Bicycle NSW again recommends the early preparation of active transport plans and diversions to allow for review by walking, cycling disability and health advocates to enable project adjustment. Independent ride through audits, transparent reporting of their findings and of safety audits, near misses and incidents on projects would provide the best opportunity for cycling, walking and community advocates to advise project and contract managers on ways to rectify issues in a timely and efficient manner that protects people and supports the objectives of the NSW Government's plans.

There are a range of issues and risks with this project that merit careful consideration and amendment to improve safety, amenity and impact. Previous government projects have suffered unnecessarily, and incurred additional re-work expenses when active transport plans have been de-prioritised or left till too late, sensible advocacy has been ignored, and transparency has been lacking.

Bicycle NSW and its' affiliated Bicycle User Groups have a long history of providing sound advice to government to improve project delivery for communities, and generations to come. We hope that this inquiry will take the opportunity to revise these projects in order make NSW better, rather than worse, for all bicycle riders.

Yours faithfully,

Bastien Wallace – BA LLB
General Manager of Public Affairs
Bicycle NSW

ⁱTransport for NSW, Western Harbour Tunnel Beaches Link [online as at 9/6/2021] <https://roads-waterways.transport.nsw.gov.au/projects/western-harbour-tunnel-beaches-link/index.html>

ⁱⁱTransport for NSW, Western Harbour Tunnel & Warringah Freeway Upgrade [online as at 9/6/2021] <https://www.planningportal.nsw.gov.au/major-projects/project/10451>

ⁱⁱⁱ Transport for NSW, Beaches Link and Gore Hill Freeway Connection; [Online as at 9/6/2021] <https://www.planningportal.nsw.gov.au/major-projects/project/10456>

^{iv} Bike North, [online as at 11/6/2021] <https://bicyclensw.org.au/wp-content/uploads/2021/03/Bike-North-Beaches-Link-EIS.pdf>

^v John Hawkins, [online as at 11/6/2021] https://bicyclensw.org.au/wp-content/uploads/2021/03/JRH_BL_EIS_Submission_202102282135.pdf

^{vi} Duranton, Gilles, and Matthew A. Turner. 2011. "The Fundamental Law of Road Congestion: Evidence from US Cities." *American Economic Review*, 101 (6): 2616-52. [online 10/2/2021] <https://www.aeaweb.org/articles?id=10.1257/aer.101.6.2616>

^{vii} Jenny Wiggins, (23/9/2016) Westconnex: what could go wrong? Australian Financial Review [online as at 10/2/2021] <https://www.afr.com/companies/infrastructure/westconnex-what-could-go-wrong-20160919-grjtlo>

^{viii} Amanda Hoh, (26/2/2019) Sydney's growing tollway network world's most extensive and expensive, experts say, ABC [Online as at 10/2/2021] <https://www.abc.net.au/news/2019-02-26/sydney-has-most-toll-roads-in-the-world/10845944?nw=0> ; Michiel Bliemer, (16/3/2015) Why fewer drivers are likely to use Westconnex than predicted, the Conversation, [Online as at 10/2/2021] <https://theconversation.com/why-fewer-drivers-are-likely-to-use-westconnex-than-predicted-38286>

^{ix}Lisa Cox, (10/2/2020) It's an ecological wasteland: offsets for Sydney tollway were promised but never delivered, The Guardian Australia [online as at 10/2/2021]

<https://www.theguardian.com/environment/2021/feb/10/its-an-ecological-wasteland-offsets-for-sydney-tollway-were-promised-but-never-delivered>

^x Transport for NSW, Traffic Statistics, Parramatta Road counter, [online as at 10/2/2021]

<https://www.rms.nsw.gov.au/about/corporate-publications/statistics/traffic-volumes/aadt-map/index.html#/?z=11&lat=-33.90053417284805&lon=151.11039298390384&id=19065&df=1>

^{xi} Peter Martin, (18/7/2017) Revealed: The \$14 billion Western Harbour Tunnel Beaches Link price tag, Sydney Morning Herald

[Online as at 18/2/2021] <https://www.smh.com.au/national/nsw/revealed-the-14-billion-western-harbour-tunnel-beaches-link-price-tag-20170717-gxycy6a.html>

^{xii} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 21 Socioeconomics [Online as at 11/2/2021]

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T231157.749%20GMT>

^{xiii} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 21 Socioeconomics [Online as at 11/2/2021]

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T231157.749%20GMT>

^{xiv} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 13 Human health [Online as at 11/2/2021]

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T230530.655%20GMT>

^{xv} NSW Government, Providing for Walking and Cycling in Transport Projects Policy CP21001, [Online as at 19/2/2021] www.transport.nsw.gov.au/system/files/media/documents/2021/providing-for-walking-and-cycling-in-transport-projects-policy.pdf

^{xvi} NSW Government, Road User Space Allocation Policy CP21000, [Online as at 19/2/2021]

www.transport.nsw.gov.au/system/files/media/documents/2021/road-user-space-allocation-policy.pdf

^{xvii} Austroads Guide to Road Design – Part 6A Walking & Cycling (2017) [Online 1/4/2020]

<https://austroads.com.au/publications/road-design/agrd06a>

^{xviii} Austroads Guide to Temporary Traffic Management (2019) [Online 1/4/2020]

<https://austroads.com.au/publications/temporary-traffic-management/agtmm-set>

^{xix} Duranton, Gilles, and Matthew A. Turner. 2011. "The Fundamental Law of Road Congestion: Evidence from US Cities." *American Economic Review*, 101 (6): 2616-52. [online 10/2/2021]

<https://www.aeaweb.org/articles?id=10.1257/aer.101.6.2616>

^{xx} Duranton, Gilles, and Matthew A. Turner. 2011. "The Fundamental Law of Road Congestion: Evidence from US Cities." *American Economic Review*, 101 (6): 2616-52. [online 10/2/2021]

<https://www.aeaweb.org/articles?id=10.1257/aer.101.6.2616>

^{xxi} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 26 Climate Change and Greenhouse Gas [Online as at 11/2/2021]

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T233142.345%20GMT> *Kyoto Protocol to the United Nations Framework Convention on Climate Change* (the Kyoto Protocol) (UNFCCC, 1998); *Doha Amendment to the Kyoto Protocol* (UNFCCC, 2012) ; *Paris Agreement* (UNFCCC, 2015) ;

National Greenhouse and Energy Reporting Act 2007 (Cwlth) ; *Direct Action Plan* (Australian Government, 2014) ; *NSW Climate Change Policy Framework* (OEH, 2016a) ; *Environmental Sustainability Strategy 2019-2023* (Roads and Maritime Services, 2019).

^{xxii} NSW Government, Road User Space Allocation Policy CP21000, [Online as at 19/2/2021]

www.transport.nsw.gov.au/system/files/media/documents/2021/road-user-space-allocation-policy.pdf

^{xxiii} NSW Government, Future Transport 2056 [Online 1/4/2020] <https://future.transport.nsw.gov.au/plans/future-transport-strategy/future-transport-greater-sydney>, Points 3-5

^{xxiv} Wegman, Fred, Fan Zhang, and Atze Dijkstra. "How to make more cycling good for road safety?." *Accident Analysis & Prevention* 44.1 (2012): 19-29. [online as at 11/2/2021]

<https://www.sciencedirect.com/science/article/abs/pii/S0001457510003416>

^{xxv} NSW Government, Road User Space Allocation Policy CP21000, [Online as at 19/2/2021]

www.transport.nsw.gov.au/system/files/media/documents/2021/road-user-space-allocation-policy.pdf

(02) 9704 0800 | info@bicyclensw.org.au | www.bicyclensw.org.au
Bicentennial Drive, Bicentennial Park, Sydney Olympic Park NSW 2127

ABN 26 511 801 801

- ^{xxvi} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 3 Strategic context and project need [Online as at 11/2/2021] <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T231803.064%20GMT>
- ^{xxvii} NSW Deputy Premier, A new era for the Public Service in regional NSW [Online as at 11/2/2021] <https://www.nsw.gov.au/media-releases/a-new-era-for-public-service-regional-nsw>
- ^{xxviii} Infrastructure beyond COVID-19 A national study on the impacts of the pandemic on Australia An Interim Report for the 2021 Australian Infrastructure Plan, [Online as at 11/2/2021] https://www.infrastructureaustralia.gov.au/sites/default/files/2020-12/Final_COVID%20Impacts%20on%20Infrastructure%20Sectors%20Report_14%20Dec%202020.pdf
- ^{xxix} Richard Florida, Creative Class, [Online as at 19/2/2021] https://creativeclass.com/richard_florida/
- ^{xxx} Austroads Guide to Road Design – Part 6A Walking & Cycling (2017) [Online 1/4/2020] <https://austrroads.com.au/publications/road-design/agrd06a>
- ^{xxxi} Austroads Guide to Temporary Traffic Management (2019) [Online 1/4/2020] <https://austrroads.com.au/publications/temporary-traffic-management/agtmm-set>
- ^{xxxi} Austroads Guide to Road Design (2019) [Online 1/4/2020] <https://austrroads.com.au/publications/road-design/agrd-set>
- ^{xxxi} Austroads Guide to Road Safety (2019) [Online 1/4/2020] <https://austrroads.com.au/publications/road-safety/agrs-set>
- ^{xxxi} NSW Government, Road Safety Plan 2020(Towards Zero) (2018) [Online 1/4/2020] <https://towardszero.nsw.gov.au/sites/default/files/2018-02/road-safety-plan.pdf>
- ^{xxxi} NSW Government, Providing for Walking and Cycling in Transport Projects Policy CP21001, [Online as at 19/2/2021] www.transport.nsw.gov.au/system/files/media/documents/2021/providing-for-walking-and-cycling-in-transport-projects-policy.pdf
- ^{xxxi} NSW Government, Road User Space Allocation Policy CP21000, [Online as at 19/2/2021] www.transport.nsw.gov.au/system/files/media/documents/2021/road-user-space-allocation-policy.pdf
- ^{xxxi} Bicycle NSW Website, many articles covering safety issues, [Online as at 17/2/2021] <https://bicyclensw.org.au/rozelle-interchange/>
- ^{xxxi} Bicycle NSW (13/11/2019) Congestion brewing – ban for cyclists, [Online as at 17/2/2021] <https://bicyclensw.org.au/congestion-brewing/>
- ^{xxxi} Bicycle NSW, (27/5/2020) Your safety is no joke- Parramatta light rail, [Online as at 17/2/2021] <https://bicyclensw.org.au/your-safety-is-no-joke-parramatta-light-rail/>
- ^{xxxi} NSW Government, Road User Space Allocation Policy CP21000, [Online as at 19/2/2021] www.transport.nsw.gov.au/system/files/media/documents/2021/road-user-space-allocation-policy.pdf
- ^{xxxi} Bicycle NSW letter 24/3/2020, [online as at 19/2/2021] https://bicyclensw.org.au/wp-content/uploads/2020/04/20200324-Improving-the-safety-of-Transport-for-NSW-Projects-for-Bike-riders_Constance.pdf
- ^{xxxi} Bicycle NSW letter 24/3/2020, [online as at 19/2/2021] https://bicyclensw.org.au/wp-content/uploads/2020/04/20200324-Improving-the-safety-of-Transport-for-NSW-Projects-for-Bike-riders_Toole.pdf
- ^{xxxi} Bicycle NSW (3/4/2019) Australians deserve safer heavy vehicles, [Online as at 17/2/2021] <https://bicyclensw.org.au/australians-deserve-safer-heavy-vehicles/>
- ^{xxxi} Bicycle NSW, (14/1/2021) CLOCS for Australia – Heavy vehicle standards, [Online as at 17/2/2021] <https://bicyclensw.org.au/clocs-for-australia/>
- ^{xxxi} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 26 Climate Change and Greenhouse Gas, at 26-1 [Online as at 11/2/2021] <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T233142.345%20GMT>
- ^{xxxi} Extracted from 26.1.1 Legislative and policy framework The climate change risk assessment has been conducted in line with the following relevant standards and current guidelines:
- National Climate Resilience and Adaptation Strategy (Department of the Environment and Energy, 2015)
 - NSW Climate Change Policy Framework (Office of Environment and Heritage (OEH), 2016a)
 - Environmental Sustainability Strategy 2019-2023 (Roads and Maritime Services, 2019)
 - Australian Standard AS 5334-2013 Climate change adaptation for settlements and infrastructure – A risk-based approach (Standards Australia, 2013)

- Australian and New Zealand Standard AS/NZ ISO 31000:2009 Risk management – Principles and guidelines (Australian and New Zealand Standard, 2009)
- Climate Change Impacts and Risk Management – A Guide for Business and Government (Australian Government, 2006)
- Technical Guide for Climate Change Adaptation for the State Road Network (Roads and Maritime Services, 2015e)
- Guideline for Climate Change Adaptation, Revision 2.1 (Australian Green Infrastructure Council, 2011)
- Climate Risk Assessment Guideline (Transport for NSW, 2019b).

The methodology for the climate change risk assessment was based on the Australian Standard AS 5334-2013 Climate change adaptation for settlements and infrastructure – A risk based approach. This standard follows the International Standard ISO 31000:2009, Risk management – Principles and guidelines (adopted in Australian and New Zealand as AS/NZ ISO 31000:2009), which provides a set of internationally endorsed principles and guidance on how organisations can integrate decisions about risks and responses into its existing management and decision-making processes. The methodology was also guided by the draft Technical Guide for Climate Change Adaptation for the State Road Network (Roads and Maritime Services, 2015e).

^{xlvii} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 26 Climate Change and Greenhouse Gas, at 26-1 [Online as at 11/2/2021]

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T233142.345%20GMT>

^{xlviii} Australian Government, Senate Report, Environment and Communications References Committee, August 2018, Current and future impacts of climate change on housing, buildings and infrastructure

<https://www.aph.gov.au/->

/media/Committees/ec_ctte/CCInfrastructure/report.pdf?la=en&hash=2C16AE89D082688FDAEBF03844BE7BEFC38EB2EB (p20)

^{xlix} Peter Hannam, (31/7/2020), Erosion risks 'underestimated' as more wild weather forecast, Sydney Morning Herald, [Online as at 15/2/2021] <https://www.smh.com.au/environment/conservation/erosion-risks-underestimated-as-more-wild-weather-forecast-20200730-p55h43.html>

^l Northern Beaches Council, Coastal Erosion Page [online as at 15/2/2021]

<https://www.northernbeaches.nsw.gov.au/environment/coast-and-waterways/coastal-erosion>

^{li} Transport for NSW, Beaches Link and Gore Hill Freeway Connection; Chapter 26 Climate Change and Greenhouse Gas, at 26-1 [Online as at 11/2/2021]

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T233142.345%20GMT>

^{lii} NSW Government, Future Transport 2056 [Online 1/4/2020] <https://future.transport.nsw.gov.au/plans/future-transport-strategy/future-transport-greater-sydney>, Points 3-5

^{liii} NSW Government, Disability Inclusion Plan (2015) [Online 1/4/2020]

<https://www.facs.nsw.gov.au/download?file=313495>

^{liv} NSW Government, Older Persons Transport and Mobility Plan 2018-2022 (2018) [Online 1/4/2020]

https://future.transport.nsw.gov.au/sites/default/files/media/documents/2018/Older%20Persons%20Transport%20and%20Mobility%20Plan_0.pdf