



Submission to Infrastructure Australia's 2019 Infrastructure Audit

'towards a resilient and productive Australia'

Infrastructure Australia
Level 21/126 Phillip St, Sydney NSW 2000

Thursday, 14 November 2019

Dear Infrastructure Australia,

On behalf of the members and undersigned affiliate organisations of We Ride Australia, we are pleased to provide a submission to the 2019 Infrastructure Audit.

We Ride Australia applauds the work done by Infrastructure Australia in its 2019 Infrastructure Audit ('Audit') to 'put users at the centre of infrastructure issues' and 'focus on the key user outcomes of access, quality and cost'.

In this submission, We Ride Australia ('the Foundation' or 'we') will point to key considerations and studies that support the case for a much broader and outcomes-focused approach to infrastructure planning and investment, in particular the investment in active transport – walking, riding a bike and accessing public transport – and investment in green and social infrastructure.

National and international focus is firmly on infrastructure as a facilitator for more efficient mobility, congestion and pollution reduction, and more liveable, healthy and competitive cities. Indeed, as stated in the Audit, we also believe that

'our infra planning should set an ambitious vision for the country, anticipate and adapt to change, manage risk, and deliver infrastructure that works towards – rather than against – the current and future needs of Australians.'

Greater investment in active travel infrastructure would deliver a more resilient and productive Australia through increases in transport system capacity, population physical activity and accessibility, and improvement to the public realm and environment.

Main themes – active transport, green and recreation infrastructure

Despite roads investment being one of the largest investments by government, poor investment in active travel has significantly failed to deliver basic safe, convenient, connected networks in our major urban centres and to local activity centres.

Existing analysis frameworks tend to ignore social, environmental and health costs and analysis of road projects can contain a range of un-recognised biases.

With around 50% of all trips less than five kilometres in Australian cities, we believe investment in active travel is potentially a game changer as it will result in more of the passenger transport task, especially for short trips, being assumed by walking, riding a bike and use of public transport, and it will significantly increase transport system capacity on existing routes.

As population continues to increase, planning and investment in infrastructure must recognise transport disadvantage and lack of equitable access to non-car-based travel. The ability to invest to overcome this disadvantage will become more problematic as the shift to electric vehicles accelerates and revenue from fuel tax erodes significantly.

In addition, the largest e-mobility market globally has for many years been in e-bikes, with over 35 million e-bikes (classed as a 'vehicle' under Australian Road Rules) being sold annually.

With 24 per cent of Victorian and New South Wales 16 – 24 year-olds now choosing not to hold a driver's license¹, Australia's future infrastructure must cater for the needs of this rapidly growing transport consumer, one that is based heavily on the shared economy (bike share, scooters, car share) as opposed to an 'ownership' economy with the expectation of a 'requirement to own a car'.

Not only do safety concerns due to a lack of safe, separated and integrated infrastructure prevent more Australians choosing to ride a bike for short trips, the unseen and un-registered crashes and near misses of vulnerable road users represent a significant lack of data, which further prevents appropriate planning and investment decisions to be made.

Investment in active travel infrastructure is also relevant to social and shared space infrastructure and recreation/green infrastructure. It provides a range of health and environmental benefits when a greater level of physical activity is incorporated into everyday life, short trips in local communities and trips to work.

For a population suffering significantly from non-communicable disease and overweight and obesity partly related to a lack of physical activity, a focus on the benefits of infrastructure that makes it easier to choose active transport for short trips is vital. Children in particular would benefit in health and learning from being more active – a choice that is facilitated by the provision of appropriate infrastructure in their local communities, especially around schools.

Recommendations

We Ride Australia recommends that Infrastructure Australia undertake the following to support a substantial increase in funding for active transport infrastructure:

1. Promote objective transport benefit and cost analyses that assess the true cost of transport infrastructure projects, recognise dis-benefits that impact on user outcomes in transport and assess wider benefits of active transport investment that positively impact on the case for capacity, health, environmental, community and user benefits of investment in active modes.
2. Mandate or develop a robust application of positive provision for active transport in all federally funded transport projects that also recognises the transformation that transport is undergoing with new and disruptive technologies, rapidly changing the way citizens are choosing to move themselves.
3. Establish quality design guidance for construction of infrastructure and effective implementation of Vision Zero approaches to solutions on the ground.

¹ ITS Australia, *Mobility as a Service in Australia – Customer insights and opportunities*, Port Melbourne Australia, 2018.

- 4. Establish better processes or recommendations for collection of bicycle and walking crash data. A consistent cross-agency, cross-jurisdiction crash data collection method and research protocol that provides efficient and accurate measurement of bicycle crashes, exposure rates and crash typologies for bicycle riders on road, shared paths and off-road paths is required.
- 5. Address transport poverty and social disadvantage in peri-urban, regional and remote areas by applying a weighting for funding to infrastructure projects.

About WRA

We Ride Australia is a national independent voice for bicycle riding. As a national, not-for-profit organisation our vision is to make riding a bike a positive, healthy and safe reality for people of all ages throughout Australia.

We are focused on national engagement in federal decision-making forums to build the case for investment and policy for bicycle riding. We conduct nationally significant events that build knowledge and consensus and address a lack of evidence and support for bicycle riding as a normal part of the transport system in Australia.

Over the last 20 years, we have become a recognised and credible partner of academic institutions and peak bodies seeking better outcomes for our communities and all Australians. We have contributed as co-authors to key national publications such as the Heart Foundation’s Blueprint for an Active Australia, the Australian Health Policy Collaboration’s Active Travel Policy and we have participated as members of national panels such as the Cities Reference Group, National Urban Policy Forum and government bicycle advisory groups in the ACT, Queensland and Victoria.

Note

[RESPONSES TO CHALLENGES AND OPPORTUNITIES IN THE 2019 INFRASTRUCTURE AUDIT: this submission notes and comments on some of the specific challenges and opportunities raised by Infrastructure Australia where we believe they relate to particular themes in this submission]

We thank you for the opportunity to comment on the 2019 Infrastructure Audit in this submission.

Kind regards,

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This submission is tendered on behalf of our affiliate organisations



Bicycle NSW



Bike SA



MOUNTAIN BIKE AUSTRALIA

Mountain Bike Aust.



Pedal Power (ACT)



WestCycle

Moving (more) people with active transport

The scale of growth in the passenger task due to population growth is well understood and presents significant challenges for the funding and maintenance of transport infrastructure.

The Audit states on page 22 that 'our passenger transport networks are at risk of becoming financially and environmentally unsustainable.'²

What is perhaps less understood and discussed is the scale of the opportunity that exists to invest in the appropriate infrastructure to convert some of the very large number of short trips undertaken in Australia each day to active transport.

In 2016, 9.2 million Australians travelled an average of 16.5 kilometres to work on Census day.³ On any given day in Australia, there are around 76 million trips for all purposes, most of which are not trips to work.⁴

For example, in the Melbourne metro region, the 2013 VISTA Survey showed that of 12.3 million trips every weekday, 26% were for work, 20% were for social or recreational purposes, 15% for shopping and a combination of drop off or pick up and education trips equalled around 21%.

Population growth indicates that transport-related congestion and pressure on the existing transport network will grow significantly in coming decades with 'our population projected to grow by 24% to reach 31.4 million by 2034.'⁵

Based on passenger kilometres travelled, public transport usage is projected to grow by 32 per cent across all capital cities between 2011 and 2030.⁶

But average distances travelled are not great, a large number of short trips are made in Australia every day. In Melbourne, the 2009 VISTA Survey shows the average trip by car is less than five kilometres, indicating there could be several other modes suitable to complete those trips if investment was allocated to make them convenient, comfortable, direct and safe.

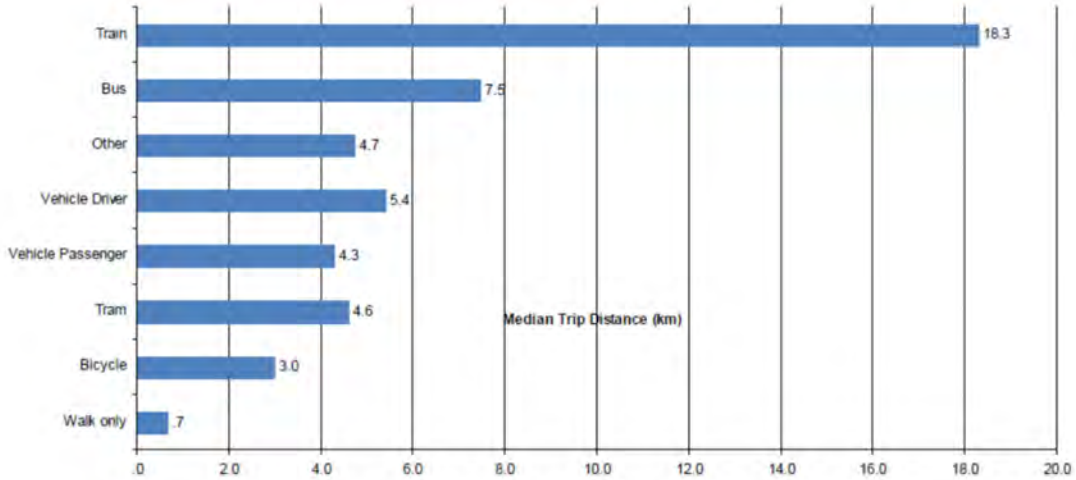
² Infrastructure Australia, *Australian Infrastructure Audit 2019*, accessed on 8/11/2019 at www.infrastructureaustralia.gov.au/sites/default/files/2019-08/Australian%20Infrastructure%20Audit%202019%20-%20Executive%20Summary%20Brochure.pdf.

³ Cooper J & Corcoran J, *Journey to Work in Australia*, University of Queensland, accessed on 8/11/2019 at www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0.55.001~2016~Main%20Features~Feature%20Article:%20Journey%20to%20Work%20in%20Australia~40.

⁴ Calculated from *BITRE Australian Yearbook Statistics 2017 – Transport*, accessed at www.bitre.gov.au/publications/2017/yearbook_2017.aspx

⁵ Infrastructure Australia, *Record infrastructure spend the new normal, 2019 Australian Infrastructure Audit warns*, media release 13 August 2019, accessed on 8/11/2019 at www.infrastructureaustralia.gov.au/sites/default/files/2019-08/media-release-audit_0.docx

⁶ Bureau of Infrastructure, Transport and Regional Economics, *Research Report 129 – Public transport use in Australia's capital cities: Modelling and forecasting*, Australian Government, Canberra, 2013.

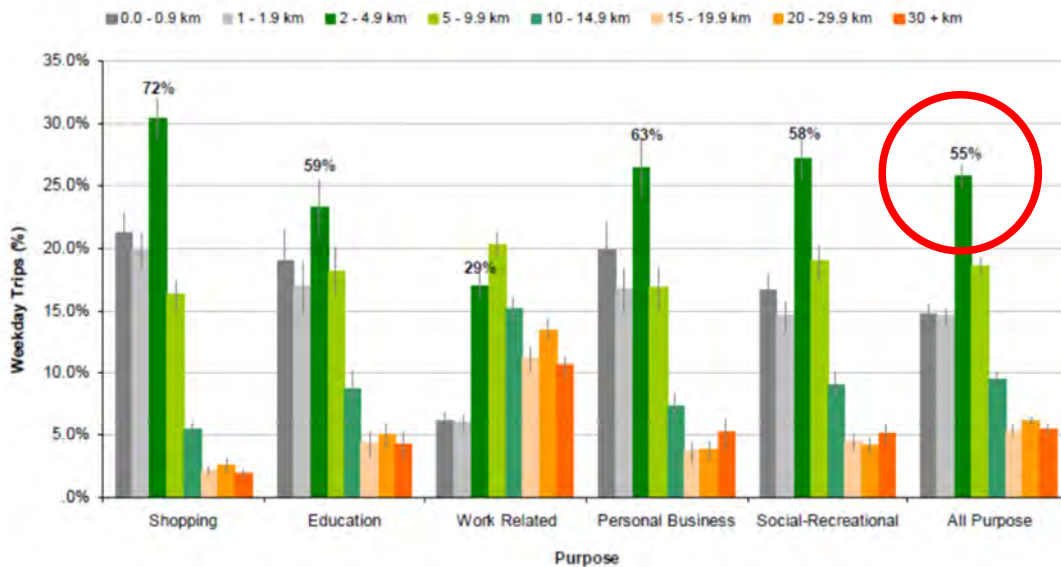


Median Trip Length by Mode – Metropolitan Melbourne (Source: VISTA 2009)

Above: slide from a presentation by Mr David Shelton, previously Executive Director, Strategy and Planning, VicRoads.

More than half of the trips made each day are less than five kilometres, in Melbourne they are an average of 4.3 kilometres.

Average weekday trips by purpose and distance



Average Weekday Trips by Purpose and Distance (Source: VISTA 2009) Note: figures above dark green columns reflect percentage of trips < 5 kilometres.

Above: slide from a presentation by Mr David Shelton, previously Executive Director, Strategy and Planning, VicRoads.

Invest to increase short trips by active transport

National research conducted by We Ride Australia⁷ with the National Heart Foundation of Australia showed that while around two-thirds of Australians are not currently considering riding a bike for transport, more than half of those people would consider it if conditions were safer, they had separated infrastructure and they didn't have to ride on heavily trafficked roads.

A 2018 national travel survey found that 9 per cent of South Australian adults would replace car journeys with riding their bicycle for transport but do not due to real and perceived unsafe road environments.⁸

The opportunity presented by meeting this potential for active transport in cities like Melbourne and Sydney and fast-growing regional cities and towns to build a higher mode share for trips by bicycle is significant and would maintain liveability and mobility choice as population grows.

Transport system capacity improvements can be achieved by investing in infrastructure that makes it easier to travel by a variety of alternate modes, especially for 'first mile – last mile' solutions usually walking or riding, and increasingly using e-bikes and e-scooters.

Re-organising major corridors to move people more efficiently can move many more people using a mix of high capacity transport modes as well as manage growth in VKT by private motor vehicles. The example of Vancouver, a mid-sized city of 630,000 servicing a greater metropolitan area of some 2.5 million is illustrative of the potential for investment in active and public transport.

Since the implementation of Vancouver's 1997 Transport Plan, both overall city and central business area populations have grown as have the number of jobs, but car use to access the city centre has dropped.



⁷ We Ride Australia and Heart Foundation, *Riding a Bike for Transport Survey*, 2011, accessed 8/11/2019 at www.heartfoundation.org.au/images/uploads/publications/Cycling-Survey-2011-Riding-a-Bike-for-Transport.pdf.

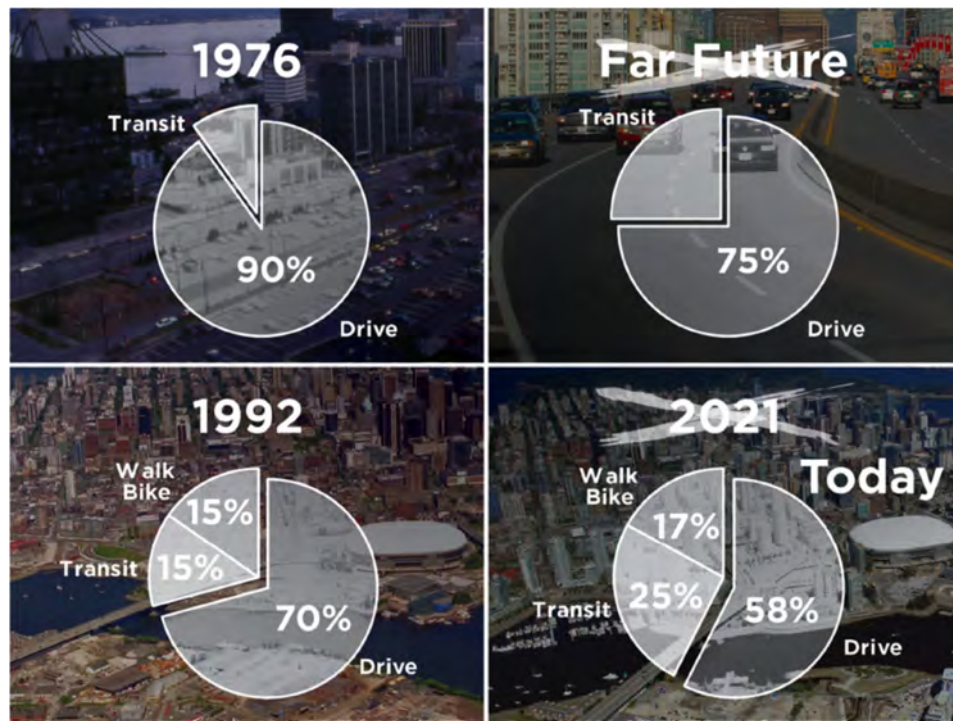
⁸ News article, 'Traffic Congestion forcing more Adelaide Drivers to catch public transport or ride a bike to work', *Adelaide Advertiser*, 8 February 2018, available at www.adelaidenow.com.au/news/south-australia/traffic-congestion-forcing-more-adelaide-drivers-to-catch-public-transport-or-ride-a-bike-to-work/news-story/390c3fd0a73a62833433f60b79a049f6 (paywall).

Above: Trends in Vancouver from 1997 to 2012, Dale Bracewell presentation to 2018 Australian Bicycle Summit.

Vancouver has achieved active transport mode shares of in excess of 50% with a strong policy focus of meeting growing population and demand in commuter traffic into Vancouver without growing existing car trips and by focusing on public transport, walking and cycling.

Progress between 2006 and 2016 was significant with the 2016 Census showing walking into the city centre increased 25%, cycling trips were up 110% and public transport trips were up one third. This occurred with a decrease in motor vehicle travel of more than 20%.⁹

Significant investment has been made in 'AAA' bicycle infrastructure (catering for *All Ages and Abilities*), public transport and walking with performance reported on each year in the Toronto Transportation Services Performance Report.¹⁰ Bike to work commute share is now 10% and Vancouver was the first North American city to achieve a double digit bicycle commute mode share.



Above: performance of City of Vancouver in meeting targets for public and active transport into the City, from 2018 Australian Bicycle Summit presentation by Dale Bracewell.

The need to provide transport alternatives to private motor vehicles in local and regional communities for non-drivers, those who cannot afford to drive, those who need to access local services quickly and easily and tourism initiatives in local and regional areas have created increasing interest in investment in walking, cycling and public transport as low cost and rapidly deployable options.

⁹ Dale Bracewell, Manager, Transportation Planning, City of Vancouver, presentation to Australian delegation, Vancouver, 16 September 2019.

¹⁰ City of Vancouver, *2018 Performance Report*, accessed on 10/11/2019 at www.toronto.ca/wp-content/uploads/2019/07/9749-TS_2018_Annual-Report_AODA.pdf

Communities in the US are grappling with aging populations, rising poverty and disadvantage, growing health and safety concerns, and growing tourist industries¹¹ and these are concerns being addressed by jurisdictions in Australia.

Access to connected, integrated bicycle networks in major centres overcome a significant barrier to increasing the rate of cycling and assuming a greater proportion of the transport passenger task.

While global cities such as New York and Paris are substantially changing policy and investment to boost walking and bicycle riding rates, only one complete network is listed for consideration on the Infrastructure Australia list as a Priority Initiative.

The 'Active Transport (walking and cycling) Access to the Sydney CBD'¹² is listed for consideration for funding of the 284km Inner Sydney Regional Bicycle Network, just one of the many such entire networks that could and should be considered as priority infrastructure investments in Australian cities.

The project description states that a shift of 2% to 5% of short distance local trips within 10km of the CBD to active travel could see a reduction of 20,000 to 50,000 trips per day on Inner Sydney's congested corridors.¹³

[RESPONSE TO CHALLENGE #10: investment and planning for active travel infrastructure is rapid, low cost and results in rapid uptake of walking and cycling, mitigating the impacts of uncertainty in planning for growth]

[RESPONSE TO CHALLENGE #11: investment in active travel infrastructure can improve quality of life for disadvantaged groups with the provision of vital links to local opportunities, facilities and services]

[RESPONSE TO CHALLENGE #12: -All investment in active travel infrastructure that assumes some of the transport passenger task can reduce maintenance and construction costs for existing and planned future infrastructure. When it also improves accessibility for disadvantaged groups due to very low entry cost and running costs this can provide extensive wider benefits]

[RESPONSE TO CHALLENGE #14: investment in active travel infrastructure makes even more sense in low population density areas due to its low cost, rapid investment to delivery timeframes and support for a healthy, sustainable and cheap form of mobility]

Efficient use of space in cities

Investment and provision of infrastructure for walking and riding a bike in cities can reduce the need for car parking spaces and, where deployed as part of a multi-modal transport system, it can be highly effective for moving greater numbers of people than cars in a given corridor.

The greater space utility of bikeways has been shown in Transport for London data where five times as many people are moved per square metre as by private motor vehicles on the adjacent roadway.¹⁴

¹¹ Todd Litman, *Rural Multi modal Planning*, 2019, accessed on 8/11/2019 at www.vtpi.org/rmp.pdf.

¹² <https://www.infrastructureaustralia.gov.au/map/active-transport-walking-and-cycling-access-sydney-cbd>.

¹³ Ibid.

¹⁴ FOI request to Transport for London, ref FOI-1235-1718, accessed on 8/11/2019 at

tfl.gov.uk/corporate/transparency/freedom-of-information/foi-request-detail?referenceId=FOI-1235-1718.



Above: Space in our cities and on our roads is at a premium! The Canberra Transport Photo provides a comparison of the space 69 people and their vehicles take up in a city. The capacity of a single bus is 69, which is also the number of people that travel in 60 cars at the average occupancy of 1.1 per vehicle. It was an initiative of We Ride Australia shot in 2012.

High capacity transport modes such as rail, light rail and buses are vital to ensure key commuter corridors sustainably manage growth in the passenger transport task. While necessarily simplistic, the Canberra Transport Photo above nevertheless tells the story of efficient use of constrained urban road space.

Provision of high capacity public and active transport modes also allows for a reduced provision of car parking spaces in urban environments. The cost of car parking at transport hubs and inner city job destinations, at up to or in excess of one hundred times that of bicycle parking costs per bike, is a major cost that is borne by all users and non-users, especially local jurisdictions, and significant proportions of the surface area of our cities is devoted to it.

It has been estimated that there are between one and two billion parking spaces for the 200 million cars in the USA and that parking occupies 14% of the land area in Los Angeles.¹⁵ Moving more people by investing in public and active transport reduces the need to provide parking infrastructure.

A city like London could gain another 15 to 20 percent of developable area due to the removal of almost all parking spaces.¹⁶

[RESPONSE TO CHALLENGE #39: 'Rapidly changing land use and development can place pressure on urban transport networks. Densification in our largest cities places pressure on legacy networks, while greenfield development requires new infrastructure and services'

Investment in transport modes such as active transport that increase capacity for the system in a space efficient manner should be considered alongside all other options in an objective way that recognises much shorter project delivery timeframes, significant potential capacity for short trips and the low cost.]

¹⁵ <https://www.citylab.com/transportation/2018/05/parking-is-sexy-now-thank-donald-shoup/560876/>, accessed on 10/11/2019.

¹⁶ www.vox.com/a/new-economy-future/cars-cities-technologies, accessed on 10/11/2019.

Addressing the true cost of transport infrastructure projects

The true costs of transport infrastructure projects must be addressed if we are to safeguard the liveability and economic strength of our communities. International best-practice now ensures the social, environmental and health costs are included in project analysis, but these are largely ignored in Australia.

Australian methodologies to analyse the economic benefits of transport projects have traditionally been restricted to travel time savings, congestion, network capacity issues and more recently have included a broader treatment of some wider benefits under the review of the Australian Transport Assessment Program (ATAP).¹⁷

But the benefit and cost assessments for investment in Australian transport infrastructure do not account for many social, environmental and health costs, although health parameters due to physical activity are now included in the active travel assessments under ATAP.¹⁸

The authors note the current discussions underway in state jurisdictions¹⁹ seeking to link a broader approach to transport cost-benefit analysis across the health and transport sectors, now that health benefits of physical activity have been accepted for active transport investment decisions.

With the road transport aspects of ATAP still to be reviewed,²⁰ the Foundation believes that as broad acceptance has been reached for the health benefits of active transport infrastructure investment, the case should now be applied to the equivalent dis-benefits generated by increases in motor vehicle traffic that includes no element of physical activity.

An objective assessment model must be developed that considers the 'triple bottom line' (economic, environmental, social/health) of all infrastructure including any negative or unintended costs beyond simply congestion and network capacity measures.

Social cost analysis is a developing field of study and researchers have been studying identification and quantification of social costs for some time now for inclusion in transport assessment frameworks.

In the 2009 Symons paper, *Social, Economic and Environmental Impacts of Transport Modes*²¹, the author discusses costs from transportation that are borne by users and external transport costs which are borne by society.

While the author does not examine the degree of internalisation of the external costs, they do look at the social costs and how they may be reduced with a change in mode to high capacity public transport (rail).

Crashes and air pollution are identified as the most significant costs for passenger transport in cars, comprising as much as 50% and 25% respectively of social and environmental costs or around three times the equivalent costs of rail transport. The result is used to indicate the level of cost savings of a modal shift away from private motor vehicles to rail transport.

¹⁷ <www.atap.gov.au/mode-specific-guidance/active-travel/index.aspx>, accessed 10/11/2019.

¹⁸ Ibid.

¹⁹ Discussion in quarterly meeting of Cycling and Walking Australia and New Zealand, 13 November 2019.

²⁰ <www.atap.gov.au/mode-specific-guidance/road-transport/index.aspx>, accessed on 11/11/2019.

²¹ Dr John Symons, *Social, Economic and Environmental Impacts of Transport Modes*, CRC for Rail Innovation, Brisbane QLD, 2009.

Active transport is also a critical mode for reduction of carbon emissions, for which the transport system contributes a large proportion to Australia's overall amount.

Congestion

Congestion calculations are a critical aspect of assessing the true cost of transport projects.

Criticism has been levelled at studies that allow biases in congestion analysis to influence cost benefit analyses. Litman examined this in his 2019 paper 'Congestion Costing Critique - Critical Evaluation of the "Urban Mobility Report"'.²² As a result of using higher baseline speeds and travel time savings Litman says one particularly well known and quoted study 'overestimates congestion costs, exaggerates roadway expansion benefits, and undervalues other congestion-reduction strategies.'²³

Litman further discusses the evaluation of traffic congestion in another paper 'Smart Congestion Relief, Comprehensive Evaluation of Traffic Congestion Costs and Congestion Reduction Strategies'.²⁴

In their conclusion, the author argues that evaluation methods can exaggerate congestion costs, and that in reality it is a moderate cost and smaller than vehicle expenses, parking facility costs and accidents. They recommend a range of practices be adopted for comprehensive congestion evaluation and that congestion reduction strategies be combined with other planning objectives.

[RESPONSE TO CHALLENGE #20: 'Decision-making processes across many jurisdictions and sectors are not meeting best practice standards, including application of the Infrastructure Decision-making Principles.'

We submit that use of objective analysis frameworks should be mandatory for funding and take wider benefits into account so that the true cost of transport infrastructure is reflected.]

[RESPONSE TO CHALLENGE #27: 'Low or non-capital better-use solutions to infrastructure problems could help to avoid or delay investment in expensive new or upgraded assets.'

We submit that interventions, both low or non-capital, for boosting active transport mode share can and will help avoid and delay investment in expensive infrastructure for other modes of transport. Riding and scooting to school is a standout example.]

[RESPONSE TO CHALLENGE #37: 'Australia is at risk of not meeting its 2030 Paris Agreement commitment to reduce emissions by 26-28% below 2005 levels.'

We submit that active transport is a carbon-free and non-polluting mode of transport and a critical mode for reduction of transport system carbon emissions when short trips by car are substituted for riding or walking.]

[RESPONSE TO CHALLENGE #54: 'There is no clear link between expenditure on roads and usage, which means road expenditure is inequitable, inefficient, unsustainable and lacks transparency.'

We submit that the true cost of transport project investment must include the wider analysis of social, environmental and health costs in order to deliver better outcomes for users and our communities.]

²² <www.vtppi.org/UMR_critique.pdf>, accessed on 7/11/2019.

²³ Ibid.

²⁴ <www.vtppi.org/cong_relief.pdf>, accessed 7/11/2019.

[RESPONSE TO CHALLENGE #55: 'Public transport investments and operating subsidies are substantial, but decisions lack transparency.'

We submit that the true cost of transport project investment must include the wider analysis of social, environmental and health costs in order to deliver the transparency needed to ensure better outcomes for public transport users and our communities.]

[RESPONSE TO CHALLENGE #57: 'There are numerous emerging revenue sources for the transport sector, with many related to technological development and changing patterns of demand for transport.'

We submit that those emerging revenue sources cannot be identified or monetised until the true cost of transport projects are identified.]

[RESPONSE TO CHALLENGE #58: 'Australian governments often do not incorporate sustainability or resilience into their final infrastructure projects.'

We submit that until the true costs of transport projects are identified, sustainability and resilience cannot be built into infrastructure projects.]

[RESPONSE TO CHALLENGE #69: 'People on the outskirts of our cities and in regional and remote Australia pay proportionally more for transport.'

We submit that many of the short trips each day in this country could be accomplished by low-cost and affordable active transport if the appropriate infrastructure and support was provided.]

The need for better data and safety

Analysis of bicycle crash data is important to understand the causes and emerging trends of crashes and assist organisations to improve infrastructure, review legal measures develop campaigns and other initiatives to improve safety outcomes for bicycle riders. Despite this, there are many barriers and limitations to the collection and interpretation of crash data in Australia.

A consistent cross-agency, cross-jurisdiction crash data collection method and research protocol that provides efficient and accurate measurement of bicycle crashes, exposure rates and crash typologies for bicycle riders on road, shared paths and off-road paths is required.

Crashes that do not result in admission to ED or a report to Police, minor crash injuries that only present to a local GP and near miss data which put people off cycling²⁵ usually do not register in data sources which might otherwise contribute to overcoming a lack of knowledge that should be used to guide better infrastructure investment decisions for active travel.

Dr Aldred has looked at ‘cyclists’ experiences of non-injury incidents, arguing that these are important for cycling experience and uptake as well as for injury prevention.’ The author cites the perceived inter-relationship of infrastructure’ with ‘behaviour’ and ‘culture.’²⁶

Better bicycle crash data is vital to assess the safety associated with different types of infrastructure as bicycle riders are greatly over-represented in killed and seriously injured statistics. In 2018, pedal cyclists made up 3% of all road deaths, but make up 14% of severe injuries²⁷ and are continuing to rise. Trips to work or study by bicycle only accounts for between 1.1 and 2.8% of all trips²⁸.

Of concern also is that while the 14% of admissions who are bicycle riders and characterised as being ‘seriously injured’ – which requires admission for 24 hours or more – another 7 people are processed through the emergency department.²⁹

The need to obtain robust crash data is all the more important when it has been shown that targeted infrastructure investments are up to one hundred times more effective in reducing road trauma than general road improvements.³⁰ Adequate data is vital to support investment in the most effective transport infrastructure that promotes and ensures safety for vulnerable road users and is fit for purpose.

Making our roads safer for all users is a primary benefit of investment in safer infrastructure.

Experience in New York shows that improvements to walking and cycling infrastructure, practices and education lead to safer streets for all, not just pedestrians and cyclists. As a result of major changes to footpaths, cycleways on streets and planning in New York between 2013 and 2017, all traffic fatalities dropped by 28% and pedestrian fatalities dropped by a massive 45%.³¹

²⁵ Rachel Aldred, ‘Cycling Near Misses: Their frequency, impact and prevention’, *Transportation Research Part A: Policy and Practice*, Vol. 90; pp69-83, 2016, accessed on 11/11/2019 at www.sciencedirect.com/science/article/pii/S0965856416303639

²⁶ Ibid.

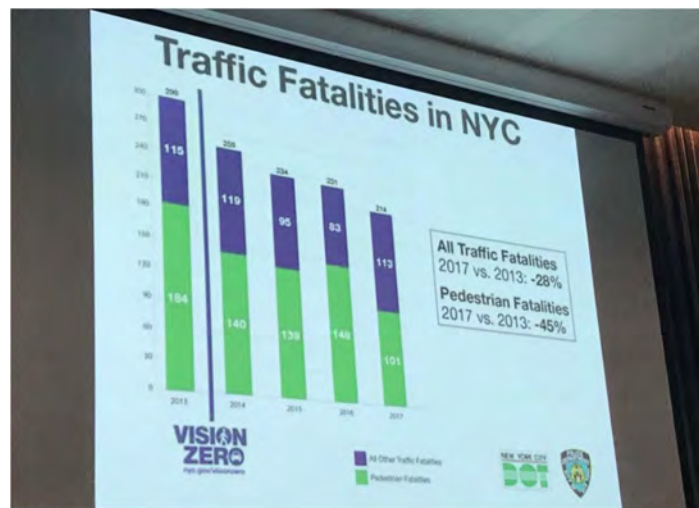
²⁷ Ibid.

²⁸ www.atap.gov.au/mode-specific-guidance/active-travel/2-key-characteristics-of-active-travel.aspx, accessed on 11/11/2019.

²⁹ Dr Gary Doleman, BITRE, *Key road safety data update*, presentation at the National Road Safety Roundtable, Sydney, 2 September 2019.

³⁰ Ibid.

³¹ Paul Steely White, Transportation Alternatives, presentation to AITPM Conference, Perth, 25 July 2018.



Above: AITPM presentation slide by Paul Steely White, Perth 2018.

[RESPONSE TO CHALLENGE #5: 'Limited reliable data exists to allow government, regulators and users to understand the total costs of infrastructure.'

We submit that a consistent cross-agency, cross-jurisdiction crash data collection method and research protocol that provides efficient and accurate measurement of bicycle crashes, exposure rates and crash typologies for bicycle riders on road, shared paths and off-road paths is required.]

[RESPONSE TO CHALLENGE #6: 'Improved collection of data, including by third parties (such as financial institutions) could support improved decision making using big data.' Data use from third parties is already commonplace in other areas of transport practice, whether as part of agreements entered into by jurisdictions to allow private providers of new and micro-mobility modes to enter their territories or for research purposes.]

[RESPONSE TO CHALLENGE #63: 'Project selection and funding is based on incomplete safety data.'

We submit that a consistent cross-agency, cross-jurisdiction crash data collection method and research protocol that provides efficient and accurate measurement of bicycle crashes, exposure rates and crash typologies for bicycle riders on road, shared paths and off-road paths is required.]

[RESPONSE TO CHALLENGE #66: 'Pedestrian and cyclist fatalities are over represented in fatalities and injuries. Without action, active transport users will continue to be injured and killed, and the attractiveness of active transport will remain low.'

We submit that not only does robust crash data need to be collected as noted above, but that this is just the first step in investment to address the poor safety for bicycle riders. Without this major barrier to riding being addressed, none of the potential benefits for the transport system, or the environmental and health benefits can be contemplated.]

Equity, accessibility and positive provision

As Infrastructure Australia notes in the media release for the Audit³² dated 13 August 2019, ‘Australians earning the lowest 20% of incomes across the country spend around a third of what they earn on infrastructure’, infrastructure costs are regressive and hit lowest-income households hardest.’³³

With the total costs of car ownership in the order of \$7,000 to \$14,000 or more,³⁴ and the increasing use of shared mobility and e-mobility options, it seems likely the trend of young Victorians and young people from NSW to choose not to hold a driver’s license will continue.

Given the high proportion of trips in cities each day in Australia that are around five kilometres or less – around half – there is arguably an economic case to be made for providing every one of those on low incomes a bicycle and the separated paths to ride them on if it reduces the need for new highways!

In Australia one in five bicycle commuters are women, in countries with good infrastructure the proportion is 50% or more. Our approach to equality of access should target the investment required that would attract more women to this form of mobility for short trips.

Reducing inequality and lack of access to transport users with a disability through targeted investment can respond to social and transport disadvantage and overcome the regressive nature of existing infrastructure investment.



Above: Mark uses the Perth shared paths to travel up to 40 kilometres from his home near Perth city to Fremantle and back on Saturday outings, but could not do so without the high quality shared and separated infrastructure. Conversation with Stephen Hodge, Perth 2017.

Disability access can be transformed with high quality shared path networks, allowing local area access to jobs and services, local activity centres and public transport for those using mobility aids.

³² www.infrastructureaustralia.gov.au/sites/default/files/2019-08/media-release-audit_0.docx accessed on 8/11/2019.

³³ Infrastructure Australia, *Infrastructure Audit 2019*, p.14, accessed on 7/11/2019 at www.infrastructureaustralia.gov.au/sites/default/files/2019-08/Australian%20Infrastructure%20Audit%202019%20-%20Executive%20Summary%20Brochure.pdf

³⁴ www.racq.com.au/cars-and-driving/cars/owning-and-maintaining-a-car/car-running-costs, accessed on 13/11/2019.

The requirement for basic disability access across our transport system should be a commitment made by every government at each jurisdictional level.

One way to address a range of transport disadvantage is with a regulated approach to positive provision for active transport infrastructure.

Positive provisioning policies requires consideration for the inclusion of cycling infrastructure as part of every state road and transport infrastructure project.

A weighting should also be applied to funding for infrastructure projects on city outskirts, and regional and remote Australia to address transport and social disadvantage in those areas.

Positive provisioning can add significant value and capacity to other major infrastructure projects that generate large employment and visitation such as hospitals, sporting and entertainment precincts, universities, major bus and train stations, airports, ports and freight terminals.

Inclusion in scope of consideration for active transport ensures the project footprint goes beyond the 'building site' and includes a connected network of local cycling infrastructure (e.g. at least 3km radius) as part of any new build and saves on expensive future retrofitting.

Many states have strongly articulated positive provision policies, such as the Main Roads WA Policy for Cycling Infrastructure³⁵ and the Queensland Government policy³⁶ which explicitly provide cycling facilities within the project's scope and require consideration of active transport for each major state funded project.



Above: Perth major infrastructure investment for the Gateway WA project provided an opportunity to build high quality shared paths. Photo by Stephen Hodge shows Leach Highway near Perth Airport. Perth 2017.

Western Australia and other states have used their positive provision policies to invest hundreds of millions of dollars in active transport infrastructure in recent years, but the active elements are all too easily removed from major projects after funding commitments are secured without appropriate governance and oversight.

³⁵ <www.mainroads.wa.gov.au/Documents/Cycling%20Infrastructure%20Policy.RCN-D14^23318749.PDF>, accessed on 11/11/2019.

³⁶ <www.tmr.qld.gov.au/Travel-and-transport/Cycling/Cyclists.aspx>, accessed on 11/11/2019.

This performance could be transformed if this aspect was part of funding requirements across all Australian government-funded infrastructure projects.

[RESPONSE TO CHALLENGE #42: ‘Australia has relatively low rates of active transport, driven by a range of issues including low densities and long distances, insufficient infrastructure and safety concerns.’

We submit that a strongly articulated and regulated positive provision policy can begin to address the lack of sufficient active transport infrastructure.]

[RESPONSE TO CHALLENGE #47: ‘There is congestion on roads around our major airports, particularly in Sydney and Melbourne.’

We submit that major destinations, like airports, hospitals, sporting and entertainment precincts, universities, major bus and train stations, ports and freight terminals are high value destinations which should be considered for facilitation of multi-modal arrivals. Many of these trip generators have both passengers/patients/casual visitors and employees travelling to them in the tens of thousands each day. A strongly articulated and regulated positive provision policy can begin to address the lack of sufficient transport capacity to these destinations.]

[RESPONSE TO CHALLENGE #59: ‘Australian governments often do not incorporate sustainability or resilience into their final infrastructure projects.’

We submit that investment in sustainable transport modes through positive provision policy can begin to address the lack of sustainability and resilience in the current transport system.]

[RESPONSE TO CHALLENGE #69: ‘People on the outskirts of our cities and in regional and remote Australia pay proportionally more for transport.’

We submit that investment can address transport poverty and social disadvantage in these areas by applying a weighting to funding for infrastructure projects.]

Social infrastructure, health and education

Education

Over 70% of children and 91.5% of young people are not meeting national physical activity recommendations, and declining rates of physical activity are contributing to overweight and obesity³⁷. A quarter of children and 29% of young people are classified as overweight or obese.

This is also manifested in the research that shows 18% of children transitioning to high school nationally have ‘at risk’ levels of glucose intolerance, a pre-cursor to Type 2 diabetes³⁸.

Interestingly, physical education in school may be the best boost for academic achievement with research showing a 10-point improvement in Naplan scores with an additional 90 minutes of physical education in school time³⁹.

³⁷ Duggan, M, Fetherston, H, Harris, B, Lindberg, R, Parisella, A, Shilton, T, Greenland, R & Hickman, D, *Active School Travel: Pathways to a Healthy Future*, Australian Health Policy Collaboration, Victoria University, Melbourne, 2018.

³⁸ Prof Richard Telford, conversation with physical activity researcher, Research Institute for Sport and Education, University of Canberra on 7 August 2018.

³⁹ Ibid.

Many practitioners have discussed the physiological benefits on inclusion of more physical activity in a typical student's day. Dr John J. Ratey MD says "physical activity turns our brain on" and cites a study in California where one million students are tested and at achievement of each of six fitness levels, academic test scores rose⁴⁰.

Positive outcomes boosting physical activity can be achieved in a way that improves the local public realm for all when investment is made in the paths and separated cycleways to allow children to replace their daily car commute to school with an active transport trip – by walking, scooting or riding a bicycle.

Data presented in a media article from the City of Sydney showed double the rate of active travel to school within the City compared to the greater metropolitan region of Sydney. Around 40 per cent of 10 to 17 year olds in the City area are riding bikes, double the greater Sydney figure⁴¹.

Currently, more than 70 per cent of NSW primary aged students travel to school by car despite approximately 70 per cent living within a 15-minute walk and 90 per cent living within a 20 minute bike ride from their local school⁴².

A national collaboration of health policy experts has called for investment nationally to boost levels of walking, scooting and bicycling to school again.⁴³



Above: Baringa State School, QLD. Photo by Stephen Hodge 2018.

The school populations of eight schools on the Sunshine Coast involved in a national trial for the RideScore Active Schools program⁴⁴ have significant numbers of students living within an easy walk or cycle to their local school. The percentages of those within 1.5 kilometres are a minimum of 24

⁴⁰ Ted talk viewed at www.youtube.com/watch?v=hBSVZdTQmDs on 8/11/2019.

⁴¹ City of Sydney, *Bike riding twice as popular in inner Sydney*, accessed in 2018 at www.sydneymedia.com.au/bike-riding-twice-as-popular-in-inner-sydney/.

⁴² School Infrastructure NSW, data presented to internal agency workshop on Safe Routes to School, Sydney, May 2019.

⁴³ Duggan M et al. *Active School Travel: Pathways to a Healthy Future*, op cit.

⁴⁴ See www.weride.org.au/saferoutestoschool/

per cent of the school population up to as many as 57 per cent. Overall, around 40 per cent of the students in the 8 trial schools across the Sunshine Coast area live within 1.5 kilometres of school⁴⁵.

The trial will test use of smart technology and GIS mapping to build information around use of existing infrastructure to identify gaps and barriers to active transport to school by students.

Investment in local community infrastructure for walking and riding around schools is also a focus of local governments as they seek to address safety concerns due to traffic and congestion around schools at peak periods. Expected significant population growth will result in a significant increase in issues of traffic safety on the existing transport network in the future.



Above: Bourke St. separated cycleway, Sydney. Photo used with permission.

Health

Investment in active travel infrastructure is strongly supported on the basis of the significant health and environmental benefits, due to its impact to increase physical activity levels through local community mobility, commuting and accessibility.

The Heart Foundation states in its national Healthy Active by Design resource that in Australia 60 per cent of adults and 70 per cent of children and adolescents do not get enough exercise to obtain health benefits.⁴⁶ The resource further notes that the presence of safe, accessible and connected movement networks encourages physical activity through walking and cycling.⁴⁷

The result is reduced health system cost due to reduced all-cause mortality, and reduced burden of disease including some cancers and cardiovascular disease.

⁴⁵ Figures provided by RideScore Active Schools program partner, A/Prof Neil Coffee, Centre for Research and Action in Public Health, UC Health Research Institute, University of Canberra, November 2019.

⁴⁶ <www.healthyactivebydesign.com.au/design-features/movement-networks/health-physical-activity-impact/>, accessed on 13/11/2019.

⁴⁷ Ibid.

The positive health impacts of investment in active transport infrastructure are well established in Australia and globally, with the World Health Organisation's 'Health Economic Assessment Tool for walking and cycling (HEAT)⁴⁸ framework is widely used to build the economic case for investments in walking and cycling worldwide.

The recent ATAP review has included health benefits for the first time in the national transport assessment framework.⁴⁹

Reduction in traffic as a result of shifting trips to active transport can also result in better health due to a reduction in air pollution.⁵⁰

The Foundation strongly commends the submission from the Heart Foundation dated 9 October 2019, '*Heart Foundation response to Infrastructure Australia Audit 2019*', that deals with health and infrastructure issues in greater detail.

In summary, the recommendations of We Ride Australia are as follows.

Recommendations

We Ride Australia recommends that Infrastructure Australia undertake the following to support a substantial increase in funding for active transport infrastructure:

1. Promote objective transport benefit and cost analyses that assess the true cost of transport infrastructure projects, recognise dis-benefits that impact on user outcomes in transport and assess wider benefits of active transport investment that positively impact on the case for capacity, health, environmental, community and user benefits of investment in active modes.
2. Mandate or develop a robust application of positive provision for active transport in all federally funded transport projects that also recognises the transformation that transport is undergoing with new and disruptive technologies, rapidly changing the way citizens are choosing to move themselves.
3. Establish quality design guidance for construction of infrastructure and effective implementation of Vision Zero approaches to solutions on the ground.
4. Establish better processes or recommendations for collection of bicycle and walking crash data. A consistent cross-agency, cross-jurisdiction crash data collection method and research protocol that provides efficient and accurate measurement of bicycle crashes, exposure rates and crash typologies for bicycle riders on road, shared paths and off-road paths is required.
5. Address transport poverty and social disadvantage in peri-urban, regional and remote areas by applying a weighting for funding to infrastructure projects.

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Canberra, 14 November 2019

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⁴⁸ www.heatwalkingcycling.org/#homepage, accessed on 13/11/2019.

⁴⁹ www.atap.gov.au/mode-specific-guidance/active-travel/5-estimation-of-benefits.aspx, accessed on 13/11/2019.

⁵⁰ ecf.com/news-and-events/news/air-pollutants-drop-almost-80-car-free-sunday-brussels?fbclid=IwAR21jf5IsjBTqYSH9gUb2oIBwi12IAWRYy|Enl9Iz03aw1jKBZ-vPapOAu8, accessed on 13/11/2019.