Campaign For Better Transport

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New Zealand Infrastructure Commission
WELLINGTON

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Dear Sir/Madam

DRAFT NATIONAL INFRASTRUCTURE PLAN

The Campaign for Better Transport (**CBT**) wishes to put forward its comments in relation to the New Zealand Infrastructure Commission's Draft National Infrastructure Plan, with a particular focus on transport elements.

The CBT is a non-partisan advocacy group advocating for transport modes, systems and infrastructure that provide choice and effectiveness. We include a number of case studies in this submission to illustrate broader points. We emphasise that inclusion of a case study does not mean we consider the right or wrong decision was made in that particular circumstance but is included for illustrative purposes.

We support many of the principles outlined in the plan but have several criticisms. We are concerned that aspects of the plan risk repeating either the mistakes of the past, or mistakes that have been made overseas. If the plan adequately addresses these criticisms, then we would be supportive of the plan as outlined.

Difficulty

We note the draft plan on page 5 makes the following comment:

"Our small population and challenging landscape put us on the back foot to start with. We have a similar population to Greater Sydney but we're spread over an area 21 times larger. That can be a challenge to build infrastructure to the same standard as more densely populated countries, because we don't have as many people to use and pay for it."

We think an inappropriate comparison has been made by the Infrastructure Commission. Better points of comparison with Australia would be with the state of Queensland, which is 6.4 times larger than New Zealand, but has roughly the same population, and the state of Western Australia, which is 9.4 times larger than New Zealand and has two thirds the population. Queensland also has the Great Dividing Range which hugs the coastline and suffers from frequent flooding and cyclonic events.

Despite the challenges of size and lack of population, both Western Australia and Queensland have superior transport infrastructure compared with New Zealand. We particularly note with

envy the quality of the transport infrastructure in Perth, and the fact it has been achieved without a need to rely on revenue streams such as tolling.

Infrastructure Spending

We agree with the New Zealand Infrastructure Commission that while New Zealand has spent a considerable amount on infrastructure over the years, we have had poor outcomes.

In our own observations, the poor level of bang for buck has become more noticeable in the last fifteen years. We were horrified that the proposed light rail corridor from the Auckland City Centre through to Auckland International Airport was set to cost $14 billion, and that even a surface option would cost $9 billion. Canberra's twelve kilometre long light rail had only cost A$675 million, while Perth's nine kilometre Airport Line (heavy rail) had only cost A$1.86 billion, and included extensive tunneled elements.

It is worth noting that a considerable amount of New Zealand's current infrastructure dates from the period where infrastructure spending was greater than 7% of GDP (1955 to 1970) and that much of our infrastructure deficit is courtesy of reduced infrastructure spending from 1980 to 2000, with infrastructure spending dipping below 5% of GDP for the period from 1985 to 2000. Unfortunately, it is not clear what counts as infrastructure spending for the purposes of this analysis, and we note some of the poor spending decisions of Think Big – in particular, the methanol plant in Urenui.

We consider the New Zealand Infrastructure Commission should liaise with their counterparts in Western Australia to figure out the secret to Western Australia's ability to get high quality infrastructure for such a low cost, noting that the 21 kilometre Ellenbrook Line was opened last year having cost only A$1.65 billion, and that NorthLink WA (a 37 kilometre extension of the Tonkin Highway) was opened in 2020, having cost only A$1 billion.

Gold Plating

Recent events have left us with the impression that some infrastructure actors in New Zealand take infrastructure proposals and gold plate them. A notable example is trains to Huapai, which we discuss below.

Case Study: Trains to Huapai

For many years now, the CBT has been largely quiet advocates of trains to Huapai. A 2013 report by MRCagney on behalf of Auckland Transport indicated the capital cost of train services between Swanson and Huapai would be $13.23 million. The costs were criticised at the time as being inflated. In 2024, a report done by the Public Transport Users Association indicated the capital cost of train services would be $9 million, whilst KiwiRail initially responded with an estimate of $150 million which has been substantially reduced to $50 million. The estimate offered suggests there was an initial element of gold plating which was removed in later estimates.

The Need to Future Proof

One critical element of the infrastructure conversation in New Zealand is the need to ensure adequate future proofing, both by ensuring that land is set aside for future infrastructure and also ensuring that future infrastructure is taken into account when engaging in other construction work. New Zealand has an extremely poor history of future proofing, as we note using the following three case studies:

Case Study: Vogel Loading Gauge

In 1870, the government announced the great Public Works policy which saw a considerable sum of money borrowed to build railways, roads and telegraph lines. Part of that policy saw New Zealand move toward using a single track gauge (Cape Gauge). In addition, a tight loading gauge was selected, with tunnels having a height limit of 11½ feet. Whilst Cape Gauge is capable of handling heavy freight and passenger rail demands, as evidenced by the experiences in South Africa and Japan, the tight loading gauge was a significant mistake. As a result of the tight loading gauge, the New Zealand loading gauge has needed to be expanded at great cost three times in the years since, specifically:

- Early 20th century to accommodate larger locomotives (the Ward loading gauge)
- Mid 20th century to accommodate the Da class locomotives and early containers
- Early 21st century to accommodate high-cube containers

It is interesting that the Lyttelton Tunnel, opened in 1867, and built to a larger loading gauge, has never needed work done to expand it. This is particularly noteworthy as the tunnel was electrified for over 40 years from 1929 to 1970.

Case Study: Orams Road Bridge, Auckland

In 2009, the Orams Road Bridge was closed for several weeks for construction works. Unfortunately, the opportunity was not taken by that bridge closure to ensure space was left for a future fourth southbound lane and as a result, the bridge had to be closed again eight years later for several months to enable that fourth southbound lane to be built. The failure to take the opportunity presented in 2009 to prepare for a fourth southbound lane resulted in disruption and significant cost.

Case Study: North Island Main Trunk Line in Auckland

As part of electrification, seven road over rail bridges were rebuilt between Otahuhu and Papakura. Three of these were designed for triple track, and four were designed for double track. In recent years, it has become evident that the North Island Main Trunk in this area will need track amplification beyond the recently opened third main between Wiri and Otahuhu – and such track amplification would require a minimum of six of these seven bridges, which were only constructed fifteen years ago, to be demolished and rebuilt to facilitate the extra track. This will again come at great cost to the taxpayer, and could have been easily solved had room for extra track been taken into account at the time the road over rail bridges were designed in the late 2000s.

New Zealand does have one good example of adequately future proofing, and this is the Tawa Flat Deviation, which we discuss in our next case study.

Case Study: Tawa Flat Deviation

In the mid-1880s, private sector interests constructed a railway from Wellington through to Longburn with the route running via Johnsonville. Terrain constraints meant that line faced severe grades almost immediately departing Wellington. In 1908, with the purchase of the Wellington & Manawatu Railway by the New Zealand Railways and the completion of the North Island Main Trunk, severe congestion became apparent on this section of the Main Trunk, not aided by the fact the alternate route via the Wairarapa faced its own challenges in the form of the Rimutaka Incline.

By 1914, it was clear something needed to be done to alleviate congestion on this section of railway and in the 1920s, the Tawa Flat Deviation was designed, with construction commencing in 1927 and opening in 1935. It is worth noting that the Tawa Flat Deviation was designed as a double track tunnel, even though there were no plans at the time to extend duplication to the north (and indeed, this would not happen until 1957). This was a rare example of future proofing in New Zealand's history and we anticipate that if the equivalent of a Tawa Flat Deviation were proposed today, it would be designed as a single-track line.

It is worth pointing out an overseas example of lack of future proofing and how it increased costs tenfold. We present the tale of the Sydney M4 Motorway.

Case Study: Sydney M4 Motorway

Planning for what was to become the M4 Motorway in Sydney commenced in 1947, and a corridor was reserved in 1951. Initial work was done on the motorway from the late 1960s through to the mid-1970s, and it was estimated that the section from Ultimo to Concord would cost A$287 million in 1977 dollars. Following a promise made in the 1976 state election campaign, the Wran government cancelled the Ultimo to Concord section of the motorway and sold off the land to developers.

With motorway traffic spilling onto key urban corridors such as Parramatta Road and resulting in substantially reduced amenity on those routes, the New South Wales state government ultimately announced the M4 East proposal in July 2002 to close the gap between the eastern end of the M4 and the start of the City West Link. This would become the WestConnex M4 East Tunnel, constructed between 2015 and 2019 as part of a suite of projects costing A$16.81 billion. While data on the individual components of the project has never been made publicly available, adjusted for inflation, this represents a ten-fold increase in the 1977 cost. Due in part to this significant cost, tolling has been needed in the WestConnex M4 East Tunnel, which might have been avoided had the corridor between Ultimo and Concord not been sold off in the late 1970s.

The Flaw in Making the Assets Sweat

Underpinning the plan seems to be the notion that infrastructure assets should 'sweat'. We agree that in some instances, there can be improvements in the utilisation of existing assets.

However, one of the flaws in making the assets sweat is that there is only so much fat that can be burned – and once the fat is gone, then there is a high risk of running into significant longer term issues.

Sydney is another example where assets were 'sweated' to a point that addressing longer term issues could no longer be deferred – but where addressing those same issues was either going to be extremely expensive, or practically impossible. We discuss this in the case study below.

Case Study: Sydney double-decker carriages

In 1956, the City Circle route in Sydney was complete and with it, two of the four Central Business District rail corridors had been constructed. While overall patronage had started to decline, this was largely concentrated in the off-peak and demand for peak travel was continuing to increase. While the completion of the City Circle route had temporarily relieved peak congestion on the suburban rail network, most of the extra capacity was swiftly absorbed and the New South Wales Government Railways faced a dilemma. The options available to the New South Wales Government Railways were:

1. Improve the signaling on key corridors to enable tighter headway between trains.
2. Lengthen platforms to allow for longer trains and/or longer carriages.
3. Adopt a double decker carriage design akin to what had been utilised in Chicago since 1950 and Paris since 1933.

The ideal longer-term solution would have been to adopt either the first or second option, however, due to cost, the third option was adopted. The problem with adopting the cheaper solution was that the capacity challenge never really went away and came back to bite in the 2000s. By this time, urban development in Sydney meant far fewer potential railway corridors were available, particularly in the Sydney Central Business District. The last potential railway corridor was ultimately used for the Sydney Metro, and ongoing capacity issues with the Sydney rail network has meant the Bankstown Line is being downgraded to a metro from its previous configuration.

Land Transport Gap

Page 64 of the plan notes the gap between land transport revenues and land transport expenditures. For many years, the contribution of heavy vehicles (trucks) toward the cost of infrastructure has been less than the costs imposed, with the New Zealand Surface Transport Costs and Charges study in 2005 suggesting that heavy vehicles only covered around 56% of the costs imposed by them on the roading network. Our understanding is that figure has only worsened in the years since and consider the case can be made for closing the gap by imposing extra road user charges on heavy vehicles. It is worth noting that the same report suggested that rail covered 77% of its costs.

Infrastructure and Pricing Goals

Page 69 of the plan comments on infrastructure and pricing goals and holds the electrical and telecommunications networks out as good examples of pricing, and transport and water as poor examples of pricing.

It's worth noting that consumers generally don't pay higher electricity prices because they have turned on their heater at five o'clock on a winter's afternoon or pay higher sewerage charges because they have flushed their toilet in the minutes following the completion of a major sporting event, with pricing instead being focused on the quantity of electricity used overall, or the level of water used overall.

Indeed, if we took the approach to electrical and water infrastructure investment that we have taken to other forms of investment, then we would face blackouts at five o'clock on a winter's afternoon and have a potentially ugly experience if we flushed our toilets following the completion of a major sporting event.

Regulatory Environment

In our view, there is a place for a good regulatory environment to ensure that the best infrastructure investment decisions are made and to avoid a repeat of the poor investment decisions of the likes of Think Big. Yet, we consider things have gone too far in some respects – for instance, we understand design work on the proposed Northwestern Busway has been impacted by a desire to avoid confrontation with residents and businesses in the area immediately south of Karangahape Road. A poor regulatory environment simply results in an increase in costs with minimal benefit.

Asset Management Plans

We agree that there should be asset management plans to ensure that infrastructure assets are appropriately maintained. It is worth noting that road transport seems to have maintained its asset reasonably well over the years, apart from a period commencing in the late 2010s.

Emphasis also needs to be placed on ensuring that investment decisions made take into account extra maintenance needs. We are mindful of the wheel profile on the electric multiple units used in Auckland, the impact it is having on the track (rolling contact fatigue) and the subsequent impact on maintenance costs. We understand this wheel profile was selected by Auckland Transport despite the protestations of KiwiRail who warned this wheel profile could have a significant impact on the track.

Cost-Benefit Analyses

Our criticism of cost-benefit analyses is twofold. Our first criticism is the robustness of some of the analyses, in particular with respect to roading projects. It has been observed that some of the purported benefits of roading projects do not take into account induced demand, which would result in the benefits being substantially reduced. Our second criticism is that if cost-benefit analyses were strictly adhered to, we would never get any infrastructure built. When it comes to land transport, the time where it costs the least to build infrastructure is when the fields are green and the houses are yet to be built – yet at that early stage, the benefits are not yet realised. If we waited until the benefits were there, then the costs would have increased astronomically as costly land acquisition is required.

Campaign For Better Transport

If the New Zealand Infrastructure Commission has any further queries, please contact us at [redacted] We will be pleased to comment further if requested.

Yours faithfully
The Campaign for Better Transport Incorporated

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Convenor

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