

Urban Form, Passenger Rail and Transport Programmes – “Mind the Gap”

Introduction

In 2008, Don Wignall (Transport Futures Ltd) and I (Boulter Consulting) compared long-distance and regional passenger rail funding in New Zealand with overseas, and found that New Zealand practice falls short. The lessons are widely applicable, not least in rail's contribution to urban form. Our work was peer-reviewed by Chris Nash, Professor of Transport Economics at Leeds University Institute for Transport Studies, and published by Canada's Victoria Transport Policy Institute (www.vtppi.org/rail_evaluation.pdf), both highly-regarded in the transport policy and transport economics fields.

Why is New Zealand behind overseas practice?

Around 1990, funding of roading and rail was each put on a 'user pays' basis. Rail was corporatised and sold, while petrol taxes and 'road user charges' (for trucks) were 'hypothecated' to the (then) 'National Roothing Fund'.

Logically, since car and truck drivers paid for roading, the benefits to these groups were paramount. This fund broadened through the early 2000s to embrace public transport, walking, cycling, demand management, travel behaviour change, travel planning and road safety, but hypothecation led to the view that motorists were in fact being 'robbed' to pay for other people's transport choices. Funding for urban commuter public transport, under this logic, was originally justified on the basis of congestion savings to motorists.

Transport economics draws a distinction between 'direct' costs and benefits (accruing to or paid for by transport users) and 'externalities'. The latter are traditionally seen as peripheral, yet some are quite large: witness *"The number of New Zealanders who die prematurely from traffic-related air pollution is similar to the number killed in road accidents each year"* (Ministry for the Environment's 2007 *State of the Environment* report).

The world of 'transport economics', traditionally seen as belonging to engineers and economists rather than planners, is detailed, technical, and often little understood beyond those who manage the system. In fact, it is very important that planners get a grasp of this 'world'. In its details may lie the reason we continue to reap a sprawl-based urban form, despite several decades of professional hand-wringing against it.

Programme-wide 'strategic assessment', and inter-modal comparison techniques, are vital

New Zealand does not undertake programme-wide 'strategic assessment'. Except for state highways, for which there is a national strategy, transport programmes focus largely on individual projects.

At various times the NZ Transport Agency and its predecessors have encouraged 'packages' of 'linked and complementary activities'. However, long-distance and regional rail planning is largely separate from that of the National Land Transport Programme (NLTP), and either inaccessible or unpublished. This contrasts with a relatively open 'mainstream' roading and urban public transport planning system. New Zealand also lacks techniques to compare effects across different transport modal proposals; even within the NLTP system, public transport and roading projects are evaluated according to different sets of rules.

All this makes the ideals and promise of the 'package approach' very difficult to achieve. Unable to consider how combinations of projects help or hinder each other across a programme as a whole, we are unlikely to effectively achieve the objectives set for our transport strategy (whatever these may be, and accepting that our new government may have different objectives from the former one). Synergistic benefits will not be captured, and some transport projects may actually work against each other (e.g. rail and road proposals on the same corridor).

Techniques are needed to compare different types of transport project. The hypothetical rail and road in the same corridor is one example, but there will be others. Such techniques are in their infancy in New Zealand, although some do exist, such as Transport Futures Ltd's Strategy Review Model (www.transportfutures.net).

Urban form objectives must be defined, and their achievement measured

Transport funding allocation procedures, in practice, do not connect well with urban form implications. Partly this derives from the old 'user-pays' logic (for example, motorists' journey time savings loom large 'because they pay' for the roads). Partly it may also be because government interest in urban design came after the NZ Transport Strategy's vision and objectives were set (2002, substantially unchanged in the 2008 Strategy revision; the Urban Design Protocol was launched in 2005). Largely, however, it again reflects that urban form effects can only derive from how different transport proposals combine across an entire city-region – rather than from transport projects considered individually. There is strong professional interest in working structure plans and urban growth strategies into evaluation of transport proposals, but this is difficult when urban form objectives are weakly defined in the transport evaluation system, and not linked to techniques for measuring benefits and costs of particular projects.

The Urban Design Protocol must move beyond the 'low-hanging fruit'

As things currently stand, it is organisationally far easier to integrate urban form planning with a roading-based transport system, than with a rail-based system. This is unfortunate, since rail systems are at the heart of sustainable urban form – think of the considerable 'transit-oriented development' literature, and ask just about anyone reporting back on overseas planning experience.

'Transit-oriented development' specifies long-distance, inter-regional and inter-district access to discrete points, in the form of stations. These provide the seeds around which higher-density, mixed-use, multi-functional community nodes can form. This means we are working with the

development market, and are able to channel development pressures which the location of stations generates. There are good and not-so-good ways of 'doing' transit-oriented development (for example, it is better to place pedestrian-accessible development in direct proximity and access to the station, rather than a sea of car parking, even under the name of 'park-and-ride'). However, in basing our planning on rail systems and stations, we are more likely to be able to apply planning and design skills to development which 'wants to happen', rather than trying to fight development patterns we don't want.

There are also considerable benefits from 'regional' commuters who don't need a car park once they arrive, and are thus more likely to use non-car modes within the city. Some will say they need a car because there isn't bus-based public transport from the station. Fine, but are we not helping boost demand for buses through a focus on rail? Or put it another way: if we drive into the city, we are then more likely to use our car for all those short local trips we could have walked, cycled or caught the bus – clogging up our roads with unwanted traffic in the process.

Although a road-based urban environment can be steered sustainably, planners and the NZ Transport Agency Highways Division tend to fight an uphill battle against a market demand to locate or park all the way along the main highway. We then need to bring out regulatory 'guns', such as District Plan access rules and zonings, 'limited access arterial' bylaws, segregation strips and parking restrictions. In contrast, with a rail based system we can actually concentrate on trying to deliver some positively good quality urban design.

The Urban Design Protocol needs to embrace the positive role of long-distance and regional passenger rail. Roading-based initiatives, such as Auckland's 'liveable arterials' or the Christchurch Urban Development Strategy, are relatively 'low-hanging fruit' compared to rail-station-based models which, I would respectfully suggest, gives far more potential for high-quality, node-based urban design at the city-regional scale.

Benefits associated with passenger rail must be effectively researched, quantified and added into transport project evaluation

With a programme-wide 'strategic assessment', developed inter-modal comparison tools, and well-defined urban form objectives (and techniques by which to measure their achievement), we also need to pay attention to the detailed totting-up of benefits and costs which is inherent to our current evaluation processes.

Quantification of some types of benefit (e.g. saved journey time, road deaths and injuries) have been extensively researched and given dollar values, whereas knowledge on others is very sparse (at least, in New Zealand) or even absent altogether. Apart from urban form effects already mentioned, there are also overseas tourist spend and its multiplier effect in the wider economy; investment and migration effects of a positive NZ image overseas; social benefits of accessibility to remote communities; the value of saved car parking land; and 'macro-environmental' effects such as resource use and climate change – the list could go on.

In the UK, 'option values' have been included in rail evaluation, meaning the value communities place on having a rail service available. In remote rural situations (such as very often applies in New Zealand), 'option values' may comprise up to half of the total benefits of the rail service. Somewhat related, there's security of access, like in the Wairarapa where I live, served by passenger rail (using a tunnel) even when the Rimutaka Hill Road is closed by ice or slips.

Also, even where present New Zealand procedures have defined a potential benefit's value, application is sometimes less than it could be. An example is inclusion in a rail funding proposal of health benefits deriving from the walk to and from the station; the NZ Transport Agency has such values, but they are generally only applied to 'walking and cycling facility' proposals.

Conclusion

It's easy to think that New Zealand's long-distance and regional passenger rail services are prone to failure, and beyond any reasonable investment to make them viable. Maybe we should ask ourselves whether this is at least partly because of how we have historically funded transport.

Other western economies have recognised the value of regional and long-distance passenger rail, and supported it accordingly, and 'transit-oriented development' has been shown to pay out well in prosperity and lifestyle benefits. We can all gain from re-casting how we do things, not least our new government with its strong focus on 'value for money' and regenerating the economy.

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