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Prediction or policy choice – it's up to us''

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Is transport planning about technical predictions, or about policy choices? The skills needed will depend on the answers to this question.

Urban planning started from people (lay people) imagining a future (notably, the 'Garden Cities' movement about 1900), and then, as professionals and governments gave their support, working towards that future.

Transport planning started from technical professionals analysing large amounts of numerate data (about land use patterns, demographic and economic data, and the like) and from this predicting future demand for motorised travel, and then working towards meeting this (using techniques such as four-stage modelling and 'corridors and rooms' road hierarchy theory). This was pioneered in 1930s Chicago, USA, then applied elsewhere, and was based on car ownership and use being the default normative form of transport aspired to, which (it was thought) would unlock prosperity and a better lifestyle.

Urban planning and transport planning united in the 1950s as 'rational-comprehensive' planning, which held sway as professional orthodoxy until about the mid-1970s. But the challenges started early.

In New York, a 'housewife' called Jane Jacobs, author of *The Death and Life of Great American Cities* (1961), led a campaign against arterial road building through low income areas, and the tearing down of older areas to make way for them. Campaigns of this kind spread throughout the Western world in the 1960s and early 1970s, citing the devastating damage done to community support networks. Planning was transformed, recognising the vital importance of the social environment, and the importance of involving (and listening to) communities affected by planning decisions.

Then traffic forecasts overshot. Far from traffic levels approaching the early 1990s 'saturation point' forecast in the 1960s, they carried on rising, and 1960s hype about free-flowing arterial roads was replaced with the burden of congestion. By the early 1990s it had been established beyond doubt that building roads generates its own traffic.

Could public transport, up until then seen as 'poor-person's transport', meet some of the ever-rising traffic demand? The joint road/ public transport authority 'integrated transport studies' of the early 1990s were ground-breaking for their time, but excluded lay public involvement, and also ignored walking or cycling as potential transport choices.

Planning for cycling, from the 1970s, arose from two contrasting origins. In the Netherlands, it emerged from a widespread movement of public anger at child deaths from motor traffic, and was accompanied by major restrictions on movement by car, as well as very early traffic calming (the 'woonerf' concept). New Zealand cycle planning practice, in contrast, derived from Australian road safety initiatives (Geelong Bike Plan 1977), leaving planning for the car unaffected. The results: cycling remained very minor transport in Australia and New Zealand, in contrast to the Netherlands where it became ubiquitous (the Dutch have not always had a 'cycling culture').

Planning for walking was recognised from the 1990s. Architects played a key role, seeing streets as 'places' not movement corridors. Planning for walking was more about decisions on allocation of urban street space, than about movement networks. From about the mid-1990s, more and more street space has been transferred from motor traffic to foot traffic, with major arterial roads being demolished in some cases. 'Placemaking' came to be seen as vital in urban economies and personal safety.

This history, of challenge after challenge to transport planning's very technical-based methodology, should prompt the question: **Is transport planning about policy choice or is it about prediction?** It should be about policy choice, informed by technical science. Technical models can inform policy choices, but they cannot make decisions.

Today, traffic levels (e.g. as measured by vehicle kilometres travelled) have generally slowed or stopped growing throughout the Western world – a certain amount of growth each year is no longer a truism.

Millennials no longer aspire to car ownership. Adolescents no longer see it as a rite of passage to adulthood, nor do adults see it as a status symbol. Instead, people pursue lifestyle quality.

We sometimes think, in 'silos compartments', that the best way to help motor traffic is to build roads, or that the best way to help cycling is to build cycleways. All transport must be planned together, asking "*What sort of city form do we want?*", with technical models providing the information we need in order to make decisions which are informed.

Methodologies such as 'link and place' seek to bridge the yawning professional gap between architects (who tend to see a road as a 'place' to be experienced) and traffic engineers (who tend to see a road as a facility for movement, whether that is arterial through-movement, or local access). This approach underpins the NZS4404:2010 subdivisions guide. Applying it, however, remains challenging, and at risk of failure through being too complex (professionals working in practice often need simple, easy-to-apply 'rules of thumb').

The *One Network Road Classification (ONRC)* is an ambitious and topical project in New Zealand, based on a recognition that roads are a network not just for cars, but also for other forms of movement, for example public transport or cycling.

However, public transport planning theory recognises a variety of different public transport services, serving a variety of functions, and some of these require dedicated right-of-way

priority on arterial roads (e.g. 'bus rapid transit'). There is clear tension here with the classic road hierarchy theory, with its original suggestion that public transport should be accommodated on the middle 'collector' category of road.

Planning for cycling has changed in similar way to how public transport planning theory has changed. Whereas in previous years the approach was to provide 'back street' cycle routes away from the arterial roads, since the mid-1990s it has been recognised that many cyclists prefer the arterial road network for similar reasons to general traffic (and that there are even some safety benefits). Within the last 10 years this has, like with public transport's dedicated right-of-way approach, included separated and dedicated space.

Dedicated and separated space, whether for public transport or for cycling, often means a trade-off with the interests of motor traffic. Whilst in some cases (such as Auckland's Northern Busway) this space can be added without disadvantaging car traffic, in other cases (most notably established corridors within urban areas) hard choices are involved between space for public transport or cycling on the one hand, and (for example) general traffic lanes, on-street parking lanes or spaces, footpath space, berm space, and so on. Whilst the choices to be made are difficult, compromising standards in an attempt to please all interests may deliver an outcome that pleases no one.

Planning for walking is not so much about networks, as about places. Again, this often relies on turning urban street space over from motor traffic to people on foot, and this is a policy choice, not technically determined.

In our major centres, Auckland has 'ATAP' (Auckland Transport Alignment Project), and Wellington 'Let's Get Wellington Moving' (LGWM). These, effectively, are integrated transport planning exercises. The difficult choices involved need to be made with full engagement of the general lay public, because they are essentially matters of policy choice.

A topical example of potential neglect of critical thinking in the area of autonomous vehicles. For example, if autonomous vehicles detect pedestrians, then an averagely-busy shopping street may prove impossible to drive down without restricting pedestrian movement: would this be too high a price to pay, considering the vital role played by people on foot in urban vibrancy, prosperity and crime reduction? Also, autonomous vehicle technology can be applied to public transport, so why do we tend to only think of cars on roads, bearing in mind the important role played by rail stations as magnets for commercial activity and local centres? Some predictions about autonomous vehicles are not unlike those of the 1960s that arterial road building would eliminate traffic congestion; are the congestion-reduction predictions about autonomous vehicles over-stated, especially considering experience to date of 'smart motorways'? Finally, technology breaks down; in the case of autonomous vehicles 'glitches' could be fatal.

To conclude, we need policy analysis skills, not just numerate processing skills. Numerical science should inform policy choice, but cannot evaluate ideas, or make policy choices. The much-maligned arts graduates have much to offer here, because their education is in how to think.