

Realistic Sustainability? Urban Transport Planning in Wellington, New Zealand

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ABSTRACT

Urban transport systems have key roles in supporting environmental sustainability. New Zealand's transport planning arrangements are promoted as a model by agencies such as the World Bank. This paper explores the New Zealand transport planning framework using a case study of the Wellington region's strategic balancing of transport modes and projects. The paper argues that despite some positive rhetoric, concerns about the sustainability of transport planning in Wellington remain. The paper concludes by discussing the need to reassess New Zealand's national framework, and identifies some directions for reform.

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The New Zealand government strongly promotes the nation's 'clean and green' environment, and sustainability is claimed to be the central plank of the national land-use planning framework. The New Zealand framework for transport planning and funding is promoted by the World Bank and similarly-minded commentators (e.g. Gwilliam and Shalizi, 1999) as a model for other nations. The existence of a dedicated transport fund into which road user charges are paid, together with a separate 'commercial' agency responsible for planning and funding transport works, ensures adequate and predictable funding and rational allocation of resources (World Bank, 2002).

But the reality is somewhat different. This paper examines current and historical transport planning and funding processes in Wellington and concludes that these arrangements form a fabric of institutions and discourses which perpetuate transport policies that conflict with sustainability imperatives. This detrimental effect can be seen clearly in Wellington, where public transport is still viable and walking remains an important transport mode – compared with, for example, Auckland – but we contend that alternatives to the car are actually treated less seriously even than in Auckland. We explore this assertion through an analysis of the most recent Regional Land Transport Strategy, released in 1999, and the planning process associated with a current and controversial central city motorway plan.

Sustainability and current transport patterns

Auckland is one of the world's most extreme cases of entrenched automobile dependence: by the 1990s, the city had a lower per-capita rate of public transport patronage than even Los Angeles. This outcome is the result of many decades of transport planning which explicitly rejected alternatives to total dominance by the automobile (Mees and Dodson, 2002; Gunder, 2002).

By comparison Wellington has maintained a more balanced travel pattern, in which the car is not so completely dominant. Public transport trip rates remain at least comparable with Australian cities such as Melbourne, Perth or Brisbane, although these are not high by world standards (Mees, 2000). Per capita, Wellingtonians averaged 77 public transport trips per annum in 1991 compared with only 41 in Auckland, mainly a result of dramatically higher rail

patronage. Patronage in both cities declined sharply following privatisation of services in 1993 (see discussion below), but Wellington, with a higher base to begin with, suffered a more severe decline (Table 1)

This decline comes on top of an historic shift to the automobile, with total patronage now less than half the 45 million trips recorded annually in the 1950s (Evans, 1972), despite growth in population. This trend is seen in Table 2, which shows the travel modes used by commuters to Wellington's Central Business District

Table 2 also highlights the significance of walking as a transport mode in Wellington, which is largely attributable to the densely-populated, and easily walkable, inner city surrounding Wellington's CBD. Indeed, there is some evidence to suggest that recent 'reurbanisation' trends (Morrison and McMurray, 1999), in inner Wellington have actually stimulated a recent increase in walking (Laird et al., 2001). Census data from 2001 also indicates a modest improvement in public transport's share of regional journeys to work, up to 16.1 percent from 14.3 percent in 1996 (Statistics New Zealand, 2001), suggesting a partial recovery from the initial effects of privatisation

The environmental consequences of car-based urban transport are now the subject of significant concern. Vehicle emissions are the most important source of air pollution and greenhouse gas emissions (WRC, 1999: 70). In particular:

[V]ehicles are causing problems in downtown Wellington. Of all the locations monitored, the Wellington inner-city results show air quality under the greatest pressure. The main reason for this is the number and density of motor vehicles (WRC, 1999: 76).

Observers such as Newman and Kenworthy (1999), Vuchic (1999) and Laird et al. (2001) argue that the logical response to such problems is the adoption of transport and land-use policies designed to shift car trips to more environmentally sustainable modes – walking, cycling and public transport. Auckland is now struggling with the challenge of reviving public transport after decades of neglect (Dodson and Mees, 2002; Gunder, 2002), and it might be expected that Wellington, with its more public transport-oriented travel patterns, would be paying greater attention to non-automobile modes. But the opposite is the case: road planners are seeking to extend the existing motorway through the southern CBD, which will lead to the demolition of numerous dwellings and potentially obstruct the emerging

Table 1: Public transport patronage in Auckland and Wellington, 1991 and 1996

| | Auckland | | Wellington | |
|-------------------------------|----------|------|------------|------|
| | 1991 | 1996 | 1991 | 1996 |
| Population (million) | 0.88 | 1.00 | 0.35 | 0.37 |
| Passenger boardings (million) | | | | |
| Buses | 33.7 | 31.2 | 16.2 | 12.4 |
| Trains | 1.1 | 2.1 | 10.8 | 8.6 |
| Ferries | 1.2 | 1.6 | 0.1 | 0.1 |
| Total | 36.0 | 34.8 | 27.2 | 21.0 |
| Boardings per capita | 40.8 | 34.9 | 76.8 | 57.4 |

Source: Bachels et al. 1999

Table 2: Transport mode used for journey to work to Wellington CBD

| Transport Mode | Year % | | |
|------------------------|--------|------|------|
| | 1962 | 1976 | 1996 |
| Car | 36 | 34.7 | 56 |
| Public transport | 51 | 53.3 | 30 |
| Other (mainly walking) | 13 | 11.7 | 14 |

Sources: Evans, 1972; WCC 1979; WRC, 1998

trend to reurbanisation (see Figure 1), while current regional transport plans place a low priority on investment in public transport

Off the rails

Wellington's pre-World War II growth was shaped by rail and tram lines. The New Zealand Railways Department operated as a suburban developer, extending and electrifying train lines and facilitating suburban greenfields development, in cooperation with the Housing Division of the Ministry of Works. The dormitory suburbs of Johnsonville, Hutt Valley and Porirua Basin to the north of Wellington city were largely developed in this way (Evans, 1972).

With Wellington's rail-based suburbs came new roads, which also stimulated both car and bus travel, especially after the lifting of wartime petrol rationing. Evans (1972) shows how rising suburban road travel adversely affected public transport patronage in Wellington, which declined steadily from the late 1940s. Expanding highway construction, by the Main Highways Board (MHB) from the 1920s, and its successor, the National Roads Board (NRB), from the early 1950s, also encouraged those who could afford automobiles to switch modes.

The NRB benefited from New Zealand's dedicated road fund, which had been established in the 1920s (Evans, 1972). Fuel taxes and road user charges were paid into this fund for expenditure solely on roads, and as automobile use and petrol consumption grew, so did the NRB's available finance. By the mid-1950s, continued suburban road construction had stimulated automobile growth and the familiar pattern of declining rail and tram use combined with rising traffic congestion and parking shortages developed, particularly in Wellington's CBD (WCC, 1954).

Wellington's planners responded with the kind of ameliorative measures seen in many other cities in the 1950s: trams were replaced with buses and trolleybuses, off-street parking was constructed and one-way streets introduced. Even so, despite the pressure from cars, the city was, by the early 1960s, still highly oriented towards public transport (see Table 2).

'Classical' transport planning arrives

In the early 1960s, with congestion and automobile ownership still increasing, Wellington's planners engaged a US engineering firm to devise a 'Comprehensive Transportation Plan' for Wellington using the latest computer modelling techniques (De Leuw Cather, 1963). Central to this plan was a motorway which connected the suburban motorway

to the edge of the city centre, then traveled south along the foothills west of the CBD, carving through the Te Aro precinct, before terminating at the existing Victoria Tunnel, which was to be duplicated (see Figure 2). The first and second stages of this 'foothills' motorway were completed by the early 1970s, but the final stage through Te Aro was delayed indefinitely in the mid-1970s due to lack of NRB funding (Burrell, 1980).

The De Leuw Cather plan considered a rail extension under the CBD, which was proposed as a means of turning the suburban rail system, which terminated at the fringe of the CBD, into a multi-purpose 'urban' network (cf Vuchic, 1999: 46-9). According to the conventional wisdom of the time, Wellington's population was too small to merit a subway, so the study recommended the rail link be delayed for the foreseeable future in favour of the motorway plans (De Leuw Cather, 1963). Had the rail upgrade proceeded, the rail proposal would have provided the 'balance' between public transport and roads which had become the norm in most Western cities' transport plans in the 1960s.¹ By contrast, the transport plan De Leuw Cather prepared for Auckland around the same time was more in line with the 'balanced transport' notion, recommending motorways plus an underground railway (Mees and Dodson, 2002).

Problems with public transport

By the late 1960s, both the nationally owned rail system and the bus service run by municipalities and private firms faced problems of declining patronage, rising operating costs and mounting financial losses. A parliamentary inquiry (Committee of Inquiry, 1970) and the oil shocks of the 1970s stimulated the takeover by regional councils of municipal and private bus undertakings, which produced a minor recovery in public transport patronage in Wellington

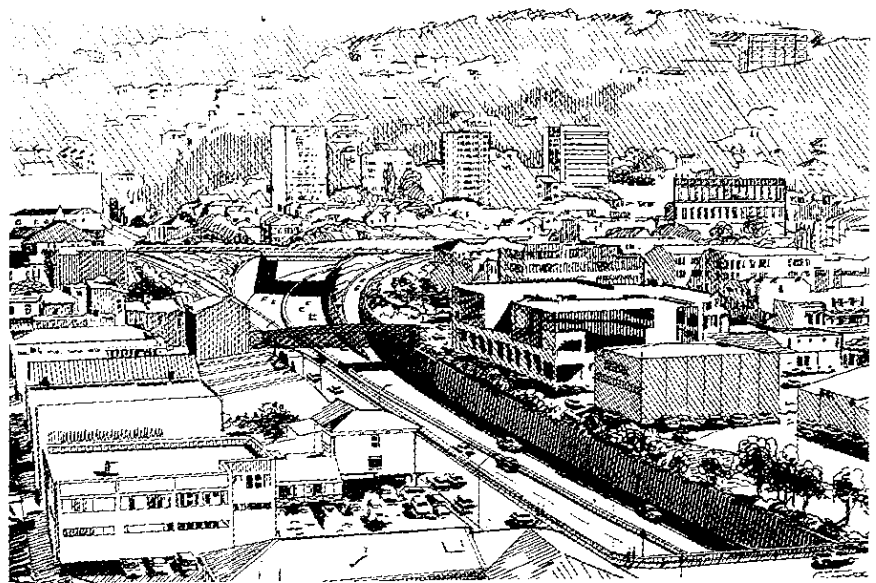


Figure 1: Artist's impression of 1992 Wellington motorway extension proposal (Independent Review Panel (1991))

(see Table 2), but the long-term trend of declining patronage had resumed by the 1980s.

The historic problems with public transport were compounded by the institutional restructurings undertaken by the Labour and then National governments between 1989 and 1996. Labour corporatised the railways, which were then privatised in 1993 by National, becoming Tranz Rail Ltd. Under the 1993 privatisation policy, regional governments divested their ownership of public transport assets and private firms took over service provision on a semi-deregulated basis, but with public subsidies. Privatisation was the major factor in the 1991-1996 collapse of public transport patronage (Table 1).

Historically higher patronage levels and the high sunk costs of the electrification undertaken in previous decades have protected Wellington's rail system from the fate experienced by Auckland's, which was nearly closed in the 1980s (Mees and Dodson, 2002). Wellington's trains currently carry four times as many passengers as Auckland's, despite a much smaller regional population (Table 1). This is partly a result of the greater concentration of employment in Wellington's CBD, which contains 22 percent of regional employment, compared to 15 percent in Auckland (Laird et al. 2001: 55). In the suburb of Tawa, approximately 15 km from the CBD, 18.8 percent of employed residents travelled to work by train in 1996, and 80 percent of these workers travelled to the CBD (Booz Allen and Hamilton, 1998).

There was little capital investment in the Wellington rail system in the 1980s, and virtually none since privatisation. Indeed, in 2001 Tranz Rail was at a loss to account for its expenditure of the approximately \$18 million annual operating subsidy it has received from the WRC since 1993 (Dominion, 26/11/2001). Electric infrastructure and rolling stock dating from the 1930s to the 1950s are being kept operative through overhauls and patch-ups, but these management practices are unlikely to be sustainable for much longer. At the time of writing, the Wellington rail network has been crippled by track safety problems arising from inadequate maintenance. A result of this legacy is a decrepit urban rail system that offers little incentive to new patrons and continued high peak ridership levels can be attributed mainly to growth in central city employment.

Public transport has been institutionally weak in comparison with roads. While a single national agency exists for the planning, construction and operation of major roads, no such agency exists for public transport (let alone walking or cycling). Instead, public transport planning, financing, operations and management are distributed among a variety of national and regional public and private agencies with divergent interests. Regional councils have the primary public transport planning and coordination role, but must deal with a fragmented set of private operators, as well as lower-tier local governments. Finally, capital funding and subsidies must be obtained from the road-dominated Transfund (see below). Regional councils also have responsibility for enabling the provision of state highways

through their regional plans, which gives them a dual roads and public transport planning role. In a context where policy discourses - such as those of Transit and Transfund - equate more roads with economic growth, regional councils have a strong imperative to promote roads in their regional plans.

Institutionalising road policies

Roads have fared rather better in New Zealand than public transport. In 1989, Labour re-structured the NRB, creating Transit New Zealand. This agency's responsibilities involved financing, constructing and managing the state highway and motorway network. Transit's responsibilities also included the national subsidisation of urban public transport via payments to regional councils, but this formed a minor component of the agency's budget (Table 3). The most recent restructuring of transport planning occurred in 1996 when the financing activities of Transit were pared off to form Transfund, a separate agency which has the role of 'allocating resources to achieve a safe and efficient state highway system' (*Transit New Zealand (Amendment) Act 1995*, s. 5). Unlike their approach to 'user pays', commercialisation and privatisation of public transport, the National government balked at applying commercial principles to the road network, despite advocating a policy in this regard (Ministry of Transport, 1997).

Transfund's financial resources come from the dedicated road fund which has been in operation since the 1920s, and is now known as the National Roothing Account (NRA). The original purpose of this fund was to ensure that consistent levels of finance were retained for roads, and that (through the MHB and subsequently the NRB) the disbursement of this finance was 'objective' and unable to be captured by vested interests (Evans, 1972). These benefits of 'second-generation road funds' - of which the NRA/Transfund/Transit triumvirate is a model - are lauded by the World Bank (2002).

Given Transfund's institutional history and purpose, it is not surprising that the agency has done little since its establishment to direct transport funding away from roads and towards other modes of transport. As Transfund's mission statement attests, the agency's clear focus is to "invest road user funds to achieve a world class roading system for New Zealand" (Transfund, 2000: i). Of the \$5.2 billion expended by Transfund since 1996, only 5.1 percent has been spent on public transport (Table 3), despite the delapidated condition of the Auckland and Wellington networks.

As well as funding roads, Transfund/Transit have also acted as key parts of a powerful network of organisations which lobby for roads at the expense of other modes of transport. Beyond its administrative authority for road building and management, Transit also serves as a vocal proponent of roads as a solution to transport planning problems. The institutional resources of the agency, combined with its national reach and regionalised organisation structure enable it to deploy these resources in

public relations and legal campaigns which further its goals. Beyond the state sector a loose pro-road consensus operates in Wellington, as a combination of local, regional and central government officials and representatives, commercial and road sectoral interests, such as the Automobile Association. The effects of these road lobbies and the related weakness of public transport can be seen in the 1999 Regional Land Transport Strategy and in the saga of the Wellington motorway.

The 1999 Wellington Regional Land Transport Strategy

The most recent regional transport planning process in Wellington has been the preparation of the 1999 Regional Land Transport Strategy (RLTS), subtitled 'realistic transport choice' (WRC, 1999). The 'vision' articulated in this document is: "a balanced and sustainable land transport system that meets the needs of the Regional Community" (WRC, 1999: 33). But when evaluating proposed transport projects in terms of their sustainability, the RLTS authors state:

As sustainability was one of the major factors used in the modelling process, all proposals in the selected packages are those which, on balance with the other four objectives, best meet the need to provide a land transport system which operates in a way that recognises the needs of the community, avoids remedies or mitigates adverse effects, uses resources in an efficient way, and supports an optimal demand for energy (WRC, 1999: 51-52).

In other words, the strategy is a list of individual projects for which sustainability has been 'balanced' with other objectives, rather than an evaluation of the relative environmental merits of different possible regional transport strategies. There is no comparison of the merits of a road-oriented strategy with those of a strategy that emphasises public transport and non-motorised modes. Concerns about greenhouse emissions are dismissed, because "the responsibility for [greenhouse issues] is global and is a national policy issue" (WRC, 1999: 50). The opaqueness of this strategy preparation process means that the reader cannot discover how the proposed extension of Wellington's 1960s motorway, for example, meets sustainability criteria.

Table 3: Transfund expenditure 1996/97 to 2001/02 (\$million)

| Year | Public Transport | Total Expenditure |
|---------------------|------------------|-------------------|
| 1996/97 | 40 | 736 |
| 1997/98 | 43 | 809 |
| 1998/99 | 43 | 866 |
| 1999/00 | 44 | 940 |
| 2000/01 | 50 | 940 |
| 2001/02 (projected) | 63 | 865 |

The authors of the RLTS, however, revealed details of their methodology in a paper presented to the Australasian Transport Research Forum. In that document, the authors stated: "Public transport investment was not found to be an effective tool for removing specific road bottlenecks, but it did generate useful time savings to road users through the accumulation of small reductions in congestion along the corridor" (Ashley et al., 1999: 346). In other words, improvements to public transport were evaluated on the basis of the benefits provided to motorists, rather than to the patrons of public transport or to the environment. This limited criterion of evaluation is a reflection of the funding regime administered by Transfund, which provides that public transport is funded as an "alternative to roading" (*Transit New Zealand (Amendment) Act 1995, s 3D(a)*), rather than a fundable transport option in its own right.

Because there is no real consideration in the Wellington RLTS of how transport contributes to sustainability goals, there is no comparison of alternative policies, or mode preferences. Nor is there examination of how the regulation of land-use, community or social planning can be integrated with transport policies which take greater account of public transport, despite a depth of international literature demonstrating the importance of these connections (e.g. Newman and Kenworthy, 1999; Vuchic, 1999; Laird et al., 2001).

This long-term bias has resulted in a reinforcement of the historic dominance of roads as solutions to transport problems. The majority of the 'identified needs and issues' affecting Wellington's CBD, for example, which were identified in the RLTS involved poor public transport or pedestrian infrastructure (WRC, 1999: 60), but the major project promoted by the WRC for this part of the city is a motorway extension (p 60). Of the central Wellington projects promoted by the WRC in its RLTS, indicative expenditure totals \$81 million for road-related projects, and only \$29 million for public transport (WRC, 1999: 61-60).

The pro-road bias of the plan becomes particularly clear when the investment needs of the rail system are considered. As indicated above, Wellington's suburban rail system is delapidated, but patronage has been increasing in recent years, most likely due to strong CBD job growth (although the region's linear urban form undoubtedly enhances the viability of rail transport). The electrified rail system effectively produces almost no local air pollution and, being largely hydro-powered, much lower greenhouse emissions than car or bus travel (Bachels et al., 1999: 71). The rail system is unable to cope with expanding passenger demand, but the Land Transport Strategy proposes no additional investment in the network, and even suggests running buses in parallel with trains to meet this increased demand (WRC, 1999: 37).

Most European and Canadian cities abandoned 'balanced transport' in the 1970s (Mees, 2000) in favour of a policy of preference

for walking, cycling and public transport. In Auckland, the recent move towards 'balance' in current transport plans suggests a radical break with the past. But for Wellington, however, even 'balance' appears too radical: the sub-title of the Wellington RLTS is "Realistic Choice", but the kind of realism that the plan espouses is the acceptance that transport policy will remain auto-dominated.

Reviving the 1963 motorway plan: realistic transport 'choice' in Wellington

The recent struggle over the 1960s motorway plan brings institutional preference for road-based solutions into sharp relief. Since the late 1980s, the Wellington City Council and Transit New Zealand have been working to complete the original 1963 motorway plan. This process began with a 'Phase 1' re-arrangement of the street traffic flow through the southern CBD precinct of Te Aro in the late 1980s. By 1992, Transit and the WCC had begun to reconsider completing the motorway, within a three metre deep trench known as 'Tunnel Link', from the Terrace Tunnel to the Victoria Tunnel (Figure 2)

During the 1990s, Transit and the City Council were forced to reduce the magnitude of their revived motorway plans, as the projected cost of around \$100 million in 1990 (Independent Review Panel, 1991) produced a negative benefit/cost calculation for the Tunnel Link scheme. So Transit proposed a surface 'bypass' as an interim alternative to the full trenched motorway option, which remained the preferred long-term plan (Transit New Zealand, 2001)

The proposed motorway extension has become the subject of significant controversy in Wellington, with an urban activist group called 'Campaign for a Better City' (CBC) having opposed the motorway extension since the late 1980s. CBC's anti-bypass actions have not prevented Transit from continuing with the motorway plan: evictions from properties along the route commenced in 2002. CBC is currently opposing Transit's bypass plans in the Environment Court on the grounds that they will destroy the heritage value of the Te Aro precinct.

Transit's preparations for the motorway extension have continued, despite not having received funding approval for the project from Transfund. While the CBC activists remain optimistic that Transfund's calculations will yet produce an assessment in which the costs of the bypass outweigh the benefits, the following comments about the project from Transfund CEO Martin Gummer suggested that the conventional limited criteria will be used:

We have to look at it on its merits. We can't take into account heritage and community issues. We look at what the transport benefits are for road users. (cited in *Dominion*, 26/5/2001: 31)

While at the time of writing, the funding decision for the Wellington motorway extension has yet to officially be made, Mr Gummer's comments indicate that again the needs of 'road users' will be the overriding consideration in the project evaluation process. It seems anomalous that

sustainability does not appear in the Transfund's discourse, given the impact of the agency's funding decisions on this key implication of transport policy. This anomaly appears to be an outcome of the focus on roads which underscores Transfund's organisational purpose.

A critical sustainability issue is that the motorway extension will slice through one of the most rapidly reurbanising sections of the inner city, and is thus likely to work against the emerging trend towards increased walking (Morrison and McMurray, 1999). In addition, by enhancing the attractiveness of car commuting – the question of 'induced traffic' remains pertinent here – the motorway has the potential to thwart the recent rise in rail travel. But as with the Regional Land Transport Strategy, there has been no place in the process of planning the motorway in which sustainability issues and options could be considered or evaluated openly and transparently.

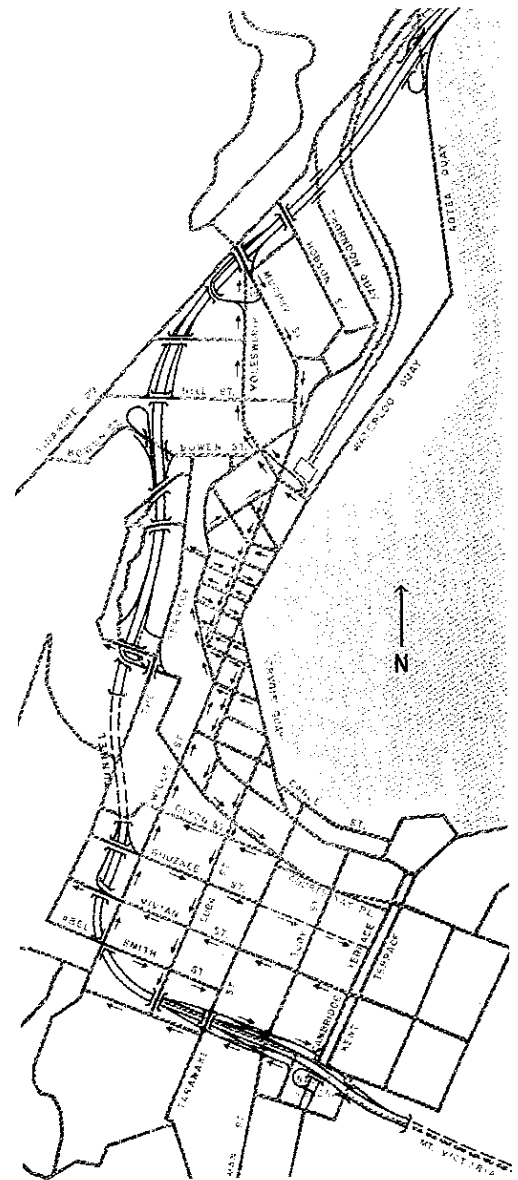


Figure 2: 1963 plan for Wellington Urban Motorway (De Leuw Cather, 1963)

Note: Poor quality in original plan

Conclusion and postscript

The World Bank and other commentators (e.g. Gwilliam and Shalizi, 1999), have applauded the quasi-commercial institutional arrangements for transport planning, the apparently independent relationship between the financing and construction of roads, and the distancing of transport planning from overtly political processes, that characterise the New Zealand model. But as the Wellington case demonstrates, these arrangements result in significant deficits: sustainability falls by the wayside, genuine public and political discussion of transport planning is submerged beneath opaque technical assessments, and road-focussed concerns dominate above all others. While New Zealand's transport planning arrangements seek to protect road transport from the predations of other portfolios or sectoral rent seekers (Gwilliam and Shalizi, 1999), they in fact constitute road transport as an institutionally protected rent-seeker, with alternative modes relegated to the status of secondary adjuncts. The Wellington RLTS has demonstrated this bias at the conceptual level, and the 'on the ground' practical effects can be observed in Transit's current motorway plans.

In February, 2002, the national (Labour/United) coalition government, at the insistence of the Green Party, announced changes to Transfund's procedures, and the intended preparation of a 'New Zealand Land Transport Strategy' which Transfund will be required to "consider" in making its disbursements (Gosche, 2002). In light of the above discussion, we are sceptical about the likelihood of these measures producing significant change to a deeply-embedded policy bias, without re-assessment of the institutional arrangements and relationships across the whole government-led urban transport sector.

Specific aspects of the current transport framework deserve closer scrutiny. First, there would appear to be grounds for revisiting the conceptual basis for the funding arrangements for transport in New Zealand, beginning with the National Rooding Account. Why do roads, or even transport generally, merit a dedicated funding stream, but other government portfolios such as health, education, policing or social welfare do not?

Second, there has historically been an uneven treatment of transport modes at the national level. Even under the 2002 reforms, public transport is situated as an adjunct to roads planning, and lacks a strong institutional supporter within central government (and walking and cycling have little support). The current regional arrangements perpetuate a fragmented and dissipated institutional and political capacity for promoting public transport. Some consideration of the benefits of a national public transport research, advocacy and funding agency would appear to be merited. An alternative might be strong unitary public transport agencies at the regional level, empowered with advocacy, planning, ownership and operational capacities.

Third, Transfund warrants much greater scrutiny and evaluation in terms of the environmental consequences of its NRA disbursement regime beyond the limited financial accounting criteria upon which it currently operates. Likewise, the justification for retaining the national roads agency Transit also merits further evaluation. The Western Australian government abolished its equivalent of Transit in 2001, with little political opposition, and major gains for sustainable transport policy (Richardson, 2001).

Fourth, there appears to be a disjuncture between the legislative requirements, the policy rhetoric and the institutional practices of agencies with responsibilities for regulating sustainable transport practices in New Zealand. The relevant transport planning documents appear not to demonstrate transparently the criteria upon which policy choices are 'balanced'. This is particularly problematic at the regional scale, given that regional councils have economic, environmental and social sustainability goals to achieve and 'balance'. The public needs to be able to ascertain how, in any given strategy or plan, a rigorous sustainability test has been satisfied in governments' decisions on transport policy.

As one of the major determinants of urban sustainability, transport planning has a major role to play in ensuring that government activity contributes to the achievement of such goals rather than frustrating them. The case of Wellington's regional transport planning suggests that the 'New Zealand model' will require substantial reform before transport planning can merit the 'clean and green' tag.

Note

¹ We are not arguing in this paper for or against the merits of this particular proposal for upgrading public transport. As Mees (2000) notes, many other factors must be considered before particular public transport infrastructure investments can be considered warranted.

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