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REMIT

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Travel Time Savings or The Way We Fund Transportation Projects

Introduction

The Canterbury Regional Council currently develops a Regional Land Transport Strategy. One of the draft objective is to minimise travel times. I challenged this objective, quoting international research that suggests constant travel time budgets, and sparked an interesting debate. The issue also has funding implications and I therefore extend the debate into the forum of the Traffic Management Workshop.

Hypothesis – A Constant Travel Time Budget

The majority of benefits for roading projects stem from travel time savings. The reduction in delays is usually the main contributor that helps to reach or exceed the required cut-off value for benefit cost calculations to achieve Transfund subsidy. For the analysis, an isolated intersection or an immediate network are to be modelled. The micro level is to be looked at. There is no doubt that measures improving the capacity at these isolated intersections or corridors will reduce the travel times locally.

However, international research suggests that we seem to have a constant travel time budget, meaning that the time available for travel does not change over time. [1] If this hypothesis is right, then capacity increasing measures induce new traffic or lead to journeys over longer distances. Hence, on the macro level, the travel time benefits do not (necessarily) exist. Effects of increased capacity have been described as shifts in modal split (from slower modes like public transport to car traffic), urban sprawl as ‘faster’ roads encourage living in the countryside, or commuting time savings compensated by increased recreational traffic [2].

The opposite effect to induced traffic is often described in articles in the British magazine Surveyor: road closures are having the effect of removing traffic rather than just redistributing it. I am not suggesting the closing of roads, but show this example as it may help to understand the hypothesis.

This has major implications on the way we fund transportation projects. If the hypothesis of a constant travel time budget is correct, then the way we compute our benefits is flawed. By looking at the micro level only, we do not realise that the so-called benefits may not necessarily exist.

There is no doubt that removing barriers in the roading network can have very positive effects. For example, the completion of the Otira viaduct and subsequent improvements on SH73 will be very positive for the Westcoast of the South Island. However, it is a concerning development that in order to avoid ever increasing noise and air pollution from traffic (which of course is only one of many reasons), more and more city dwellers opt for living in a rural environment, only to then commute back into the city and compound the problem.

Alternative Funding Philosophies

If travel cost savings would become less dominant in future funding procedures, by default more emphasis would be put on crash rate reducing measures. This would go a long way towards the '*National Road Safety Strategy*'.

Overall, current funding procedures focus too much on isolated projects, but neglect the holistic overview. I believe a portion of funding for a region should be linked to performance indicators. These funds could be used by the road controlling authority at their own leisure, but the amount available to them is linked to measurable outcomes. For example, one performance indicator could be the change in the overall crash rate in a road controlling authority's area. If the crash rate reduction falls below national average, the slush funding will be cut, and vice versa. This would mean a serious incentive of keeping the bigger picture in mind, rather than focussing on isolated projects.

Recent California research suggests that clustering new developments along strong public transport corridors can in little more than a decade shift land use patterns so that a person mile by public transport can displace 4-8 person-miles by car [3]. I have difficulties to imagine how the Project Evaluation Manual could be helpful in funding such an incentive in New Zealand.

With roading reforms waiting to happen, a commercialisation of road controlling authorities could be on the agenda, depending of the outcome of the next elections. Experience tells us that these private sector companies would then be rewarded for a bigger volume of service. I question whether this is the right philosophy, as just increasing the volume of service may come with all sorts of associated problems (like induced traffic, possibly increasing the absolute number of crashes, increased noise and air pollution, urban sprawl, community severance, changes in modal split away from more sustainable (or to be more precise less unsustainable) modes to the private motor vehicle, changes to more goods transport replacing local production with associated job losses to name a few). To me it seems the better approach to reward these companies for minimising users' total social costs.

Closing Remarks

More questions are asked in this remit than answers given. The author sees some deficiencies in the underlying transport funding philosophies. The objective of this remit is to initiate debate within the profession. If the majority is happy with the current direction, so be it. But perhaps we can do better.

[1] Dr. Molt, W. (1998) 'Induzierter Verkehr – Kostenbudget und Zeitbudget' (<Induced Traffic – Constraints in Regard to Cost and Time Factors>) In: *Internationales Verkehrswesen (<International Transportation>)*. Deutscher Verkehrs Verlag, Hamburg, Germany. Edition 11/98, page 528ff.

[2] Becker, U. (1998) 'Verkehrsökologie: Wozu führt denn das?' (<Transportation Ecology – Where is this leading to?>) In: *Internationales Verkehrswesen (<International Transportation>)*. Deutscher Verkehrs Verlag, Hamburg, Germany. Edition 4/98, page 139ff.

[3] Weizsäcker et al. (1998) *Factor Four: Doubling Wealth, Halving Resource Use*. Earthscan Publications Ltd, London. Page 186.