

If you thought using a toll road was costly, try building one

Michael West

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Melbourne's giant East West Link road project is shaping up to cost \$1 billion a kilometre and Sydney's WestConnex \$473 million a kilometre.

Brisbane's Airport Link cost \$747 million a kilometre and Sydney's Cross City Tunnel was constructed at a capital cost per kilometre at \$476 million.

These and other road project figures have been prepared for Fairfax Media by actuary Ian Bell. An excellent interactive graphic below shows the capital costs of Australia's major road projects.

Direct comparisons are fraught as some projects are still in the planning stage, others were completed some time ago and the more costly projects have high tunnelling costs. Melbourne's CityLink for instance had a capital cost of \$100 million a kilometre (10 per cent of East West estimates) and Sydney's Westlink M7 had a capital cost of \$58 million.

Nevertheless the estimates are instructive in that they tell taxpayers and motorists what they are up for – something their elected leaders are not telling them.

The governments of Victoria and NSW have left the planning and prospective funding of their biggest projects, East West Link and WestConnex, shrouded in secrecy.

The lack of co-ordinated, long-term planning of major transport projects across the nation is even more concerning. There has been little effort even to properly evaluate whether rail networks – arguably more effective than roads and a fraction of the cost – would be a superior option to big-ticket spending on roads.

The key thing to observe from Bell's analysis is the significant jump in capital cost for roads once tunnelling is involved. The Hunter Expressway to Newcastle for instance, a superb piece of new dual carriageway, shows a cost per kilometre of just \$42.5 million. At the other extreme is Brisbane's CLEM7 motorway under the Brisbane River; it was 10 times more costly per kilometre.

If the upper band of estimated costs for Melbourne's East West Link applies, the cost per kilometre more than doubles again.

Due to the various time frames and project types the values are not directly comparable, nor could they be in strictly comparable in 2014 dollar value terms, without inflating the costs of some and deflating the costs of others.

So, if that is the case with most of the large new projects, why would governments expect past methods of public-private partnership financing and toll-setting to work? No other utility in Australia expects a utility provider to lock in for fixed pricing formulae over periods of 30 years or more. It is no wonder some large superannuation fund investors are now baulking at such massive greenfields projects.

Looking at one example, Bell did some simple illustrative numbers on Sydney's Westlink M7 versus the proposal for WestConnex. Taking the M7's original cost, including finance during construction, up to its start in 2006, he inflated that broadly to 2014 terms. Then he took Macquarie Bank's leaked numbers for WestConnex (the state has not released anything), and deflated roughly back to 2014 terms. He did this while simultaneously adjusting for lane numbers and known lane lengths. Effectively this compared the two in simple terms on the basis of costs per lane kilometre.

The ratio he then found was that WestConnex was about 2½ to three times more costly than the M7. This implies, importantly (and all other things being equal), that toll rates should be 2½ to three times as high, unless there are going to be heavy subsidies into WestConnex by the government.

It needs to be asked how this could all work in practice, but as State Parliament has put restrictions on the information flow for WestConnex's business case, the public cannot even judge what will happen to their taxpaying dollars, or to their motoring budgets.

Without proper release of data from Roads and Maritime Services, Transport for NSW and Treasury, it is impossible to be sure just how many hundreds of millions of dollars of funding or revenue shortfall might arise for this, the largest infrastructure project in the state's pipeline. Will it be a repeat of the Queensland experience of the failed BrisConnections project – soon to be before the courts?

This project, after all, is more than twice the size (and the risk will lie with the governments, not with stock exchange investors).

The accompanying graphic which shows comparative costs of road projects bears some explanation.

Some projects such as Westlink M7 (opened January 2006) were completed years ago. Others (such as parts of the Pacific Highway upgrade and the Hunter Expressway) are recently completed.

Others such as Sydney West Airport road upgrades and Stage 1A of West Connex (due 2017) are to be finished in a few years and a few will not be complete for some years (West Connex Stage 3 in 2023, East West Link, timing not available).

Due to the various timeframes and project types, the values are not directly comparable, nor could they be strictly comparable in 2014 dollar value terms without inflating the costs of some and deflating the costs of others.

The figures should therefore not be used to over-state the multiple for the cost of the new tunneled projects versus the costs for roads built on the surface on relatively flat land, in Western Sydney for instance, even though that multiple is high.

Another factor is that the newer projects listed, starting with Brisbane's Airport Link Motorway, have additional lanes and in the case of Sydney's West Connex, the lane design, and interchanges and so forth, are still apparently being designed, so the figures involve some guesswork. Same deal for those of the East West Link in Melbourne, whose base case model remains a secret.

However, even with a simple (road engineers might call it crude) method of relating the costs back to those for 2x2 lane dual carriageways, the message is still clear – where tunneling is involved the cost factors are blown out by many times those above ground.

To take one example, actuary Ian Bell did some simple illustrative numbers on Sydney's Westlink M7 vis-a-vis the proposal for West Connex. Taking the M7's original cost, including finance during construction, up to its start in 2006, Bell inflated the cost broadly to 2014 terms.

He then took Macquarie Bank's leaked numbers for West Connex, deflated roughly back to 2014 terms while at the same time adjusting for lane numbers and known lane lengths. That effectively compared the two in simple terms on the basis of costs per lane per kilometre.

That is how Bell came up with the ratio that West Connex was around 2.5 times to 3 times more costly than the M7.

It is also worth noting that even this multiple of 2.5 to 3 times understates the sheer cost of tunneling. On Ian Bell's reckonings the 33kms at seven lanes wide on average (giving 231 total lane kilometres) hides the fact that only 134 kilometres are new lane distances. The Government is contributing free to the project some 97kms of lane length from a combination of the existing M4 between Parramatta and Concord and the existing M5 East from King Georges Road to Mascot. Locking up an existing asset such as this with zero return on capital is quite the reverse philosophy of the thrust from new premier Mike Baird on privatization and capital recycling.

Perhaps this was why Mike Baird's predecessor Barry O'Farrell was happy to retire on a bottle of Penfolds Grange, because the former premier of NSW had committed the West Connex to have the same toll cap as the M7.

It bears inquiring how that could possibly be the case if it would cost so much more. Further, Bell deduced the theoretical toll caps for the West Connex at roughly double or more the M7 figure (plus or minus a bit to cover for the lack of data from NSW Roads and Maritime Services (RMS)). The M7 is now tolled at \$7.56 for any trip over 20 kilometres. For residents of far Western Sydney that doubles.

Further, the NSW government has just agreed to allow roads operator Transurban to lift the tolls for heavy vehicles on the upcoming North Connex and its connecting motorways to a multiple of three times that of cars. If it uses such a multiple for West Connex, then the trip tolls for trucks from Parramatta to the Airport or the port will be in the range of \$40 or \$50.

This is higher than Australia has ever experienced before and even higher than the experience of Canada for its Toronto 407 ETR – which reaches a high of about 90c per kilometre for the heaviest vehicles in the peak periods.

How this might all work in practice is still up in the air. As parliament has put restrictions on the information flow for West Connex's business case, the public cannot tell what might happen to their taxpaying dollars, or their motoring budgets.

In the big picture it is worth contemplating why the expansion of rail networks has taken a back seat in transport planning.

In theory, some transport analysts say heavy rail is four times as cost effective as roads when it comes to capital spending.

[Last Saturday we explored in broad terms the reasons for the failure of transport policy](#) in properly considering rail, or at least in squaring it with road spending in the long-term policy outlook.

In simple terms there appears to be a culture of priority for road options fostered by the political classes which may stem from the advice presented to government. In short, the fees to be gained by bankers and other advisers are bigger in road than in rail.

Whatever the case, there is an unacceptable secrecy in government planning - which takes the public out of the debate – and is surely to the detriment of the country when it comes to long term public policy planning.

This is evident too in the failure of successive governments to preserve urban corridors, something which had led to the present, egregious billion dollar blow-outs in project costs.

This story was found at: <http://www.theage.com.au/business/if-you-thought-using-a-toll-road-was-costly-try-building-one-20140810-102i5o.html>