MYTH: WE CAN'T HAVE DONCASTER TRAINS BECAUSE THERE'S NO ROOM

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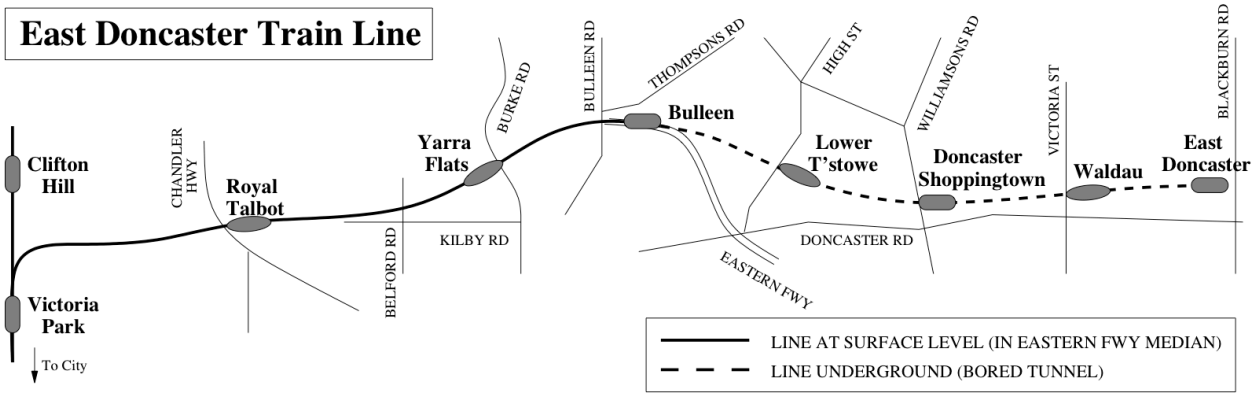
Fact: The tracks from Clifton Hill into the city operate separately from the rest of the network and by Melbourne operating standards can handle 24 trains an hour. This provides room for Doncaster trains every 10 minutes as well as an expansion of services to Hurstbridge and South Morang.

A train line heading north east to Doncaster and beyond was part of the 1969 Melbourne Transportation Plan. In the 1970s a corridor for it was reserved in the median of the Eastern Freeway, and remains in place as far as Bulleen. Originally this reserved corridor extended beyond the freeway and as far as Templestowe, but since the eastern section was sold off in the 1980s, any extension beyond Bulleen would most likely need to be in a tunnel.

A Doncaster rail line built today would almost certainly not follow the original Templestowe route (which fails to serve any of the activity centres in the region) but would instead deviate south to the Westfield shopping centre, with options for further extensions to Doncaster East and perhaps Ringwood. The graphic below reflects PTUA's own proposal which has been adopted as our policy for over 20 years.



Ever since Professor Bill Russell produced a feasibility study for the Doncaster line in 1991, it has been recognised that there are no substantive geotechnical obstacles to the line's construction. Nor are there any particularly severe financial obstacles: we can now draw on the experience with the Eastlink tunnels in the same area to estimate the likely cost of tunnelling under Doncaster, and on Perth's experience with contemporary rail construction in general. The likely cost– if managed properly– is on par with the $1.5 billion final cost of the Myki ticketing system, and far less than the $8 billion-odd cost estimate for either half of the East West road link, or for the Melbourne Metro rail tunnel.

Our transport bureaucracy nonetheless remains opposed to any serious expansion of the train network to serve areas not already served by rail. The excuse now given for not building a Doncaster rail line is that the tracks from Clifton Hill to the CBD aren't sufficient to carry trains from Doncaster in addition to the peak hour services that will be required on the South Morang and Hurstbridge lines.

Between 2010 and 2012, the lines in the 'Clifton Hill' group were among the most overcrowded on the system in peak hour. And it's little wonder: in the 1960s there were 5 Epping line trains and 9 Hurstbridge line trains in the busiest hour of the morning peak, and until April 2012 there were *still* 5 Epping line trains and just 8 Hurstbridge line trains in the same hour– despite patronage being at least 20% higher than in the 1960s.

But the problem is not a shortage of tracks, merely a shortage of trains to run on them: itself a legacy of planning failures in the early years of privatisation, when surplus trains were sold for scrap rather than refurbished to cater for forecast patronage growth.

Melbourne rail planners often argue they can't fit more trains on the rail system because of all the 'flat junctions' where trains on one line must cross over the tracks of another line. But on the Clifton Hill group this is a non-starter: because the loop track for this group runs clockwise all day on weekdays, trains on this group of lines can run in and out of the city without crossing any other tracks, even those of the same line in the other direction. In technical terms, it is one example of a fully 'sectorised' line in Melbourne (at least until one gets to the junction at Clifton Hill, but Doncaster trains will have already branched off by then; a 'flying junction' could be built at Victoria Park to avoid questions of capacity impact here).

The main technical consideration determining how many trains can run on a given line in Melbourne, however, is the 'fixed block signalling' used to prevent two trains occupying the same piece of track at the same time. The time required between two consecutive trains depends on how closely spaced the signalling blocks are. The closer the spacing, the less time required to 'clear' a block and the more trains can pass in a given time.

Not long ago there was available on the website of private operator Metro Trains a diagram (since removed) showing the signalling 'design headway' in minutes at

every point in the system. It showed that the track as far as Clifton Hill is signalled for trains every two minutes, the highest standard anywhere in the network and the same as the City Loop itself.

The Melbourne rail planners' rule of thumb, also common elsewhere, is that the 'practical capacity' of a rail line (after allowing for random service delays, dwell times and the mix of stopping patterns) is 80 per cent of the 'theoretical capacity' based on the signalling headway. For the track as far as Clifton Hill, the theoretical capacity of 30 trains per hour translates to a practical capacity of 24 trains per hour. This capacity already suffices to run, in morning peak hour:

10 trains from the Hurstbridge line (9 currently);
8 trains from the Epping / South Morang line (7 currently); and
6 trains (one every 10 minutes) from a future Doncaster line.

This provides for a modest increase to peak service on all lines in this group plus an 'every 10 minutes' service for Doncaster.

Another objection often raised to providing a rail service to Doncaster via the Eastern Freeway reservation is that there are few adjacent land uses between Victoria Park and Bulleen to attract passengers. (This is not a problem further out, especially if the line follows the Russell Report's proposed route via Lower Templestowe and Westfield.) But this is a problem that cities such as Perth and Toronto have long solved, by running high-quality feeder bus services between rail stations and suburban catchments. Curiously, some of the very same people who argue the slow and overcrowded DART buses are all that's needed for the people of Manningham, also assume that buses can't be made to work as suburban feeders to railway stations!

This leaves the problem that the plan doesn't allow for much in the way of future expansion of peak services. But there are more cost-effective ways to boost capacity in this corridor than building an underground tunnel all the way from North Fitzroy to the city for South Morang trains, as Public Transport Victoria now suggests (and which isn't likely to eventuate for at least another two decades anyway).

The PTUA's preferred option is to upgrade to high-capacity signalling between the city and Clifton Hill. Such a system bought off the shelf from one of the many established suppliers (unlike Myki!) would boost capacity from 24 up to 30 or even 33 trains per hour, which is what these systems currently achieve in London. This provides, as a minimum, a 25% boost to peak services on all three lines,

including trains every 8 minutes to Doncaster.

We should also remember that as a general rule, growth in peak hour rail patronage since 2005 means the 'market' for CBD commuter travel in existing public transport corridors is close to being 'saturated', in the sense that almost everyone who might want to catch a train to the city centre in peak hour is already doing so. Aside from those remaining areas like Doncaster that lack rail services, the bulk of trips that warrant shifting to public transport are outside peak hour, or to suburban destinations. This can be seen in more recent peak-hour patronage figures, which are no longer growing at the rate seen between 2005 and 2010. We would accordingly see an upgrade to high-capacity signalling as the appropriate capacity-boosting measure in the medium term, sufficient to allow the Doncaster line to proceed. More underground tunnels remain as a future option for the post-2030 timeframe.

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