

**Submission
No 76**

**ACCESS TO TRANSPORT FOR SENIORS AND
DISADVANTAGED PEOPLE IN RURAL AND
REGIONAL NSW**

Organisation:

Name: Mr Philip Laird

Position:

Date Received: 25 July 2016

**Submission to the Legislative Assembly of New South Wales Committee
on Community Services Inquiry into access to transport for seniors and
disadvantaged people in rural and regional NSW**

from Philip Laird, University of Wollongong, July 2016

The submission shall offer general comments on rail services to rural and regional NSW and shall draw on research conducted at the University of Wollongong. However, the submission does not necessarily reflect the views the University. It shall specifically mention Newcastle and Wollongong, as these are considered to be part of regional NSW.

1. Many seniors and disadvantaged people in rural and regional NSW rely on public transport, and many such people value rail services when and where they are provided. This is particularly the case for longer journeys. In addition, when seniors and disadvantaged people travel on roads, they do so with more safety and peace of mind when there are not large numbers of heavy trucks, and so have an interest in more freight on rail.

In some areas, including Newcastle and Wollongong, the frequency of train services has been improved over the past ten years. However, the transit times for many trains serving these two cities has lengthened over the past ten years. It appears that train services to the Southern Highlands have not improved over the past ten years.

2. The big question is whether the current fleet of XPT trains will be replaced. Also of interest is the question of replacement of both the electric interurban trains and the Explorer fleet. From the 2016 updates of some NSW regional transport plans (eg 2014-15 Illawarra update, the stated aim is to procure "... the supply and maintenance of approximately 520 brand new carriages configured specifically for the NSW rail network and offering longer-distance train customers improved comfort and reliability."

Older regional transport plans such as the 2013 Mid North Coast note, inter alia "Fleet replacement to help boost flexibility in the design of services and offer greater passenger comfort. This will be managed in line with a NSW TrainLink Fleet and Maintenance Strategy that will program future rolling-stock investment. "

However, the 2014-15 Mid North Coast and the New England regional transport plans update do not mention fleet replacement. Perhaps the Committee may seek to clarify this with Tf NSW.

3. Work progresses well on the \$8.3 billion North West Metro and work has started on the \$2.2 billion CBD Southern East Light (both due by 2019) along with North Connex (\$3 billion). Planning continues for multistage West Connex and the cost of this motorway has ballooned to \$16.8 billion.

Planning is underway for a second Sydney airport and a CBD Metro. Major work continues on the Pacific Highway (now averaging up to \$50 million per km so with another 260 km to go; \$13 billion). Other road works proceed

Some progress has been made in resleepering some wheat lines in NSW including to Boree Creek. However, there seems to be little appetite, at least visible to the public, by the NSW Government to speed up trains between Sydney and regional centres which is understood to be the subject of at least one "unsolicited proposal" from the private sector.

It is sobering to think that twelve years have passed since 2004 when with the help of the NSW Local Government and Shires Association, Prof Ian Gray of Charles Sturt University, published the report "*A future for regional passenger trains in New South Wales.*"

The report raised a number of basic improvements that could be made to improve regional trains.

In 2004, the Queensland new electric and diesel tilt trains were in operation at speeds of up to 160 km/h.

Victoria's Regional Fast Rail was nearing completion, with track upgrades and new rolling stock to offer trains traveling at 160 km/h. Currently, the fastest trains to Ballarat and Bendigo average about 100 km/h.

Also in 2004, new Prospector diesel rail cars (made in Broadmeadow by Goninan's) were being introduced in Western Australia that were capable of 200 km/h. These trains also move at up to 160 km/h, allowing for Perth Kalgoorlie train services (653 km) at 6 h 45 m, an average speed of 96 km/h.

NSW regional cities clearly need a much better rail deal than they are getting at the moment. This includes track upgrades with some track straightening that has been delivered in QLD, VIC and WA in recent decades. There are now needed on both NSW Government track, and ARTC leased track in NSW.

4 Newcastle and Wollongong

"As Newcastle and Wollongong grow in size and importance to the NSW economy, they need faster and more efficient links to Sydney" (the 2012 State Infrastructure Strategy of NSW Infrastructure). This 2012 report "assesses how faster rail journeys from the Illawarra and Central Coast to Sydney would help enable this integration and support these regions." This 2012 report, on page 107, also notes

"An incremental program to accelerate the intercity routes is proposed, with a target of one hour journey times to Sydney from both Gosford and Wollongong, and a two hour journey time from Newcastle. The focus of the program will be operational improvements supported by targeted capital works to reduce journey times."

Faster trains between Sydney and Newcastle, and to Wollongong were promised in 1998 in the official NSW *Action for Transport* Statement.

4.1 Newcastle

The worst aligned sections of track linking Hornsby and Newcastle are now overdue for realignment.

One simple strategy would be to revert to an upgrade the alignment in place in the late 19th century. As part of a policy of a ruling grade of 1 in 75 for up trains, a number of deviations were built in the early 20th century. The benefits of track upgrades at these locations was recently considered in a May 2016 Conference on Rail Excellence paper given at Melbourne which can be supplied on request by Michell and Laird *Thinking outside the fence line - Sydney to Brisbane*, the early 19th century deviations at five locations to give easier grades added an extra 2.85 km of track length and many tight curves, and, northbound the passenger run times are now around 4.5 minutes longer than they would have been over the shorter 1889 alignment. However, replacement of the railway on the old alignment along with curve and grade improvements, would give even more benefits.

As also noted in this paper re Sydney – Broadmeadow trains "A package of realignment, track geometry improvements, turnout replacement, signaling improvements to allow higher track speeds at critical locations and train pathing would provide the where-with-all for passenger times of two hours to be consistently achieved..."

Some compensation by way of faster trains could well be given to the people of Newcastle for losing their direct rail connection to down town Newcastle in December 2014 when the line was terminated at Hamilton.

4.2 Wollongong

The length of the existing Wollongong - Central track is about 83km, and was the result of two deviations; "Helensburgh" (completed 1915), and Stanwell Park (completed 1920). The deviations were built with easy ruling grades to replace steep 1 in 40 ruling gradients. However, the cost included an additional 5km of distance, and many tight curves.

From Thirroul to Central, the distance is about 70km. The fastest trains take about 10 minutes from Wollongong to Thirroul and 78 minutes from Thirroul to Central. The aim would be to reduce this transit time from Thirroul to Central to 49 minutes which is the current time for 72km Perth to Mandurah train service introduced in 2007 where the trains average about 85 km/h.

To achieve 48 minutes from Thirroul to Central would require more than one investment (ie there is no single solution). Options include:

A. Deviations at Stanwell Park (1920s viaduct) and Helensburgh to shorten the distance and reduce curvature; or, a new Waterfall-Thirroul route as promised in the 1998 NSW Government Action for Transport Statement to reduce train transit times by 15 minutes.

B. Capacity augmentation between Hurstville and Mortdale (or even Sutherland) from double to triple track.

C. New purpose built electric trains for operation at 160km/h or even 130 km/h (as per interurban trains in Qld, Vic and WA) with power to ascend steeper grades without undue loss of speed.

D. Higher speed turnouts at locations such as Waterfall (so that through running trains at this station can bypass an occupied station at a higher speed).

E. Last, but not least, fewer freight trains. This would require completion of the Maldon Dombarton rail link.

At the Permanent Way Institution (NSW) Annual convention on 30 October 2015, in response to a question about Maldon Dombarton, the Chief Executive of Sydney Trains, Mr Howard Collins said that although Maldon Dombarton was stopped at a time when the benefit/cost ratio was not high, from his point of view, the sooner the Maldon Dombarton railway line is built "WITH FREIGHT TRAINS GRACEFULLY GLIDING OVER IT", the better.

5. Blue Mountains and to Parkes

The Bathurst Bullet has been appreciated by users. There are two issues: for the daily 'Bathurst Bullet' train service departing from, and returning to Orange; and, realignment of western rail track as per ABC News item Tue 18 Nov 2014, so as " ... to get sections of the rail track between Blayney and Lithgow straightened to speed up the trip to Sydney."

6. Casino to Murwillambah and the Cowra lines

The railway line from Casino to Murwillambah has an uncertain fate. It could usefully be re-opened to Byron Bay, at the very least to Lismore, which is a University City and would be a better place for coaches connecting to the Gold Coast/Tweed Heads than Casino.

The Cowra lines from Demondrille (near Harden) with one to Blayney were closed in 2009. Their reopening, even in part, would be of assistance in getting fewer "loads on roads". Here, it is of note that in terms of externalities, including rail and road accidents, air pollution, noise and greenhouse gas emissions, road freight costs were calculated (see IPARTs 2012 report *Review of Access Pricing for the NSW Grain Line Network*) to be more than 6 times greater than rail in urban areas and 10 times greater in rural areas.

7. Main South line serving Goulburn, Yass, Junee, Wagga Wagga and Albury

Like the lines from Sydney to Newcastle and Wollongong, the Main South line between Sydney and Yass had deviations in the early 20th century to assist steam train operations that added length and many more tight radius curves. Such track alignment whilst suited to steam trains now slow down the more powerful diesel trains. The extra length between Picton and Goulburn was 16.5 km, and the extra length between Goulburn and Yass was 8.5 km.

Computer simulation has shown that for freight trains (with similar results for XPTs) the 19th Century alignment between Goulburn and Yass would have been 12 per cent quicker and about 12 per cent more energy efficient than the present alignment than the 1910's track that replaced the older alignment: also, if the present track was to be replaced by a new alignment built to modern standards, savings of about 25 per cent in both transit time and fuel use would result.

In the early 1990s, Bill Wentworth (former MHR who in the 1950s successfully advocated mainline gauge standardization) urged consideration of a new route between Marulan and Mittagong to run near the Hume Highway (modern section opened c1980). This would reduce the route length and save trains an average (in both directions) of 20 minutes.

These options, like those of High Speed Rail between Sydney Canberra and Melbourne, have been often investigated by the authorities. The studies include those by the Australian Rail Track Corporation (ARTC) in its 2001 Track Audit. However, since taking up in 2004 the NSW long term lease of the Main South line and other track, the ARTC has shown little inclination to construct deviations (although some NSW North Coast curve easing was later done).

The NSW Government via TfNSW should be prepared to proactively engage with the ARTC to see an upgrade of the Main South track and other mainline track in NSW.

8. North Coast line from Maitland to Casino and onto Brisbane

The line from Maitland to Casino is basically branch lines strung together and has excessive curvature imposing severe speed restrictions on train operation. It also has undue excess length of about 90km. It was also noted as "*...an infrastructure nightmare*" in a 2007 Parliamentary (Neville) Committee report [House of Representatives Standing Committee on Transport (etc) (2007) The Great Freight Task: Is Australia's transport network up to the challenge?] where during Toll told the Neville inquiry that the line was "*... a bit of a goat track. It winds its way slowly towards Brisbane and sometimes goes around in circles to get to Brisbane...*"

Indeed, a train moving between Sydney and Brisbane turns a total of about 177 circles – some 88.5 to the left and 88.5 to the right. No less than 47 per cent of the Maitland – Grafton track has curvature of radius less than 800 metres. The corresponding percentage for the Melbourne – Perth "East – West" rail corridor is 3 per cent.

To quote from the above cited paper of Michell and Laird,

In respect of rail deviations, the 2004 Auslink White Paper [18] refers to "*...building deviations at 14 locations, totaling 121 kilometres, to ease curves on the North Coast railway between Newcastle and Brisbane (\$158 million).*"

A special allocation of \$450m to the ARTC, with a reference to projects such as "to straighten out the track" was cited by the Treasurer in his May 2004 Federal budget speech. An ARTC report in circulation during February 2005 noted potential

rail deviations including some 8 deviations with an estimated cost of about \$900m and a total time saving of 109 minutes.

In 2005, the ARTC decided to defer deviations in order to concentrate on more pressing track and signal upgrades, and, stated that it would later undertake more detailed analysis of deviation options.

In 2008, the ARTC noted that “ *For rail to move to the next step in competitiveness, or even in fact to maintain competitiveness against a constantly improving road network, there is no alternative but to start to consider deviations of the current poorly aligned sections of the network.*”

Despite mainline rail deviations being built with good reductions in transit time and fuel use for freight operations in Western Australia (in the 1960s as part of gauge standardisation) and Queensland (during the 1980s and 1990s as part of mainline electrification and upgrades), the ARTC again deferred deviations on its North Coast line in favour of curve easing.

Further work (which can be supplied on request) shows that distances could be reduced on the following sections by about 90 km as follows

Fassifern - Hexham	10 ± km
Hexham - Stroud Road	30 km
Taree - Bonville (6 sites)	50 ± km

By way of example, the Sydney - Coffs Harbour 608 km current rail distance would be reduced to 518 km. Along with faster and heavier freight trains, as demonstrated by the upgrades on the Queensland North Coast line, there would be much faster passenger trains.

9. Opal Cards

Since 2007, Western Australia has had on offer a Seniors Card with or without public transport. If you choose with public transport, it comes with a chip/electronic facility that serves as both a Seniors Card and as a valid ticket (when sufficient funds are lodged).

Recently, the Queensland Government has offered a Smart Seniors Card that would appear to combine both a Seniors Card and a Go Card. To quote from their Smart Service Queensland website "A Seniors Go Card is the easiest way to pay for public transport in South-East Queensland. It combines the discount of a Seniors Card with the convenience of the TransLink go card into 1 card." Why not now in NSW ?

10. Conclusions

Whilst much attention is been given by the NSW government to expanding the rail network in Sydney, regional and rural NSW deserves a better deal than it is currently getting in terms of rail services. Many seniors and disadvantaged people in rely on public transport, and when and where rail services are provided, they are appreciated and particularly for the longer journeys.

Improving regional rail services, including to Newcastle and Wollongong, will need not only new rolling stock but also track upgrades. Track upgrades also assist in the operation of faster and heavier freight trains, and allow all people more safety and peace of mind when they travel on roads which do not have large numbers of heavy trucks.

Associate Professor Philip Laird, Ph D, FCILT, Comp IE Aust
Faculty of Engineering and Information Sciences
University of Wollongong NSW 2522
July 2016