# Submission to Infrastructure Australia’s national infrastructure audit.

## Introduction

Thank you for inviting submissions in response to the national infrastructure audit report published in May. The audit should be welcomed as a good start to updating national infrastructure priorities.

This submission has two purposes:

1. to suggest ways in which the audit itself could be improved;
2. to identify how improvements to the audit and other matters can provide the community with greater confidence about the efficacy of infrastructure proposals.

It is recognised that while Infrastructure Australia’s has a seven step process for assessing proposals, the audit attempts to deal with only the first two stages; goal setting and problem (symptom) identification. The comments below are limited to these two matters.

The comments assume that post audit work will deal with the other five stages: problem assessment; problem analysis; option generation; solution assessment; solution prioritisation. The comments also are largely limited to transport with a specific focus on roads.

The focus on roads is not because of any a priori view against road investment or use. Undoubtedly there will be nationally significant problems that are best addressed through road investment.

Rather it is because there are, to paraphrase Infrastructure Australia, ‘profound disconnects’ between wishes, beliefs and the reality of Australia’s roads and road policies. Information and discussion in the public domain is unduly skewed towards major road building, in general and in detail. At times advocacy substitutes for analysis. The limited debate is conducted against a background of under-reporting and non-recognition of facts that may cast doubt on the merit of increased road spending. While governments may be being advised in a more balanced and expert way, there is no public evidence of this.

Among the greatest concerns is the lack of discussion or analysis of official data that shows road spending to far exceed related revenues; in the order of $26billion in most recent five years.

The official data was released in late December 2014; the subsequent silence about the statistics and the revisions, except by Dr Michael Keating AC and Luke Fraser, should be astounding. As should the failure to track the oft cited $20billion congestion projection, the forecast traffic growth for which has so far proven orders of magnitude – five times - too high.

This poses a formidable challenge to any principles based road reform. Further government ‘investment’ would raise the hurdle even higher. Unless highly conditional, such as suggested previously by Infrastructure Australia along the lines of ‘as if road pricing’, further government funding of major road investment is incompatible with, opposed to, reform (Annex A).

In this situation, every road proposal should be tested with the utmost rigour and be fully open to public scrutiny. Infrastructure Australia is in the best position to do so. This, together with application of some of its previous suggestions, would do much to create an environment conducive to road reform. It would also help restore public confidence in road spending much more than governments setting up slick project websites or, as the Chair of the Productivity Commission put it, treating people like idiots.

Some background material to this submission is available at thejadebeagle.com.

## Possible improvements to the audit

While recognising the great merit in the audit, it is possible to improve the report. Some specific points in which the audit and report could be improved (in no particular order) are:

* A better explanation of projected road congestion costs. Infrastructure Australia had recognised previous projections to be exaggerated. The explanation could also show the impact of the current trend of per capita traffic saturation (or decline) on projections;
* Separate consideration of at least Newcastle, Wollongong and Geelong;
* Better development of reasons for the expected increase in transport demand in the context of average rates of aggregate population growth and an aging demographic;
* Outline of the treatment of land use in modelling: whether exogenous, whether the road models include feedback loops such as generation of induced traffic;
* A more expansive explanation of direct economic contribution for example whether it includes agglomeration values, and if so, their difference between roads and railways;
* A more consistent treatment of road and rail capacity and utilisation (see Annex B), contribution of rail segments to road values, and inclusion of rail delays in analyses;
* Some discussion about the confidence in projections. Among the issues here are: whether marginality is derived from averages; statistical confidence in estimates and projections for congestion on individual roads; the stability of the ratio am peak: total traffic;
* Greater clarity about capacity augmentation assumptions for particular roads (Annex C);
* An assessment of car parking availability, since this may be a limiting determinant of traffic;
* Addition of matters previously mentioned by Infrastructure Australia, for example: proper utilisation of highways; roads to terminals; gauge standardisation; defence requirements.

More generally, the report could benefit from expanding on Infrastructure Australia’s knowledge or views such as regarding:

* The lessons from the energy sector. It is clear that too much infrastructure, and/or infrastructure of the wrong sort, has been installed in that sector. The sector had a pricing problem, not an infrastructure gap. What are the lessons for transport?
* ‘National significance’. What are the reasons for it to be limited more or less to economic or financial scale, and what are the implications for the federation?
* Whether ‘reform’ is primarily a mechanism for funding;
* The idea outlined in Infrastructure Australia’s urban transport paper of asking: what would be the situation and future needs if there were efficient road pricing (Annex B)?

## Audit to pipeline?

The history of Infrastructure Australia demonstrates that an audit should be a precondition for further inclusions on Infrastructure Australia’s existing project pipeline. It therefore is important that any audit be as comprehensive as possible, even to the extent of identifying problems that have not been considered by governments. Port supply chain planning failures are cases in point.

The intention appears to be that Infrastructure Australia receive submissions proposing resolution to the symptoms identified in the audit. Such solutions should not be limited to merely addressing symptoms, for example only road expansions to deal with congestion on particular roads.

Recent events demonstrate risks in relying wholly on information from submissions and project proponents.

One risk is that there may be no proponent for measures necessary to resolve a problem. Gauge standardisation and interoperability are cases in point. To date these have not received much positive attention from the States, indeed some State projects and proposals are currently carrying Australia in the opposite direction. While standardisation etc. should be a fundamental concern to Australia, in recent times the national government has not obviously advanced the case; its public commitment is at best lukewarm and its submissions to Infrastructure Australia have been limited.

The question of adequate Commonwealth submissions is a live issue regarding national concerns such as defence, other matters in Constitution s.51, and cross border consistency such as for e-tags. It also signals whether the Commonwealth considers Infrastructure Australia to be independent from its Government.

Another risk is that information provided by proponents is incomplete. The question here is not about ‘refinement’ of the case, but whether some (inconvenient) facts are withheld because the proponent feels this maximises the chance of Infrastructure Australia endorsement of, or Commonwealth funding for, the proposal. This was alleged to be the case for the East West link.

In the absence of appropriate consequences for such behaviour it may be necessary for Infrastructure Australia to take a more active or investigatory role prior to placing further projects on any pipeline. In my view this is a particular issue for roads as many assume a base position that they be funded or underwritten by government, with user charges only when such support is limited. Unlike other sectors, roads lack oversight by an economic regulator that protects taxpayer or user interests. These points reinforce the importance of testing whether road projects would be justified if there were road pricing.

A third risk is that a parts oriented approach, which necessarily arises from a submissions process, may not adequately assist in strategic ordering of a pipeline. Infrastructure Australia previously demonstrated the essentiality of settling major port and then land freight locations as a precondition for rational planning and investment in infrastructure for personal travel. It appears that several States are yet to develop stable port plans that are consistent with the relevant aspects of the national ports strategy, and thus may be unable to provide submissions that properly inform the national strategic context. Again, Infrastructure Australia may need to be active in this area.

The Government referred to a 15 year pipeline. In my view, any move from Infrastructure Australia’s current merit based pipeline to a time related one needs careful consideration. To lose the essence of Infrastructure Australia’s existing approach of recommending only those proposals which demonstrate national significance, economic merit and feasibility, would be a grave mistake.

## Concluding comments

A national infrastructure audit is desirable and should be undertaken by an organisation such as Infrastructure Australia; not by advocacy groups or Commonwealth or State departments.

The reaction to the audit in the press has largely been cheering that the message is a call for more infrastructure and spending. This presages a problem of expectations.

The necessary message that not all expectations should be met, even if they could be by taxpayer funding or user charging, is likely to be much less popular and more difficult to convey than that ‘received’ to date. Inclusion of infrastructure requirements for national imperatives such as defence would more forcefully make the necessary message in a way most Australians would appreciate.

This submission pointed to a number of other areas in which the audit could be strengthened by use of Infrastructure Australia’s existing work. One effect of such improvements may be to lessen the ‘shock’ that not every project or policy proposal should be accepted.

Of the suggestions, the most important is Infrastructure Australia’s prior suggestion, which I understand has been used in the United Kingdom, that all road projects should be tested against the question: would it be needed if there was road pricing? Use of this test now will avoid many problems later.

The posing of such a question would unambiguously give teeth to the by-now routine comments on road reform made by advisory organisations and lobby groups, comments which one can safely assume governments will ignore, especially once the reality of current road induced fiscal debt sinks in. In fact the test may be pivotal to road reform, since additional government funding would make the prospects of road reform even more dim than today.

That, and leading the public debate about the road induced fiscal gap, would clearly differentiate Infrastructure Australia from the cheerleaders for ‘just more infrastructure’. In so doing it would give the community much needed confidence in the efficacy of infrastructure proposals that are put on the pipeline.

Thanking you

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August 2015

Disclaimer: until retirement in 2014 the author worked in the Office of the National Infrastructure Coordinator. He has no financial interest in advising on roads policy, nor advising on project proposals to Infrastructure Australia. He intends to keep it that way.

## Annex A: Impact on road reform of further government road funding

Road reform is considered to involve introduction of direct charges for road use. In the case of heavy vehicles these charges may be set with reference to mass-distance-location in order to cover asset degradation. In the case of cars these charges may include congestion prices.

A tenet of such reform is that, at least initially, direct charges would replace current excise and registration. Indeed, to encourage popular support, direct charges might be set to initially yield less revenue than existing charges. However too large a reduction in revenue would leave road owners insufficient revenue to maintain roads.

The desirable starting point for road reform is revenue from current charges much greater than road spending. This is also needed for economic efficiency; charges should more than cover spending, they need to address some externalities and opportunity costs eg. of capital. Such a starting point allows some reduction in total revenue to gain community support for reform. From a community perspective, arithmetic demonstration of reduced revenues is much more convincing than statements of intention from road owners.

This proposition, along the lines of the Australia’s future tax system (Henry) review and the Productivity Commission’s report on public infrastructure, was popularised among policy advisers at a time when official figures showed revenue from current charges to be greater than road spending.

Official figures indicate a very different story, after major revisions in December 2014. Revenue from charges is around 75% of road spending, some $6.5billion short in the last year. To paraphrase Keynes: when facts change, so do conclusions.

‘Replacement’ of today’s current charges with direct charges would lead to a very substantial revenue shortfall. They would not be economically efficient. Efficient charges need to generate substantially higher revenue than current charges. The arithmetic of road reform now is: a large increase in charges just to maintain spending, let alone deal with backlogs or improve efficiency.

Further increases in road funding by governments, especially for major road projects, would exacerbate this situation and make community support even less likely. In this sense additional government funding of road investment is opposed to road reform. There are three reasons.

First, is the arithmetic.

Second, major road projects aim to reduce per vehicle fuel use. This reduces per vehicle excise revenue. If road improvements do not induce aggregate road demand, they will cause a loss of revenue. If road improvements do induce demand, they will offer only short term respite and can establish an expectation that more road projects are needed; the M5 is an example. The effect is a cycle in which the gap between spending and revenue widens.

Third if, as possibly suspected by Infrastructure Australia, maintenance deficits have effectively cross-subsidised major road projects reform faces more than an arithmetic challenge. To maintain good faith, reform would need to see maintenance deficits wound back. Further government funding of new major roads would make this more difficult.

Can heavy vehicles allow an escape? Not, if it is believed as many assert, that in aggregate they already pay their way. In that case, the entire revenue shortfall is attributable to undercharging of cars; direct financial spending recovery of less than 70%. Hence seeking to widen reform to all roads and vehicles at present is ill-advised.

## Annex B: a more consistent treatment of road and rail capacity

### Overview

It seems the report considers road and rail separately. In reality the modes substitute or complement depending on situation.

Among other things this implies that the focus of road reform, and the most exacting proof of project merit, should be on the relatively few geographic routes where road and rail potentially compete.

To effect this, would it be better to identify use and capacity by transport corridor rather than (just?) the traditional road or rail only analysis? For example for the ‘Pennant Hills road’ corridor, would it be more helpful to the next stage of the process, public submissions, if comments about road utilisation were augmented by noting the absence of a rail line?

### Presentation

The tables used to show road congestion could easily be supplemented as below, which also shows delays etc. as if road pricing was in place.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Corridor** | **Road / rail 2011** | **Delay cost observed** | **Delay cost if road pricing** | **Available rail capacity** |
| Parramatta-Hornsby | Pennant Hills Rd / no rail | $3.53m | **?** | nil |
| Parramatta-Sydney | Parramatta Rd, M4/ Western line | $1.51m | **?** | **X%** |

### Other

The above table assumes there is no option for rail in the Parramatta –Hornsby corridor. This may or may not be correct, however, the relevant idea, the Epping-Parramatta railway, does not seem in favour at this time.

In the audit report road volume capacity is expressed in units of cars, while rail measures are personal travel hours.

It would be possible to provide more direct comparisons for both road and rail; seats per hour, seat occupancy per hour, and personal travel hours.

It would be helpful for the audit to provide evidence of vehicle loading; car occupancy (how many people in a car); truck loading (average load in weight or volume as a percentage of maximum permissible); train loading (how many people on a train).

This would facilitate a discussion about the impact of vehicle utilisation on infrastructure ‘needs’. Included in this discussion might be design of infrastructure to encourage increased vehicle occupancy; by priority lanes to be used with cars carrying more than say two people.

The report acknowledges omission of rail delays, arguing they are relatively small. Perhaps so, but timetables (which are the rail infrastructure’s output) aim to keep delays low; by trains that are slower and less frequent than theoretically possible. The effects can be very large, not only within rail but also on road traffic for reasons outlined in previous Infrastructure Australia reports. These effects also could be included.

## Annex C: Greater clarity of future capacity augmentation of roads

### Overview

The tables used to show road congestion, at present and projected, do not directly show whether road, or rail, augmentation is mitigating congestion by reducing volume / capacity ratios.

### Presentation

The tables used to show road congestion could easily be amended such as below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Corridor** | **Road / rail 2011** | **Assumed projects that augment capacity** | **Change in road volume / capacity to 2031;**  | **Change in road volume / capacity; if road pricing** |
| Parramatta-Hornsby | Pennant Hills Rd / no rail | Northconnex / nil | 96%-94% = 2% | ? |

### Other

The above table assumes Northconnex is included in the modelling of projected traffic; this may or may not be the case. The purpose of the example table is to clarify, easily for the reader, what in fact is the case.

Making this easily clear is important for two reasons that can be seen from the above table:

1. If Northconnex is included, then proponents and the public do not need to waste time preparing or commenting on that project proposal;
2. The contribution of the project to resolving a (congestion) ‘problem’ is clearly seen. On the above assumptions (which to reiterate, may be wrong) the project has not substantially altered volume / capacity and at best is expected to be a temporary answer to congestion on this corridor.

The reason volume / capacity is used in the above example is that it most clearly illustrates the point.

There are alternative measures such as delay cost per lane km. The report tables do not clearly indicate whether these are expressed in constant 2011$ or $ of the day. Assuming the latter, costs of congestion increase faster than actual congestion i.e. the increase in congestion to 2031 is not as dramatic as first seems.

Similarly, the $53 billion figure, if accepted, would need to be substantially reduced to make it comparable to today; at ‘inflation’ of 4% pa $53billion in 2031 equates with $28billion today; a large number nonetheless.