Submission to Productivity Commission from John Cleeland

The Productivity Commission seeks novel ideas to improve productivity in transport[1].

Objectives

Infrastructure Australia's Plan aspires to place priority on productivity growth and rigorous evaluation of investment initiatives. It also aims to provide customer focussed solutions[2].
The Plan fails to achieve all three objectives for transport as herein.
The Plan will retain $9B/yr in congestion costs and $8B/yr in subsidy yet both can be avoided!

The Audit

Infrastructure Australia's Audit reported commuting by car as a major Direct Economic Contribution (DEC) and subject to serious congestion, costing $3B in 2011 and $9B in 2031[3].
Practically all Melbourne arterials would be congested in peak periods in 2031[4].

Commuting by train is also a major DEC and subject to serious overloading. Trains have a seating capacity of 500 and a crush capacity of 1250. All Melbourne major rail routes will exceed seating capacity in 2031. Crush capacity will be exceeded on Craigieburn line in 2031[5].

The bulk of the Melbourne outer suburbs can access less than 10 per cent of the city's jobs with a one-hour journey on public transport[6].

The Plan

Infrastructure Australia's Plan then proceeds to upgrade legacy capital city passenger transport infrastructure to deliver higher capacity, high-frequency services to meet projected demand[7]. For commuting by car, this means higher taxes[8] and mode shift to public transport with a lower standard of service. For commuting by public transport, this means no service improvement and higher fares[9]: the new Melbourne underground will only provide an extra 20,000[10] capacity in a system with 1,000,000 base and high growth. The Plan then proceeds to lock in the existing legacy public transport systems by franchising[11] and retaining the 400% subsidy of fares ($8B/yr).

Discussion

This is not a customer focussed solution as the quality of public transport is inferior to cars, being slower, not providing enough seats, with indirect routes requiring mode change, stopping at all stations, requiring waiting for service at stops and delay between modes, lack of privacy, being exposed to assault by other passengers, and exposed to the weather, (no service quality inducement to mode change from cars).

"Complete, refine and create the world's most sophisticated infrastructure markets"[12] applies to legacy systems but does not incentivise innovative podcars. Podcars can reduce the travel time on public transport by at least 50%, improve most aspects of service, and attract mode change from cars. **A detailed paper on podcars is appended.**

Suspended podcars can be 300kg, use 8 times less energy than trains, mimic cars for immediate availability, with privacy and security, and not stopping en route. Guideways can be grade separated like freeway interchanges. Aerial podcars are extremely safe, aesthetic, fully automatic and can run at ½ second spacing so have high capacity. They have personal routes, and importantly, can operate at a ruling speed of 70kph in the city, being twice the speed of cars (and public transport).

A complete network for Melbourne, comprising 1,000km of 2-way elevated guiderail, 100,000 podcars and 3,000 stops would cost about $10B, operate at a profit for the current fare rate, replace the entire legacy public transport system, operate with high quality service at twice the current speed and save the projected annual subsidy. Double that network size and cost would provide

provide stops within 300m of every home and make serious inroads into mode change from commuting by car. The example used is Melbourne, but podcars are universally applicable, including for rural areas.

This could be very disruptive technology and would need to be trialled[13] in increments, to maximise speed, modularity, convenience, silence and appearance, such as: at an airport between terminals and the car parks; then from the airport to the city; then for congested commuter routes; then for the urban area; and then the State.

Infrastructure Australia is likely to recommend rail from Melbourne City to airport at a cost of $5,000M[14, 15] with poor operating speed, low service and require a subsidy. Podcars would cost only $400M[16], provide better service and make a profit. If not included in the analysis, all investments are at serious risk of being made redundant.

Conclusion

Infrastructure Australia's Plan provides a lower level of customer service for commuting by car and by public transport, costing $9B/yr in congestion. The Plan does not consider podcars in its "rigorous" evaluation of initiatives but rather locks in legacy systems, costing $8B/yr in subsidy. There is no framework that would permit, let alone encourage significant productivity growth such as by podcars. The Plan says the right things about evaluation and competition, but is lacking in their delivery. It does not take into account likely obsolescence of legacy systems.

Community Service Obligation

Infrastructure Australia makes the case for subsidy of fares as a CSO[17]. For a level playing field, a subsidy (average $16/trip) could be offered to competitive modes. These modes could have regulated fares to either provide the CSO or a premium service, as necessary, to prop up legacy systems. Super profits from podcars could be mandated to network expansion and the legacy systems wound up only when the alternative was in place, resorting to no subsidy, and CSO fares.

Submission

Infrastructure Australia's Plan seems likely to: reduce the quality of service for transport; not to improve the productivity; and to aggravate a parless financial position.
In the absence of a better productivity proposal, the market for podcars should be aggressively tested in increments as above, optionally with a level playing field.
If the Plan does not reasonably resolve the congestion and subsidy problems, we must try harder!

References

1. Productivity Commission Discussion Paper Nov 16 P19
2. Infrastructure Australia Audit Page 165
3. Infrastructure Australia Audit Page 165
4. Infrastructure Australia Audit Page 168
5. Infrastructure Australia Audit Page 170
6. Infrastructure Australia Plan Page 52
7. Infrastructure Australia Plan Page 48
8. Infrastructure Australia Plan Page 121
9. Infrastructure Australia Plan Page 92
10. Infrastructure Australia Plan Page 50
11. Infrastructure Australia Plan Page 122
12. Infrastructure Australia Plan Page 96
13. Productivity Commission Discussion Paper Nov 16 P22
14. Infrastructure Australia Priority List Page 55
15. Infrastructure Victoria Draft options Page 458
16. Page 4 of podcar attachment - cost estimate
17. Infrastructure Australia Plan Page 102

Response from Infrastructure Australia re inclusion of podcars in the evaluation of options.

Dear Mr Cleeland, Infrastructure Australia provides independent research and advice and publicly advocates for reforms on key issues including financing, delivering and operating infrastructure and how to better plan and utilise Australia's infrastructure networks.

Infrastructure Australia recognises the value of new technologies in solving Australia’s future infrastructure needs. However, Infrastructure Australia does not have a role in testing new technologies such as your suggestion of suspended podcars.

Regards, Infrastructure Australia