Submission to the Productivity Commission Study into Regional Transiting Economies – February 2017

Many Australian regions experience the ups and downs of the mining industry first hand. They have limited capacity to readapt after downturns. Meanwhile, our biggest cities have thrived over time.

These contrasting fortunes warrant consideration and are relevant to the Study.

Australia concentrates a far greater portion of its national population into the largest cities than does Europe, the USA and most other developed economies.

Decentralisation policies have failed to address the disproportionate growth, while enormous investments in "city-centric" infrastructure bolsters the gap between capital cities and most other regions of Australia.

Even so, big cities have disadvantages, including spiralling traffic congestion and high costs of living, and stand to improve their liveability if the growth pressure on them can be eased.

Such a shift is surely overdue. It is doable by strengthening Australia's resolve to decentralise and ensuring that selection processes for publicly funded projects identify criteria, options and priorities in line with this goal.

Then, instead of stimulating the growth of capital city centres so much, new infrastructure and services would be refocussed afresh towards proximate cities and further-away rural, regional and remote centres.

The following pages explain how metropolitan road and transport systems can evolve to be more decentralised, productive, accessible and affordable.

By so doing, wider flow-on benefits would arise including accumulating budget savings that could be applied to schemes like nationally significant highways and railways, and regular air services to remote places.

Geographically spreading infrastructure and services would foster a more decentralised Australia and support regional transitioning economies in their endeavours to become more sustainable.

I am happy to provide further information and answer any questions arising.

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Traffic congestion is increasing year by year, globally. And the bigger a city gets, the more congested it becomes, despite great efforts to fix the issue, including enormous investments made in new urban road and transport infrastructure.

What is going on and how can the problems be solved?

The dilemma is that: Firstly, car ownership far exceeds the capacity of road systems to handle all the vehicles, leaving cities vulnerable to demand peaking effects and growth;
Secondly, public transport is typically a poor substitute for the car; and
Thirdly, the main effect of new motorway, railway or other transit-way infrastructure is to stimulate growth. In large cities, these projects only add marginally to overall travel capacity, making it virtually impossible to solve traffic congestion problems in this way.

In Australia, the situation is amplified (compared with Europe, the U.S. and most other advanced economies) because a greater portion of the nation's population is concentrated into large cities, exposing a high percentage of Australians to traffic delays.

This effect is accelerating and has greatest impact in and around the biggest capitals of Sydney, Melbourne and Brisbane.

For example, the lion's share (some 65%) of the entire population of New South Wales resides in Sydney. As well Sydney is estimated to gain over 80% of all growth in NSW into the future, and traffic congestion is officially forecasted to worsen too.

So while Sydneysiders want new infrastructure to reduce traffic delays, that is implausible with such concentrated growth. In addition, there are the long implementation times, disruptions and enormous costs of city-centric infrastructure to contend with.

It raises some serious questions. For one, isn't it counterproductive to keep fuelling faster growth in the biggest cities, at great cost, without addressing worsening traffic congestion? For another, why continue down this same costly path when it involves ever-increasing taxes and charges and lost opportunities to create a more decentralised Australia?

The widening gap between the growth rates of Australia's bigger and smaller cities is related to infrastructure priorities. And while much new infrastructure is locked in, the next round of projects is still an open question and crucial to how our towns and cities will fare in future.

Some changes are on the agenda, mainly around additional funding sources and new technologies. The proposals include more "congestion pricing" on our roads and "value capture" land taxes on properties near new transport infrastructure as well as trialling of "on-demand buses" and "autonomous vehicles".

However, project-selection processes also need to identify and assess alternatives based on proven technologies and established planning principals that would fix traffic congestion within foreseeable timeframes and at affordable costs.

In that regard, one case stands out. During the 2000 Olympics Sydney's road and transport systems operated exceptionally well, and provided a full-scale demonstration of the type of option worth considering. Sydney doubled public transport capacity, shrank traffic volumes and lowered traffic congestion levels, enabling unprecedented demands to be met (including more person-kilometres travelled on the road system). The strategy hinged around doubling the bus fleet by borrowing thousands of buses from regional NSW and interstate. Train services were also increased, including 24 hours per day operations on main lines.

But these were temporary measures and after the Games Sydney's troublesome traffic re-emerged and has only deteriorated further in the intervening years.

Now as then the challenge is to rapidly boost public transport over whole cities, which are dominated by sprawling car dependent suburbs, where most travel occurs but where public transport is in short supply.

A practical variation of the Olympic case would be to comprehensively lift bus fleets and services, to deliver high quality public transport services permanently. Thousands of new buses would be rolled out, to raise service levels on existing routes and to create high-frequency, limited stop routes across the main road network as well. This would mimic the metro wide traffic shrinking effect achieved during the Olympics, by giving car travellers more choice and triggering a significant shift to public transport.

At the same time, support facilities would be enhanced including for cycling, walking and car parking to serve suburban centres, improved accessibility to bus stops and rail stations and new modernised bus stops too. Generally, newly dedicated bus lanes would be unnecessary because of the traffic shrinking effect.

For most major business centres, high frequency shuttle buses are needed, to provide easy access within each centre and to interconnect with key transport nodes (like rail stations, car parking stations and other bus services). In the biggest CBDs, the shuttle services might be developed into rapid bus transit (bus right-of-way) or light rail operations.

Under this type of plan, whole metropolitan areas would be served by quality public transport, including improved access to major business centres.

And it would all be doable in each large city over a 5 to 10 year-timeframe at a cost akin to that of one major motorway or rail line project in each city, with the potential for outstanding value for taxpayers given the scale of the benefits.

A plan of this kind is outlined below for Sydney, noting that it includes:
Implementing seven north-south and six east-west main road bus routes as illustrated;
Running buses at least every 5 minutes from around 5am until 10pm on all these routes;
Upgrading existing bus, walking, parking and cycling systems; and
Providing quality shuttle services in major business centres.

The focus would be on introducing the new arrangements in outer metropolitan areas first followed by middle areas, to give priority to the sprawling suburbs where the need is greatest.

Sydney currently has hundreds of bus routes, under the following three categories:

- Major centre to major centre routes, some with high frequency, early morning to evening operations, limited bus stopping and bus priority infrastructure (such as bus lanes and bus priority traffic signals).
- Suburban connectors, usually operating on an "all stops" basis, with some "turn up and go" and many timetabled services, and bus priority measures for pinch points.
- Local timetabled "all stops" services, including local shopping services and shuttles operating within business centres.

Overall, the bus network moves around 5% of all person-kilometres travelled annually in Sydney (while approximately 80% go by car, 11% rail, 2% walk-only and 2% by other modes including motor cycle, bicycle and ferry).

The existing bus network caters mainly for shorter trips while car and rail trips are longer.

Main road bus services would represent a new category and bring longer and more direct bus trip options, avoiding congested centres (as far as practically possible) and mirroring the way that many cars travel from one part of the metropolis to another. Main road buses would stop once per suburb to pick up and drop off passengers (at a bus stop close to the local business centre and frequented by a range of other bus services).

The plan would speed up bus trip times and increase public transport capacity and interchanging opportunities.

It would help to absorb much of the growth in travel demand through the 2020s and enable Sydney to evolve into a city with ample public transport options. Car dependency would be much less of an issue than it is now, clearing the way for the expansion of on-demand buses and car-share and bike-share schemes as well.

Then by the 2030s Sydney could reasonably aim for mode shares in the order of 50% car, 20% rail, 20% bus, 5% walk-only and 5% other modes, signifying a much-improved trajectory into the future.

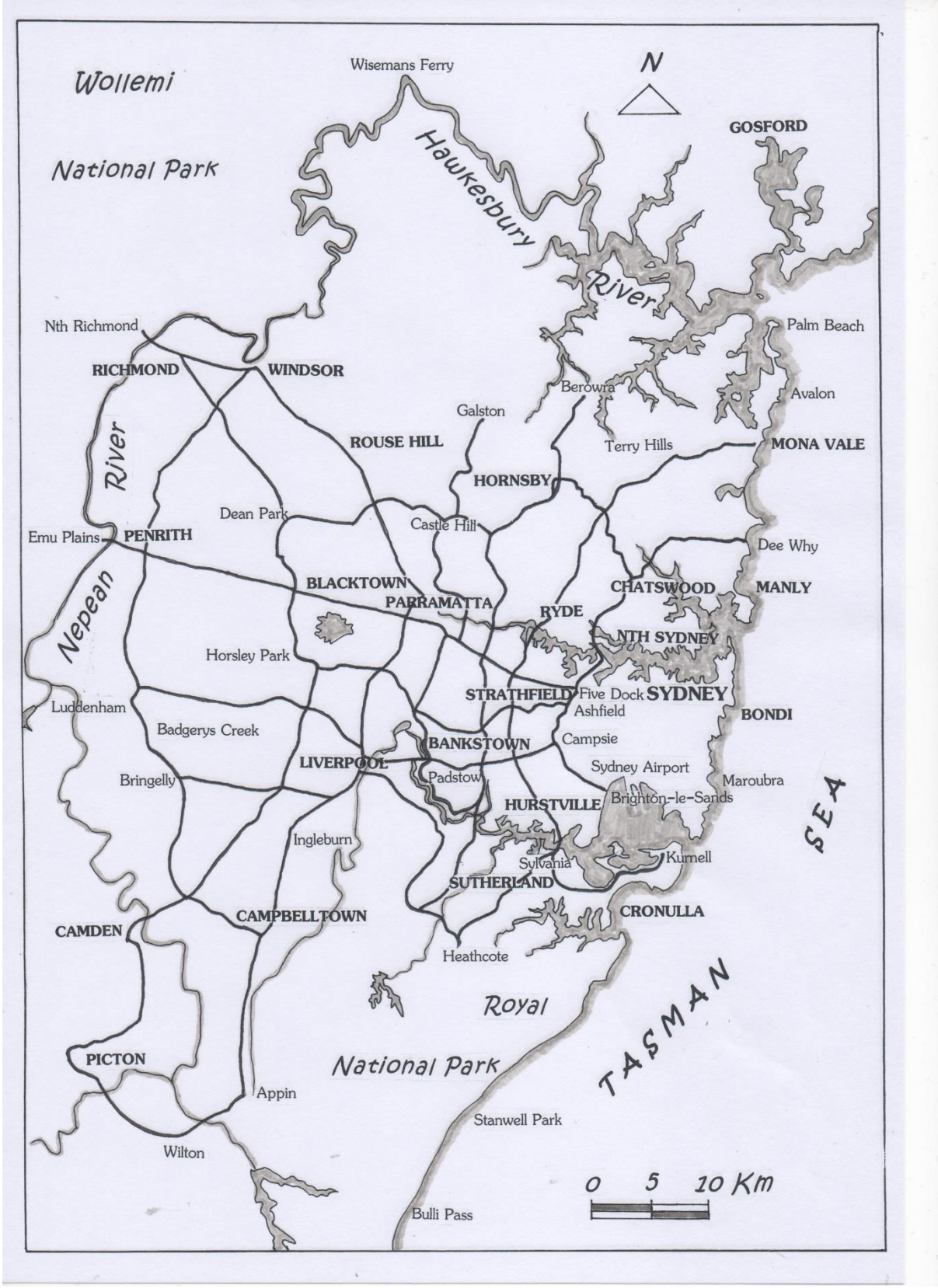

Illustration of a new main-road bus network for Sydney

ILLUSTRATED NEW NORTH-SOUTH BUS ROUTES

- ***WINDSOR – CAMPBELLTOWN:*** via The Northern Rd, Narellan Rd.

- ***RICHMOND – PICTON:*** via Blacktown Rd, Richmond Rd, Rooty Hill Rd, M7, Wallgrove Rd, Cowpasture Rd, Camden Valley Way, Remembrance Driveway.

- ***NORTH RICHMOND – APPIN:*** via Windsor Rd, Cumberland Hwy, Hume Hwy, Campbelltown Rd, Appin Rd.

- ***GALSTON – PADSTOW:*** via Galston Rd, Old Northern Rd, Windsor Rd, James Ruse Dr, Woodville Rd, Henry Lawson Dr, Davies Rd.

- ***BEROWRA – HEATHCOTE:*** via Pacific Hwy, M1, Pennant Hills Rd, Silverwater Rd, Alfords Pt Rd, Heathcote Rd.

- ***MONA VALE – KURNELL:*** via Ryde Rd, Homebush Bay Dr, King Georges Rd, Princes Hwy, Port Hacking Rd, The Boulevarde, Captain Cook Drive.

- ***DEE WHY – BRIGHTON-LE-SANDS:*** via Pittwater Rd, Warringah Rd, Boundary Rd, Pacific Hwy, Epping Rd, Centennial Rd, Burns Bay Rd, Victoria Rd, Lyons Rd, Frederick St, Brighton Ave, Bexley Rd, Bay St.

ILLUSTRATED NEW EAST-WEST BUS ROUTES

- ***CHATSWOOD – DEAN PARK:*** via Boundary Rd, Eastern Arterial Rd, Burns Rd, Junction Rd, Ingram Rd, Pennant Hills Rd, Castle Hills Rd, Showground Rd, Windsor Rd, Memorial Ave, Sunnyholt Rd, M7.

- ***FIVE DOCK – EMU PLAINS:*** via Queens Rd, Gipps St, Great Western Hwy.

- ***ASHFIELD – HORSLEY PARK:*** via Hume Hwy, The Horsley Drive.

- ***CAMPSIE – LUDDENHAM:*** via Canterbury Rd, Milperra Rd, Newbridge Rd, Elizabeth Drive.

- ***SYLVANIA – BRINGELLY:*** via Princes Hwy, Heathcote Rd, M5, Hume Hwy, Camden Valley Way, Bringelly Rd.

- ***APPIN – PICTON:*** via Appin Rd, Wilton Rd.

Similar plans can also be developed for other large cities, for proximate regional cities (like those located along the Newcastle-Sydney-Canberra axis) and for the intercity highways which connect cities together.

Such plans would reduce the costs and environmental impacts of travel delays and herald a new era in urban road and transport productivity. They would be a decisive step towards decentralisation and away from ever more city-centric infrastructure, helping our larger cities to be more liveable and our smaller ones more viable.

In the longer term, bus and rail network service levels can be further increased to keep road and public transport productively a step ahead of growth.

Ultimately, as roads approach their optimum capacities, the busiest bus routes can be upgraded to rapid bus transit ways or light rail lines.

Interurban transit can evolve variously, for example from conventional rail to higher speed options like tilt trains (such as currently operate along the Northeast U.S. Corridor between Boston, New York and Washington, serving a population of 55 million).

Proceeding as outlined above would be affordable and sustainable, because it provides value for taxpayers and gets the best from the existing road and rail systems before having to commit to extraordinarily costly forms of infrastructure.

All in all, road and public transport issues can be turned around and there are opportunities for large cities to do much better in this area of endeavour just as Sydney demonstrated during the 2000 Olympic Games.

Author: John Morandini, transport author and advocate; and retired civil engineer with over 40 years of service in NSW agencies, including in transport policy, planning and operations.