

Why Light Rail causes Tunnel Vision  
— A Critique of the Non-Critique of *Transport for Canberra*

*Carleton B Christensen*

In March, 2012, the ACT government released the document *Transport for Canberra*.<sup>1</sup> This document communicates to the public the general framework within which specific measures to improve transport will be conceived and implemented over the next twenty years. The goals to be served by this framework are, put generally, health, i.e., promotion of active travel, sustainability, safety, equitable access and efficiency, i.e., cost-effective delivery of quality service—see p.1<sup>2</sup> Nothing to disagree with here. But at various points throughout the document, it becomes clear that the document is underwritten by a crucial assumption: in order to achieve these goals a substantial reworking of Canberra's current urban form is necessary. This assumption is never explicitly stated as the contestable assumption that it is. Rather, it is presented as obviously true, and as known to be obviously true, not just by the government and its planning experts, but by the whole Canberra community. For the clearest expression of it occurs in passages which articulate a consensus ostensibly reached in such recent community forums as *Time to Talk: Canberra 2030*. Two key messages, says *Transport for Canberra*, have come from such fora:

There will be a shift from [Canberra's] current dependency on the motor vehicle to more sustainable options. Electric cars, walking and cycling and the newly built light rail/sustainable public transport system will make Canberra a city less dependent on motor vehicles. **By 2030 new development will create a more compact city. ... Increased density will help support more efficient public transport as well as vibrant neighbourhood centres.** There will be more opportunity to work close to home and to access community services and amenities.

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<sup>1</sup> For a list of the references used see <http://www.transport.act.gov.au/references.html>.

<sup>2</sup> Curiously, or perhaps rather, not so curiously, integration of transport with land use planning is listed as a goal alongside these goals, and not just as a means to achieving the latter.

**Canberrans recognise the relationship between Canberra evolving as a more compact city and its development as a more accessible city.** People value that Canberra is easy to get around and want to keep this in 2030. They understand the convenience of having a car and that a challenge is for Canberrans to reduce their reliance on private vehicles. ... A general preference is a shift to more sustainable transport options including bus shuttle services, transport corridors, light rail, and building on safe walking and cycling options. **People indicated support for infill development along transport corridors and around centres to achieve this shift to more sustainable transport options, and more convenient, affordable public transport.**

The bolded sections indicate the conviction that achieving all the goals listed above, in particular, the goals of sustainability, equity and efficiency, require significant change to Canberra's current urban form. And this is represented as a home truth coming from the community which the government is merely taking on board rather than a contestable theoretical postulate. It is as if this conviction were so obviously true<sup>3</sup> that it is not worth commenting on. And everyone knows it anyway.

But is this conviction true? If it is, then accepting it must liberate us to develop and implement truly radical reforms. We should therefore expect *Transport for Canberra*, which does accept this conviction, to set truly ambitious goals and targets for public transport in Canberra. In this paper, I want to examine what the document sets out as appropriate goals and targets in order then to ask whether these are really so ambitious as to render plausible the claim that reaching these goals and targets requires Canberra to become a compact city. Unfortunately, before I do this, a bit of theory is required, for otherwise one will not understand it in all its ramifications. *Transport for Canberra* is governed by a specific conception of how a public transport system

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<sup>3</sup> This ostensibly community conviction, in all its ostensibly obvious truth, is but an application to Canberra of a general view held by many environmentally concerned individuals, wherever they live. Thus, the meteorologist David Karoly, a member of the International Panel on Climate Change, has claimed that Australians "have been encouraged over time to aspire to individual homes with a backyard," but must now "move to higher-density living with parks and parklands, efficient transport, and a return to the shopping strip, to which people would walk." (Blakston, 2009; quoted in Mees 2009) Karoly treats the relationship between low density and unsustainable transport as established fact. This view is now widespread amongst Australian governments and urban planners; it underpins numerous metropolitan plans.

should be designed and this conception determines the goals and targets it sets, in particular, why it sets them as it does. A truly effective critique of *Transport for Canberra* and its claim that achieving a sustainable, equitable and cost-effective public transport systems requires significant urban consolidation requires that one understand this conception.

### **Good Public Transport Design according to *Transport for Canberra***

The central idea underpinning *Transport for Canberra* is that a properly designed public transport systems consists of two networks, a so-called *frequent network* and a *coverage network*. The frequent network seeks to maximise patronage while the coverage network serves maximise the area covered, i.e., serviced. Now as *Transport for Canberra* almost wilfully fails to make clear, this distinction between frequent and coverage networks is *not* the classic distinction between trunk and feeders supplying the former with passengers through transfers at interchanges. The trunk/feeder distinction is a distinction within *one* network designed to serve *multiple* goals. The frequent and coverage networks are different networks, each designed to serve *one* goal. The old „intertown“ service/local route distinction was Canberra’s version of the trunk /feeder distinction.

Instructively, *Transport for Canberra* not only fails to make this clear, it positively encourages the reader to think that the new distinction is really just the old one by another name. Thus, we are told that the development of public transport for the next twenty years will be based around a Frequent Network, which builds on the success of the red rapid and in particular blue rapid 300-series. We are then told that the blue rapid series was previously known as the ‘intertown’ service which “has provided rapid, frequent connections between town centres since the 1970’s.” (p.19) This is

misleading and, as we shall see, has actually misled, namely, the ACT Greens in their submission on a draft version of *Transport for Canberra*.<sup>4</sup>

In fact, the idea that public transport in Canberra should be structured around frequent and coverage networks is an innovation, relative to the bus system of the 70's and 80's. The idea itself derives from Jarrett Walker, who provided the principal intellectual input to the *ACT Strategic Public Transport Network Plan* of 2009, upon which *Transport for Canberra* is based.<sup>5</sup> According to Walker, a public transport system is typically designed to serve at least two goals, coverage and patronage or, as he calls it in his book *Human Transit*, ridership.<sup>6</sup> A public transport system pursues coverage when it seeks to provide service across as much as possible of the area for which it is responsible. Typically, it will do so for reasons of equity and/or social inclusion: it is only *fair and equitable* that all citizens in the metropolitan area which the system is required to serve get some kind of service. Or again, it is only *right and decent* that society should not leave stranded individuals rendered immobile by age, illness or economic misfortune. Evidently, the pursuit of this kind of goal will lead those responsible for the design of the public transport system to distribute its services and capacities across the area to be served in a fashion which ignores, or at least downplays, financial considerations in favour of ethical ones.

By contrast, a public transport system pursues patronage or ridership when it allocates service according to what will yield the most number of patrons per trip. Typically, it will pursue patronage for financial considerations, i.e., reasons of cost-effectiveness: the more patrons carried per trip, the more productive the system is, relative to the costs it incurs. But Walker also mentions environmental benefits as a

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<sup>4</sup> See the ACT Greens' *Submission to 'Draft Transport for Canberra Plan'*, November 11<sup>th</sup>, 2011, available at .

<sup>5</sup> See <http://www.transport.act.gov.au/references-docs/ACT%20Strategic%20Public%20Transport%20Network%20Plan.pdf>. The report was drawn up by the firm McCormick Rankin Cagney, for which Walker works as principal consultant.

<sup>6</sup> Washington, DC: Island Press, 2012. For this reason, I cite it as McCormick Rankin Cagney 2009.

possible reason for pursuing a patronage or ridership goal: “if your aim is,” he says, “to *compete successfully with cars* to achieve environmental benefits, a Ridership Goal is most likely to do that.” (Walker 2012, p.119) Another non-economic reason for pursuing a patronage or ridership goal might be that by distributing services according to where one will attract the most patrons, one will maximise for health promoting active travel (since in order to access public transport people must walk or cycle more than they would in order to access their cars). Then again, one might distribute services according to patronage criteria because one wishes to stimulate the kind of commercial activity and residential life style which high patronage public transport routes tend to attract.

Now according to Walker a well-designed public transport system will keep the pursuit of these two goals separate, in that it will have two networks, the patronage and coverage networks respectively, each serving its particular defining goal. Primarily for this reason it is incorrect to regard the frequent network envisaged by *Transport for Canberra* as simply an extension of the old ‘intertown’ service. The old distinction between intertown and local services was an example of the trunk line/feeder line distinction; as such, it was a distinction within *one* network intended to serve *multiple* goals. But Walker argues that the idea of a system which simultaneously serves patronage and coverage goals is flawed. According to him we cannot have it both ways: a transit agency which attempts *both* to cover all areas with uniformly decent levels of service *and* to maintain justifiable levels of patronage finds itself in conflict itself. Such an agency will

hurl ... staff in opposite directions at once. In the worst cases, the contradictory goals can make it impossible for a competent staff to do their jobs, which in turn can cause loss of the best employees. Nobody wants to work at a job where everytime they do anything to pursue goal A, they will be blasted for undermining the conflicting goal B, and vice versa. (Walker 2012, p.119)

Much better, then, to separate the pursuit of patronage and coverage within the one system, by having two networks devoted exclusively to each. In this way, one can

more effectively realise in particular the patronage goal and since realising this goal is the more cost-effective strategy, the gains made here can be used to support the coverage network. Naturally, just how many resources should be allocated to the pursuit of patronage and how much to that of coverage can only be determined on a case-by-case basis. The task is to find the right mix for each public transport context.

I hope we can look more closely at Walker's theoretical argument for this position in discussion. For the moment, I want to concentrate upon its radical consequences. The claim that an efficiently functioning public transport system requires a frequent or patronage network, of whatever contextually determined size, has important implications. For if a city lacks the appropriate density conditions which define an area as suitable for a frequent or patronage network, the task of transport planners must be to work hand in hand with land-use and planning authorities to create them. Walker is quite explicit about this:

(T)he potential for transit in your city will be determined largely by the pattern of development. This does not mean that the whole city must be dense; average density is not the point. Rather, the pattern of density—residential, commercial, and institutional—must be “on the way.” [That is,] (i)t must lie along reasonably straight paths that transit lines can serve, meeting at points where transit lines can viably and efficiently connect with one another. Those paths may be arterial streets, or they may be rail corridors or space you've reserved to build these in the future. They could even be a series of ferry wharves. (p.215)

And so transport and land use planning must be coordinated so as to facilitate the emergence of high densities along potential transit lines. Doing this requires strategic thinking:

If you really want to coordinate transit and land use planning for your whole city, you need to do a long-range plan, looking about twenty years in the future.

...

... [For] the big payoffs rest in strategic thinking, and that means looking forwards over a span of time. I suggest twenty years as a time frame because almost everybody will relocate [to the frequent or patronage network] in that time, and most of the development now contemplated in your city will be

complete. That means virtually every resident and business will have a chance to reconsider its location in light of the transit system planned for the future. (pp. 215-216)

So for Walker the creation of the frequent or patronage network needed for truly effective public transport is at the same time the re-engineering of the urban form of any city which does not already have the kinds of high-density areas which could provide the routes for this network.

Just such a city is Canberra, as is clear even from the span of time with which *Transport for Canberra* operates: precisely the twenty years Walker suggests for giving all most all the chance to reconsider their location, indeed, for getting most people to relocate.<sup>7</sup> But the character of *Transport for Canberra* as a blueprint along Walker's lines for re-engineering Canberra's urban form comes out most obviously in its claim that the message which development of the frequent or patronage network will convey to citizens is that "for access to fast, frequent and reliable public transport services, locate on the Frequent Network'." (TfC, p.18)<sup>8</sup> If you do want or cannot afford to locate to the Frequent Network, then you must remain in areas of low density, what Walker calls Sparseville, and there, in Sparseville, "relying on cars for most travel is the rational thing to do." (Walker 2012, p.134)

Recall now that *Transport for Canberra* claims to be about sustainable transport, about challenging car dominance and the like. So the Canberra it envisages cannot afford to have too many Sparsevilles since in these areas of the town reliance on cars will remain, according to Walker himself, rational. *Transport for Canberra* is thus not *just* about creating a Frequent Network consisting of high density transport corridors.

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<sup>7</sup> "I suggest twenty years as a time frame because almost everybody will relocate [to the frequent or patronage network] in that time, and most of the development now contemplated in your city will be complete." (Walker 2012, p.216)

<sup>8</sup> The Strategic Public Transport Network Plan of 2009, drawn up by Walker's firm McCormick Rankin Cagney and upon which *Transport for Canberra* is based, is even blunter: "(T)he ACT Government should consider the Frequent Network when making its own locational decisions, and should encourage Commonwealth Government and private entities to do likewise. The message is simple: *If you want good public transport in the long term, locate on the Frequent Network.*" (McCormick Rankin Cagney 2009, p.iv)

*It is about progressively expanding this urban form in order to eliminate Sparsevilles.* In other words, it is ultimately about re-engineering all of Canberra. As *Transport for Canberra* says, “(T)he ACT Government’s new planning strategy ... outlines an approach to creating a more compact and sustainable city by concentrating new development along transport corridors defined in the Frequent Network.” (TfC, p.21) Let us not forget that new development is not just greenfields development; it also includes the re-development of already developed areas. *All* new development is to consist in concentrating people along transport corridors.

At this point, we see that *Transport for Canberra* envisages a truly fundamental transformation of Canberra’s urban form. No wonder, then, that it so keen to present the ostensible need for a compact city in which “(i)ncreased density will help support more efficient public transport as well as vibrant neighbourhood centres” as a message coming from the community! What might otherwise have been merely a government view based on the ideas of some one transport expert is already community opinion anyway. In no way, then, is the government seeking to thrust the views of either it itself or some preferred special interest group upon the Canberra community. But is the transformational change envisaged for Canberra by *Transport for Canberra* worth it? This depends on the benchmarks set for the system; these must be similarly transformational. So let us now look at the specific goals and targets which according to *Transport for Canberra* will be delivered by 2031.

### **Montes partiverunt, mus natus est?**

There are three aspects to consider here: (a) service delivery by the Frequent Network; (b) service delivery by the Coverage Network; and (c) the modal shift targets to be reached by the total public transport system.

(a) What will the Frequent Network deliver by 2031?

Let us first look at the characteristics which the Frequent or patronage network is to have by then. According to the table presented on p.19, the Frequent Network consists



of two kinds of service, the rapid service and the frequent local service, taken together. At present, the Blue and Red Rapid series are examples of the rapid service while the only current examples of the frequent local service is the Parliamentary Zone Frequent Network, i.e., the Gold and Green lines. But these latter are to be extended to “areas of current or future denser development, including some group centres.” (TfC, p.19) By 2031 the Canberra-wide Frequent Network (a map of which is provided on p.20 of *Transport for Canberra*) will deliver 15 minutes or better frequency of service across a service span of 18 hours per days (day and evening) seven days a week. Importantly, it will have catchment areas no greater than one kilometre in radius, indicating that the Frequent Network is designed primarily to be accessed by walking or cycling.

Note now that in comparison to the kind of service which the Red and Blue Rapids are already delivering the major improvements are the quantitative expansion of the network and the extension to an all day and evening,<sup>9</sup> seven days a week service span. This entails the abolition of weekend timetables and, given a frequency of 15 minutes or better, the ability to use the network without consulting a timetable across this considerable service span. These things are certainly significant. But the current frequent services are already running at 15 minute frequencies for significant parts of the day and they are, by *Transport for Canberra*'s own admission, doing so successfully. And surely, if drastic revision of Canberra's urban form were needed in order to get an effective Frequent Network, then one would have expected *Transport for Canberra* to have proposed significant improvement across all performance indicators. The problem is not that the future envisaged in *Transport for Canberra* is not good enough; the problem is rather that the present it presupposes is not bad enough. As *Transport for Canberra* itself says, the envisaged Frequent Network

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<sup>9</sup> The Strategic Public Transport Network Plan of 2009, upon which *Transport for Canberra* is based, appears to understand by a day a 12-hour period, and evening the six hours thereafter—see p.52. Consistent with this, the service span on any one day is said to be 18 hours per day (e.g., 5:00 AM–11:00 PM) seven days a week—see p.68.

builds on the *success* of our current frequent services.<sup>10</sup> So why do we need urban consolidation *simply in order to get a well-functioning Frequent Network*? There may be all sorts of reason why we need urban consolidation. But as *Transport for Canberra* itself concedes, a successful Frequent Network is not one of them.

Presumably, then, the idea is that unless we have much higher densities along Frequent Network routes, we will not have a network *so* successful, and in particular, *so* cost-effective, that we can afford coverage services. Recall that the fundamental idea underpinning Walker's position is that by creating separate patronage and coverage networks, one permits each to do what it does best. In particular, one maximises the capacity of the patronage network to support the coverage network. So the real accomplishment of *Transport for Canberra* actually lies, it would seem, in what it holds out for coverage services and the way these are to interface with the Frequent Network. We must therefore look at the service delivery targets for the Coverage Network.

(b) What will the Coverage Network deliver by 2031?

In the Coverage Network there will be two kinds of route, distinguished according to their urban form: (a) routes between group centres, medium-density development and employment locations; and (b) routes in and through low-density outer suburbs. By 2031 both kinds of routes will have frequencies of 30 minutes or better, apparently for 12 hours a day and certainly 7 days a week. Routes on weekends will be the same as on weekdays and 95% of households serviced by them being 500 m, i.e., 5 to 7 minutes' walk, from the nearest stop. The attaining of frequencies of 30 minutes or

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<sup>10</sup> In this regard we should let ACTION buses speak for itself: "[Red Rapid Route 200](#) travels between Gungahlin and Fyshwick via the City, Russell, Barton and Kingston. Buses depart every 10 minutes between 7am and 8.30am and every 15 minutes between 8.30am and 7pm weekdays. [Blue Rapid 300 Series](#) route is a combination of all 300 series routes travelling between Belconnen and Tuggeranong via the City and Woden. Buses depart every 5-8 minutes between 7am and 7pm on weekdays and every 15 minutes in the evening." See [https://www.action.act.gov.au/routes\\_by\\_number.html](https://www.action.act.gov.au/routes_by_number.html).

better will be staggered across the two decades, according to the table to be found on p.31.

**Table 3: Draft minimum coverage standards**

	Urban Form	Weekdays Peak	Offpeak	Weekends	Distance to Bus Stop
By 2016	Between group centres, medium density development and employment locations	30 minutes or better	30 minutes or better	60 minutes or better. Routes same as weekdays.*	500m (5-7 minutes walk) of 95% of households
	Low density, outer suburbs	30 minutes or better	60 minutes or better*	60 minutes or better. Routes same as weekdays.*	500m (5-7 minutes walk) of 95% of households
By 2021	Between group centres, medium density development and employment locations	30 minutes or better	30 minutes or better	30 minutes or better	500m (5-7 minutes walk) of 95% of households
	Low density, outer suburbs	30 minutes or better	30 minutes or better	60 minutes or better*	500m (5-7 minutes walk) of 95% of households
By 2031	Everywhere	30 minutes or better	30 minutes or better	30 minutes or better	500m (5-7 minutes walk) of 95% of households
<b>*Flexible transport will be considered for areas and times of low demand</b>					

Of course, crucial to the functioning of the whole system and its capacity to challenge car dominance is the way in which the coverage network interfaces with the frequent or patronage network. In this regard *Transport for Canberra* proposes the following objectives for wait time at stops, in particular, at interchanges.

Station transfer direction	Average wait time 7am to 7pm by 2013	Average wait time 7am to 7pm from 2016
Coverage service to frequent network	7.5 minutes	5 minutes
Frequent network to coverage service	15 minutes	10 minutes

Evidently, neither these frequencies nor these wait times are spectacular. So as with the Frequent Network, so, too, with the Coverage Network: the objectives specified by *Transport for Canberra* are so modest that one is hard pressed to see any reason why attaining them would require the re-sculpting it envisages for Canberra.

It pays, however, to ponder the wait times a little further, for they may well reveal something crucial about the design which *Transport for Canberra* seeks to impose on public transport. Notice that the wait times indicated are simply the frequency of the route to which one is changing divided by two. One possible explanation of this is that no timetable coordination is intended. In one way, this is reasonable enough: the wait times indicated are presumably applicable to all stops and not just to interchanges. It would presumably be very difficult and arguably not necessary to coordinate timetables across all stops as opposed to all interchanges. Moreover, *Transport for Canberra* certainly does make mention of ‘pulse’ time-tabling, service coordination and the like, presumably at interchanges.<sup>11</sup> Nonetheless, it provides very little detail. This, together with the fact that the catchments specified for the Frequent Network are so small as to indicate walking or cycling as the primary mode of access, indicates that the issue of ‘connectivity’, particularly at interchanges, is not a primary focus for *Transport for Canberra*.

This impression is in fact confirmed by the “ACT Strategic Public Transport Network Plan”, the report drawn up in 2009 for the ACT government by Walker’s firm McCormick Rankin Cagney and which serves as the basis for *Transport for Canberra*. Recall that according to *Transport for Canberra* there are four types or categories of public transport service: rapid, frequent local, peak express and coverage. Only the first two constitute the Frequent Network. Of the latter two categories, peak express and coverage, the report says that they

are indicated on some of this plan’s maps in Chapter 3, but only to illustrate the general extent of such services, to estimate their cost, and to provide a background network that could be modelled to determine patronage. These route designs do not constitute long-term recommendations. *The detailed design*

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<sup>11</sup> See *Transport for Canberra*, p.28, and the sub-section ‘connectivity’ on p.31. The report on which *Transport for Canberra* is based, McCormick Rankin Cagney 2009, has more to say on this—see p.19. What it does say confirms the hypothesis that the wait times contained in *Transport for Canberra* are for all stops, not just interchanges, that they do imply no timetable coordination and that the reason for this is the difficulty of achieving such coordination across minor as opposed to major stops at interchanges.

*of Peak Express and Coverage services should be short-term planning decisions. Only the Frequent Network—the network of Rapid and Frequent Local services—is a specific long-term recommendation of this plan.*<sup>12</sup>

This not only confirms that ‘connectivity’, i.e., the issue of transfer between coverage and frequent services, is not a primary focus, it also explains why this is so. For this passage makes clear that the Frequent Network and the Coverage Network are indeed conceived as distinct networks. As already pointed out, one must *not* think of these networks on the trunk/feeder model which underpinned the original ACTION bus system, when the ‘inter-town’ services were introduced in the 70’s and local routes built up over the succeeding two decades.

Unfortunately, the ACT Greens have made this mistake. In their submission on an earlier draft of *Transport for Canberra* they recognise the very unambitious character of the objectives for coverage services.<sup>13</sup> In response to this, they call for greater frequencies, better wait times and in particular, the need for quick and easy transfer at interchanges, the primary points of connection between coverage and frequent service. In so doing, they show themselves to understand coverage service to stand to frequent service as feeder to trunk. No doubt they were misled into thinking this by the fact that the draft they were criticising described a coverage service as one which “feeds the frequent public transport network.” No such description occurs in *Transport for Canberra*. And if one takes seriously the origin of *Transport for Canberra* in the ideas of Jarrett Walker, it is not hard to see why: to design the coverage service to function as the ACT Greens demand would be to blur the distinction between coverage and frequent or patronage networks. One would be reverting to a model of service delivery which attempts to serve conflicting goals simultaneously. And one would be undermining the message that if you want good public transport, then locate to the Frequent Network.

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<sup>12</sup> McCormick Rankin Cagney 2009, p.iii, emphasis added.

<sup>13</sup> See “Submission to ‘Draft *Transport for Canberra* Plan’”, Nov. 11<sup>th</sup>, 2011, pp.4-7, available online at the ACT Greens’ website.

So much, then, for the coverage objectives. Still no massive gains which would make it seem plausible that in order to challenge the domination of the car, we must significantly re-sculpt Canberra. But perhaps at a higher order level we will find such gains. Perhaps we need to look at the targets *Transport for Canberra* sets for modal shift. Here, perhaps, lies the payoff for all that urban consolidation.

(c) What Modal Shifts will be accomplished by 2031?

Unfortunately, one is bound yet again for disappointment. On p. 58 of *Transport for Canberra* we find the following table:

Mode	2006 actual	2011 target	NEW 2016 target	2026 target
walking	5%	6%	6.5%	7%
cycling	2.5%	5%	6%	7%
public transport	7.9%	9%	10.5%	16%
total	15.4%	20%	23%	30%

These targets for modal shift in journey to work can hardly be described as courageous. All ‘sustainable’ modes of transport—walking, cycling and public transport—are to have, by 2026, their share doubled, relative to their performance in 2006 by. Canberra’s currently pathetic 9% for public transport (in 2011) is therefore to be increased to 16% by 2026. Presumably, then, by 2031, assuming the positive trend continues, the mode share of public transport for journeys to work will be approximately 20%. So by then Canberra’s performance will be roughly equivalent to the current performance of cities like Beijing, New York, Rome and Toronto.<sup>14</sup>

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<sup>14</sup> See “Passenger Transport ModeShares in World Cities” in *Journeys*, Nov. 2011, pp.60-70. Note, by the way, that at least “Toronto’s density, while higher than the Australian average, is none the less of the same magnitude as the larger Australian urban areas. The overall density figure of 23.7 per ha compares with 20 in Sydney; gross residential densities are 33 and 32 respectively. The densities of Australian and Canadian cities are not as different as is widely believed: Vancouver and Adelaide, for example, both had overall urban densities of 14 per ha in 1991.” (Mees 2000, p.192)

But, one might object, it is just too much to expect anything more. Did not an ACT Treasurer once say, as recently as 2001, “Mr. Speaker, whether we like it or not, Canberra is a car city and is likely to remain so for some time to come”?<sup>15</sup> True, across the board the goals set by *Transport for Canberra* are modest. But this only reflects the fact that a public transport system which is sustainable, equitable and cost-effective is a very hard thing to achieve. Do we not all know, has it not been amply demonstrated, that public transport only achieve significantly more ambitious goals as it approaches the compactness of a city like Hong Kong? The very paucity of the goals in *Transport for Canberra* only shows how hopelessly low dense and dispersed, hence car-dominated Canberra is. It therefore only shows that we must push all the harder for a compact city, more like Hong Kong.

If only there were a city, indeed a city in Australia, which had actually done better than Canberra 2031 without urban consolidation, indeed, with less public subsidy and no new technologies! This would be conclusive proof that the objectives and targets of *Transport for Canberra* are far too modest. More importantly, it would show that the link drawn by *Transport for Canberra* between sustainable, equitable, cost-effective public transport and urban consolidation is spurious.

**There is such a city and it's ... Canberra!!<sup>16</sup>**

Fifty years ago, Canberra was the most car-dominated city in Australia, with only 66 public transport trips per capita in the financial year 1960 to 1961: by contrast, the figure in Melbourne was 222 trips, and in Brisbane 232.<sup>17</sup> But things changed with the election of the Whitlam Government in 1972. Within a year, the Department of the Interior, which had provided Canberra's bus services, was replaced by the Department

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<sup>15</sup> ACT Budget 2001-2001, Budget Paper No. 1 (Budget Speech), ACT Government, Canberra, p. 13.

<sup>16</sup> This section is not my own work nor even, for the most part, my own writing. Because I have had no time to provide this information in my own words, I have simply lifted much of the text of this section from Paul Mees' Submission on *Transport for Canberra*.

<sup>17</sup> And Canberra's planners intended this situation to continue: the Canberra Area Transportation Study of 1963 treated public transport as an afterthought, simply assuming that it could operate on the freeway network planned for the car-driving majority-see *Canberra: Myths and Models*, by Karl Fischer, 1984.



of Territories, which included an enhanced division responsible for Canberra's public transport. From late 1973 substantial increases in funding were provided to upgrade services, funding which was to be continued under the Fraser government. In parallel with these changes, the Whitlam government forced Canberra's planners, the NCDC and the Department of the Territories, to agree on a new transport policy for Canberra. This stated that although roads would be planned to provide uncongested off-peak and freight travel, peak hour passengers would be encouraged to use public transport.

The Department's bus division, which from 1977 adopted the brand name ACTION, moved quickly to upgrade services, and achieved a dramatic reversal of fortune. Patronage tripled from 8.4 to 24.0 million in the 12 years from 1973 to 1985, and per capita usage rates doubled from 48 annual trips to 96. In the three years to 1976 alone, patronage increased 73 per cent, from 8.4 to 14.5 million. These increases are amongst the most dramatic recorded anywhere in the developed world, and saw Canberra draw level with Melbourne as the second-highest user of public transport nationally after Sydney. The usage rate of public transport 1985 exceeded Melbourne's figure of 95, and the Brisbane rate of 75. Canberra's usage rates tracked Melbourne's and substantially exceeded Brisbane's until the early 1990s.

The subsidies required by the Department were modest by comparison with those of today. The 1983-84 subsidy was \$38.7 million (in 2011 dollars), or \$1.67 for each of the 23.2 million passengers. By contrast, according to the TAMS Annual Report for 2010-2011 total subsidies for ACTION were \$98.4 million, or around \$5.80 for each of the year's 17 million passengers (boardings). The figures for the financial year 1989 to 1990 were \$60.4 million, and \$2.42 (25.1 million passengers).

So how did ACTION manage to increase patronage so dramatically while keeping subsidy levels far below those of today and without any re-engineering of urban form? It provided a package of service innovations unique in Australia:

- High service levels on local routes covering *the whole* of Canberra: 15-minute minimum frequencies in peaks and peak 'shoulders' (e.g., until 7 pm); 30 minute

services during shopping hours (including Saturday mornings); hourly services only at times when shops closed.

- High-frequency, high speed, reliable inter-town express services, operated with high capacity articulated buses; in peak periods inter-town services supplemented by direct express links from interchanges to employment centres such as Barton and Campbell Park.
- Synchronisation of timetables at interchanges, with guaranteed connections; maximum wait times 4-5 minutes; each local timetable shows times of connecting intertown services [see example shown in appendix]; supervisors at interchanges hold local buses if intertown services running late.
- Modern, clean, comfortable, well-maintained vehicles and interchanges, with supervisory staff present at all times to ensure connections and passenger safety.
- A stable, easy-to-understand network structure throughout the day and week; peak-only services minimised; no separate weekend network.
- A simple, low-tech fare and ticketing system with strong emphasis on discounted periodical and pre-purchased tickets, to build customer loyalty and speed bus boarding.
- Little reliance on park-and-ride or 'express'-style services direct from residential areas to central Canberra; primary access to express services provided by local feeders.

ACTION presented passengers with a trade-off: a high rate of interchanging *versus* higher frequencies and speeds, greater reliability and connections to more destinations. The high rate of interchanging was made more convenient by synchronised timetables and purpose-built facilities. These synchronised timetables guaranteed *maximum* wait times at interchanges of 4-5 minutes for transfers from intertown to local services. By contrast, *Transport for Canberra* proposes an *average* waiting time of 15 minutes for such transfers in 2013, reducing to 10 minutes in 2016!

So the average waiting time for a connection to a local service in 2016 will be twice as long as the maximum waiting time in 1991. This system of high-rate synchronised interchanging allowed ACTION to minimise the number of different routes and the cost of operating the busiest services, through high speeds and use of articulated buses. And it could offer frequencies and speeds higher, reliability and connectivity greater, than it could have offered under a direct routing system.

The evidence from patronage figures and census data for travel to work<sup>18</sup> shows that passengers were prepared to accept the trade-off. And so ACTION was able to provide a high level of service across the whole of Canberra, something that was not the case in any other Australian city. For example, until recently, fewer than half of Melbourne residents lived within walking distance of a public transport service that operated at all on Sundays. It also enabled ACTION to serve a wide range of trip purposes: non-central trips as well as trips to Civic; non-work as well as work trips. Needless to say, a high level of service *across the whole of Canberra* is not envisaged by *Transport for Canberra*.

Just as important for today as what ACTION did do is what they did not do. They did not create a Frequent Network which imparts the message, „If you want good public transport, locate to the Frequent Network.“ They did not tell a tale of two networks in which interchanging is not taken seriously due to lack of effective timetable coordination, which leads to poor wait times. And they did not impose urban consolidation.

There is another interesting but little known consequence of ACTION’s success:<sup>19</sup> car use stagnated and even fell a little. In 1976, when the Australian began to include a question on the mode used for travel to work, Canberra recorded a lower public transport mode share, and a higher mode share for the car, than the six state capitals.

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<sup>18</sup> This evidence has been collected from 1976 onwards and is summarised in *Travel to Work in Australian Capital Cities, 1976 to 2006*, by P. Mees, J. Stone and E. Sorupia, 2007.

<sup>19</sup> The remaining part of this section relies on a chapter draft on Canberra, to appear in a forthcoming book, to which Paul Mees has very generously given me access.

But in the five years to 1981, Canberra was the only one of the seven capital cities to record a decline in the share of workers travelling by car, from 83.8 per cent to 81.8 per cent.<sup>20</sup> This decline was due to an increase in public transport's mode share, from 8.9 to 9.9 per cent, and a doubling of cycling, from 0.9 to 2.1 per cent, mainly due to the NCDC's completion of a network of cycle paths.<sup>21</sup> By 1981, the mode share of the car for work trips was lower in Canberra than in Perth. By 1991 Canberra had a lower car share and a higher public transport share than Hobart. Remarkably, the share of ACT households *without* cars actually increased, from 6.5 to 8.4 per cent, between 1976 and 1981 and car ownership rates plateaued: by 1980 the ACT had lower car ownership rates than any of the states.<sup>22</sup> The 1976 Survey of Motor Vehicle Use recorded Canberra's per capita car usage rate as being higher than Melbourne's or Sydney's, although lower than Adelaide's or Perth's. But in the following decade usage rates grew rapidly in all cities *except* Canberra, such that by 1985 Canberra's usage rates were *lower* than any of the other cities.<sup>23</sup>

True, these changes in car ownership and usage were very modest. Nonetheless, they provide further confirmation that the dominance of the car can be challenged, even in a city with Canberra's current urban form. Moreover, ACTION achieved this success with an all-bus system and with neither park-and-ride nor so-called 'expresso' routes, two key elements in current Australian public transport planning. Instead of driving to park and ride lots or using 'expresso' services, most ACTION commuters in Belconnen, Woden and Tuggeranong caught feeder buses from their local neighbourhoods to town centres, then transferred to inter-town express services. In

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<sup>20</sup> The current mode share of the car is around 81%, too. But the mode share of public transport is lower. Indeed, the 1981 figure of 9.9% is more than the target for 2011!

<sup>21</sup> See *Travel to Work in Australian Capital Cities, 1976 to 2006*, by P. Mees, J. Stone and E. Sorupia, 2007. Mees, Stone and Sorupia point out that some of the increase in cycling may have occurred at the expense of walking, which fell from 4.6 to 4.0 per cent between 1976 and 1981.

<sup>22</sup> NCDC (1984) *Metropolitan Canberra: Policy Plan, Development Plan*, Canberra, pp. 76-77.

<sup>23</sup> SMVU figures reported in P. Newman & J. Kenworthy (1991) *Towards a More Sustainable Canberra*, Perth, p. 33. Figures are for travel within the city only. *Transport for Canberra* claims that at present car ownership in the ACT is increasing, from 541 per 1,000 people in 1998 to 596 per 1,000 people in 2010. It does, however, claim that "there appears to be a decline over the last decade in the number of kilometres people are travelling." (p.8)

doing so, they made a bigger contribution to reducing car travel than commuters in cities which rely heavily on park-and-ride. They also debunked another conventional wisdom in Australian transport planning, namely, that passengers will not transfer. ACTION showed that they will if transfers are made convenient and reliable.

**Alas, poor ACTION ... !**

So why did this all come unstuck? And why does no one remember that it even existed? For the gory details I advise reading Paul Mees' chapter on Canberra in a forthcoming book. But the nub of things appears to be this: having reached its peak of performance in 1985, ACTION came under increasing pressure to cut costs, particularly after self-government. Meanwhile, the former NCDC, now the NCA, despite the pressure exerted upon it by the Whitlam government and Department of Territories, had never given up on its obsession with preventing and reducing congestion. This had led it always to give public transport second place and, in particular, to see public transport as primarily a means of reducing congestion during peak hour. So even as roads were being built and upgraded, public transport had to fight an increasingly losing battle to maintain funding.

This points to another feature of *Transport for Canberra* whose nature and origins, along with the frequency and coverage network distinction, has never been clearly understood by critics like the ACT Greens: *Transport for Canberra* in no way seriously challenges that obsession with preventing and maintaining congestion which the ACT government and its public service, immersed as they are in the local planning tradition of Canberra, has inherited from the NCDC. This commitment to preventing and reducing congestion is ever-present, even if never explicitly stated, in the document—see, e.g., § 4.1, pp.46f., which, after beating about the bush a little, commits itself to “completing key road infrastructure, improving capacity and maintaining our road assets.” (p.47) After all, a long-term road objective is to “create efficient ring road options for car and freight traffic that integrate with central road corridors designed for public transport”! (TfC, p.46) In no way will Canberra in 2031

have moved away from a long standing tradition of generous road funding. Public transport will thus continue to be taken seriously only as a means of commuting to work, that is, a means of reducing congestion during peak hour. And this only entrenches driving as the default mode of travel: “The bus is there to free up the roads for me.”

Of course, I could have said, even more emphatically, “The *light rail* is there to free up the roads for me.” With this we come to a crucial reason why ACTION, once its successes had been forgotten and it had become discredited, has never recovered and the collective amnesia about its successes only been reinforced. In 1990, Darrell Killen, a Canberra businessman, brought together environmental, public sector and business groups in the commissioning of the report *Towards a More Sustainable Canberra*. Business was more interested than the environmentalists: the Australian Conservation Foundation found itself alone amongst the Australian Federation of Construction Contractors, the Building Owners and Managers Association, Canberra Association for Regional Development and the Construction and Housing Association of the ACT.<sup>24</sup> Authors of the report were to be Peter Newman and Jeffrey Kenworthy, then of Murdoch University, who had recently published an influential study advocating light rail and high-density ‘urban villages’ as means of combating car dependence.

*Towards a More Sustainable Canberra* was released in 1991. It presents data on land use and transport patterns in Canberra in the early 1980s, comparing them to data from other cities. Since Canberra had no rail and a low density, it had to be a car-dependent city urgently requiring light rail and urban villages. Unfortunately, the authors found that the data did not actually support this conclusion. Canberra had a relatively low density of 10 persons per hectare, below US cities like Detroit (14) and Denver (12) but it also had much higher public transport use and lower car use,

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<sup>24</sup> P. Newman & J. Kenworthy (1991) *Towards a More Sustainable Canberra*, Perth, title page.

suggesting that density was not the critical factor. Moreover, Canberra had higher public transport usage rates than Adelaide, Perth or Brisbane, cities with rail systems and densities similar to or higher than Canberra's. Equally importantly, public transport usage, and its share of the travel market, had increased in Canberra, but declined in the other Australian cities, across the US and even in many European and Asian cities.

This evidence pointed to the success of the Whitlam government's initiatives in imposing a new transport policy upon Canberra, precisely that which had enabled the improvements from 1973 to 1985. But Newman and Kenworthy were unaware of the transport policy changes of the 1970s. And so they could not explain data coming from the ABS which showed that Canberra had the lowest rate of car use, and second-lowest rate of car ownership, of Australia's major cities, a big change from only a decade earlier.<sup>25</sup> The data must therefore be wrong. Traffic consultants were commissioned to provide "an independent estimate of [travel] for the ACT based on a land use/ transport model."<sup>26</sup> This produced figures which made Canberra appear to be among the worst performers rather than the best. And so the conclusion was drawn that Canberra needed light rail and high-density redevelopment.

The report by Newman and Kenworthy fixed the terms of subsequent debate in Canberra: should or should we not have light rail? If we should, do we need high-density development to make it work? Now the anti-public transport lobby, the advocates of car dominance, could argue that they were defending the 'bush capital' against greedy developers.<sup>27</sup> Developers had, after all, sponsored the report. In short, by not mentioning the new transport policies of the 1970s, and rejecting the evidence showing they were beginning to succeed, the report by Newman and Kenworthy helped to cement the image of Canberra as a city which could never change or, if it

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<sup>25</sup> Newman & Kenworthy (1991), pp. 30-34.

<sup>26</sup> p. 31.

<sup>27</sup> E.g. I. Morison (1995) 'Beyond the City State – Metropolitan Canberra', *Urban Policy & Research* 13(2), 117-124.

could, only through something “truly transformational”: light rail. With this, the debate about public transport in Canberra could become myopically focussed on light rail vs. buses and where phase one should be built, probably Gungahlin to Civic, perhaps Belconnen to Civic, but what about the south, etc., etc.—all issues more interesting, above all more *practical*, than theoretical discussion about principles of public transport design, historical discussion of the past or critical analysis of government propaganda. And before you know it, you’ve got a reasonably cost-effective light rail servicing highly cost-effective, revenue-raising development along Northbourne, continued car dominance in the suburbs and constant battles by residents in them to resist incorporation into the new, forward-looking, Civic-centred and in particular pro-business Canberra with its cool light rail.<sup>28</sup>

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<sup>28</sup> The *Canberra Times* of August 8<sup>th</sup>, 2013, reported on the response of Simon Corbell, ACT Minister for Sustainable Development, to Infrastructure Australia, which had cast doubt on whether the territory had enough traffic congestion to warrant federal funding for light rail or rapid buses. Corbell said that light rail was “the best choice for Canberra’s future” because it would bring more development to the Civic to Gungahlin corridor than buses. This reveals a powerful motivation for the Government’s endorsement of light rail, more accurately, of the particular way in which light rail is to be introduced: the greater commercialisation of Civic and Northbourne Avenue, which will boost Government revenues. See <http://www.canberratimes.com.au/act-news/canberra-light-rail-plan-not-enough-traffic-says-infrastructure-australia-report-20130808-2rjth.html>.