

Fifty years of public transport planning in Canberra

Introduction

Canberra is usually thought of as the archetypal ‘car city’, with public transport playing a negligible role in overall travel patterns. Historian Robert Freestone, writing of the National Capital Development Commission’s planning of the 1960s, refers to ‘Canberra’s problem with the motor vehicle.’ The problem, Freestone adds, was ‘largely of its [the NCDC’s] own making, as it opted for a predominantly low density growth form’ (Freestone, 2011, p. 5).

So Canberra is a car city because of its low density, a position that has become the conventional wisdom. The ACT’s 2012 transport strategy, *Transport for Canberra*, follows the same logic. By 2031, the freeway network will have been substantially expanded, but most of Canberra will be served by bus services operating every half hour even in peak periods, ‘provided for reasons of [social] inclusion rather than [to attract] patronage’ (ACT, 2012, p. 19). A fortunate minority living in higher-density redevelopment areas will receive a 15-minute service intended to compete with the car. ‘The message is simple’, says the consultant’s report on which the strategy is based: ‘If you want good public transport in the long term, locate on the Frequent Network’ (MRCagney, 2009, p. iv). The unstated corollary is that everyone else will drive.

This paper examines a different view of Canberra’s transport planning history, one in which public transport made major progress during the 1970s and early 1980s, eventually reaching the point where per capita usage rates were the second-highest in Australia, after Sydney, only to decline dramatically during and since the 1990s. Since Canberra’s urban form and density have hardly changed at all over the decades since the 1970s, the dramatic changes in public transport performance suggest that some factor other than density must be at work.

Building the car city: transport planning in the 1960s

Walter Burley Griffin’s original plan for Canberra included tram lines and even a suburban railway, but these vanished as, from the 1950s, the idea emerged that Canberra was to be made into a paradise for the motorist. From its establishment in 1958 the NCDC adopted an uncompromising focus on eliminating traffic congestion. It commissioned the Canberra Area Transportation Study in 1961, requesting the consultants to prepare a detailed transport plan for a city of 250,000 (a figure Canberra was not expected to reach until 1995), and a general outline of longer-term. As Karl Fischer (1984, p. 79), whose *Canberra: Myths and Models* provides the definitive account of the CATS and the 1966 Canberra Land Use and Transport Study notes, the 1963 CATS report ‘clearly reflects the principles of planning exclusively for the motor car.’

The car orientation was so extreme that two steps which had become essential parts of the United States transport studies on which CATS was modelled were omitted. Instead of conducting a full survey of Canberra’s residents, the CATS consultants sent questionnaires to the owners of private vehicles and the drivers of Commonwealth cars and taxis (Sinclair, 1973, p. 8). Since the ACT had nearly 60,000 residents in

1961, but only 19,000 motor vehicles (ABS, 1963, pp. 286, 545), the majority of the population would have been excluded from the travel survey. Journeys made on foot or by bicycle were also excluded, even though these would have been significant, since many Canberrans still lived in hostels and other government housing close to workplaces. The second departure from US practice was the omission of the 'mode split' stage, in which the shares of travel by car and public transport are modelled. 'It cannot', claimed the consultants, 'be forecast with any accuracy that a particular form of transport will attract a known percentage of riding', so instead future mode split was estimate based on 'data... on a large number of American cities' (Sinclair, 1973, p. 3). This data suggested a future dominated by the car.

CATS recommended extensive provision of expressways, with public transport provided by buses running on the expressways. Although the consultants evaluated a rail system along the route of Burley Griffin's proposed suburban line, they concluded that this would not earn enough revenue to repay construction costs. Therefore, railways were not viable, 'unless they are considered as an alternative to resuming large areas of land and spending vast sums of money for the construction of highways and garages' – a proposition apparently considered so self-evidently absurd that it was dismissed without further discussion (Fischer, 1984, p. 79).

In 1963, the ACT chapter of the Royal Australian Planning Institute organised a conference on the planning of Canberra. This conference aired the first saw the first doubts about the transport consequences of Canberra's growth. However, no concerns were raised about the plan's focus on the car: the paper from the planners Gordon Stevenson and Peter Harrison is dismissive of the prospects for public transport. Instead, their concern was prompted by the CATS analysis of expressway requirements once Canberra grew beyond 250,000.

The NCDC's first plan for urban growth surrounded Griffin's city with new towns, ensuring that the 'national area' of Canberra lay at the centre of the proposed expressway network. By the time the population reached 500,000 the old centre would be dominated by traffic: 'Even with a full measure of decentralisation of employment the cross-city movements would remain concentrated on the central area' (Stevenson & Harrison, 1973, p. 3). Stevenson and Harrison proposed an alternative model of growth, in which new towns were laid out in a linear pattern on a north-south axis. Freeways could be provided in the corridors between the towns, bypassing the city centre. Lesser-scale 'internal' expressways would supplement these links, and could even provide 'space for rapid transit in the median' (p. 5) – an idea that seems to have been an afterthought, as Harrison's accompanying sketch shows only roads, not public transport corridors (reproduced at Fischer, 1984, p. 84). In 1965, Harrison visited the United States, where he discussed the linear city concept with transport engineer Alan Voorhees. The following year, the NCDC commissioned Voorhees to prepare a new plan for a city of a million people.

Although Stevenson and Harrison proposed it as a way of diverting major roads away from Canberra's centre, the linear city had actually been invented to promote rail transport. The earliest and most influential post-World War II linear plans, for Copenhagen and Stockholm, were both designed around new or improved rail systems. So while the single stated objective provided to Alan M. Voorhees & Co. for the 1966 Canberra Land Use and Transport Study was the avoidance of traffic

congestion (Voorhees, 1967, p. 7), the consultants also examined the influence of different urban layouts on the viability of a busway system.

The CLUTS was carried out over a few months during 1966, and as a result some corners had to be cut. There was no travel survey; instead, the results of the 1961 survey of motorists carried out for CATS were used. And as in the earlier study, there was no attempt made to analyse mode split (Black, 1981, pp. 154-5). Instead, it was simply assumed that public transport would attract 'non-choice users' (people without access to cars), plus arbitrarily-defined shares of 'choice' trips: 10 per cent for work trips, 5 per cent for shopping and 2 per cent for 'other'. The results of these assumptions produced a figure of 17 per cent of inter-town trips by public transport, with the remaining 83 per cent made by car (Voorhees, 1967, p. 24).

So CLUTS did not investigate 'public transport potential' by considering the possibility of an increased mode split. Instead, it assumed a low mode split and investigated the extent to which differing urban structures would concentrate the resulting bus travel in corridors. It assumed, probably correctly, that patronage of 'at least 25,000 to 30,000 persons per day' would be required to economically justify providing a busway in any given corridor (p. 25). But none of the alternative urban layouts investigated produced the necessary density of patronage. The best result was provided by the linear Alternative B, which – at an urban population of 1 million – produced 20,750 passengers a day between North and South Canberra (i.e. across Lake Burley Griffin), but only 18,250 on the Belconnen-Civic corridor and 13,200 between Woden and Civic (p. 28). The final 'General Plan Concept' for a city of a million produced daily bus passenger flows below 20,000 on all corridors, except North to South Canberra, which had 26,000 (p. 62). Even this figure dropped to 18,000 in the 'Intermediate Plan' for a population of half a million (p. 69).

The basic problem revealed by CLUTS was that the assumed mode split was too low to justify busways or other rapid transit on any corridors in Canberra, even at a population of a million. So could the mode split to public transport be raised? This question was not considered, presumably because it would contravene the NCDC's goal of providing congestion-free private motoring. Instead, Voorhees suggested a variation to the Intermediate Plan which raised employment in Canberra's central area from the 60,000 jobs planned for the population of 500,000 to the full 90,000 jobs that were originally not intended until the city reached 1 million. Voorhees was surprisingly sanguine about the resulting congestion, arguing that 'potential traffic problems in this area may not be as extensive as was originally contemplated.' However, 'this traffic analysis is based on the assessment of daily traffic volumes rather than peak hour volumes' (p. 40).

Even the increased central area employment still left all bus corridors with less than 20,000 daily passengers, except for North to South Canberra, which rose to 24,000, meaning that busways could not really be justified on any of them (pp. 65, 69). Voorhees suggested that a busway system could be constructed in stages 'over several decades', beginning with small sections on the approaches to interchanges at Woden and Belconnen. Construction of 'a continuous route from the City to nearest town centres' would not take place until the population passed the half-million mark (pp. 69-70).

The NCDC published the General Plan Concept and the results of the Voorhees study in 1970 as *Tomorrow's Canberra*. This introduced the general public to what became known as the Y-Plan, with its linear arrangement of towns, linked by an 'urban busway' spine running through their centres and peripheral freeways running mainly north-south. The busway route was shown on the Y-plan map and discussed as if it was a central feature of the plan, with construction imminent: 'Detailed studies... are now in progress with the aim of completing the first section of route for operation by 1976 (NCDC, 1970 p. 230).'

In reality, the status of the busway was less clear. Concerns about traffic congestion had led the Commission to revise the central area employment target for the Intermediate Plan for 500,000 people back down to 60,000 (NCDC, 1970, pp. 215-218), a level that Voorhees had predicted would produce daily flows too low to justify busways on any corridor. So the prospects that a busway would begin operating by 1976 were remote, unless the question of mode split was tackled. Once again, the dominant goal of congestion-free motoring was blocking improvements to alternative transport modes.

The transit city

Gough Whitlam's own childhood in Canberra had helped spark his interest in urban planning, by showing what could be achieved through concerted government action, as well as alerting him to the problems created by inadequate public transport (Hocking, 2008, p. 48). In opposition, Whitlam and his urban affairs spokesman Tom Uren emphasised the need for a Federal cities program that featured improvements to public transport.

The impact of the Whitlam government's urban programs on the state capital cities and regional centres has been extensively discussed (e.g. Lloyd & Troy, 1981), but less attention has been paid to the changes Whitlam and Uren made to Canberra's planning. The Whitlam government moved quickly to change transport priorities in Canberra. The Department of the Capital Territory was created within weeks of the election. It took over the Canberra bus service the former Department of the Interior had operated since the 1920s, and established a transport policy and planning division so it would no longer be forced to rely on the NCDC for advice (Cooper et al, 1990). In August 1973, Cabinet approved funding for a major upgrading of the Canberra bus service, through expanded services and new vehicles.

The rapid response of the Department of the Capital Territory to the new transport agenda was not matched by the NCDC. The Commission's 1973 Annual Report is similar to those of previous years, and contains no mention of new directions in transport policy. The 1974 Annual Report warned the government:

The Commission is conscious of the Government's concern to constrain the proliferation of the motor car and encourage the development of public transport [but] Even if in the future there is a shift towards increased public transport and reduced car usage this does not mean that major road proposals can be discarded. Failure to provide new roads will only lead to costly traffic congestion and a build-up of through-traffic in residential areas, no matter how good the public transport system is likely to be (NCDC, 1974, p. 5).

The government responded by ordering the NCDC to change its tune. In its 1975 Annual Report, the Commission revealed:

An important and fundamental step was taken by the Minister [for Urban and Regional Development], in conjunction with the Minister for the Capital Territory, through the acceptance of a transport policy which aims to shift emphasis away from the use of the private car in favour of public transport. This policy is based on the concept that reduced investment in roads and parking facilities must be counter-balanced by increased investment in buses or more sophisticated forms of public transport, coupled with proper controls over public parking areas (NCDC, 1975, p. 7).

The new policy, which is dated July 1974 and endorsed by the NCDC and Department of the Capital Territory, states that new roads will be designed to ‘provide a high level-of-service for off-peak freight and private car usage’. By contrast, ‘[u]nnecessary use of the private car for commuting purposes will be discouraged. Any shortfall in peak-period road capacity or parking space will be offset by the provision of improved public transport’. Improved public transport will be supplemented by a network of bike paths. Finally, the policy accepts to need for ongoing public transport operating subsidies (NCDC, 1975, p. 65).

The new policy marked an emphatic rejection of the transport priorities the NCDC had defended against all comers since the late 1950s. Although congestion was not expressly advocated, the policy clearly implies that it would be tolerated.

Beyond laissez-faire: The Canberra Short Term Transport Planning Study

The Canberra Short Term Transport Planning Study commenced in October and concluded in December 1976. As its title indicates, the study’s main purpose was to evaluate the feasibility of a substantial change in transport patterns within a relatively short period of time: the target year was 1982, but the study also considered longer-term changes up to 1992.

The study marked a significant departure from the NCDC’s previous practices. It was based on a comprehensive travel survey, the first such survey ever conducted in Canberra: previous studies had, as we have seen, relied mainly on guesswork and ‘parameters derived from other cities’, usually in the United States. It expressly evaluated the influence of differing transport policies on mode split, something also omitted from previous Canberra studies, which simply assumed public transport’s share of travel would remain low. This evaluation employed new modelling techniques, based on ‘the simulation of individual traveller behaviour’; these techniques had not been available in the 1960s (Pak-Poy et al, 1977, p. 2). The study team was made up of NCDC transport planners, plus staff from two consulting firms, Pak-Poy & Associates, and John Paterson Urban Systems.

In a joint paper for the 1976 ATRF, Paterson, the head of the Pak-Poy team and the NCDC’s First Assistant Commissioner (Engineering), described the study as ‘a portent of things to come’, and a model for other Australian cities (Morris et al, 1976). The Short Term Transport Planning Study assessed the combined effect of a

‘travel demand management’ policy package comprising increased investment in public transport, reduced investment in roads, increased traffic congestion (from which public transport would be protected), and charging for parking (in the mid-1970s, Canberra commuters were still provided with free all-day parking, even in Civic). The results turned the assumptions behind two decades of NCDC transport planning on their head: ‘public transport becomes the major mode for centralised work journeys’ (Pk-Poy et al, 1977, p. v) as early as 1982, with further gains in mode share likely by 1992. The specific predictions for 1982 are set out in Table 1 (the figures do not include walking or cycling trips, which were not modelled).

Table 1. Mode splits with and without Travel Demand Management

Destination	Without TDM (%)		With TDM (%)	
	Bus	Car	Bus	Car
Civic	16.4	83.6	49.6	50.4
Belconnen	16.8	83.2	42.5	57.5
Woden	15.6	84.4	40.1	59.9
Canberra total	14.0	86.0	35.8	64.2

Source: Pak-Poy et al (1977), tables 5.21-5.25.

The study’s final chapter summarised the results:

These primary conclusions are vindication of the need seen two years ago for a revised transport policy approach. The study has proven analytically that Canberra must now make the transition from a laissez-faire transport policy environment to a ‘managed demand’ environment (p. 91).

The report noted that the NCDC’s proposed transport budget for the period to 1982, which directed three-quarters of investment to highways and one-quarter to public transport, ‘under-funded’ public transport and would ‘undermine completely the success of the Transport Policy Approach.’ A revised investment program was recommended, which allocated 60 per cent of funds to public transport (p. vii), mainly for new vehicles, but also for bus priority measures. The report predicted that the first stages of busway, from Woden to Civic to Belconnen, would be needed by 1992. Public transport improvements would be supported by parking charges of \$1 per day for commuters to the main centres.

It seemed that the NCDC’s two decade old policy of giving priority to the car had received its death-blow. Canberra was poised to make the leap from being the model of a car-dominated city to a model of a city that changed to more environmentally sustainable ways.

Meanwhile, down at the depot

The Department of the Capital Territory had been much more enthusiastic than the NCDC about the Whitlam government’s transport agenda for Canberra. Even before signing the new transport policy of 1974, the Department began to expand and improve services, aided by funding increases that began in the second half of 1973.

The service expansion built on tentative beginnings made during the pre-Whitlam era, notably the Woden bus interchange, which opened in December 1972, and an express bus service from Woden to Civic, which began in 1968. The express service was extended to Belconnen and, like the original Woden service, coordinated with local feeder buses. Service frequencies on local routes increased, from standard half-hourly headways in peak periods to 15 minutes. In 1975, a segregated bus lane was introduced on the congested Yarra Glen section of the express route to Woden; in 1979, the Belconnen interchange opened, along with a two kilometre section of busway. The Canberra bus system, re-branded as ACTION in 1977, pioneered other service innovations that were only picked up later in other parts of Australia, such as articulated buses, demand-responsive services, simplified fares and pre-purchased tickets.

The basic operating approach employed by ACTION was the ‘timed transfer system’. Canberra was a pioneer of this approach, and was even cited as a model in a 1981 study for the US Department of Transportation (Vuchic et al, 1981, pp. 17, 98). Fast express services operated by articulated buses ran between Woden, Civic and Belconnen; connecting regular-sized buses served local areas. Timetables were coordinated, with 4-5 minutes allowed for connections. Supervisors at interchanges ‘held’ local services for late-running expresses, and the times of connecting intertown services were shown on all local timetables. Concentrating inter-town demand on express services with higher-capacity vehicles minimised operating costs, effectively cross-subsidising local routes, which could then provide higher service levels. Local feeders ran to minimum frequencies of every 15 minutes in peak period and 30 minutes at other times. As patronage increased, so did service quality: the 15-minute evening peak service was extended to around 7 pm, while busier feeder routes were upgraded to 7-8 minute peak frequencies. All-day, off-peak frequencies of 15 minutes were provided on busier corridors, often by coordinating the timetables of two services with a common route section. As early as 1977, ACTION boasted that it was providing 15-minute all-day services to 27 Canberra suburbs (DCT, 1977, p. 50).

ACTION’s service approach presented passengers with a trade-off: more transferring, in return for higher service levels on local routes. It soon became apparent that many Canberrans were happy to accept the trade-off, as public transport patronage rose rapidly. Throughout the 1960s and early 1970s, bus patronage in Canberra had grown more slowly than population, so per capita usage rates gradually declined to a low-point of 48 trips in the financial year ending 30th June 1973 (Fig. 1). Patronage increased by 73 per cent in the three years to 1976, with per capita usage rates jumping by more than half, to 76 trips. Despite temporary setbacks due to industrial disputes, the growth continued, and by 1985 per capita usage had reached 96 trips, double the figure of 1973. Actual patronage had nearly tripled, from 8.4 million to 24 million.

[Fig. 1 here]

This doubling of usage rates in 12 years, a period in which patronage declined in other Australian cities, is one of the most dramatic recorded anywhere in the developed world. A similar increase in the Canadian capital, Ottawa, over the same period (albeit from a significantly higher starting point) led to that city becoming

internationally renowned as an exemplar of successful public transport (Al-Dubikhi & Mees, 2010). But Canberra's success has been ignored, even by Australian observers, despite the fact that by 1985, its usage rate was the second-highest in Australia after Sydney, just ahead of Melbourne's 95 trips per capita and well above Brisbane's 75 trips.

The growth in public transport patronage was matched by reductions, or at least stagnation, in car use. The 1976 Australian census was the first to include a question on the mode used for travel to work; Canberra recorded a lower public transport share, and a higher share for car trips, than any of the six state capitals. However, 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. 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 rapid completion of a network of cycle paths (Mees et al, 2007). By 1981, the share of work trips made by car was lower in Canberra than in Perth; by 1991 Canberra had a lower car share and a higher public transport share than Hobart.

Change was beginning in other areas too. The share of ACT households without cars actually increased, from 6.5 to 8.4 per cent, between 1976 and 1981, while car ownership rates stagnated: by 1980 the ACT had lower car ownership rates than any of the states (NCDC, 1984, pp. 76-77). The 1976 Survey of Motor Vehicle Use recorded Canberra's per capita car usage rate as being higher than Melbourne's or Sydney's (but lower than in Adelaide or Perth). Usage rates grew rapidly in the following decade in all cities except Canberra, and by 1985 Canberra's usage rates were lower than any of the other cities (Newman & Kenworthy, 1991, p. 33).

These changes, while modest, provided further confirmation that the new transport policy of 1974 was beginning to work: the dominance of the car could be challenged, even in a city like Canberra. It is also significant that ACTION achieved this success with an all-bus system, and without relying on park-and-ride, or peak-period-only direct services (currently called 'expresso' routes in Canberra), 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 took feeder buses from their local neighbourhoods to town centres, then transferred to intertown express services. In doing so, they made a bigger contribution to reducing car travel than commuters in cities which rely heavily on park-and-ride. They also challenged 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.

Canberrans had confirmed what the modelling of the Short Term Transport Study had predicted: significant changes in transport outcomes could be achieved in a relatively short time, without any appreciable change to the city's urban form. The growth in bus patronage between 1973 and 1985 was lower than predicted by the Short Term Transport Study, because the NCDC did not provide the measures required to support improved public transport (see below). Lower than expected patronage, together with higher operating costs arising from the lack of bus priority, made it difficult for ACTION to reduce its operating subsidies. However, by the 1980s it had at least brought them under control, with inflation-adjusted subsidies holding roughly

constant and a small decline in subsidy per passenger (see Fig. 2).

[Fig. 2 here]

With record usage rates, and the growth in subsidies under control, ACTION in the mid-1980s was poised to move to the next stage and make serious inroads into car use. This would have included starting work on the busway system and implementing the Short Term Transport Strategy's goal of moving from a 15/30 minute (peak/off-peak) minimum service level to a 7-8/15 minute minimum. But at this very time, the NCDC buried the new transport policy approach that ACTION had been seeking to implement, reinstated the road- and car-focused planning of the 1960s and halted the modest program of bus priority measures it had pursued during the 1970s.

Canberra's planners reject the transit city

The NCDC had promised to conduct 'a parallel program of public participation' alongside the Short Term Transport Study, in order to 'test public acceptability of proposed measures' (Morris et al, 1976, p. 159). This program never occurred. The NCDC's 1976 Annual Report advised that the Commission was awaiting the results of the study, but the 1977 Annual Report makes no reference to it; nor do any subsequent Commission documents. The 1978 Annual Report briefly summarises the 1974 transport policy, but adds a new caveat not found in the original: 'In view of the commitment to preserving high environmental standards, traffic congestion is **not** used as a measure to achieve greater use of public transport; rather, reliance is placed on the gradual control of long-term parking facilities for this purpose' (NCDC, 1978, p. 25).

This caveat flies in the face of the logic of the 1974 transport policy, and the Short Term Transport Study's advice that, without peak-period congestion to moderate demand, parking rates would need to be punishingly high, leading to popular discontent (Pak-Poy et al, 1977, p. 7). The NCDC's discussion of transport also omits the Study's finding that the Commission's transport program would undermine the new transport policy unless funding was diverted from roads to public transport; instead, most funds remained allocated for road expansions. The NCDC never showed any interest in implementing the very high parking charges that would be necessary to reduce car travel in the absence of congestion: the caveat in the 1978 Annual Report was really a cover for abandoning the 1974 transport policy.

So how did the NCDC justify rejecting the advice of the Short Term Transport Study? It didn't; instead, the Study report was suppressed. It was never published, and never publicly mentioned again. All copies mysteriously vanished from the Commission's library and even its archives.¹ When Karl Fischer arrived in 1978 to research *Canberra: Myths and Models*, he was completely unaware of the report's or the study's existence, and so did not mention them in his book.²

The 1978 Annual Report also notes that Canberra's population growth was slowing,

¹ I found a copy in the Melbourne University Architecture Library, to which it appears to have been donated.

² Based on discussions with K. Fischer.

as Federal budget cuts took effect. The NCDC responded by commencing a review of the Y-Plan in light of this slower growth rate; the results were finally published in 1984 as *Metropolitan Canberra*. The background discussion on transport presented data from the 1975 travel survey, but made no mention of the fact that the survey had been conducted as part of the Short Term Transport Study; nor was there any other mention of the study or its conclusions. The discussion played down the dramatic increase in ACTION patronage since the 1975 survey, and did not mention the fall in car travel recorded between the 1976 and 1981 censuses (see below). It presented a table showing the rapid growth in ACTION subsidies – described as ‘deficits’ – during the second half of the 1970s, but did not adjust the figures for inflation or include data after 1982. The report’s authors concluded that ‘the annual deficit will continue to increase at a rate greater than the rate of inflation’ (NCDC, 1984, pp. 93-94), even though the inflation-adjusted ACTION subsidy had already stopped increasing by the time of the report, while the subsidy per passenger was actually declining (see Fig. 2).

The NCDC painted a picture of a public transport system that was failing to increase its share of the travel market, while incurring steadily growing deficits – the opposite of the true picture. And so the reader was led inexorably to the opposite conclusion to that drawn by the suppressed 1977 report: ‘In view of the likelihood of increasing public transport costs... it is anticipated that the average proportion of travel catered for by public transport will remain about the same [as now]’ (p. 96).

Metropolitan Canberra reinstated the Y-Plan’s plan’s original road network, including all the links deleted during the 1970s. The roads were designed on the opposite basis to the 1974 transport policy: ‘The analysis was based on peak-hour demands... As traffic congestion is not expected to occur over most of the network between the peaks, travel demands at this time of day were not considered in the evaluation of road needs’ (p. 124). The accompanying Development Plan, setting out the capital works programme, contains a long list of road projects and car parking expansions, but not a single public transport improvement (pp. 219-225).

The following year, ACTION recorded its highest-ever usage rate, but nobody noticed.

Distracted by density: the transit city forgotten

‘Urban consolidation’ arose as a key policy issue in the late 1970s, as the populations of Canberra’s established suburbs began to decline. The original arguments for consolidation had nothing to do with transport – indeed, it was expressly denied that consolidation had any role to play in altering transport patterns – but as time passed, the consolidation question became entangled with proposals for light rail and an expanded central business district. Public transport came to be associated with unpopular plans for residential and commercial redevelopment, while advocates of continued car dominance posed as defenders of Canberra’s ‘bush capital’ character.

Neither side of this long-running debate seemed to notice that they were living in the very city where both studies and on-the-ground transport changes had demonstrated that large shifts away from the car were achievable without any change in urban form. While they argued about consolidation and light rail, the gains of the 1970s and early

1980s were all lost: public transport patronage halved, its share of work trips dropped by a third, walking and cycling stagnated and per capita car use resumed its growth, at a faster rate than in the other major Australian cities.

The Joint Parliamentary Committee on the ACT began its scrutiny of *Metropolitan Canberra* in 1985, and asked the NCDC for a more detailed report on consolidation. The Commission responded in 1986 with a submission pointing out that, according to 1981 census figures on the density of urbanised areas, Canberra's density of 10.1 persons per hectare was similar to other Australian cities, particularly Perth (10.2) and Brisbane (10.6) (NCDC, 1986, p. 11). The Joint Committee was not impressed: its 1987 report excoriated the NCDC for its lack of enthusiasm for urban consolidation (Joint Committee, 1987, p. xii). But the same report meekly endorsed the Commission's transport policies (chapter 5). The Committee either ignored or was unaware of the burying of the Short Term Transport Study, the abandonment of the 1974 transport policy, and the misrepresentation of the performance of ACTION.

By this time, the ACT was being readied for self-government. Planning responsibilities were split between a National Capital Planning Authority and a Territory planning agency. Both planning bodies quickly produced documents that recapitulated the contents of *Metropolitan Canberra*, with somewhat more sympathetic treatments of urban consolidation, but no change at all in transport policies. All trace of Canberra's brief time as a transit city had finally been erased from the record – and, it appears, from people's memories.

This ignorance of what was still the recent past ensured that the next attempt to set Canberra's transport on a more sustainable path achieved the opposite result to that intended. In 1990, Darrell Killen, a Canberra businessman, brought together environmental, public sector and business groups to commission a report titled *Towards a More Sustainable Canberra*. The sponsors commissioned the report from 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 policy responses to automobile dependence.

The *Sustainable Canberra* report, released in 1991, presents data on land use and transport patterns in Canberra in the early 1980s, and compares these to other cities. Since Canberra had no rail and a low density, the report paints it as an auto-dependent city urgently requiring light rail and urban villages. The problem is that the data the authors collected did not actually support their conclusions. 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 than these cities, suggesting that density was not the critical factor. Canberra also 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 new Canberra transport policy of 1974 and the accompanying changes to ACTION services (and cycle paths). The clearest sign was the stagnation in car ownership and usage rates measured by the Australian

Bureau of Statistics through the Motor Vehicle Census and Survey of Motor Vehicle Usage (SMVU). These suggested that by the 1980s, 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 (Newman & Kenworthy, 1991, p. 55). But since Newman and Kenworthy were unaware of the transport policy changes of the 1970s, they decided that there was no possible explanation for Canberra doing so well. Therefore, the data must be wrong: 'the SMVU data are not consistent or reasonable in relation to the overall trends' (p. 32).' So they commissioned traffic consultants to provide 'an independent estimate of [travel] for the ACT based on a land use/transport model' (p. 31). This produced significantly higher figures which, when compared to the SMVU figures for the other Australian cities, made Canberra appear to be among the worst performers, rather than the best. This revised data then led easily to the conclusion that Canberra needed light rail and high-density redevelopment.

Most observers drew three conclusions from the *Sustainable Canberra* report: the only good form of public transport is light rail; light rail requires high-density development to succeed; therefore, public transport is a tool of the development lobby – who had, after all, sponsored the report – and a way of justifying unpopular plans for flats, high-rises and a bigger central business district. This enabled advocates of continued car dominance to argue that they were defending the 'bush capital' against greedy developers (e.g. Morison, 1995). Equally importantly, by not mentioning the new transport policies of the 1970s, and rejecting the evidence showing they were beginning to succeed, the report helped cement the image of Canberra as a city in which the car was part of the DNA, a city that could never change.

In 2000, the ACT Legislative Assembly's Standing Committee on Planning and Urban Services inquired into the Gungahlin Drive Extension, a controversial freeway to be built through the Canberra Nature Park. The Committee agreed that the road would harm the environment, but argued that there was no practical alternative. The reason was density: the *Sustainable Canberra* report had proven it.

The committee is struck by a major difference between the transport studies with a car-oriented approach and those making public transport pre-eminent... the car-oriented strategy is associated with a dispersed city of mostly low-rise buildings; whereas the public transport approach is associated with fairly dense 'urban villages' around stations along the bus/rail route... The committee is not confident that the ACT community is ready, or would understand the need, for town planning changes of the kind associated with the public transport strategy... *These town planning considerations lead the committee to conclude that the car-oriented strategy... continues to be appropriate* (Standing Committee, 2001, pp. 101-2: italics in original).

ACTION's career goes bung

In 1985, ACTION reached the peak of its performance. Although undermined by the NCDC's repudiation of the 1974 transport policy, the organisation had raised per capita patronage to 96 trips per annum, halted the increase in real subsidies and reduced the real subsidy per passenger by 15 per cent in five years (Figs. 1 & 2). Equally importantly, it had helped curb the growth of car ownership and usage in

Canberra.

Industrial action in 1986 reduced patronage, and cut ACTION's share of work trips at that year's census from around 11 per cent in 1985 to 9.7 per cent (Mees et al, 2007. The 1985 figure is my estimate based on tripmaking rates). Although patronage began recovering in 1987, ACTION now faced a new challenge – from 'economic rationalists', who objected to the fact that the national capital was supposedly spending more on public transport than state capitals. In fact, when the Commonwealth Grants Commission examined the issue, it found that the ACT had substantially lower expenditure on public transport than the national urban average. But once 'ACTION's net deficit was adjusted to include notional payments for expenses such as payroll tax, petroleum franchise fees and debt charges, which were not paid by ACTION', then 'the cost of service provision ratio for the ACT was nearly 16 per cent above [the national] standard' (CGC, 1988, pp. 64-5). It was soon widely accepted among policy-makers that ACTION's deficit was too high and that services needed to be cut. As if to make things appear worse, the ACT government actually added notional charges like interest on debt to ACTION's costs, inflating the apparent deficit substantially around the early 1990s; eventually, these charges were removed from the budget, resulting in an apparent fall in the deficit (Fig. 2).

The first cuts to ACTION service began in 1988, when some peak-period local feeder trips were deleted. Not all the resources saved were used to reduce operating costs, as ACTION began introducing express services that travelled direct to the city centre, bypassing town centre interchanges. Park and ride provision was expanded in conjunction with the new express services. ACTION was beginning to move away from the comprehensive, all-purpose service model that had underpinned the growth in patronage between 1973 and 1985, towards a more conventional city commuter focus. Providing a few direct services a day to Civic marginally increased convenience for city commuters, who could now avoid a transfer at their local interchange. But the reduction in local feeders to provide resources for the express service severely disadvantaged those travelling to town centres, as well as those needing to transfer to other services at town centre interchanges.

The initial service cuts were modest, and patronage remained at around 25 million until 1991 (although per capita figures were declining as the population grew). Then a rapid fall commenced, as major service reductions and fare rises eroded ACTION's competitive position. The biggest change came in 1994, when local feeder frequencies were substantially reduced and the times of connecting intertown services were dropped from local timetables. Around this time, the interchange supervisors, who ensured connections, were also withdrawn. So in the space of a few years, the peak-period offering on many local routes had declined from a 7 to 8 or 10 minute peak service, with guaranteed connections, to a 20 or 30 minute frequency with random connections. Outside peak periods, the abolition of timetable coordination ensured even longer waits.

The timed transfer network that had underpinned ACTION's success broke down completely. Passengers who had been guaranteed a maximum wait of 4-5 minutes for connections could now be stranded for half an hour or more at an unstaffed interchange. Hardly surprisingly, patronage and mode share collapsed – despite the fact that, by this time, parking charges had been introduced for commuters travelling

to major centres. By 2001, the share of Canberra's workers using public transport had fallen to 6.7 per cent, a third lower than in 1991, with the biggest declines for travel to non-central locations. Per capita patronage dropped to 49 trips per capita, similar to the all-time low recorded in 1972. A 1997 travel survey, only the second in Canberra's history, recorded public transport's share across all trip types as 6 per cent, down from 9 per cent in 1976 (Scott Wilson Nairn et al, 2002, p. 15). As public transport declined, car ownership and usage began to grow again.

The election in 2001 of a Labor government, dependent on Greens support, seemed to hold out the prospect for a change in transport priorities. But the new administration took its advice from the same quarters as its predecessors, who told it that population density was the major barrier to improved public transport. By this time, nobody seemed to remember that Canberra had once been a national leader in public transport growth.

The pessimism of the government's advisors seemed to be borne out by the disappointing results of increases in ACTION's funding, mainly to reinstate 'express' services, which had been eliminated in 1999. The decline in patronage was halted and there was a modest improvement in public transport's share of work trips by the 2006 census, although this was mainly due to increased bus travel to Civic, the focus of the reinstated express routes (Stone & Mees, 2011). Adding services just for peak-period city centre commuters proved expensive, and subsidies rose. Budget and service cuts in late 2006 ended the growth in patronage and re-established the pattern of decline. A partial restoration of services failed to stem the patronage decline, but saw subsidies rise again. By 2011 ACTION managed the dubious distinction of simultaneously chalking up the lowest per capita patronage, and the highest subsidy per trip, ever recorded (Figs. 1 & 2). In early 2012, the *Canberra Times* (2012) reported that the organisation had six managers over the previous eight years.

Bellingham to the rescue

The bus service cuts of 2006 led to political controversy and a 2007 inquiry by a parliamentary committee. The ACT government responded by announcing that it would hire consultants to develop a new service plan. For reasons that are not clear, the government chose its consultant from a place where public transport is even less successful than in Canberra.

Bellingham is a small city in Washington State. It is the seat of Whatcom County, which borders the Canadian province of British Columbia. The Whatcom Transportation Authority was established in 1983, funded by a county-wide sales tax. In 2010 it carried 5.1 million passengers, giving a trip rate of 26 per capita, or around half Canberra's current rate. Patronage is dominated by students, and WTA only carried 3.1 per cent of county workers in 2007, well below half the 7.9 per cent recorded in Canberra at the 2006 census. Fares covered 11 per cent of operating costs, leaving a subsidy equivalent to \$Aus6.00 per passenger. (Washington, 2012. To avoid the effects of exchange rate fluctuations, the subsidy was converted to Australian dollars using OECD Comparative Price Levels and Purchasing Power tables.)

As Table 2 shows, these results are worse than ACTION's current poor performance and dramatically worse than the organisation achieved during its heyday in the 1980s.

This partly reflects Whatcom County's less 'transit-friendly' land use pattern: half the population live in rural areas; even the urbanised part of the county has a lower density than Canberra; retailing and employment follow an unplanned, dispersed pattern. This is a region where public transport is struggling to offer a service that meets public needs at an affordable cost.

In 2003, Whatcom engaged consultants to help it prepare a public transport strategy. Their 2004 report argued that there was potential to increase public transport's share of the market in the urbanised region in and around Bellingham, but that market share would remain low in rural districts. This led them to propose a distinction between different kinds of service: those designed to increase patronage by attracting 'choice' riders who might otherwise travel by car, and 'coverage' routes provided for social justice reasons for people without cars. The conclusion is that new resources should be concentrated on 'patronage' routes rather than 'coverage' routes. So the strategy's main priority was the creation of a 'primary transit network' in Bellingham, consisting of routes with 15-minute all-day service frequencies, supported by measures such as traffic priority. The rest of Whatcom County would receive 'coverage' services running hourly or less often (WTA, 2004).

Since the release of the strategy, the WTA has introduced the first stages of the primary network, consisting of four corridors with 15-minute frequencies all day on weekdays. Patronage has increased significantly since 2004, although as Table 2 indicates, it remains much lower than in Canberra.

Table 2 Public transport performance: Canberra and Bellingham/Whatcom

	Canberra 1985	Canberra 2011	Whatcom County 2010
Population	250,000	365,000	195,272
urban share	99%	99%	51%
Urban density (per ha)	10.1	10.8	9.3
PT patronage (million)	24.0	16.7	5.1
Trips per capita	96	46	26
PT share of work trips	11%	7.9%	3.1%
Subsidy/trip (\$Au, 2011)	2.21	5.85	6.00
Cost-recovery	25%	17%	11%

Sources: Washington (2012); US Census Urbanized Area data (note: from 2000 census); Appendix; ABS census data.

After completing the Whatcom study, the lead consultant, Jarret Walker, wrote similar plans for several other small US transit systems. On the basis of this experience, he erected the patronage-coverage distinction into a general principle for public transport planning (Walker, 2008). All public transport systems, Walker argues, are faced with a trade-off between patronage and coverage, and those wishing to maximise patronage growth need to limit the resources devoted to coverage services, to maximise the provision of competitive 'patronage' services. This usually means that 'coverage' services will provide low frequencies and limited hours of operation, and may be withdrawn completely from some areas.

The ACT government hired Walker as its principal bus planning consultant in 2007, and he responded with the formula he developed for Whatcom County. Canberra now has an official policy declaring that the overwhelming majority of residents, who live in areas designated for service by ‘coverage’ routes, can expect nothing better than a bus an hour for the next decade, with the possibility of half-hourly services after 2021. This is despite the fact that, in the mid-1980s, ACTION was providing the whole of Canberra with 15-minute (or better) bus services across an extended peak, and was gradually extending this service level to off-peak periods. Given that bus patronage declined dramatically in Canberra once the principle of providing equally high service levels across the whole city was abandoned, a disinterested observer might reasonably ask how a proposal to officially entrench this abandonment was justified.

The answer is provided in the 2009 *ACT Strategic Public Transport Network Plan*. This recites the coverage/patronage distinction, and insists on the need to limit the quality and extent of coverage services so the ‘frequent network’ designed to attract patronage can expand. These ideas are presented as if they were self-evident: no evidence of any kind is offered to support them. The closest thing to a justification is the claim that the planning approach draws on ‘[b]est practices in service design and service branding from North America and Europe as well as Australasia’ (MRCagney, 2009, p. 5). In reality, the report does not draw on European practice, but on work performed by its author in US cities like Bellingham, Reno (Nevada) and Boise (Idaho). The dramatic decline in ACTION patronage, and the different service model whose abandonment precipitated the decline, were not mentioned either. The report’s author was apparently unaware of them.

The 2009 report was confirmed as government policy in a 2012 document titled *Transport for Canberra*. This confirmed the break with ACTION’s successful model of city-wide minimum service standards by consigning the majority of middle and outer Canberra to ‘coverage’ services running once an hour, or half-hourly after 2021 (a concession to public disquiet). The break with past practice was also confirmed in the new policy’s treatment of waiting times for transferring passengers. Whereas ACTION had, until the early 1990s, provided guaranteed connections between express and feeder routes with *maximum* waits of 4 or 5 minutes, *Transport for Canberra* proposes *average* waits of 7.5 to 15 minutes, gradually reducing to 5 to 10 minutes after 2016 (ACT, 2012, p. 31). The rationale for this weak standard is provided in the 2009 report, which states that timetable coordination ‘is difficult to achieve in many cases’ (MRCagney, 2009, p. 19). The consultants were apparently unaware that ACTION had little difficulty achieving this task for more than two decades.

Poor connections provide a further disincentive for any passengers not already deterred by the prospect of waiting an hour for a local bus. Hardly surprisingly, then, *Transport for Canberra* proposes a greater role for park-and-ride, another contrast with the successful ACTION model of the past. Additional stops for new park-and-ride lots are proposed for the intertown express route, further increasing travel times (which have already risen substantially since the early 1990s), as well as entrenching the notion that the car is the dominant transport mode, even for public transport users.

Conclusion: the good news

In the 1970s and 1980s, Canberra showed that a low-density city could become less car-dependent in a relatively short period of time, without significant alterations to urban form. It also showed that this could be done with a bus-based public transport system, and without using park-and-ride. Canberra even showed that public transport users could be persuaded to transfer, provided that the experience was made as bearable as possible.

But the story of Canberra's transport policy turn-around is no longer told. It was suppressed by the NCDC; overlooked by historians; rejected as unbelievable by the Sustainable Canberra report; and forgotten completely by contemporary transport planners.

Instead, transport and planning debates in Canberra are dominated by precisely the same urban myths that the city's own experience has disproven. Canberra is asserted to be a 'car city' because people live in houses rather than flats; public transport can only be provided to areas of the city that are redeveloped with flats; nothing can be done unless a few kilometres of tram track are laid somewhere; good public transport is unaffordable because subsidies would go through the roof; coordinating services to guarantee connections is too hard. And so public transport policy is being developed by seeking advice from car-based cities where transit has failed, rather than places that have taken the model of success Canberra itself helped pioneer and developed it further.

According to ABS census tables for 'urban centres', Canberra's urban density is higher now than at the time of ACTION's greatest success, at 10.8 persons per hectare in 2006, compared with 10.1 per ha in 1981. The 2006 figure is higher than Brisbane's 9.2 per ha, and broadly comparable to Melbourne's 15.7 per ha and Sydney's 20.4 per ha (2006 Census Community Profile for Canberra- Queanbeyan (Canberra Part) Urban Centre, Cat. 2001.0, table B1, and equivalent tables for other cities).

Canberra is not a 'car city' because of its low density, or because the population has an irrational love affair with the automobile. During the 1970s and early 1980s, the growth in car usage in Canberra stopped, and public transport usage rates doubled. Low densities and love affairs turned out not to be problems, once the right mix of transport policies was in place. Over the last three decades, Canberra's transport planners have abandoned the pro-transit policies of the 1970s and the research that showed the policies were workable. This is what has made Canberra a car city.

Paradoxically, this story is good news for people concerned about the environmental problems created by car cities. Transport policies and personnel are much easier to change than urban densities, so the environmental problems of the car city can be addressed at affordable cost and within a realistic timeframe. The good news does not just apply to Canberra. If Australia's capital, which was designed by the NCDC in the 1960s for the convenience of motorists, could change direction so rapidly, then other Australian cities should also be able to achieve substantial shifts away from the car.

References

- ABS (1963) *Australian Yearbook 1962*, Government Printer, Canberra.
- ACT Government (2012) *Transport for Canberra*.
- Al-Dubikhi, S. & P. Mees (2010) 'Bus Rapid Transit in Ottawa, 1978 to 2008', *Town Planning Review* 81(4), 407-424.
- Black, J. (1981) *Urban Transport Planning: Theory and Practice*, Croom Helm, London.
- Canberra Times* (2012) 'Govt has no overall strategy on buses: Coe', 12 Feb.
- Commonwealth Grants Commission (1988) Third Report 1988 on Financing the ACT, Part Two: Analysis of Findings.
- Cooper, I., L. Pascoe & I. Morison (1990) 'Urban Public Transport', in *Canberra's Engineering Heritage*, 2nd edition, Institution of Engineers, Canberra, chapter 3
<http://www.engineer.org.au/chapter03.html>
- Department of the Capital Territory (1977) *Annual Report 1976-77*.
- Fischer, K. F. (1984) *Canberra: Myths and Models*, Institute of Asian Affairs, Hamburg.
- Freestone, R. (2011) 'Planning for man and motor: Gordon Stephenson's 'experimental' Canberra neighbourhoods', 3rd World Planning Schools Conference, Perth, July.
- Hocking, J. (2008) *Gough Whitlam: A Moment in History*, Miegunyah Press, Melbourne.
- Joint Committee on the ACT (1987) *Report on Metropolitan Canberra*, AGPS, Canberra.
- Lloyd, C. & P. N. Troy (1981) *Innovation and Reaction: The life and death of the Federal Department of Urban and Regional Development*, George Allen & Unwin, Sydney.
- Mees, P., Sorupia, E. & Stone, J. 2007 *Travel to Work in Australian capital cities, 1976-2006: An analysis of census data*, Australasian Centre for the Governance & Management of Urban Transport (GAMUT), Melbourne.
- Morison, I. (1995) 'Beyond the City State – Metropolitan Canberra', *Urban Policy & Research* 13(2), 117-124.
- Morris, R., C. O'Flaherty & J. Paterson (1976) 'The Canberra Short Term Transportation Study', *Papers of the Second ATRF, Adelaide*, pp. 159-173.

- MRCagney (2009) ACT Strategic Public Transport Network Plan: Final Report.
- NCDC (1970) *Tomorrow's Canberra: Planning for Growth and Change*, Canberra.
- NCDC (1974) Annual Report 1973-1974.
- NCDC (1975) Annual Report 1974-1975.
- NCDC (1978) Annual Report 1977-1978.
- NCDC (1984) *Metropolitan Canberra: Policy Plan, Development Plan*, Canberra.
- NCDC (1986) Metropolitan Canberra: Urban Consolidation, Technical Paper 50, Canberra.
- Newman, P. & J. Kenworthy (1991) *Towards a More Sustainable Canberra*, Perth.
- Pak-Poy & Associates Pty. Ltd./ John Paterson Urban Systems Pty. Ltd. (1977) *Canberra Short Term Transport Planning Study*, Canberra.
- Scott Wilson Nairn P/L and Young Consulting Engineers (2002) 'Gungahlin Drive Extension Review Traffic & Transport Assessment: Report', NCA, Canberra.
- A. B. Sinclair (1973) 'Transportation Requirements for Canberra', in Royal Australian Planning Institute (ed) *Canberra 63: The 1963 Canberra Convention*, RAPI, Canberra.
- Stephenson, G. & P. Harrison (1973) 'Long Term Planning for Canberra', in RAPI (1973).
- Stone, J. & P. Mees (2011) 'Spatial distribution of the journey to work by sustainable modes in Australian cities', *Papers of the 34th ATRF*, Adelaide.
- Voorhees, A. M. & Associates Pty Ltd (1967) *Canberra Land Use Transportation Study: General Plan Concept*, McLean, Virginia.
- Vuchic, V., R. Clarke & A. Molinero (1981) *Timed Transfer System Planning, Design and Operation*, report DOT-I-83-28, Washington DC.
- Walker, J. (2008) 'Purpose-driven public transport: creating a clear conversation about public transport goals', *Journal of Transport Geography* 16, 436-442.
- Washington State Department of Transportation (2012) *Summary of Public Transportation – 2010*, Olympia, WA.
- Whatcom Transportation Authority (2004) WTA Strategic Plan; summary.

Figures

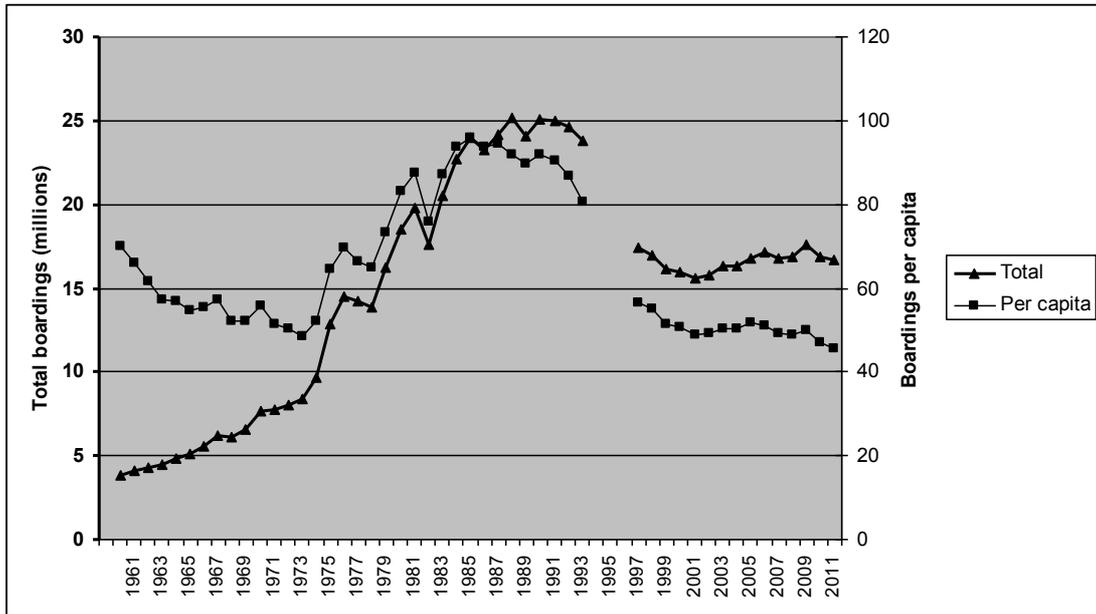


Figure 1. Canberra bus boardings (total and per capita).
Source: Appendix

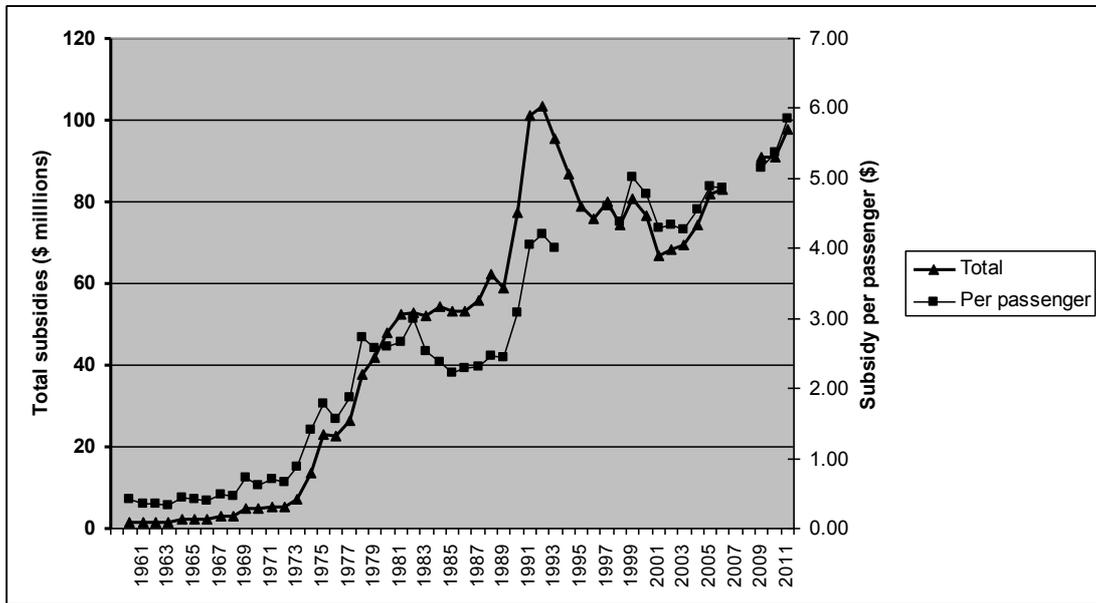


Figure 2. Canberra bus subsidies (total and per passenger, in June 2011 dollars).
Source: Appendix

Appendix

Appendix table 1. Canberra bus boardings and financial performance.

Year	Total boardings (millions)	Boardings per capita	Total subsidy (millions, at June 2011 dollars)	Subsidy per passenger (at June 2011 dollars)
1960	3.87	70.0	1.64	0.42
1961	4.10	66.0	1.43	0.35
1962	4.25	61.8	1.52	0.36
1963	4.45	57.3	1.47	0.33
1964	4.79	56.8	2.15	0.45
1965	5.07	54.7	2.15	0.42
1966	5.56	55.6	2.24	0.40
1967	6.19	57.2	3.01	0.49
1968	6.10	52.0	2.88	0.47
1969	6.59	52.0	4.83	0.73
1970	7.70	56.0	4.76	0.62
1971	7.78	51.6	5.40	0.69
1972	8.05	50.4	5.32	0.66
1973	8.38	48.3	7.32	0.87
1974	9.71	52.2	13.65	1.41
1975	12.82	64.4	22.84	1.78
1976	14.51	69.8	22.75	1.57
1977	14.18	66.4	26.49	1.87
1978	13.87	64.8	37.81	2.73
1979	16.24	73.3	41.72	2.57
1980	18.50	83.0	47.97	2.59
1981	19.80	87.5	52.57	2.66
1982	17.60	75.8	52.72	3.00
1983	20.50	87.0	52.12	2.54
1984	22.70	93.7	54.19	2.39
1985	24.00	96.0	53.14	2.21
1986	23.29	93.8	53.12	2.28
1987	24.15	94.4	55.95	2.32
1988	25.13	92.0	62.16	2.47
1989	24.09	89.6	58.97	2.45
1990	25.09	91.9	77.37	3.08
1991	25.00	90.6	101.19	4.05
1992	24.58	86.9	103.44	4.21
1993	23.76	80.7	95.38	4.01
1994	–	–	86.89	–
1995	–	–	79.00	–
1996	–	–	75.69	–
1997	17.40	56.4	79.98	4.60
1998	17.00	54.9	74.39	4.38
1999	16.10	51.6	80.78	5.02

2000	16.00	50.8	76.60	4.79
2001	15.60	48.9	66.84	4.28
2002	15.80	49.2	68.48	4.33
2003	16.30	50.5	69.56	4.27
2004	16.30	50.4	74.33	4.56
2005	16.80	51.6	81.93	4.88
2006	17.10	51.2	83.04	4.86
2007	16.80	49.3	–	–
2008	16.90	48.8	–	–
2009	17.60	50.0	90.80	5.16
2010	16.90	47.2	90.92	5.38
2011	16.70	45.8	97.63	5.85

Boardings for years 1960-1973, 1975-77, 1993 are from ABS Yearbooks; for 1974 and 1978-1988, from departmental annual reports; for 1989-92 and 1997-2011, from Action annual reports. Figures from 1971-74 exclude rides by holders of monthly concession tickets; those from 1975-76 exclude holders of daily and monthly concession tickets; those from 1977 exclude holders of daily tickets.

Boardings per capita from 1978-1992 are from Action or departmental annual reports. Boardings per capita from 1960-1977 and 1993 are calculated using ABS population estimates for the ACT; from 1997-2011, using ABS population estimates for Canberra only.

Subsidy figures from 1960-71 and 1993 are from ABS Yearbooks; 1972-1989 from departmental annual reports, 1990-2011 from Action annual reports.
Original subsidy figures converted to June 2011 dollars using the Australian CPI.