

Federal Involvement in Transport Planning in the 1970s

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Abstract

This paper discusses the changes in facilities and innovative practices in transportation planning and the changes in relevant Federal Government policies that took place in the 1970's. It discusses several of the studies in which these changes took place and which was influential to the growth of transportation planning administration and technology in Australia.

The Federal government began to take a greater interest and involvement in the funding of National Roads and in the planning and the value of roads in the capital cities. This Federal interest was further extended into urban development and culminated in the growth center experiment intended to relieve population growth pressures on the major cities. While interest eventually dissipated in this experiment, the lessons learned at this time illustrate the valuable role of early and interactive transport planning.

1. Introduction

Following the 1950s post-war boom, Australian cities were growing rapidly and becoming sufficiently congested that, by the late 1960s, there was increasing academic and public interest in town planning issues, partly due to increasing perception that higher rise developments were creating "slums" and there seemed to be no alternative to increasing "urban sprawl". All the State capital cities had completed comprehensive urban transport studies, except Sydney which was due to begin, which recommend extensive freeway construction.

The role of freeways was being questioned and the debate between private and public transport was vigorous but the reducing patronage and growing subsidies required for transit services was also causing concern^{1,2}.

This prompted a major change in attitude of the Federal government towards the planning of transport facilities, particularly roads, in the Australian States and Territories which led to the "Growth Centre" policy aimed at alleviating the pressure on the major cities.

2. Urban and Transport Research Units and Conferences

A number of transport research agencies in Australia took up the challenge. In 1960 the National Association of Australian State Road Authorities established the Australian Road Research Board (ARRB) to "encourage, arrange and coordinate research into the development of cheaper and better road services, the economics of road transport, road safety, and traffic

¹ Oxlad L. M., Public Transport: A Public Service or a Luxury. ATRF 1979

² Pak-Poy P. G., Public Transport in Urban Areas - A Benefit or Disbenefit?. ATRF 1979

38 engineering”. Its research conferences and technical research bulletins had become well-
39 known and respected by the 1970s.

40 An Urban Research Unit was established at the Australian National University in 1966 “to
41 enable research workers with different disciplinary backgrounds to be brought together to
42 examine some of the significant problems confronting urban areas in Australia”. A team
43 comprising researchers in economics, town planning, engineering and geography was
44 assembled and was well under way, carrying out research projects in Sydney and Melbourne,
45 and by the early 1970s began to have a major influence on government attitudes to urban
46 issues for the next decade.

47 The Traffic and Transport courses at the University of new South Wales had been established
48 much earlier and had gained an international reputation for its research.

49 A conference called by Melbourne University in 1970, part of a series of the Tewksbury
50 Symposia³, brought many of Australia’s town and transport planners together to examine
51 town planning issues, with particular emphasis on the instruments and processes of urban
52 growth.

53 For transport planners this conference was significant in that, for the first time, the interactive,
54 rather than just the passive, role of transport development formed a significant part of the
55 discussion. The role of transport planners in analyzing and guiding urban development was
56 being recognized and discussed jointly with the urban land-use planners.

57

58 In 1975 the first meeting of the Australian Transport Research Forum (ATRF) took place in
59 Sydney and, with the exception of 5 intermediate years and 2020, has been held in an
60 Australian or New Zealand city every year since.

61 **3. The Sydney Area Transportation Study**

62 By 1971 comprehensive regional transportation studies had been completed in Brisbane,
63 Hobart, Adelaide, and Perth and Melbourne neared completion. The Sydney Area
64 Transportation Study (SATS) was established in 1971. In view of the increased interest in
65 transport planning by the Federal Government and research agencies, it attracted considerable
66 attention.

67 The study director was Dr Robert S (Bob) Nielsen, who came to Sydney after completing the
68 Perth Regional Transport Study. Consultants appointed to the study included De Leuw
69 Cather of Australia Pty. Ltd., P.A. Management Consultants Pty. Ltd. and W.D. Scott &
70 Company Pty. Ltd.

71 The SATS study incorporated, for the first time in Australia, a new approach to transport
72 economics by introducing “consumer surplus” concepts⁴ into the economic evaluation. This
73 innovation caused a minor embarrassment as the Commonwealth Bureau of Roads (CBR) was
74 simultaneously preparing a report about freeways in Australian cities⁵. The problem was
75 detected too late, just before printing the reports, that the benefit-cost ratios for the same
76 Sydney freeways were different between the two studies.

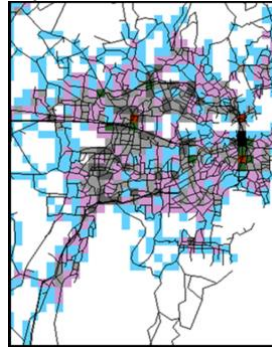
³ Tewksbury symposium, held by the Faculty of Engineering, University of Melbourne, August 1963

⁴ Neuberger H., “user benefit in the evaluation of transport and land use plans”

⁵ Commonwealth Bureau of Roads “Freeway plans for State capital cities” 1974

77 During the 1960s and early 1970s many people were becoming aware of and anxious about
 78 noxious gaseous emissions from motor vehicles and SATS became the first of the capital city
 79 transport studies to include an extensive assessment of the health effects of noxious
 80 emissions. SATS displayed substantial environmental sensitivity and this led to models to
 81 predict the local intensity of highway emissions.

82 **Figure 1 - Emission intensity plot for Sydney**



83

84 **4. A change in Federal Government road funding**

85 In 1965 the Federal government established the Commonwealth Bureau of Roads (CBR).
 86 Situated in Melbourne, it investigated and reported on road related matters, including the
 87 study of the Federal grants to the States for road funding. These grants had previously been
 88 distributed to the States based on a formula including the State's population, area and length
 89 of roads. However, in 1968 the Commonwealth Roads Act changed the distribution based on
 90 economic principles after extensive consultation with the State Road Authorities. Further, in
 91 1974, the Federal Government assumed responsibility for part-funding the roads between
 92 state capital cities, which were declared National Highways. The Federal Government would
 93 fund 50% of agreed National Road improvements. This was the first time, except in war-
 94 time, when the Federal Government had taken a direct role in the provision of roads although
 95 it had participated in the National Rail Gauge Standardization Program as early as 1962.

96 **Table 1 - Australian road grants by road categories 1974-75 to 1978-79 (\$Millions)**

Road type	NSW	Vic	Qld	SA	WA	Tas	Total
National Highways	\$ 91.0	\$108.0	\$ 96.0	\$ 50.0	\$ 37.0	\$ 32.0	\$ 514.0
Urban Arterial Roads	\$ 06.0	\$295.0	\$122.0	\$ 60.0	\$100.0	\$ 29.0	\$ 912.0
Rural Dev. Roads	\$ 52.0	\$ 56.0	\$165.0	\$ 36.0	\$ 48.0	\$ 23.0	\$ 480.0
Urban Local Roads	\$ 13.0	\$ 15.0	\$ 3.0	\$ 2.0	\$ 3.0	\$ 0.5	\$ 36.5
Rural Local Roads	\$ 98.0	\$ 56.0	\$138.0	\$ 32.0	\$ 35.0	\$ 26.0	\$ 385.0
MATERS	\$ 19.3	\$ 16.2	\$ 15.2	\$ 8.4	\$ 8.4	\$ 4.5	\$ 72.0
Road Maintenance	\$ 52.4	\$ 33.4	\$ 24.9	\$ 14.2	\$ 12.1	\$ 8.5	\$ 145.5
Planning and Research	\$ 14.3	\$ 10.4	\$ 6.9	\$ 3.4	\$ 3.5	\$ 1.5	\$ 40.0
Other	\$ -	\$ -	\$ -	\$ -	\$ 20.0	\$ 4.0	\$ 24.0
Total	\$346.0	\$590.0	\$571.0	\$206.0	\$267.0	\$129.0	\$2,609.0

97

Source: Road Grants Act 1974

98 The Federal government recognized there was the need to integrate transport planning (for
 99 roads and other modes) with land use planning in new programs for improved urban and
 100 regional development. The Transport (Planning and Research) Act 1974 and the Urban
 101 Public Transport (Research and Planning) Act 1974 provided funds for planning and research.

102 This marked a significant change in the Federal government's attitude. Transport planning is
103 not within the constitutional scope of the Federal government, as it was not a power granted
104 to the Federal government by the States at Federation. The grants to the States had come
105 about due to the war-time necessity to centralize income taxation but the justification for road
106 grants had not hitherto depended on any Federal analysis of their priority or economic merit.

107 By 1973 the CBR suggested that the road grants should be subject to certain conditions
108 "which will ensure that the grants are expended in accordance with the Australian
109 Government's national objectives"⁶. The funding for urban roads was to be subject to "the
110 Australian Government being involved in the planning of urban road systems" and "the States
111 submitting annual programs of proposed urban road improvements through the Bureau of
112 Roads for the approval of the Australian Government". In response the Road Grants Act
113 1974 required investigation of road projects to ensure that the impact of road improvements is
114 not excessively detrimental to urban life.

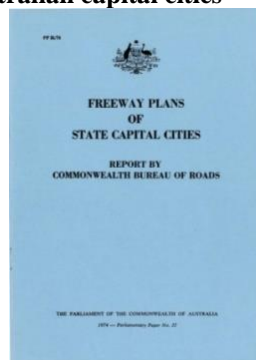
115 Furthermore, and perhaps in some measure due to a paper written by a cabinet colleague⁷ in
116 1971 which drew attention to the collapse of the freeways proposed in the Metropolitan
117 Adelaide Transportation Study due to public dissent, Minister for Urban and Regional
118 Development, Tom Uren, In 1973, requested the CBR to "make an assessment on the need for
119 the expressways system currently proposed or being pursued in the main capital cities of
120 Australia". Given that the SATS study was on-going, this was a further indication of
121 growing Federal interest in the justification of transport plans, particularly those involving
122 freeways.

123 **5. Commonwealth Bureau of Roads study of freeways**

124 CBR provided its report on freeways "currently proposed or being pursued" in the Australian
125 capital cities in 1974, providing commentary and mapping on each of the freeways in each
126 capital city and recommending that the "required attributes could be achieved through
127 comprehensive and cooperative planning" and recommended an approach to urban freeways
128 according to the spatial location within the city and included such statements as:-

- 129 • "there is a need for freeways, particularly for the higher speed links between sub-regional
130 city centres or system cities";
- 131 • "the general approach should be for encircling or by-pass freeways"; and
- 132 • "radial freeways should not be provided, particularly if the journey to work in the CBD is
133 their principal justification".

134 **Figure 2 - The report on freeways in Australian capital cities**



135

⁶ Commonwealth Bureau of Roads "Report on Roads in Australia" 1973

⁷ Hurford C. J., "The political history of the Metropolitan Adelaide Transportation Plan" 1971

136 The report was not widely distributed at the time probably because these statements conflicted
137 with many of the conclusions of the recently released capital city transportation plans.
138 Federal interest in the planning of capital city freeways waned.

139 **6. The development of computing facilities**

140 Another major change facilitating technological innovation occurred in 1971, when mini-
141 computers were appearing in government and consultant's offices and transport planners were
142 no longer tied to the commercial services from the large Computing companies but free to
143 experiment with innovative transport software in their own offices. By 1979 desktop
144 computers were becoming available, which further extended our innovative freedom for
145 research and development. Soon after, in 1980, "Lugables" were available which enabled
146 software to be operated at home or in a client's office or overseas while on location. This
147 enabled on-site software modifications to suit a project's or clients' special needs.

148 Improved data storage and operational speeds of these computers drastically reduced the time
149 needed for modeling and allowed multiple options to be tested within reasonable time
150 frames⁸. Computer-aided communications was yet to come.

151 **7. Studies into urban densification and housing prices**

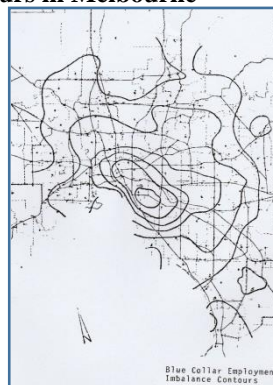
152 These developments provided the opportunity for many more researchers to undertake new
153 studies into questions which hitherto had been too difficult or expensive such as studies into
154 urban densification, accessibility and its effect on housing prices.

155 Rapid urban post-war growth had led to increased housing prices and increased road
156 congestion and State governments sponsored several studies into urban densification in the
157 expectation that these trends could be modified and controlled.

158 One study simulating retail distributional imbalance was developed to locate the optimal
159 location of the major retail center forming the heart of the West Lakes development in
160 Adelaide⁹. This illustrated the extent to which accessibility models could influence land-use
161 decisions.

162 An example showing where employment in Melbourne was needed to reduce travel times is
163 shown in Figure 3.

164 **Figure 3 - Employment imbalance contours in Melbourne**



165

⁸ See Nairn R. J., "Managing productivity increases – a case study".

⁹ See West Lakes Retail Centre report, internal study by Kinhill, 1971.

166 One study conducted by the Australian Road Research Board (ARRB) showed that, in
167 Adelaide, the most rapid house price increases occurred in the middle-inner suburbs rather
168 than in outer suburbs as expected¹⁰.

169 Another study¹¹ showed that a policy to introduce high-rise, dense development in these
170 middle-inner suburbs in Sydney was self-defeating, in that congestion increased travel times
171 rather than providing the reduction expected from higher proximity to employment.

172 These studies conflicted with the expectation that the need for freeways could be reduced by
173 densification leading to improved public transport.

174 Another study calibrated a land-use/accessibility model¹² over 70 years of Sydney's historic
175 growth, in 10-year increments, to test the ability of accessibility models to predict land
176 development. It clearly illustrated the degree to which transport accessibility helped to mold a
177 city's shape and reinforced the need for freeways.

178 There seemed to be no easy solution. Attention turned to methods of stemming the rapid
179 growth of the major capital cities and this led the potential for growth centers to help solve the
180 problem. The Federal Government took up this challenge.

181 Growth centers had been flourishing in the United States of America, where, by 1968, at least
182 28 growth centers, in 11 States had been established¹³ following President Roosevelt's "New
183 deal" program¹⁴.

184 **8. Albury-Wodonga Growth Centre**

185 Urban planning is also not a constitutional role of the Federal Government, being similarly
186 withheld by the States at Federation.

187 Nevertheless, the Whitlam government established, for the first time, a National Urban and
188 Regional Development Authority (NURDA later renamed the Cities Commission), and in
189 1973, following recommendations by its commissioner¹⁵, Sir John Overall, embarked on an
190 ambitious program of growth centers to be administered by NURDA under the Minister of
191 Urban and Regional Development, Tom Uren.

192 This initiative sought to relieve growth pressures on the larger Australian capital cities by
193 supporting growth in selected rural and regional centers. The policy was technically
194 supported by Australian National University researchers¹⁶ and several sites were chosen for
195 developmental planning, including Albury-Wodonga and Bathurst-Orange and Monarto, near
196 Murray Bridge in South Australia.

197 A site including the towns of Albury (NSW) and Wodonga (Vic) situated on the Northern and
198 Southern banks of the Murray River, was chosen to be the first of these centers to be studied.
199 The target population for the Albury-Wodonga growth center was set at 300,000 people by
200 the year 2000.

¹⁰ Nairn R. J. "A pilot study to set up statistical control for studies into urban property value changes" ARRB

¹¹ R J Nairn & Partners Pty Ltd – An internal study for the State Planning Authority of New South Wales

¹² See Davidson K. B., "Relationships between land use and accessibility".

¹³ Dames T.A. & Grecco W.L. "A Survey of New Town Planning Considerations"

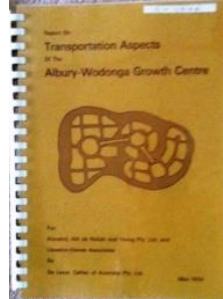
¹⁴ Also see Williamson M. L., "Greenbelt – History of a New Town – 1937-1987"

¹⁵ Cities Commission, "A recommended new cities programme for the period 1973-1978"

¹⁶ G M Neutze and P M Troy of ANU's Urban Research Unit – various publications

201 The firms of Kinnaird Hill deRohan and Young Pty. Ltd. and Llewelyn-Davies Associates
202 were commissioned to prepare the structure plan and De Leuw Cather of Australia Pty. Ltd.
203 was engaged to assist with the transportation aspects of the plan. Various reports were
204 provided defining the development plan during 1973 and 1974.

205 **Figure 4 - Report on the transportation aspects of the Albury-Wodonga Growth Centre**



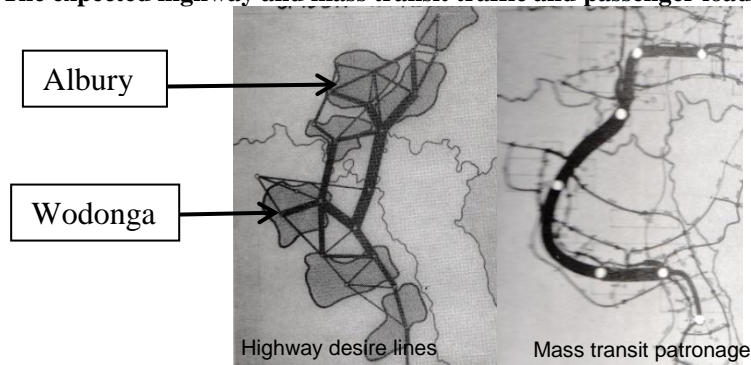
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207 Unlike the transport studies of the major Australian capital cities, where just incremental
208 growth on a large city was intended, the Albury-Wodonga study expected a major shift in
209 population growth from about 40,000 to 300,000. In consequence almost all of this growth
210 would occur in green-field sites. This presented three challenges:-

- 211 • First, the travel characteristics of the existing towns would not provide adequate guidance
212 about future travel habits. Neither would data from the major cities, which had
213 populations much larger than 300,000. Therefore the transport plan had to be guided by
214 many options for the future travel habits of its citizens. Flexibility was important and
215 new interactive planning tools had to be developed;
- 216 • Second, green-field expansion provided a unique opportunity to test how different forms
217 of transport facilities and routes could enhance various options for the land-use
218 development plan. These land-use-transport interaction concepts had never before been
219 given such a wide scope in Australian urban planning; and
- 220 • Third, general public opinion had become suspicious of freeways and reliance on the
221 motor vehicle in favour of public transport, which was, nevertheless, beginning to heavily
222 erode public budgets. However, substantial development of green-field sites usually
223 meant low density development and consequent heavy reliance on private transport.

224 This led to the proposal for a linear development with a series of integrated towns, including
225 the existing towns of Albury and Wodonga, to be connected together, in due time, by a major
226 transit facility shown in figure 5. Various innovative modes were tested for this facility.
227 The mass transit line has never been built.

228 **Figure 5 - The expected highway and mass transit traffic and passenger loadings**



229

230 The study was unique in that there was support for the growth center between the
231 Commonwealth, Victorian and New South Wales governments and the two local
232 governments.

233 The only serious debate that arose was between the Commonwealth Department of Transport,
234 which wanted the central freeway to be a complete bypass to the west of Albury, and
235 NURDA and the two State Road Authorities, who had agreed on its current alignment
236 through Albury. Similarly a Consultative Council, of members of the local community and
237 with government representation, helped to resolve all the complex community issues which
238 arose during the study¹⁷.

239 With the dismissal of the Whitlam Government in 1975 and subsequent governments
240 elsewhere being less willing to continue support, interest by State and Commonwealth
241 governments in the development of Albury-Wodonga dissipated. By 2020 the combined
242 population of the Albury-Wodonga has reached only 100,000.

243 Monarto, on the banks of the River Murray in South Australia, was planned to have 200,000
244 people by the year 2000. It was to establish three light industrial areas in the new city but
245 conflicts arose about compensation of farmland that had been compulsorily acquired.
246 However there was a lack of success in attracting private enterprises partly due to the
247 economic recession that occurred during the 1970s. Monarto was shut down in 1980 and has
248 reached a population of about 400 by 2020.

249 **9. The development of Canberra**

250 Just the opposite was happening in Canberra. With considerable initial Federal Government
251 intervention and funding, it has grown rapidly from 144,000 in 1971 to 420,000 in 2020.

252 Canberra was initially administered by the National Capital Development Commission
253 (NCDC), an authority established in 1957 with a charter to "plan, develop and construct the
254 City of Canberra as the National Capital of the Commonwealth." The NCDC had to provide
255 a full range of urban developmental works for the City such as housing, roads, water,
256 sewerage and drainage, schools, serviced land, Commonwealth offices and buildings of a
257 national character all initially funded by the Commonwealth government.

258 When the NCDC began full-scale operations in March 1958, Canberra's population was
259 39,000 and was increasing by about 5,000 people a year, fuelled by public service transfers
260 from Melbourne.

261 Stimulated by this growth and particularly by the NCDC's policy of reliance on firms of
262 consultant engineers, planners and other professionals in addition to its own staff, private
263 enterprise began to invest in new buildings and by 1970 was spending some \$60 million a
264 year on offices, shops, hotels, motels and housing thereby relieving the Commonwealth
265 government of this expenditure. The population growth rate accelerated and fewer public
266 servants needed to be transferred to work in Canberra.

267 Intelligence and defense staff were centered in Canberra and some high-technology
268 manufacturers moved to Canberra to service the Defense industry. The military college and
269 the enrolments of the Australian National University, founded in 1946, were growing rapidly.

¹⁷ Winterbottom D. "Structure Planning in Albury-Wodonga", 46th ANZAAS Conference Canberra 1975

270 Relocation from other areas was encouraged by this growing private employment and
271 educational opportunities and by the policy to maintain low land prices.

272 This was achieved by the metered release of serviced residential allotments for individual sale
273 by public auction, assisted by small, low-interest government loans and a competitive home-
274 building industry.

275 This in turn stimulated the Commission to reappraise the city's growth potential and to
276 prepare the first long term plan for a population of 250,000 by 1980. The Commission
277 adopted a plan based on a series of new towns which would neither become unwieldy in size
278 nor be choked by traffic rather than concentrating on only one or two employment centers.
279 Traffic would be dispersed instead by decentralizing employment throughout the city.

280 The new towns would be built in adjoining valleys and the intervening hilltops and ridges
281 would be preserved. They would have some of the attributes of cities, each with its
282 individual character, but each an integral and essential part of the national metropolis.

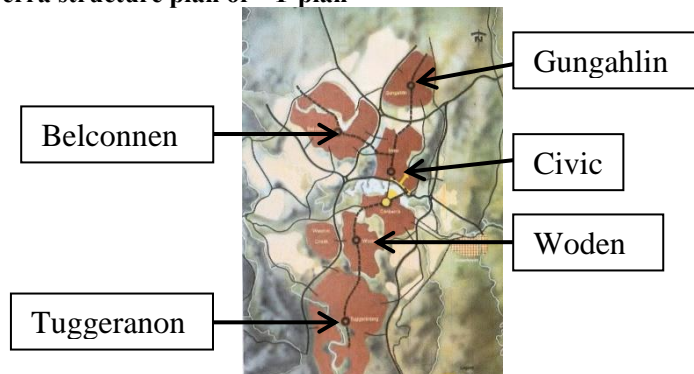
283 Each town would have its own town center and employment centers with research and similar
284 institutions located between the districts to provide additional job opportunities. Although
285 each town would be relatively self-contained, each would grow in balance with the main City
286 Centre which would continue to be the dominant commercial focal point of Canberra.

287 Within each town an hierarchy of centers (local, district and regional) would provide retail
288 and commercial services of increasingly competitive and sophisticated stature so that daily
289 travel could be serviced in local centers, but occasional or specialist travel would be serviced
290 in centers of higher status. Some dense residential development was to be located close to
291 the regional centers. Industrial centers would be located away from residential areas.

292 Applying these principles, computer models, based on such factors as retail potential,
293 education and employment data were used to evaluate six optional plans suitable to
294 Canberra's topography and provide access at the lowest travel cost.

295 From these studies emerged a general plan in which towns were grouped in three corridors
296 extending out from the central area and forming a "Y plan" composed of four new towns
297 shown in figure 10¹⁸ radiating out from Civic. The first, Woden, started in 1962 followed by
298 Belconnen in 1966 and Tuggeranong in 1974.

299 **Figure 6 - The Canberra structure plan or "Y plan"**



300

¹⁸ NCDC "New Towns of Canberra"

301 Government intervention included the ownership and construction of office buildings and
 302 culminated in the construction of the major shopping mall to kindle growth in Belconnen,
 303 which opened in 1976 and was eventually sold to private interests.

304 In 1989 the Federal government, ignoring a vote by residents to the contrary, but convinced
 305 that Canberra no longer needed such heavy government support, established self-government
 306 in Canberra. The functions of NCDC were taken over by ACT government agencies.

307 However, the Federal government retained some control over some areas of development,
 308 particularly the Parliamentary Triangle, which is controlled by the National Capital Planning
 309 Authority (NCPA). The NCPA also retained some Federal control of the major arterial
 310 routes in Canberra. Given this diversified planning control and the large land-holdings of
 311 Federal Government Agencies in the ACT, such as those held by Defense, CSIRO and the
 312 Airport, comprehensive regional planning in Canberra has become highly complex.

313 Although the current ACT government policy seems to be to encourage densification,
 314 Canberra, while highly reliant on private transport, has avoided excessive traffic congestion,
 315 despite growing with lower population densities than Melbourne, Adelaide, Sydney or Perth.

316 **Table 2 – Estimated annual costs of congestion¹⁹ - Year ending 30 June 2020**

City	Congestion Cost ¹	Cost/Head ²	Benefit ⁴	B/C Ratio	Density ³	Cost/SquKm
Sydney	\$8.18	\$1.77	\$ 39.63	4.85	484	\$78.20
Melbourne	\$6.38	\$1.50	\$ 28.48	4.46	318	\$17.78
Brisbane	\$3.35	\$1.53	\$ 15.21	4.54	145	\$50.60
Perth	\$2.98	\$1.57	\$ 15.53	5.21	444	\$61.01
Adelaide	\$1.50	\$1.22	\$ 7.19	4.79	400	\$4.59
Canberra	\$0.27	\$0.72	\$ 0.75	2.78	173	\$0.57

317 Notes – (1) \$Billions, (2) \$Thousands (3) Persons/Km² (4) Benefit of eliminating congestion \$Billions

318 The effectiveness of Canberra’s town planning concepts is illustrated in that it is less
 319 congested than Brisbane which has even lower population density. Table 2 also illustrates
 320 that eliminating congestion would be economically worthwhile.

321 **10. Conclusions**

322 The 1970s marked the end of the major city transportation plans. Freeways engendered
 323 public protests and, until tolls were introduced, were difficult for State Governments to
 324 support and fund. State Governments studied each project separately and research attention
 325 turned to better methods of understanding how transport planning could assist in molding
 326 urban land-use plans to limit congestion, aided by the development of accessible computing
 327 power. The State Governments looked to privately funded toll-roads to relieve urban
 328 congestion in Sydney, Melbourne and Brisbane.

329 Increasing Federal Government interest turned from Capital City Freeways to the growth
 330 center policy in an attempt to limit urban congestion through population dispersion to rural
 331 and regional areas.

¹⁹ BITRE, “Traffic and congestion cost trends for Australian capital cities”

332 Researchers from ANU²⁰ suggested in 1971 that new cities with populations of about 500,000
333 would be of sufficient size to attract private industry and therefore to become economically
334 viable and self-sufficient but small enough to avoid the economic and traffic disadvantages
335 being experienced in larger cities and providing economies in infrastructure provision. They
336 also suggested that substantial government direct intervention would initially be needed and,
337 until the Whitlam Government fell, this support eventuated.

338 The first experimental growth centers, while failing to achieve their objectives, nevertheless
339 provided opportunities for innovative ideas and practice in transport and urban planning.
340 They also illustrated that strong initial intentions and support was insufficient to maintain
341 continued growth in these centers but had to be sustained until the center became self-
342 sufficient. It is clear that the Albury-Wodonga growth center experiment needed much
343 greater and enduring commitment and intervention than it was given.

344 Growth center policy was seen by some as continually requiring the unpopular
345 decentralization of public service functions and relocation of staff from the major capital
346 cities. The successful development of Canberra illustrates that this staff relocation, although
347 initially substantial, need only be temporarily sustained until private enterprise gets the
348 message, initially stimulated by careful attention to private/public incentives and cooperation
349 and by contracting all works.

350 Canberra further illustrated that government intervention had to be totally comprehensive and
351 equally substantial until an adequate population threshold was reached when self-government
352 could be established and capable of financing the necessary government functions required
353 for further development. While Canberra was developed of necessity, as Australia's Capital
354 City, its steady growth has clearly illustrated the value of those suggestions and added actual
355 experience of the time frame and degree of support needed until self-sufficiency could be
356 expected. Canberra was also initially administered by a single integrated planning and
357 implementing authority responsible directly to a Federal minister.

358 The development of Canberra has also shown the effectiveness of land-use/transport planning
359 in reducing the cost of traffic congestion while still maintaining low density living areas with
360 ample parklands and recreational space.

361 Canberra is, however, only one of the Australian rural towns which have grown to self-
362 sufficiency. Most have grown without heavy government intervention and reached
363 populations well over 150,000 – such as Newcastle, Wollongong, Gold Coast, Sunshine
364 Coast, Ipswich, Townsville and Cairns. Their growth patterns are worthy of further
365 research.

366 Australia's population in 1971 was 12.7 million. In 2021, the population is twice that figure
367 and, together with growing traffic congestion, air and noise pollution, the problem of soaring
368 housing prices has been added to our urban problems. It may well be time to renew interest
369 in examining the growth center concept.

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