University of Adelaide

PUBLIC TRANSPORT BUILDINGS

OF

METROPOLITAN ADELAIDE

1839 – 1990

A thesis submitted to the

Faculty of Architecture and Planning

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Master of Architectural Studies

by

ANDREW KELT

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ERRATA

p. vi	Line 20	OBSERVATION	should read	**OBSERVATIONS**
p. 43	footnote [8]	Morham	should read	**Moxham**
p. 75	line 2	facilitiies	should read	**facilities**
	line 19	availble	should read	**available**
p. 80	line 7	Labour	should read	**Labor**
p. 128	line 8	Omit **it**		
p. 134	line 9	perematorily	should read	**peremptorily**
p. 158	line 12	group	should read	**drop**
p. 230	line 1	wold	should read	**would**

PROLOGUE

SESQUICENTENARY OF PUBLIC TRANSPORT

The one hundred and fiftieth anniversary of the establishment of public transport in South Australia occurred in early 1989, during the research for this thesis. The event passed unnoticed amongst the plethora of more noteworthy public occasions. Chapter 2 of this thesis records that a certain Mr. Spey, with his daily vanload of passengers and goods, started the first regular service operating between the City and Port Adelaide. The writer accords full credit to this unsung progenitor of the chain of events portrayed in the following pages, whose humble horse drawn *char à bancs* set out on its inaugural journey, in all probability on 28 January 1839.

ACKNOWLEDGMENTS

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SUMMARY

This thesis begins with a historical study of the public transport systems of Adelaide and more particularly their buildings and artefacts. It examines how and why they came to be built and how well they performed in practice. The conclusion drawn is that they were generally satisfactory, but that many of these once useful buildings are now in disrepair or empty, while numerous tracts of land are unused. This rundown arose in the last forty years as public transport declined. At the same time the City was under heavy pressure to accept an ever increasing traffic volume, mainly private cars.

Two options available to Adelaide are discussed:

(1)   To continue the present transportation trends by tolerating traffic increase, leading eventually to the ultimate and irreversible folly of urban freeways.

(2)   To contain the growth of private cars and to recycle obsolete, rundown or vacant transport properties, and redevelop land and buildings. This will stimulate a comprehensive public transport service and thus promote a balance with the motor car.

The legacy of historic public transport buildings is examined, particularly those on the railways. Strong support is given to option (2) as the only alternative which will enable the City to develop and still retain the architectural characteristics of its built environment. Furthermore, this option would be put into effect quickly and without disruption at a fraction of the cost of the freeway alternative.

This thesis seeks to point the way towards limiting City car growth, and provides the means by the recycling of sound but underused buildings.

DECLARATION

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university and, to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

I consent to the thesis being made available for photocopying and loan, if applicable, if accepted for the award of the degree.

Andrew Kelt

ABBREVIATIONS USED IN TEXT
OR REFERRED TO IN REFERENCES

ANR	Australian National Railways
ASER	Adelaide Station & Environs Redevelopment
CBD	Central Business District
DOT	Department of Transport
ETSA	Electricity Trust of South Australia
IEE	Institution of Electrical Engineers (U.K.)
LRT	Light Rail Transport or Light Rapid Transit
MATS	Metropolitan Adelaide Transportation Study
MET	Metropolitan Transit Authority (Melbourne Vic.)
MFP	Multi Function Polis
MTA	Metropolitan Transport Authority (proposed) S.A.
MTT	Metropolitan Tramways Trust. S.A.
NEAPTR	North East Area Public Transport Review
NETP	North East Transit Project.
O–Bahn	*Omnibusbahn* (Busway)
RIBA	Royal Institute of British Architects
SAR	South Australian Railways
STA (S.A.)*	State Transport Authority (S.A.)
STA (Vic.)	State Transport Authority (Vic.)
S–Bahn	*Stadtbahn* (City Railway or light rail)
TAB	Totalizator Agency Board.
TAFE	Technical and Further Education.
U–Bahn	*Untergrundbahn* (Metro or underground railway)
V/Line	Victorian Line (S.T.A. Vic)

* Where not otherwise stated in the text STA refers to South Australia only.

INTRODUCTION

This study examines the legacy of public transport buildings, artefacts and lands inherited from past generations, and having done so evaluates the extent to which these could be recycled or adapted to help provide for the public transport needs of Adelaide through to the twenty-first century. It looks at the immense changes in personal mobility provided by the car in the post-war era, and the consequences to the environment. In particular it points out how the steady growth in car numbers distorts the inner urban built environment. The freeway solution is seen as a fruitless and irreversible exercise, while the more straightforward alternative of containing and limiting car growth is seen as preferable. For this to succeed it is necessary to adapt public transport modes, particularly rail, to meet future needs within the context of the Adelaide built environment.

History shows that this is no new concept. The idea of an electric railway for Adelaide goes back to 1903. It was supported by Webb, Railways Commissioner 1922 – 30, and the transfer of three lines in 1929 to the Municipal Tramways Trust resulted in the electrification of the Glenelg line, still Adelaide's only light rail. Gauge standardisation and electrification were again supported by the Royal Commission on Public Transport after the Second World War, but the 1950s saw short term financial expediency prevailing. Later the concept of the urban freeway took root, and culminated in the MATS study of 1968, most of which was not laid to rest until 1983.

This study accepts the proposed rail improvements as necessary preconditions for the updated light rail system which was envisaged in 1975, when the non-metropolitan lines were transferred to ANR. It concentrates on the buildings and the built environment in which it will operate, paying particular attention to the rich legacy of useful and charming 19th century railway buildings.

It examines the buildings of Adelaide's public transport systems in their historical context and it ascertains that few have kept pace with changing circumstances. It makes modest proposals for the re-use of existing buildings to meet future needs. The thesis is divided into four overlapping Parts, dealing with historical periods in chronological order.

Part I covers the years of horse transport from the first settlement to its demise.

Part II looks at railway and electric tramway buildings up to 1918.

Part III traces the inter-war development of Adelaide's public transport buildings.

Part IV examines the post-war era, and in particular the impact on the Adelaide built environment of the growth in car numbers. It also scrutinises the many transportation studies of the post-war years, particularly those which, if they had been implemented, would have had profound effects upon Adelaide.

It finds that although large scale city and suburban development has taken place, this is not of the magnitude which has taken place in comparably sized cities such as Perth and Brisbane, or the larger cities of Melbourne and Sydney. In these the desire to maintain access to the City centres for all traffic, led to the construction of urban freeways, which drastically and irreversibly changed the character of these cities.

The broad streets of Adelaide have so far proved adequate to meet the traffic load, but recent studies indicate that they will not indefinitely do so into the 1990s. Adelaide, within its parkland setting, does not lend itself to the superimposition of a freeway solution. Nor indeed would this be warranted, for having survived with its original street plan intact since the first settlement, there is ample scope for providing a more attractive public transport system at less than the cost of the freeway alternative.

Post–war public transport development has concentrated on buses, while the railway has been largely neglected. The railways, however, contain the bulk of STA assets of buildings, artefacts and lands, and it is these which hold the key to providing Adelaide with the public transport services it will need.

To resolve the problems aggravated by continuous car growth and city transportation needs through to the next century, a supportive planning policy aimed at reducing car penetration and long term parking in the City will be needed. This, as well as a better public transport network operating within a more attractive built environment, are paramount in gaining public acceptance.

To put this into effect, the thesis examines proposals for recycling many of the present STA assets and these include:

- Upgrading or downgrading of buildings.

- Suggesting new uses for heritage or historic buildings.

- Identifying possible projects.

- Creating an acceptable and cohesive public image for public transport buildings and street furniture.

- Removing or demolishing those buildings or artefacts which have no viable use.

- Making better use of lands so released.

It is believed that this thesis will point the way towards the activation of a relatively simple series of construction measures which would not only lead to a better balanced transport system, but would improve the quality of the built environment by containing car growth, particularly in the City.

PART I

THE ERA

OF

HORSE TRANSPORT
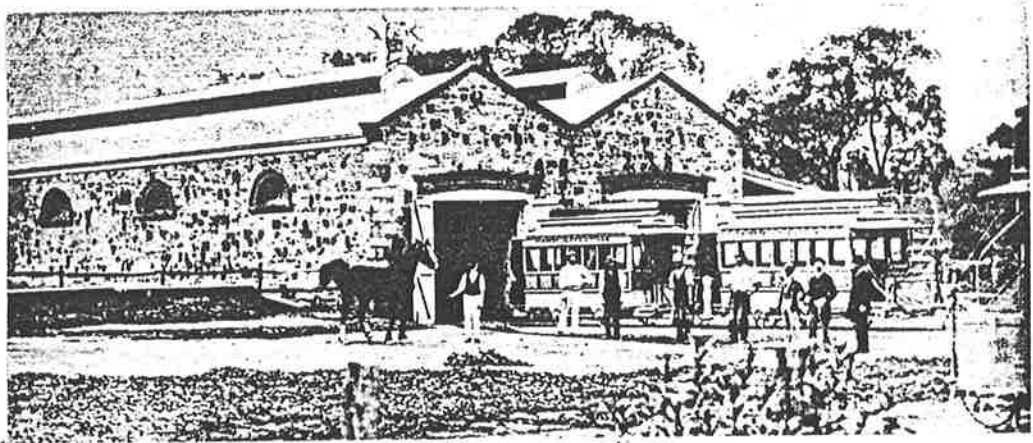
V Mitcham horsetram sheds, about 1880

From J.C. Ratcliffe and C.J.M. Steele *Adelaide Road Passenger Transport 1836 – 1958* (Adelaide Libraries Board of South Australia 1974) Plate V.
Fig. 1

CHAPTER 1

THE FIRST SETTLEMENT OF SOUTH AUSTRALIA

TANDANYA BECOMES ADELAIDE

1836

Pre–settlement exploration. Prior to the arrival of the first shiploads of settlers, the coasts of South Australia had been well surveyed by Flinders, Baudin, Sturt and Baker from 1802 onwards. An unofficial sealing settlement existed on Kangaroo Island, but there was no mainland settlement.

Many decisions had already been taken in London in 1835, including the nature of the society which was to be free, rather than a penal colony as New South Wales or Tasmania, the financing of the venture, and guidelines for the new capital city, which was to be known as Adelaide.

A layout plan for the south of the city is known to have emanated from London prior to the proclamation of the colony on 26 December 1836. The street plan is a modified Cataneo plan, based on a symmetrical layout with five rectangular squares and acre land divisions. It is so named after Pietro Cataneo, who in 1567 had published a design for his ideal city.[1]

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[1] D.L. Johnson and D. Langmead. *The Adelaide City Plan* (Netley SA. Wakefield Press. 1986) pp 11–12 and 29–30.

Selection of site. The responsibility for choosing a site for the planned city was vested in the first Surveyor General, Colonel William Light, who had been appointed in February 1836.[2] He arrived in August of the same year, and at once carried out surveys of various prospective sites. A temporary settlement was established at Holdfast Bay, now Glenelg.

Although opposed by Governor John Hindmarsh who favoured Encounter Bay, and the Colonial Secretary, Robert Gouger, who preferred Port Lincoln, Light selected the present site which straddles the River Torrens. Its aboriginal name had been Tandanya. He was strongly supported by his Deputy, George Kingston, and the decision was overwhelmingly endorsed by a public meeting of landowners on 10 February 1837.[3] The passage of time has vindicated his choice.

Layout plan. This eventually comprised 1042 one acre allotments which were surrounded by generous parklands. Light and his assistants set to work on the task of pegging out the allotments, roads and squares which were to establish the shape of the future city, commencing at the junction of North and West Terraces.

The precise reason for the parklands is unclear, but they were the idea of Colonel Light, who evidently appreciated the concept of a city with abundant open space. Subsequently many South Australian town plans at Maitland, Edithburgh, Georgetown, Jamestown, Ardrossan, Snowtown and elsewhere were designed around a core area separated from their suburbs by Parklands.[4]

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[2] M. Colwell and A. Naylor. *Adelaide an Illustrated History* (Dee Why West. NSW. Lansdowne Press 1977. reprint ed. Adelaide MCP 1984) p. 15.

[3] Ibid. p. 20

[4] D.W. Meinig. *On the Margins of the Good Earth* (Adelaide. Seal Books 1988) pp. 174 – 181

4

The pegging out of Adelaide was completed by 10 March 1837 and on 23 March the citizens drew lots as a means of selecting their allotments.[5] At long last they were able to start building their permanent homes and other necessary buildings. Work proceeded fast and the city rapidly took shape. Light, however, who had suffered for some years with tuberculosis did not live to see much of it realised. He died at his cottage at Thebarton on 6 October 1839.

The last two years of his life can hardly have been rewarding, for not only was he opposed by many on the siting of Adelaide, but also he had technical disagreements with his deputy, George Kingston, a trained architect and civil engineer, 21 years his junior. What happened after the completion of the city layout in March 1837, was that Light and his small team pressed ahead with surveys for the country areas, but progress had not been keeping up with demand for three main reasons.

Firstly, the influx of immigrants seeking land was more than survey staff could cope with.

Secondly, Light often had to take sick leave.

Thirdly, Light was insisting on full triangulation surveys. These were more accurate but more time consuming than running dimension surveys which Kingston had advocated to speed the job. It is surprising, therefore, that Light should have sent him to England to plead with the Colonial office for more surveying assistance, fully knowing Kingston's view.

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[5]   M. Colwell and A. Naylor. *Adelaide an Illustrated History* (Dee Why West. NSW. Lansdowne Press 1977. reprint ed. Adelaide MCP 1984) p. 15.

By May 1838 and working almost single handed Light had surveyed 150 000 acres (37 000ha) of country lands, but the following month Kingston returned with the bad news that no further survey staff were available, and also, Light was ordered by the Board of Commissioners to adopt a system of running surveys. In July 1838 Light promptly resigned in protest[6] and retired to his cottage where he passed the last sixteen months of his life.[7]

Kingston completed Light's work in three months with a draftsman and an assistant[8], then resigned to set up as a civil engineer and architect, later becoming the surveyor to the Adelaide City Council in 1840.[9]

Light's vision. If this may be assumed to have been the view he would have seen from Montefiore Hill, between North and South Adelaide, its siting and layout are the happy combination of a flat central area set in parklands with North Adelaide at a comfortable distance. The River Torrens traverses the intervening space. This concept has persisted since the inception of the city and is deeply engraved in the hearts of Adelaidians. Proposals which would lead to the spoilation of this environment, particularly the Parklands, have led to public outcry from time to time.

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6. In retrospect it is strange that Col. Light should have taken such a strong view about his surveying methods, because over a hundred years later when the writer was attending a course at the School of Military Engineering at Ripon UK, the running dimensions survey was still being taught with undiminished fervour, albeit with occasional triangulations.

7. M. Colwell and A. Naylor. *Adelaide an Illustrated History* (Dee Why West. NSW. Lansdowne Press 1977. reprint ed. Adelaide MCP 1984) Chap. 2.

8. D.A. Cummings and J. Moxham. *They Built South Australia* (Adelaide. By the Authors. 1986) pp. 116 – 117

9. G.E. Loyau. *Representative Men of South Australia* (Adelaide. G. Howell 1883) pp. 150 – 151

Yet inroads have been made into the concept, amongst the first of which was the railway, not catered for in the plan. This occurred in 1856. Successive generations have nibbled at it, but by and large it remains intact. After World War II it came under heavy pressure from the motor car. This daily invasion of the City by cars has been increasing in volume with each succeeding year.

In the 1960s many people considered that the Adelaide area would need freeways, with their attendant flyovers, underpasses, giratory systems and of course, more parking stations and car servicing facilities. They were firmly convinced that these were inevitable in a modern city.

But were they inevitable? This question will be discussed in Chapters 8 and 9.

In the intervening chapters, this thesis summarises how people travelled in Adelaide and the surrounding areas, and the impact this had on the built environment in successive generations from the inception of the City to the present day.

SYNOPSIS OF CHAPTER 1

THE FIRST SETTLEMENT OF SOUTH AUSTRALIA

Pre–settlement exploration having taken place over some thirty years, decisions were taken in London to establish the new colony of South Australia in 1835. The precise origin of the Adelaide city plan is not known, but it was prepared prior to settlement in London.

Colonel William Light became the first Surveyor General and George Kingston his Deputy. The responsibility for selecting the site of Adelaide was entrusted to Light, and several alternatives suggested by others were dismissed by him. Having selected the site, the surveyors pegged out the town acres. They were balloted for by immigrants, who quickly proceeded to build.

Disagreements arose between Light and Kingston and were only finally resolved by Light's peremptory resignation after being rebuked by the Board of Commissioners in London. Kingston completed the surveys in three months with a staff of two.

The City concept and Parklands are well appreciated, but many inroads have subsequently been made into them, and more from time to time have been proposed. However, Adelaide is unique among Australian capital cities in that the basic layout of the original city still remains intact, and has withstood the test of time.

CHAPTER 2

THE EARLY YEARS

PUBLIC TRANSPORT ON THE STREET

Vans, coaches and coastal shipping. The City quickly took shape and the population in the Adelaide plains had already reached nearly 2000 by 1837[1] as new immigrant families arrived. The only public conveyances were carts, cabs and wagonettes, which could be hired.

The first mention of public transport was in January 1839 when the following press announcement was made :[2]

> "VAN TO AND FROM THE PORT DAILY FOR PASSENGERS AND GOODS. Mr. Spey informs the public that his Van leaves the Southern Cross Hotel[3] at Adelaide every morning at nine o'clock, calling at Fordhams and the Victoria Hotel, where places are booked. It returns from Anthony's Hotel at the Port each afternoon at 4 o'clock. Fare 4s. Children under 12 half price."

By March 1839 it became possible to proceed northwards to Port Gawler by coastal shipping from the Port, or by "commodious" vehicle from Adelaide. On 23 March the same journal made a tardy announcement of the inauguration of this service.

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[1]   M. Colwell and A. Naylor. *Adelaide an Illustrated History* (Dee Why West. NSW. Lansdowne Press 1977. reprint ed. Adelaide MCP 1984) p. 28.

[2]   *South Australian Gazette and Colonial Register.* 26 January 1839.

[3]   The Southern Cross Hotel was in Currie Street, 30m East. of Rosina Street

"FOR PORT GAWLER AND
THE TOWN OF MILNER

From Mr. Bailey's The Sydney Hotel
Near the Church Adelaide

The undersigned has made arrangements that a commodious
vehicle shall start on Tuesday 19th instant at 7 o'clock in
the morning to convey goods and passengers returning the
next evening, and will continue running on Tuesdays and
Fridays in every week. Places and parcels may be booked
at Mr. Fordham's Hotel, and at Mr. Allen's, The Southern
Cross.
N.B. A boat will also start from Port Adelaide for Port
Gawler precisely at 12 o'clock noon to convey goods and
passengers.

W.A. DEACON" [4]

A service from Walkerville started in 1841 and later other services ran to Glenelg
and Brighton.[5] By 1850 a four-horse mail coach service carrying 17 passengers was in
operation between the City and Port Adelaide.[6]

Little evidence exists of specific public transport buildings in the early years,
mainly because operations were on a small scale.

4.   *South Australian Gazette and Register* 23 March 1839 The Sydney Hotel was
near the Holy Trinity Church. North Terrace.

5.   C. Steele. *From Omnibus to O-Bahn* (Norwood. SA. Australian Electric
Traction Association. 1986) p. 1

6.   J.C. Ratcliffe and C.J.M. Steele *Adelaide Road Passenger Transport*. (Adelaide.
Libraries Board of S.A. 1974) p. 12.

In 1850 a public announcement was made under the heading "Licensed Victuallers Act."

> "...... that all public houses more than ten miles from Adelaide shall contain a sitting room and not less than two sleeping rooms for the accommodation of travellers, separated from the tap by a space of ..... at least 12 feet, with a separate entrance: and there shall be a stable capable of containing at least six horses, with a sufficient quantity of hay and corn.
>
> signed. John Harry Richman
> Clerk of the Bench of Magistrates.
> King William St., Adelaide. Oct. 30. 1850."[7]

The ten mile radius passes through Marino, Aldgate and Basket Range. When journeys outside this line were undertaken, the onus of providing overnight accommodation, both for travellers and their horses, was placed on the innkeepers. Thus, this provision enabled the precursors of the sophisticated coach lines of subsequent decades to provide the principal settlements with rudimentary transport.

In 1852 William Rounsevell started in the coaching and livery stable business[8] from premises to the east of Hindmarsh Square straddling what is now Frome Street, between Grenfell and Pirie Streets.[9] He built up an extensive network of coach lines throughout the state on the basis of his Royal Mail contract as far south as Gambier Town.[10]

[7.] *South Australian Register.* 2 Nov. 1850.

[8.] G.E. Loyau *Notable South Australians.* (Adelaide. by the Author. 1888) p. 278.

[9.] This group appears in the Duryea Panorama in the State Library. Adelaide.

[10.] F.F. Baillère. *South Australian Gazetter.* (Melbourne Vic. By the Author. 1866) p. 82.

In January 1856 Karl Schunke of Glen Osmond started operating a two-horse 14-seat bus named the "Alma" which ran twice daily to the Southern Cross Hotel.[11] The horses and vehicle, which was soon to be joined by a second bus named the "Favourite", were housed in stables on the east side of Glen Osmond Road, south of Vine Lane. In 1905 Thomas Gill notes that these stables were dilapidated.[12] The arrival of the horse tramway in 1884 had doubtless supplanted the buses.

In 1866 Rounsevell and Son acquired Schunke's omnibuses, but they were themselves later bought out by Cobb and Co. who had hitherto only penetrated as far as the southern tip of South Australia with their service from Geelong to Penola, which had operated since 1857.

Cobb and Co. thus began their short but active period in South Australia. Their shareholder, Henry Hill acquired Rounsevell's portfolio of properties, which in Adelaide included an office at 135 King William Street, a property in Wellington Square[13] and a complex of stables and other buildings between Grenfell and Pirie Streets.

[11.] Register. 10 Jan. 1856 contains a full account of the inauguration of this service.

[12.] T. Gill. *The History and Topography of Glen Osmond* (Adelaide. Vardon and Pritchard. 1905) p. 26

[13.] A small building, now a house at 46 Wellington Square, North Adelaide, was part of the 1866 purchase by Cobb and Co., and is thought to have been used as an office. It is the only known surviving coaching premises in Adelaide owned successively by Rounsevells, Cobb and Co. and Hill and Co. A record of the transaction between Rounsevells and Henry Hill et al. is in the Lands Memorial Book No. 225 (Memorial 228) G.R.O. (Old System) Torrens Building, Adelaide.

Fig. 2   Former stage coach office at 46 Wellington Square, North Adelaide,
now a small house.

135 KING WILLIAM STREET

The mail coach
booking office which
served Rounsevell,
Cobb & Co and Hill's
in turn.

Its site is now part of
the Telecom Museum

Fig. 3.   Mail Coach Booking Office c. 1860
photo State Library S.A.

PIRIE STREET

Stable
complex
photographed
just prior
to demolition
on 22 Nov.
1922.

Fig. 4

Stable Complex. Pirie Street 1922
photo State Library S.A.

In the early 1870s the complex contained a carriage repository, stabling with hay and chaff stores on the upper floors, a blacksmith's, a harness room and living accommodation.

The demise of Cobb and Co. in the metropolitan area of South Australia arose because the only South Australian shareholder, Henry Hill, assigned his assets to John Hill and Co. in 1871.[14]   They continued to operate from Penola and Mount Gambier southwards, and in other States until 14 August 1924 when the last coach ran from Yuleba to Seurat in Queensland.

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14. K.A. Austin *The Lights of Cobb and Co* (Adelaide. Rigby. 1967) p. 92.

By the time Hill and Co. took over, the railways were growing rapidly and the coaches were becoming feeders for the railways, by servicing outlying areas from railway stations. However after 1871 Hill and Co. were the largest coach operator having over 1000 horses to serve their operations at their peak in the 1870s. Their longest running service from Willunga to Adelaide ran from 1860 to December 1913.

A RETROSPECT OF THE EARLY YEARS
OF HORSE TRANSPORT

The early period of Australia's public transport left few traces of its existence, and had virtually no impact on the built environment, beyond the nostalgia engendered by coach travel.

Although not the earliest coach operator, Cobb and Co. is widely regarded as the doyen, not only because of its widespread network throughout Australia, but also because of its longevity and sophisticated operations in the pre–railway and early railway era. The firm operated in South Australia during the peak years of coach operation both on long hauls of over three hundred miles and in town services. It is, therefore, worth examining in greater detail how they worked. The system operated between a series of horse changing stations at intervals along the service lines. These stations were basically stables divided into as many stalls as were required with hay chaff and harness stores, and usually a small paddock. Where possible they were sited near a hotel or restaurant. The *restaurateur* was obliged to serve hot meals at all hours, for which he was permitted to charge double tariff. The intervals between changing stations varied from ten to twenty miles depending on the nature of the terrain and the speed of the service. The shorter intervals were on the fast mail routes, where penalties were extracted for late arrival, and the longer intervals on the slower and more easy going routes.[15]

Many of the changing stations were no more than galvanised iron shelters, but those few which have survived are imposing solid stone or brick structures.

[15.] K.A. Austin. *The Lights of Cobb and Co.* (Adelaide. Rigby. 1967) p. 60, pp. 115 – 116, pp. 125 – 129.

One such building erected about 1859, stood beside the Overland Hotel near Barmera[16], which Austin describes as having comprised loose boxes, blacksmiths and wheelwrights shops and a general store. It was supplanted in 1913 by a motor mail[17] and has since been demolished.

In Victoria several changing stations still exist. One at Buangor is still completely intact, while a second at Skipton is in use as a garage in somewhat altered form[18], and a third at Burrumbeet is a ruin.

A building at the junction of Riddoch and Church Streets, Penola is believed to have been used by Cobb and Co. as a booking office, and has recently been restored. It is now a restaurant.

[16.] South Australia. Department of Environment and Planning. *Heritage file*. No. 6929–10278. Overland Hotel

[17.] K.A. Austin. *The Lights of Cobb and Co*. (Adelaide. Rigby. 1967) p. 126.

[18.] See Appendix A

[19.] South Australia, Department of Environment and Planning. *Heritage file*. No. 7023 – 12529. Former butter and cheese factory and Cobb and Co. office. Penola.

SYNOPSIS OF CHAPTER 2

PUBLIC TRANSPORT ON THE STREET

Carts, cabs and wagonettes were Adelaide's first public conveyances.

These were soon supplemented by larger vehicles, and by 1850 four–horse mail coaches were in use. In the mid–1850s two–horse buses were introduced into the Adelaide scene. Stage coach operators Rounsevell (up to 1866) Cobb and Co. (1866–71) and Hill and Co. (after 1871) all participated in urban services. Other forms of travel, principally coastal shipping, were important in the pre–railway era.

Few representative buildings exist in South Australia and one only is known to survive in Adelaide. Several, however, are still extant in Victoria. One putative Cobb and Co. booking office exists at Penola.

CHAPTER 3

ADELAIDE HORSE TRAMWAYS

1878 – 1917

Dissatisfaction with buses. In the run up to the horse tramway era in Adelaide in the early 1870s, the City and inner suburbs had a privately owned bus network. There were also twenty one cab ranks in the City[1] where conveyances ranging from a two–person Hansom cab to an eight–person wagonette could be hired. In addition there were rail connections with the Port, Smithfield, Gawler and by 1873 Glenelg.

However, by the mid–1870s the cabs and buses were becoming inadequate to satisfy the growing population of Adelaide, which by 1876 had grown to 72 000. Furthermore, the roads on which they ran were mainly waterbound macadam, which became muddy in winter and dusty in summer. This caused an uncomfortable ride. In addition there had been complaints about the condition of the buses, as well as their cleanliness.

Tramway proposals. On 22 April 1875 *The Register* monthly comment column carried a long article entitled "A Street Tramway Scheme", praising tramways in general, and in particular the proposal for a tramway between the City, Norwood and Kensington. The writer refers to the contemporary line of coaches between the City and Kensington as having "........ attained the very extreme of inconvenience and discomfort....."

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[1] J. Boothby. *Adelaide Almanack 1875* (Adelaide J. Williams. 1875) pp. 336–337

One of the staunchest advocates of tramways was W.C. Buik a former Mayor of Kensington and Norwood. He was a Scot from Dundee, the proprietor of a hardware business in Adelaide, and he paid visits to the UK in 1871 and the US in 1875. These visits reinforced his advocacy of tramways. In April 1875 the Prospectus for the Adelaide and Suburban Tramways was issued.

The public was by now aware that tramways had been operated in New York (1831), Paris (1855)[2] and Staffordshire UK (1864)[3] and had proved satisfactory. It had been shown that more passengers could be drawn by fewer horses, more comfortably and with less wear and tear on the vehicles. Furthermore as the space between the rails was usually paved the droppings and drenchings from the horses could be more readily disposed of. As, however, tramways ran on their own rails mainly on public highways, separate Acts of Parliament were needed for each and every section of line constructed.[4]

Adelaide and Suburban Tramway. This was the first to achieve an Act of Parliament authorising the construction of a street tramway in Australia in October 1876.[5] It was followed by ten other tramway companies, which in turn set up the great public transportation and mobility revolution. This enabled all classes of society to move about the City in a way which could never have been hitherto contemplated. The effects were far reaching. Workers no longer had to live within walking distance of their work, with the result that commuting became easier. The whole population was able to benefit from this

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[2] Beckles Willson. *The Story of Rapid Transit.* (London. George Newnes, 1903) pp 181–182

[3] C.S. Dunbar. *Buses Trolleys and Trams.* (London. Paul Hamlyn. 1967) pp. 21–24

[4] See Appendix E

[5] L.S. Kingsborough *The Horse Tramways of Adelaide.* (Adelaide. Libraries Board of S.A. 1971) p. 1.

new mode of transport. The system involved a heavy capital outlay for lines, roadworks, car barns, workshops, offices and of course the new cars. Its success depended to a large extent on the ease and simplicity with which horse drawn trams could operate. Adelaide met the basic condition. It was mainly level and the horses could operate in most areas without undue fatigue. Where moderate hills were encountered they were operated with a third horse. The layout of the lines, with only three exceptions, followed a radial pattern giving all the near suburbs direct access to the City.

Depots were built at or near the suburban termini of the lines, so that they could conveniently make their first Citywards trip in the morning with the least delay.

The enthusiasm of W.C. Buik was rewarded and he became the Chairman of the Adelaide and Suburban which remained the largest of the Adelaide companies throughout the horse tramway period and consistently increased its ridership and profitability throughout its thirty year life.[6]

The first line opened in June 1878 from King William Street to Kensington and thus became the first street tramway in Australia, six years earlier than Melbourne.

The main depots were at Regent Street, Kensington; O'Connell Street, North Adelaide; Smith Street, Walkerville; Magill Road and Marryatville. There was also a small car shed and stable at Burnside Terminus.[7]

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[6]   L.S. Kingsborough. *The Horse Tramways of Adelaide.* (Adelaide. Libraries Board of SA. 1971) p. 2.

[7]   Ibid. pp. 2 – 7
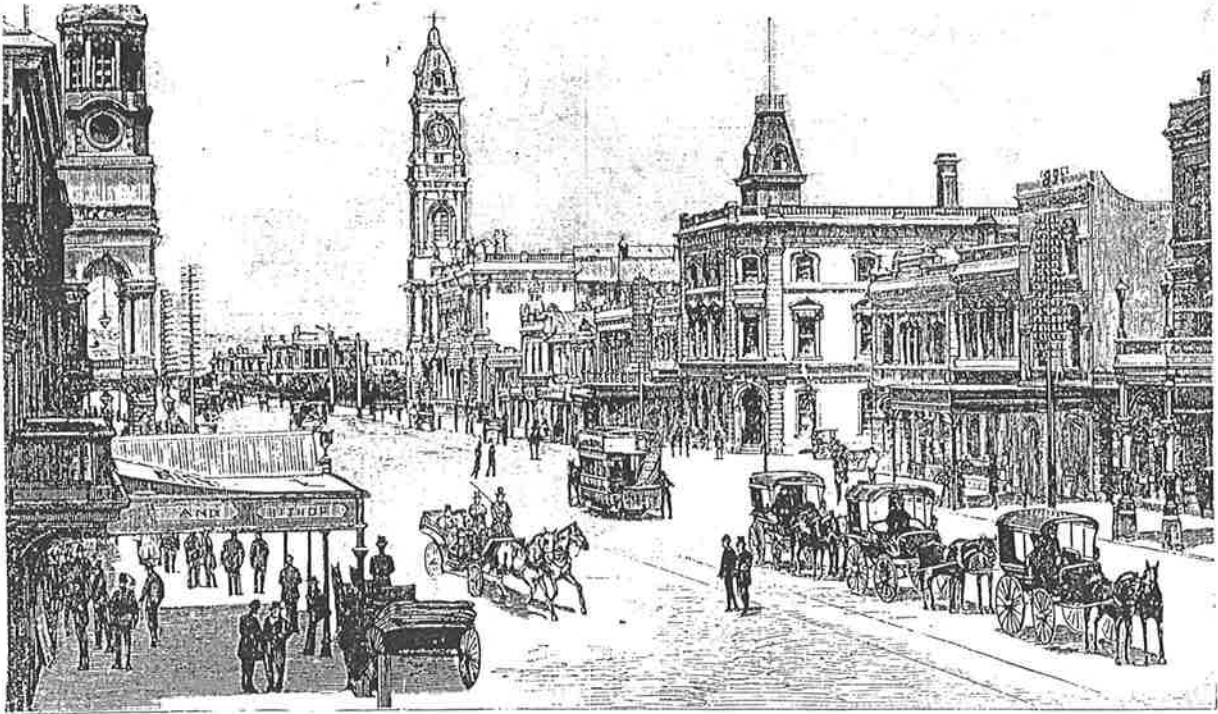
ADELAIDE: KING WILLIAM STREET WITH POST OFFICE

Private carriages, wagonettes for hire and a two–horse tram about to return southwards.

Fig. 5   Lithograph reproduced from the Graphic 1887. Silver Jubilee Exhibition Supplement.

Edmund W. Wright[8] was the architect for the company's buildings. He designed a delightful verandah type villa as an office block which was duplicated at several depots. One exists at Maylands which has been converted to two units. The car barns were mainly substantial stone buildings of which only two exist today, at North Adelaide and Maylands, in somewhat altered form.

Adelaide Unley and Mitcham Tramway. This line opened in February 1879. It had two depots at the junction of Princes Road and Welbourne Street, Mitcham and between Clifton and Eton Streets, Malvern.[9] No buildings now remain.

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8. E.J.R. Morgan and S. Gilbert. *Early Adelaide Architecture.* (Melbourne Vioc. Oxford University Press. 1969) pp. 155 – 156.

9. L.S. Kingsborough. *The Horse Tramways of Adelaide* (Adelaide. Libraries Board of SA. 1971) pp. 8 – 11.

Adelaide and Hindmarsh Tramway. This company had two routes from the City to Hindmarsh, and later to Henley Beach. The first line opened in 1880. Its main premises were in Henley Street, with car sheds also at Grange Road and Seaview Road, Tennyson. No buildings now remain.

Port Adelaide, Queenstown, Alberton and Portland Estate Tramway. Despite its long name it was only 3.75 km long, from St. Vincent Street to Cheltenham Cemetery. It opened in May 1879. Its car shed was at the junction of Glyde and Murray Streets, Albert Park and has now been demolished.[10]

Adelaide and Parkside Tramway. The line went into service in September 1882 from Adelaide to Parkside, extending two years later to Glen Osmond. It had a bluestone depot at the junction of Fullarton and Campbell Roads, which has now disappeared.[11]

Adelaide and Goodwood Tramway. Opening in December 1882 this short line ran from the City via Goodwood Road to Cross Road.

Adelaide Prospect and Nailsworth Tramway. Starting as an independent company in 1883, it was later acquired by the Adelaide and Suburban. Its stone depot at the junction of Main North Road and Johns Road, is the only horse car depot to exist intact today. It is a Prospect City Council depot and is well maintained.

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[10] L.S. Kingsborough. *The Horse Tramways of Adelaide* (Adelaide. Libraries Board of SA. 1971) pp. 17 – 20.

[11] Ibid pp. 21 – 23.

[12] Ibid pp. 33 – 36.

Adelaide and Hyde Park Tramway. This 3.75 km line ran due south from Victoria Square alongside the Glenelg Railway in King William Street, and thence to Northgate Street where the depot was situated. It opened in September 1883.[13]

Glenelg Brighton and Marino Tramway. Despite its name it never ran beyond Dover, where its car shed and stables were. It ran from 1883 to 1914.[14]

Glenelg, New Glenelg and Somerton Tramway. Short in length as well as life span, the line only survived from 1883 to 1886. Its depot in Whyte Street has since been redeveloped for housing.[15]

Adelaide, Payneham and Paradise Tramway. Opened in September 1883 between the station at North Terrace and Payneham, it subsequently made several eastward extensions. Its depot stood in Payneham Road.[16]

Gawler Tramway. Although in no way part of the Adelaide scene, a small two car tramway ran from Gawler Station to the town centre in Murray Street.[17]

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[13] L.S. Kingsborough. *The Horse Tramways of Adelaide* (Adelaide. Libraries Board of SA. 1971) pp. 40 – 41.

[14] Ibid pp. 43 – 44.

[15] Ibid pp. 45 – 46.

[16] Ibid pp. 47 – 51.

[17] G.E. Loyau. *The Gawler Handbook* (Adelaide. Goodfellow and Hele. 1880). p. 18 and p. 24

HORSE TRAMWAYS IN RETROSPECT

Adelaide was the first Australian City to have a comprehensive tramway network. The layout and topography of the City and suburbs made it ideal for horse operation.

The tramways initially ran from suburban centres to converge on the City, eventually forming a comprehensive network of lines. Only three were disconnected, the Port Line and the two running between Glenelg and Brighton, and Somerton. In most cases the original lines were extended during the horse tramway era. The population of Adelaide more than doubled during the period from 1878 to 1917: hence their profitability.

Buildings. All the depots, workshops, stores, offices and stables were new and purpose built, and none was provided by conversion or adaptation. Two quite separate lines of approach were adopted in the design of the buildings to serve the new undertakings. The majority were cheap and utilitarian galvanised iron car sheds and stables, which as it eventually turned out, lasted long enough to serve the full span of the horse tramways. All of these are now demolished. The minority were of a more substantial nature being constructed of brick or stone, some with outbuildings of galvanised iron. Only three have survived.

North Adelaide Depot (Adelaide and Suburban). This was built on two separate sites, and has in part survived to the rear of O'Connell Street. All the original stone buildings still exist, albeit in altered form as part of the Tip Top bakery complex.[18]

[18.] At an interview on 26 Feb. 1990 with Paul Stark and Pat Summerling of the City of Adelaide Department of Planning and Development, it was ascertained that a housing development was planned to replace the bakery complex, and that the Department had agreed to the demolition of all buildings with the exception of the former 2-storey dwellings in the centre of the original group. See Appendix B.

Maylands Depot (Adelaide and Suburban). The original horse car depot later became a permanent way depot for the electric tramway and finally a bus depot until it was sold for housing in 1982.[19] The housing scheme retains the car shed and offices and provides eight new units in the former paddock. The bluestone office block has been converted into two units, while the tram barn has been stripped of half its roofing and converted into a fernery, serving as a common access to the remainder of the housing units. Whilst the general outline of the barn has been preserved it is regrettable that a use more consistent with its original purpose could not be found.

Nailsworth Depot (Adelaide, Prospect, Nailsworth and Enfield). Apart from the demolition of a small stone office building on the Main North Road, this depot remains intact and is now a Prospect City Council depot.

Passenger Shelters. The convenience of passengers was rarely considered in the City, but as depots were usually provided near the terminals, and tram services were often hourly or half hourly, waiting rooms were generally provided, sometimes as part of the office block but more often as independent structures.

Operating efficiency. Those lines which survived to the end of the service were both profitable and efficient, but by the turn of the century the track as well as the cars were reaching the end of their useful lives. Electrification of the service was the objective, but at this point in time the discussion was on how to raise the funds for this immense capital outlay. Five schemes were mooted, and in 1904 the Tramways Electric Traction Act was passed enabling the Government to purchase the horse tramways simultaneously on behalf of the newly established Municipal Tramways Trust.[20]

[19.] South Australia. Department of Environment and Planning. *Heritage files.* no. 668 –10834. Former Maylands Horse Tram Depot, Magill Road.

[20.] P. Kannis "Tramways in Adelaide 1876 – 1907" (B.A. (Hons). thesis. University of Adelaide 1965) Chaps. VI and VII. See also Appendix E.

MAYLANDS
DEPOT

Magill
Road

Fig. 6

Successively a horse tram, electric tram and motor bus depot,
it is now converted to housing use. In the foreground is the former office.

NAILSWORTH
DEPOT

Main
North Road.

Fig. 7

The only Adelaide horse tram depot to survive intact,
it is now a depot of the Prospect City Council.

Layouts. Like their predecessors, the changing stations of coaching days, the car sheds and stables followed functional necessity in plan form, and normally the horses were housed in stalls adjacent to the cars. This type of layout is achieved at Nailsworth, Unley, Clarence Park, Mitcham, Maylands, Parkside and Walkerville depots. However, the original designers seem in many cases to have underestimated the number of horses required to service each car on the road, and in most of the larger depots additional stable accommodation has been added. The number of stalls needed to provide for the horses was based on the working day for a team of draught horses. This was a 14 mile (23 km), or 3½ to 4 hour stint.[21] Average figures for 1901 showed that each car needed 6.5 horses to maintain the service.

The most sophisticated depots were those of the Adelaide and Suburban, which had paint shops, blacksmiths, sick bays and veterinarians' surgeries. Compact layouts often needed turntables to manoeuvre the cars. Most of the rails were Larson type [22] which performed with mixed success.

Architectural character. Most of the buildings, both masonry and galvanised iron, display a functional sincerity, both in elevational form as well as detailing. The New Thebarton Depot had a covered manger in front of the car shed which must have imparted a picturesque farmyard appearance. Only one depot can be said to have been pretentious: it was the last to be built, at Payneham. It was a robust composition of bluestone with brick quoins, cement rendering, parapets and a clearstorey.

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21. L.S. Kingsborough. *The Horse Tramways of Adelaide* (Adelaide. Libraries Board of SA. 1971) p. 73.

22. See Appendix B.

SYNOPSIS OF CHAPTER 3

ADELAIDE HORSE TRAMWAYS

1878 – 1917

The horse tramways of Adelaide started operations before the other capital cities. They were received well by the townsfolk, and for thirty years gave excellent service. Furthermore they were consistently profitable during a period when rapid population growth was occurring.

There were originally eleven independent companies of which the largest was the Adelaide and Suburban. Only one company, the Somerton line, failed.

Their operational buildings were good examples of functional architecture and most possessed the charm of unstylised simplicity. Although operating in competition, their efficiency was beyond reproach, but by 1900 they were becoming obsolete.

After considering schemes for financing the electrification of the service, the Government purchased most of the companies simultaneously.

PART II

HORSELESS TRANSPORT

UP TO

WORLD WAR I
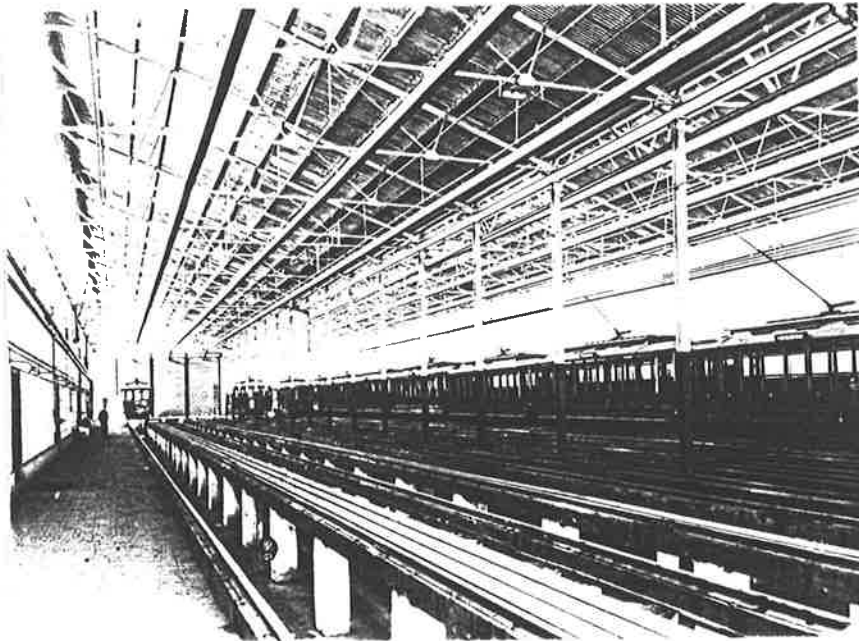
Interior of Car Barn at Hackney soon after opening in 1909.
Photo. State Library of S.A.

Fig. 8.

CHAPTER 4

ELECTRIC TRAMWAYS

1909 – 1918

After the first electric tramway at Brighton UK had been shown to work satisfactorily in 1883[1], it became a fast breeder. In less than six years the system had been developed in the US and Europe and was being tried in Melbourne, where it proved its superiority over steam or cable systems. By the time Adelaide was ready to modernise, the experimentation was over.

Conversion of Horse Tramways. The work of removing the horse car rails, laying new ones and erecting poles started in 1908 and finished in the inner area the following year. The outer suburbs were completed by 1911. The Port Adelaide Horse Tramway was brought for £4000 in 1913 and converted and extended by 1917.[2]

Buildings. A large central depot complex was opened in Hackney Road in 1909, comprising a car barn, workshops, stores, a 3–storey administrative block and two foremen's houses.

The administrative block is a brick and stone building with a 45° tiled roof. It presents the appearance of a Queen Anne Style mansion with its colonnades on the ground and first floors, from which the senior staff could survey the remainder of the depot. The building is in use and is Heritage listed.

[1.] C.S. Dunbar. *Buses Trolleys and Trams* (London. Paul Hamlyn. 1967) p.44.

[2.] L.S. Kingsborough. *The Horse Tramways of Adelaide* (Adelaide. Libraries Board of S.A. 1971) p. 20.

The impressive frontage of the 24-track running shed, each with the appropriately numbered car marshalled in line, shortly after Hackney depot was commissioned in 1909, STA
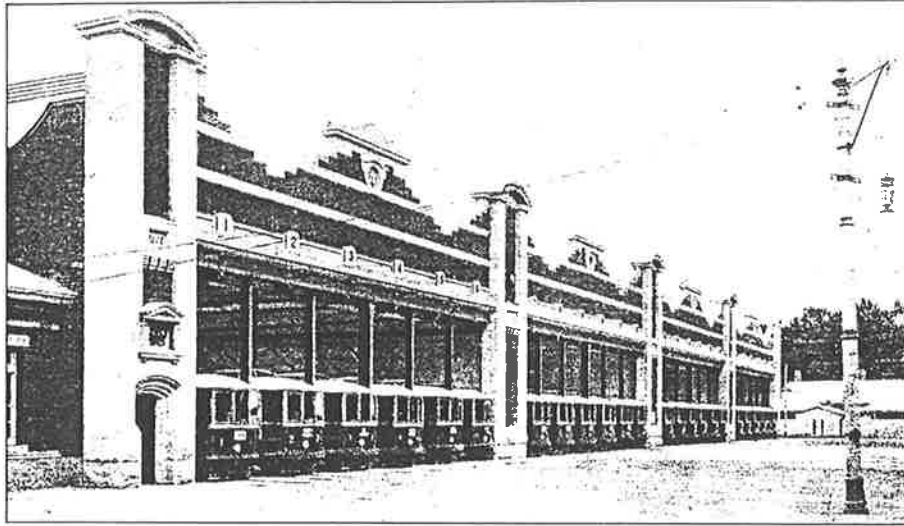
Fig. 9   Car Barn in Hackney Road.

TRAM DEPOT

HACKNEY
ROAD

1909

Fig. 10   The original MTT Head Office.

Photos.   above. *Tramway & Railway World. 13 June 1918.*
                     below. State Library of South Australia.

The Car Barn is a steel framed building clad in brick and stone and roofed by south light trusses, presenting a massive 4-bay facade to Hackney Road. As a typical example of Edwardian industrial architecture it would have been worthy of preservation, but unfortunately 2½ central bays were demolished by a wrecker's steel ball early in 1958, shortly after the trams moved out.[3] The plans are in Appendix C.

The complex was designed by Garlick, Sibley and Wooldridge architects[4] and built by Smith and Timms.

No. 1 Converter Station. This building in East Terrace housed the electrical plant needed to receive alternating current at 10 500 volts, pass it through step-down transformers and then through rotary converters to deliver continuous (sic) current to the tramways at their working pressure of 600 volts (DC).

The building has a splendid neo-Georgian elevation to Rymill Park, made up of a rusticated stone plinth which absorbs the level changes on the site and provides a base for the bold semi-circular arches which form the main features of this carefully detailed elevation.

The original use has been surpassed by advances in technology, but the building whose integrity has been preserved, is now the ETSA Rymill Park Training Centre. It is near the Edwardian TAFE College in Grenfell Street, and unlike some other Heritage buildings, is fortunate in having been found a new use totally appropriate to its original purpose.

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3.   C. Steele. *From Omnibus to O-Bahn* (Norwood SA. Australian Electric Traction Association 1986) p. 97

4.   E.J.R. Morgan and S. Gilbert. *Early Adelaide Architecture* (Melbourne Vic. Oxford University Press. 1969) p. 147

No. 1 CONVERTER
STATION

East Terrace

The building is now
used by the Electricity
Trust of S.A. as a
Training Centre.

Fig. 11

Detail of main entrance

General
view

1988

Fig. 12

The front of this building is complemented by a mature tree studded setting. In our materialist car owning age, this delightful former converter station serves to remind us,that a previous generation, unable to take for granted the right to personal mobility, should see fit to lavish such care on the facade of a mundane building housing electric rotary converters.[5]

Street Furniture. Apart from the handsome cast iron poles to support the overhead wires, there were six signal cabins rather picturesquely perched on pedestals or columns at tramway junctions in the City. They were used by signalmen to switch the points for oncoming trams. They have now all been removed, but one has been re-erected at the St. Kilda Tramway Museum. Details are in Appendix C.

Recreational Development. The Municipal Tramways Trust was well aware of the popularity of their cars for conveying City dwellers to the seaside or the country. Kensington Gardens were bought by the Trust in 1911. It erected a rotunda, built rustic bridges and pathways, and laid out games courts. The rotunda has now been enclosed and is used as a day centre for the Child, Adolescent and Family Health Service. In the same year the Trust also built a rotunda at Henley Beach, and a 2-storey kiosk containing a cafeteria and roof garden. The rotunda has long since disappeared, but the kiosk survives in altered form as a restaurant. In 1915 the MTT built a further recreational line to Morialta Falls Reserve. It also maintained a brass band to provide light music, mainly at rotundas near the termini.[6]

[5.]   The architects were English and Soward and the builder was C.H. Martin. Further details of the architects are in E.J.R. Morgan and S. Gilbert. *Early Adelaide Architecture* (Melbourne. Vic. Oxford University Press. 1969) pp 146 – 153.

[6.]   Metropolitan Tramways Trust. *Adelaide Pocket Tramways Guide.* (Adelaide Municipal Tramways Trust 1911) Block No. 6.

Beautiful
Tram Car Rides.

HENLEY BEACH

Rotunda and
Kiosk on the
Esplanade.

This excerpt from
the Municipal
Tramways Trust
Pocket Guide 1911
advertises the
Trust's recreational
facilities.

Henley Beach A popular sea-
side suburb half
an hour's tram ride from the City and
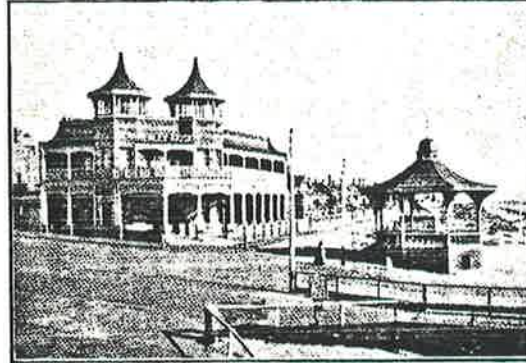
Henley Beach Kiosk, Block No. 6

a favorite resort on hot summer
evenings.

Fig. 13

The rotunda where the MTT Brass Band entertained visitors, has since been demolished.
The kiosk has lost its two roof turrets but it is still in use as the restaurant below.

HENLEY
SQUARE

Restaurant

1988
photo

Fig. 14

REVIEW OF THE EARLY YEARS OF ELECTRIC TRAMWAYS

Cost of electrification. This had been a financially satisfactory operation which had been expeditiously carried out. The cost per mile in state capitals was as follows:

ADELAIDE   £12 000

MELBOURNE £14 000

SYDNEY   £22 000[7]

The Trust was, therefore, well satisfied with the conversion which their manager Mr. W.T. Goodman had supervised. It was to survive almost fifty years in its original form.

Quality of the undertaking. Its longevity is hardly surprising because the whole fabric was built to endure. The roadworks were to a high specification and the cars displayed a standard of craftsmanship never since equalled. The buildings were architect designed edifices reflecting the permanence with which their creators had endowed them, and demonstrating for all to see the standards of design and workmanship expected of an up and coming state capital. Not only was the quality good, but it could be seen to be so.

The rhythm of uniform poles[8] at intervals of 80 to 100 ft. (24 – 30 m) down all the principal streets, not only provided adequately for their primary purpose, but also for

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[7].   M. Cannon. *Life in the cities. Australia in the Victorian Age. 3.* (Melbourne. Vic. Thomas Nelson. 1975) p. 61
J.C. Ratcliffe and C.J.M. Steele. *Adelaide Road Passenger Transport* (Adelaide Libraries Board of SA. 1974) p. 43

[8.]   Also referred to as masts, standards or traction poles.
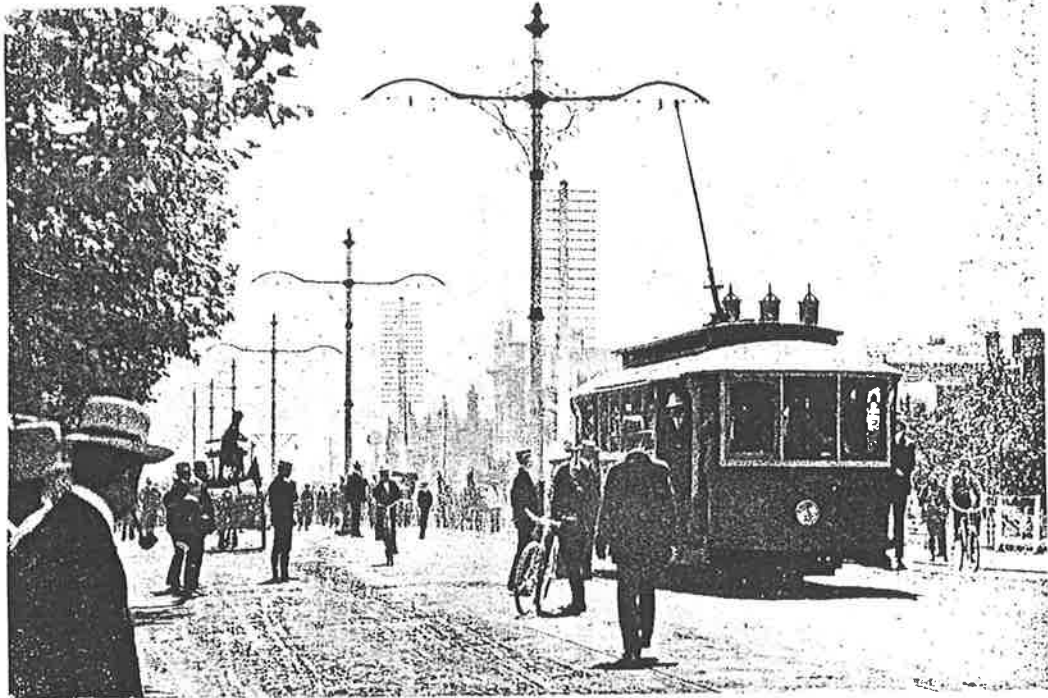
THE "CITY FATHERS" HAVING THEIR FIRST RIDE ON THE ELECTRIC CAR.

An early tram journey along North Terrace attracts the attention of passers by. The handsome steel and wrought iron standards, however, did not survive the road widening of the 1920s *in situ*, but have now been re-erected at St. Kilda Tramway Museum.

Fig. 15

Photo. "The Tramways of Adelaide". *The Critic*. (Adelaide. 9 Mar. 1909) reprint ed. Griffin Press. Netley S.A. n.d. p. 29

street lighting and for affixing bunting on every festive occasion. Their scale and regularity modulated the vastness of the Adelaide street scene. Their classical mouldings and flamboyant wrought ironwork added the touch of quality its citizens wanted to see. This, coupled with the cars themselves, gliding at regular intervals along the principal streets at speeds and punctuality hitherto unknown, must in the days before World War I have imparted an aura of finality and permanence in the status quo.

In the years to come, however, far reaching changes were to happen, which would alter the cosy security of Edwardian Adelaide.

The first generation tramway buildings. Unlike the buildings which served the horse tramways, most of the electric tramway buildings still survive in whole or in part.

The Hackney Depot complex was designed to be the nucleus of the whole system and its central location gave it good accessibility to most areas. However, the nine acre (3.64 ha) site had previously been an orchard within the Parklands, authorised for its new use by statutes of 1907 and 1909.[9] It thus became a further substantial incursion into the Parklands.

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9.   See Appendix E.

SYNOPSIS OF CHAPTER 4

ELECTRIC TRAMWAYS 1909 – 1918

A late starter in electrification of tramways, Adelaide began conversion of horse car lines in 1908 and completed the work in the inner area by 1909.

The initial layout, depot, workshops and offices were built to a very high standard of construction and were designed in neo–Georgian or Queen Anne style by eminent architects.

The cost of conversion had been within the limit set by the enabling legislation of £12 000 per mile.

The outer suburbs were converted by 1914, and the Port Adelaide area by 1917.

The recreational needs of the City dwellers were not neglected by the Municipal Tramways Trust who built several lines to popular beaches and beauty spots. They also built rotundas and organised a brass band to provide music at several venues near the termini.

CHAPTER 5

RAILWAYS

1856 – 1918

Railways did not appear in Australia until the 1850s. Although European achievements must have been known to Australians, no provision was made in the layout of Adelaide for railways or the buildings and artefacts they needed.

Why this should have been so is not known, but one clue is perhaps to be found in the views of George Kingston, Col. Light's deputy, who as a member of the 1851 Select Committee on Railways, dissented from the majority report. He stated that roads were cheaper than railways but if railways were to be built, steam power should be used, and they should be built by private enterprise rather than the Government.[1]

Railways in metropolitan Adelaide. The first line, the private Port Adelaide and City Railway, received parliamentary assent in 1850, but foundered on financial grounds and therefore undertakers were appointed. It opened as the first part of the South Australian State Railway in 1856.

The line northwards reached as far as Gawler the following year. The last and greatest task was the construction of the Main South Line over the Mount Lofty Ranges. The Link with Victoria was completed by 1885, and the "Intercolonial Express" started the following year.

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[1] South Australia. Parliament. *Parliamentary Papers. 1851.* "Report of Select Committee on a General System of Railways".

The remainder of Adelaide's railway network followed a predictable pattern of unplanned development in a somewhat piecemeal and "laisser faire" manner.[2] Some lines were privately owned while the main lines were State owned. Needless to say, wherever they ran they supplanted other forms of transport, except perhaps coastal shipping.

The railway construction era lasted some 60 years. No new major engineering works were undertaken in the inter-war or post-war years. In practical terms, therefore, it was a phenomenon of the late 19th century using the technology of the Victorian age for its initial impact. It left Adelaide with a network of radial lines, linking the various older centres of population with the City. It had, however, made possible not only inter-city travel, but also inter-state journeys to Victoria.

Adelaide Railway Terminus. The North Terrace site was an inevitable choice, but it allowed no direct connections with anywhere other than the Port or the North. No lines were ever built to the east or north-east, and the lines to the south followed a very circuitous route. It was the first great incursion into the Parklands.

The siting of the railway terminal in North Terrace had an influence on the centre of gravity of trade and commerce of the City, causing it to shift northwards as a result of the concentration of passenger and goods movements around the station.

At one point in time, events might have turned out differently, and given better justification to the present North Terrace site. It occurred in July 1900 during a debate in the City Council on the Adelaide and Suburban Tramways Electric (private) Bill. Cr. C. Proud a Labor party member vehemently opposed the Bill which proposed

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[2] R.I. Jennings. *W.A. Webb* (North Plympton. S.A. Nesfield Press 1973) pp. 9 – 10.

indirect municipalisation. He strongly favoured the direct nationalisation alternative which was linked to a proposed circle line railway around the then settled areas of Adelaide.[3] His ardent advocacy of this viewpoint may not have been quite so ill founded as his contemporaries thought. It would then have been cheap and easy to build, and it would have been possible for future generations to add tangential lines to serve any areas on the periphery. This option no longer exists.

Commuter Traffic. By the end of the 19th century considerable commuter traffic, particularly from the outer suburbs, was being attracted by the railways.

Four privately owned lines had been built, three of them from Glenelg. The Glenelg line opened in August 1873 and ran from the jetty to Victoria Square. The Holdfast line opened an alternative route to North Terrace in 1880, but two years after having done so amalgamated with its rival. In 1878 the Glenelg and South Coast Railway built a line from Moseley Street to Marino, but it failed within eighteen months. The fourth and last private line was the Grange Railway which opened in 1882 from Woodville to Grange, and later to Largs.[4]

Nationalisation of the private lines to Grange and Largs took place in 1890, but the Glenelg lines were not nationalised until 1899 and were subsequently transferred to the Municipal Tramways Trust thirty years later.

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[3] P. Kannis "Tramways in Adelaide 1876 – 1907". (BA (Hons) thesis University of Adelaide 1965) Chaps VI and VII

[4] W.H. Jeanes. *Glenelg. Birthplace of South Australia* (Glenelg S.A. City Council 1955) pp. 187 – 205

Railway Development. Meanwhile Statewide progress was being made, and new lines were being built throughout the State. Despite opposition from the Engineer–in–Chief, Henry C. Mais, political pressures dictated a lowering of standards, notably a reduction in gauge from 5'3" to 3'6", particularly in areas to the north and west of the State.[5] They thus sowed the seeds of the problem which persists today.[6] The broad gauge was, however, retained in the Metropolitan area, where the line to Outer Harbor was completed in 1908 in conjunction with the construction of the Ocean Liner's terminal. Southwards the SAR reached Brighton by 1915, and then proceeded with a developmental line to Willunga the same year,[7] which has since been dismantled.

Civil Engineering works. When the first railway to the Port was built in 1856 an extraordinary iron cantilever bridge was built over the River Torrens on stone abutments. It was designed by Benjamin H. Babbage the Chief Engineer of the Port Adelaide and City Railway. It was, however, replaced by a conventional steel bow bridge in 1870[8] when the line was duplicated.

On the Main South Line two remarkable viaducts were constructed of steel plate girders on circular columns at Sleeps Hill to carry trains over the Mount Lofty Ranges on their way southwards. Built in 1882 under the direction of Henry C. Mais, by Walker and Swan, contractors, it survived until 1921, when the line was duplicated and diverted through a tunnel and rebuilt on embankments.[9]

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5.   See Appendix C.

6.   R.I. Jennings. *W.A. Webb* (North Plympton S.A. Nesfield Press 1973) Chaps. 1, 2 and 3.

7.   Ibid. pp. 34–36.

8.   D.A. Cumming and G. Morham. *They built South Australia.* Adelaide By the Authors 1986) p. 210.

9.   R.I. Jennings. *W.A. Webb* (North Plympton S.A. Nesfield Press 1973) footnote between p. 82 and 83.

SLEEPS
HILL
VIADUCTS

Built in
the Adelaide
Hills to
carry inter–
state trains.
Replaced by
embankments
and a diversion
through a
new tunnel in
1921.
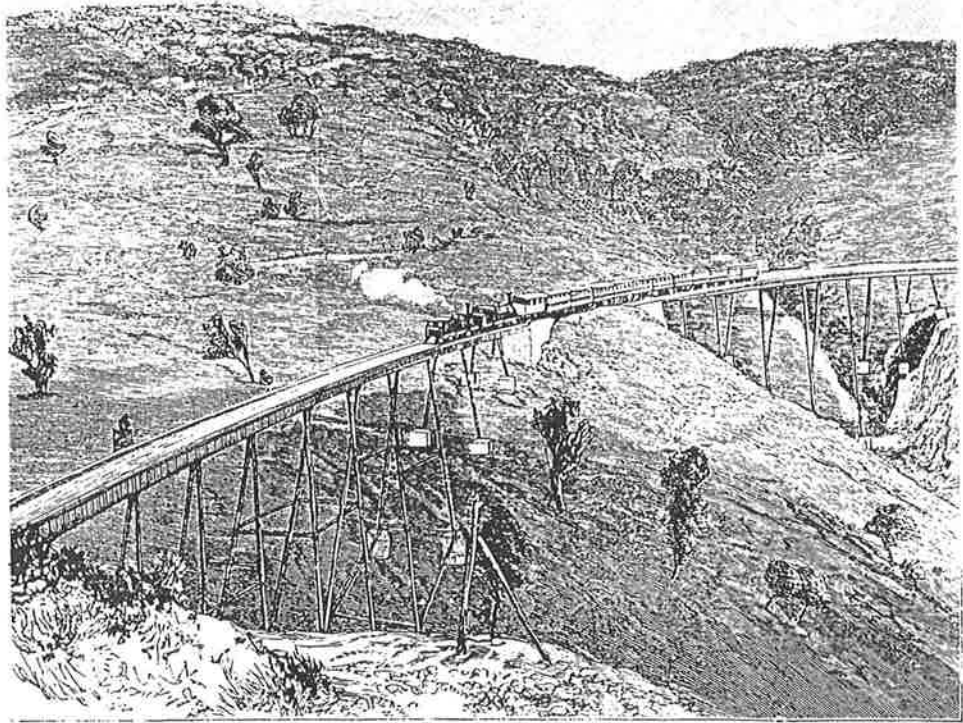
A VIADUCT OF THE ADELAIDE AND MELBOURNE RAILWAY

Fig. 16 Lithograph reproduced from The Graphic 1887.
50th Jubilee Supplement.

Station Buildings. The first generation station buildings in Adelaide, as well as workshops, locomotive, carriage and goods sheds were substantial brick or stone buildings.

The Railway Terminal at North Terrace was completed in 1854. Designed by Garlick and Jackman[10], architects, it cost £7111. A modest stone building with brick quoins and dressings and a slated roof, surmounted by a cupola with weather vane, it first served only the Port Line, but was soon to acquire additional accommodation to meet railway expansion. Described by F.F. Baillière as an Anglo–Italian[11] building it remained in this form until 1872 when it acquired canopies, and later an upper floor and finally an immense extension in 1900 before being totally rebuilt in 1928.

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10. E.J.R. Morgan and S. Gilbert. *Early Adelaide Architecture 1836 – 1886* (Melbourne. Vic. Oxford University Press. 1969). p. 147

11. F.F. Baillière. *South Australian Gazetteer and Road Guide 1866* (Melbourne. Vic. F.F. Baillière 1866) pp. 5–6.

Three fairly similar stations built in 1856 and 1857 at Bowden, Alberton and North Adelaide to the designs of William Hanson survive today. All three are stone buildings with low pitched roofs and semi-circular arches over openings. E.A. Hamilton[12] may also have worked on these designs, which are Italianate in style.

ADELAIDE
STATION

as originally
built in 1854.
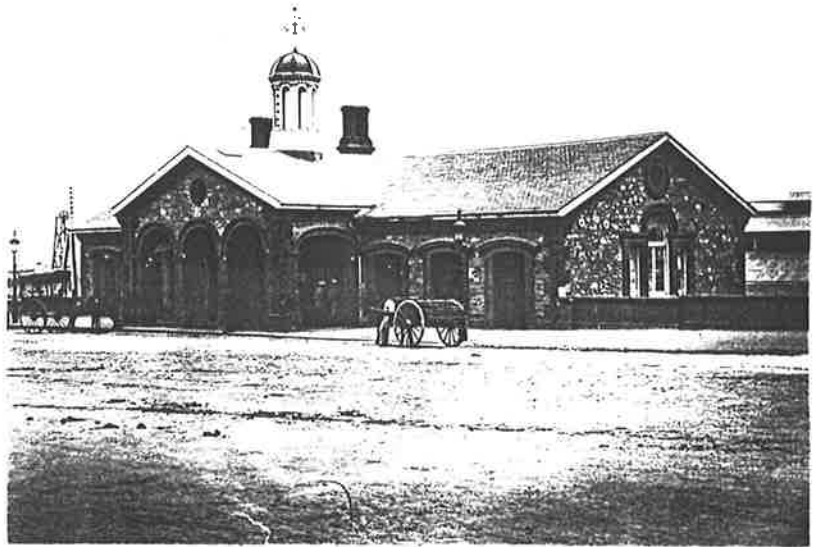
Fig. 17

Canopies were
added in
1872

Fig. 18

[12.] D.A. Cumming and G. Moxham. *They built South Australia* (Adelaide. by the authors. 1986) p. 80

ADELAIDE STATION

An extra
storey was
superimposed
in 1878 which
transformed
the Anglo–
Italian station
into High Victorian
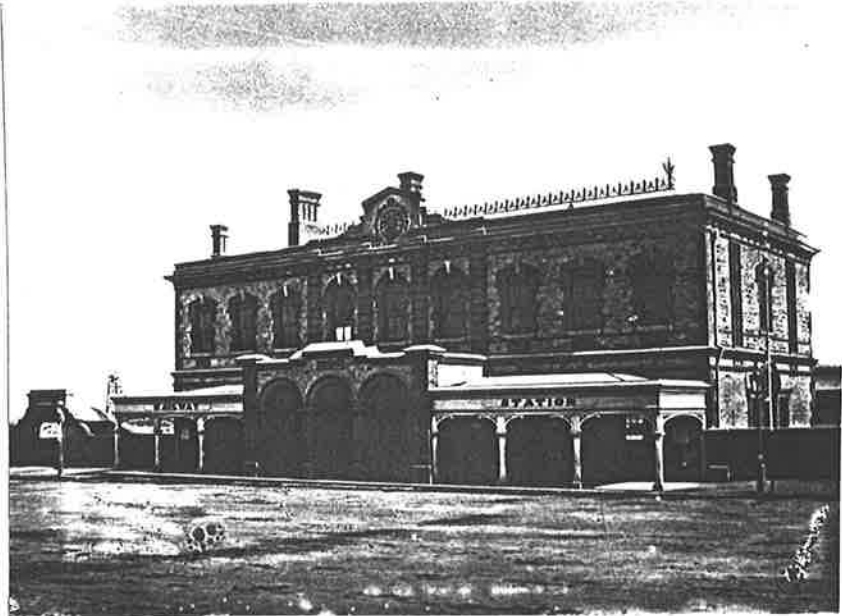
Fig. 19

photos State Library of South Australia

The first Gawler Station was opened in 1857. By the 1870s it was said to have become dilapidated and inadequate, and was replaced in 1879 by the present bluestone building which, with its brick dressings and cast iron columns[13], displays the confidence of the late Victorian era. It was built by Robin and Hack, contractors for £4 200.[14]

On the SAR Main South Line five mainly stone built stations were erected between 1881 and 1883. They are at Mitcham, Blackwood, Belair, Mount Lofty and Aldgate. All are similar in concept, but roof pitches are steeper than the earlier station buildings and the details conform to late Victorian taste, rather than the earlier Italianate style.

[13.] Robert Irving ed. *Book of Historic Australian Towns*. (Sydney. NSW. Readers Digest Services. 1982) pp. 140–145

[14.] G.E. Loyau. *Gawler Handbook*. (Adelaide, Goodfellow and Hele. 1880) p. 132. See also Appendix C.

OBSERVATIONS ON THE EARLY YEARS
OF RAILWAY DEVELOPMENT

The urban network. This was never comprehensive. Large areas were left unserved particularly in the east and north east. The siting of the railway terminal and operational buildings had not been included in the Adelaide plan, and it thus became necessary to carve it out of the most scenic part of the Parklands between North Terrace and the River Torrens.

Some stations built during the 19th century still survive. Three of the earliest at Alberton, Bowden and North Adelaide were designed by William Hanson, and are delightful examples of the simple use of local materials. Although their integrity has been preserved, all are in dilapidated condition, and now no longer carry out the functions for which they were designed. Of the later Victorian stations at Gawler, Mitcham, Blackwood, Belair, Mount Lofty and Aldgate all are in reasonable state of repair, but like the foregoing group of three, are ready for recycling in whole or in part, to give them *raisons d' être*.

Of the civil engineering works the most awesome were without doubt the Sleeps Hill Viaducts. Many a passenger's heart must have missed a beat on looking out from the carriage window to see these immense unfenced viaducts snaking across the Coromandel Valley so far beneath them.

Developmental lines. Although the initial railway layout was built to contemporary standards under competent engineers like B.H. Babbage and C.H. Mais, political pressure for more and cheaper lines, increased towards the turn of the century. This led to a decline in the quality of construction, and was accompanied by a deterioration in the competency of senior management whose performance was

characterised by complacency, lethargy, and nepotism, producing poor track layouts, lack of modernisation and huge deficits which reflected the inefficiency of the near moribund South Australian Railways in the years leading up to World War I.

The railways had grown from a nucleus of lines based on Adelaide to a Statewide service, and the lines which served Adelaide were only incidental in providing some complementary passenger services to the tramways by the early 20th century. The main network had grown sporadically to meet local needs and political pressures, and much developmental work had taken place without proper preliminary surveys. Jennings writes:

> "More than a third of the total mileage in the State was built between 1912 and 1921, and Parliament built it in such a way that it could neither "pay" nor be economically operated. By 1920 the losses on the new lines alone amounted to £196 348. One of the main reasons for this was that the lines had been constructed as cheaply as possible"[15]

One such line in the metropolitan area to Willunga opened in 1915 and was already £49 000 in the "red" by 1918.[16]

The South Australian Railways in the first two decades of the 20th century were characterised by Parliamentary interference and mismanagement on the part of the senior technical staff. The shortcomings identified were numerous and widespread. They had developed through custom and practice over the years.

[15.] R.I. Jennings. *W.A. Webb* (North Plympton S.A. Nesfield Press. 1973) p. 24.

[16.] Ibid. p. 36.

Faulty accounting procedures were adopted, which concealed the true financial state of the railways. The value of capital assets for example did not take into account depreciation. The cheap railway policy led to the introduction of the 3' 6" gauge against the advice of C.H. Mais and others. It also led to dangerous cost cutting by reducing rails to as little as half their desirable weights. Tracks were often laid on unballasted beds, which led to instability and speed reductions. Inadequately surveyed lines were laid to uneconomic gradients, which hugged the contours and, as a result, placed unnecessary wear and tear on both rolling stock and lines. The whole network was suffering from old and uneconomic working practices inherited from the early days of railways, while the layout of workshops, operational buildings and marshalling yards was obsolete and wasteful. Worst of all there was management obstruction to any progress or changes, due to lack of up to date knowledge of railway technology and operation by senior staff.[17]

Although some members of the House of Assembly led by T.H. Smeaton had become worried by the poor performance and low standards of new railway developments, it was not until 1911 that it was moved that a Royal Commission be set up to investigate the control and management of the railways.[18] As a result the North Terrace Reserves and Railways Centres Royal Commission was set up and met for the first time in 1916. Its final report did not emerge until 1919, but it resulted in the railway restructuring of the Webb years 1922 – 1930.

[17.] R.I. Jennings. *W.A. Webb* (North Plympton S.A. Nesfield Press. 1973) Chaps. 1–7.

[18]. South Australia. Parliament. House of Assembly. *S.A. Hansard 1911.* p. 182

SYNOPSIS OF CHAPTER 5

RAILWAYS 1856 – 1918

Australia was late in starting railway construction on a meaningful scale.

The first steam railway opened from Adelaide to the Port in 1856, followed by others northwards, southwards and south–east towards Victoria, with which it connected in 1885. Many good buildings of the era are still extant.

Shorter private lines were opened in the 1870s and 1880s to Glenelg and along the coast with mixed success. These lines were all nationalised by 1899 and absorbed into the South Australian Railways.

Although the initial layout was built without an overall plan, it was competently executed by the standards of the time. Towards the end of the 19th century, however, political pressures for cheap railways led to a decline in standards, which persisted until a Royal Commission was set up to examine the railways in 1916. The subsequent findings were to have far reaching results in the inter–war era.

PART III

THE INTER–WAR

YEARS

Adelaide Railway Station
1928
Photo: State Library of SA

Fig. 20

CHAPTER 6

RAILWAYS

1918 – 1945

The eighth and final report of the North Terrace Reserves and Railway Centres Commission was issued in 1919. It attacked the South Australian Railways management and enumerated the shortcomings and general obsolescence of the railway as a whole. it recommended the removal of all senior railway officers, but this was not acceptable to the Premier A H Peake.[1]

The following year a Liberal Government took office under H N Barwell, who in August 1921 issued a statement to the press that:

> " ..... the Government had decided to engage the services of the best railway expert to be obtained to take supreme control of the Railways in this state. Applications will be called from England and America as well as Australia."

When applications closed on 30 December 1921, there were 109 applicants, mainly from the United Kingdom. The successful candidate was W A Webb from the USA. After interviewing senior SAR officers personally, Barwell went to London, New York and Washington to carry out further interviews. His cabinet ratified the appointment on 16 August 1922.[2]

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[1]   South Australia Parliament *Parliamentary Papers 1919* No. 22. The eighth and final report of the North Terrace Reserves and Railway Centres Commission.

R I Jennings *W A Webb* (North Plympton SA Nesfield Press 1973) pp 73 – 81.

[2]   R I Jennings *W A Webb* (North Plympton SA Nesfield Press 1973) pp 85 – 87.

The pre–Webb period. Very little construction work was carried out in the four post–war years before Webb's appointment, except the replacement of the Sleeps Hill Viaducts in 1921.

As far as the Adelaide area was concerned it enjoyed an excellent tramway service which satisfied most local travel needs, and an indifferent railway service which provided for the longer journeys. There were few cars, and the bus had only just made its appearance.

The Webb period 1922 – 1930. There is no doubt that the most significant influence on the South Australian Railways was William Alfred Webb. He not only saw the shortcomings, but perceived workable solutions, even though he was frequently frustrated during his eight years tenure of office.[3] He observed that the railways had made little advance since their inception. Locomotives were old and underpowered and only capable of handling uneconomic loads. Workshops were archaic, fuel handling was primitive, electricity was almost unknown in stations and depots, and worst of all the technology of the early Victorian era was all that the senior management accepted.[4]

Engineering Works. Soon after Webb arrived, he let it be known that his first task would be:

1. Strengthening tracks and bridges for high capacity locomotives so that loads could be increased and train mileage reduced.

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[3] D A Cummings and G Moxham *They Built South Australia* (Adelaide. By the Authors 1986) pp 194 – 195

[4] O S Nock *Railways of Australia* (London UK Black 1971) p 183 et seq

2. Replacing mixed trains with railcars for day passenger traffic, thus accumulating freight tonnage, to be carried by fewer trains.

3. Reducing the dead weight hauled, i.e. reducing tare weight and increasing pay load.[5]

The heavier locomotives meant not only heavier rails on better track beds but also the reconstruction or strengthening of a number of bridges and culverts.

The third River Torrens Bridge at North Adelaide was built in 1925 as part of this program. It is a steel plate girder single span bridge, adjacent to the former two, designed by S.A. Fargher, an engineer who had joined the SAR staff in 1923.[6]

The Islington railway workshops, which were still virtually as originally built, were amongst the first to be completely re-equipped under the direction of Fred Shea, a Victorian, appointed as Chief Mechanical Engineer. Some sections were completed by 1927.[7]

Locomotive servicing also received attention, and a roundhouse was built at Mile End. Previously coal had been loaded to locomotive tenders by hand from baskets suspended from a swivel pole mounted on a trolley. This was replaced by overhead silos which delivered coal through chutes.[8]

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[5]   R I Jennings *WA Webb* (North Plympton SA Nesfield Press 1973) p.106

[6]   D A Cumming and G Moxham *They Built South Australia* (Adelaide. By the Authors. 1986) p. 59 and p. 219.

[7]   R I Jennings *W A Webb* (North Plympton SA Nesfield Press 1973) p.132

[8]   Ibid. Illustrated between p.34 and p.35

Railway terminal at North Terrace. So far as buildings were concerned, Webb's lasting contributions to the Adelaide scene was the complete rebuilding of the station in North Terrace, with administrative offices on the upper floors. The architects were Garlick and Jackman whose design was in a correct, but somewhat heavy handed neo–Georgian style. It was completed amid considerable criticism in 1928 at a cost probably in excess of £ 800 000.[9]

Smaller Stations. These received minimal attention in the inter–war period, beyond receiving electric lights to replace the oil or acetylene lamps used hitherto.

Glenelg lines. Both railways to Glenelg from North and South Terraces were closed and transferred to the MTT in 1929. Most railway buildings were demolished except the Glenelg terminus which became a police station. The Holdfast line never reopened, and the old Plympton Station platform stands in a reservation at the junction with Marion Road as the only visible reminder of its existence.

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[9]   R I Jennings *W A Webb* (North Plympton SA Nesfield Press 1973) p. 136.

Goodman, however, states in the Report of the Royal Commission on the South Australian Railways, 1931, that the cost of the new station at 30 June 1929 was £ 722 830. 14s. 5d.

GENERAL OBSERVATIONS ON
THE SOUTH AUSTRALIAN RAILWAYS
IN THE INTER–WAR YEARS

During the inter–war years the railways, like the tramways, reached their maximum development in terms of mileage.

During and indeed prior to World War I it became apparent that drastic steps had to be taken to bring the South Australian Railways up to acceptable standards. Parliament had received ample evidence of maladministration, gross inefficiency and obsolete equipment.

In 1922 the Premier of the newly elected government grasped the nettle and appointed W A Webb as Chief Commissioner of Railways. During his eight year contract he compressed more development, building, modernisation, re–equipping and re–structuring of the service, than had previously been attempted. Of the Webb years Jennings writes:

> "His great achievement is that he rehabilitated the South Australian Railways so well that for twenty five years they were a paragon, and then the only improvement possible was dieselisation: he laid a framework which has lasted and will last for many more years."[10]

His major *tour de force* was the rebuilding of the North Terrace terminal which was generally acclaimed as an imposing building.

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10. R I Jennings *W A Webb* (North Plympton SA Nesfield Press 1973) p 163

Sir William Goodman, Tramways Manager, did not share this view, when as Chairman of the Royal Commission on the South Australian Railways in 1931, he commented thus:

> "The extravagance which is manifest in the design of this building is typical of much of the expenditure on the Railways rehabilitation programme during the previous Commissioner's regime, but the losses accruing on this particular extravagance, though typical are relatively small ...." [11]

Webb's views on passenger traffic were both forthright and positive. He recognised that while it could never pay, it was a service which had to be provided for the people.[12] He disliked station platforms, except at the Adelaide terminal, and regarded them as expensive, useless and dangerous. He wanted them to be demolished.[13]

Webb wanted the whole of (passenger) transport in the metropolitan area to be handled by the Municipal Tramways Trust, and he conceded that ideally it should be electric transport.[14]

Webb was succeeded by C.B. Anderson, his special engineering adviser, who became Commissioner between 1930 and 1945. He was a supporter of Webb's actions, but soon after appointment was faced by a Royal Commission on Railways under the

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[11] South Australia. Parliament. *Parliamentary Papers 1931* No 57 Royal Commission on the South Australian Railways p.46.

[12] South Australia. Parliament. *Parliamentary Papers 1923* No 33. report of the Standing Committee on Railways. Evidence of W A Webb p.138.

[13] R I Jennings *W A Webb* (North Plympton SA Nesfield Press 1973) p. 120.

[14] South Australia. Parliament. House of Assembly. Answers to questions. 14 May 1929. *S.A. Hansard* p. 89. See also Appendix C.

chairmanship of W.T. Goodman, empowered to enquire into the excesses of the Webb years. It proposed *inter alia* that the Commissioner's post be abolished, but this was not put into effect. The tenor of the reports, however, did much to sour the relationship between the two principal transport bodies for the remainder of the inter–war period, and it is ironic that C B Anderson, twenty years later, should be asked to head a Committee of Inquiry into Goodmans tramway!

As events have turned out, the Webb era in South Australia was the final fling at rail modernisation in the State. The years between Webb's return to the USA and the second World War may be said to have been quiescent years, for while the State was enjoying the fruits of his dynamism, it was also paying the costs of his improvements by servicing the debt charges in a period of deep economic depression.

In 1937 – 38 Anderson was asked to report on the merits and costs of electrifying the suburban system. He, no doubt influenced by the aftermath of Webb's improvements, advised against it, suggesting dieselisation on grounds of cost and flexibility.[15]

[15.]   R I Jennings *W A Webb* (North Plympton, SA Nesfield Press 1973) p 123

SYNOPSIS OF CHAPTER 6

RAILWAYS 1918 – 1945

After World War I the railway was still the principal conveyance for long or medium distance travellers.

The South Australian Railways, having completed most of their network, tended to be lethargic when confronted with problems of modernisation and updating. This abruptly ended with the appointment of William Alfred Webb as Chief Commissioner of Railways who, during his eight year stint from 1922 to 1930, was not only a dynamic administrator, but the initiator of a wide ranging programme of development. It included new and larger locomotives, and consequent upgrading which meant heavier rails, better track beds and new or strengthened bridges and culverts.

He disposed of the Glenelg Railways in 1929 to the Municipal Tramways Trust.

The major capital project for which he will always be remembered is the Adelaide Terminal in North Terrace. Improvements and rebuilding at Islington workshops and Mile End marshalling yards were paramount to the efficiency of the system, and these were carried out during the Webb years.

Allegations of overspending bedevilled the early years of Webb's successor, C B Anderson, when confronted by a Royal Commission to enquire into the cost aspects of the Webb period.

CHAPTER 7

ROAD TRANSPORT

1918 – 1945

Adelaide emerged from World War I with two separate tramway systems, a smaller one in Port Adelaide and a larger one in the remainder of the metropolitan area. They carried the bulk of passenger traffic for work, pleasure or school. During the inter-war years many short extensions were made to respond to suburban expansion, two of which to Hyde Park and Colonel Light Gardens were on roadside reservations.[1] Apart from these there is little evidence of realistic thinking or planning for the inevitable consequences of the growth in private motoring, even after the opening of the Glenelg tramway in 1929.

There were limited building operations to meet the administrative and service needs of the increasing patronage of the system, but far less quality and style in the architecture and street furniture which was produced.

Recreational Development. The last of the bandstands was built in 1919, when Semaphore Beach was provided with its own rotunda near the Maris Palais.[2] It has since been demolished. In 1928 the Adelaide Electric Tramways Employees Club built a Club and Assembly Hall in Hackney Road, opposite the tram depot. It was renamed the Sir William Goodman Memorial Club in 1969, and was sold in 1980 for $125 000. It was converted into the Minicozzi Alessandro Reception Centre for social functions.[3]

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[1] Details of these extensions may be found in: C.A. Andrews et al. *The Tramway Museum St Kilda* (Adelaide, Australian Electric Transport Museum, 1982) p 9.

[2] J. C. Ratcliffe and C.J.M. Steele *Adelaide Road Passenger Transport* (Adelaide, Librarians Board of SA 1974) p. 60.

[3] C. Steele *From Omnibus to O-Bahn* (Norwood SA Australian Electric Traction Association 1986) p 99.

Buses and trolleybuses. During the 1920's there was considerable competition by private bus operators with both the MTT and the SAR and they both responded by buying buses. After a period of unbridled competition, the MTT were given control by the State over the licensing of all bus operators. They also acquired the railway buses, which they operated between the City and Albert Park until conversion to trolleybus operation in 1935.

Operational Building Development. The Angas Street City Car Depot was built in two stages. In 1923 it opened with 11 tracks and a further 8 tracks were added in 1926 to bring it to its present size. It is a characterless steel framed structure with vertical south light roof trusses, designed in-house. In 1930 the Adelaide City Council sued the MTT for having created a nuisance, but the judgement upheld the MTT. At the time the elevation must have shocked Adelaidians because of its exposure to Victoria Square.

However the adjacent site was purchased for the Victoria Square Office Building, and it was here that the MTT recovered its honour in 1933 by erecting a two storey Neo-Georgian building which effectively sealed off the offending saw-tooth outline of the adjoining car barn. Designed by English, Soward and Jackman, architects, it contained a Revenue Office and Public Offices on the ground floor, and Mess and Club Rooms above. The facades are carefully studied brickwork, with stone and cement dressings, surmounted by a stone cornice and a slate roof.

Both buildings have been void since October 1986.

MTT
VICTORIA
SQUARE
OFFICES

Fig. 21

The offices were completed in 1933. The Angas Street car barn,
part of which can be seen on the right, was built in two stages, in 1923 and 1926.

The track of the railway to Glenelg was regauged to standard gauge and opened as a tramway on 14 December 1929. The work of designing was undertaken in-house under Mr Goodman's supervision. The largest engineering feat was the flyover above the railway at Goodwood Station, but no passenger interchange was provided. The newly patented Stobie poles were used to support the overhead wires over most of the length of the line.

The former Holdfast Railway line closed at the same time and has subsequently become a grass reservation from Morphett Road to Bakewell Bridge. The original intention had been that this line too should be converted into an electric tramway. In fact the *Advertiser* reported that holes for standards were already being dug, and gave details of the future line.[4] The report was inaccurate, however, and despite public demands for the restoration of the North Terrace service the deep recession prevented the scheme being put into effect.[5]

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[4] *Advertiser* 16 December, 1929.

[5] R I Jennings *W A Webb* (North Plympton SA Nesfield Press 1973) p 122

CRITIQUE OF ROAD TRANSPORT

DURING THE INTER-WAR YEARS.

The years between the two World Wars were a microcosm of what lay in store for the public transport systems after the end of World War II.

The burgeoning motor industry was producing reliable vehicles, and these were being used by private bus operators to challenge the hegemony of the railways and tramways, particularly on the Glenelg route. Unbridled and unscrupulous competition ensued. Equilibrium was eventually re-established by the State licensing of private bus operators. The public transport services reverted to complacency, rather than planning their long term future of co-habitation with the motor car.

When in 1929 both Glenelg Railways were handed over to the MTT for conversion to electric lines, only one was actually completed and that was converted to lower environmental standards than the original tramway layout in the City and inner suburbs.

As a result of lack of forethought and positive forward planning, the MTT emerged from World War II unprepared for new problems ahead, under the patriarchal guidance of its 73 year old General Manager, William T Goodman.

SYNOPSIS OF CHAPTER 7

ROAD TRANSPORT 1918 – 1945

The inter–war years saw the municipal Tramways Trust at the peak of its development. Apart from some extensions to existing lines, no large additions were made to the network.

Recreational development included the last rotunda at Semaphore and an Assembly Hall for staff in Hackney Road.

A car barn was built in Angas Street between 1923 and 1926, and the City offices were built on the adjoining site facing Victoria Square in 1933.

The South Terrace line of the Glenelg Railway was converted to tramway operation in 1929, but the North Terrace line of the former Holdfast Railway was not so converted due to the onset of the economic depression.

PART IV

THE POST–WAR YEARS

Port Dock Station built 1955
St. Vincent Street. Port Adelaide

Fig. 22

CHAPTER 8

PUBLIC TRANSPORT

AND THE

IMPACT OF THE PRIVATE CAR

At the end of World War II public transport patronage was at its summit. Many private cars had been laid up during the war years and petrol was still in short supply. The Municipal Tramways Trust during 1945 – 46 carried 95 000 000 passengers in its trams, trolleybuses and buses, while the railways and private bus operators carried a further 21 000 000 passengers.

However, the ridership of public transport began to decline in succeeding years, while the number of motor cars began to grow in inverse proportion. The dramatic change in the fortunes of the public transport systems is illustrated by the following statistics for metropolitan Adelaide.

Year (1)	Passenger Journeys by Public Transport (2)	Estimated No. of Cars (3)
1945–46	116 000 000	46 625
1987–88	58 240 000	482 328

Fig. 23

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1.   Commonwealth Bureau of Census and Statistics. *South Australian Year Book 1973* (Adelaide. South Australian Office 1973) p. 504

   Ibid. 1989 p. 316

   Railways of Australia. *Yearbook 1989* (Melbourne. Vic. Railways of Australia Committee. 1989) p. 45

CAR OWNERSHIP

Thousands of cars and wagons

Depression

World War II

Fig. 24

Estimated number of cars and station wagons in Metropolitan Adelaide

PUBLIC TRANSPORT PATRONAGE

Millions of passenger journeys

Peak year 1946

116 million passengers

MTT/ STA and Private Road Services

Railways

Fig. 25

Number of passengers carried by public transport in Metropolitan Adelaide
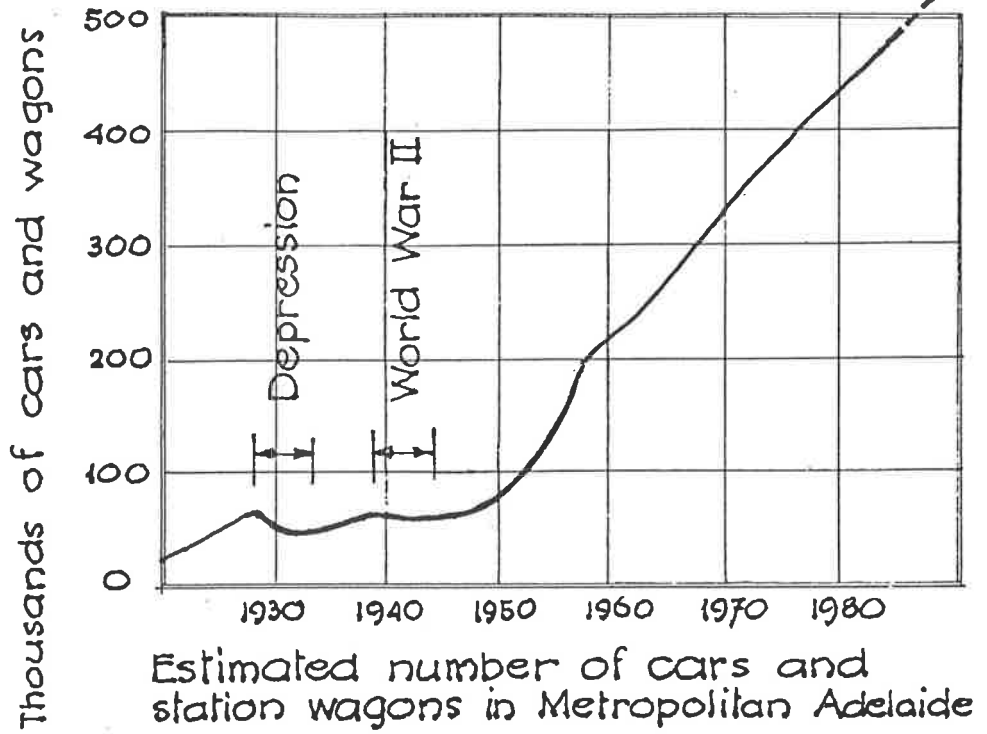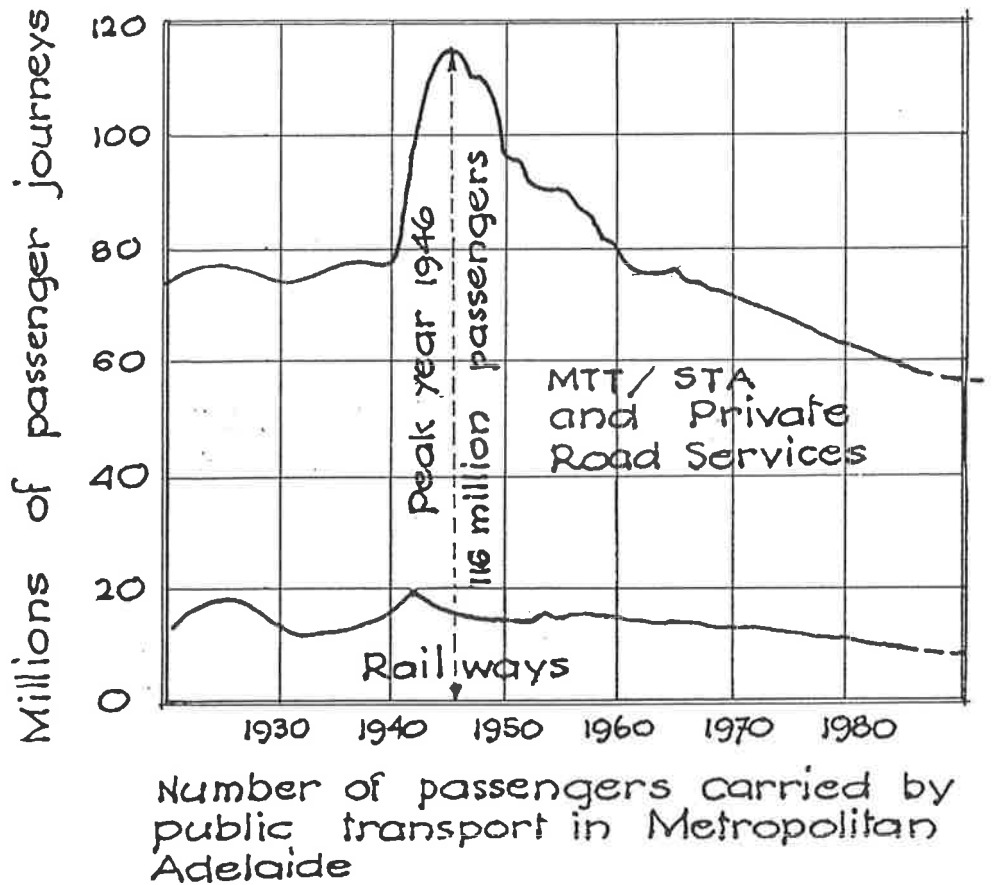
GRAPHS ILLUSTRATING THE INCREASE IN THE NUMBER OF CARS AND THE DECLINE IN PUBLIC TRANSPORT PATRONAGE BETWEEN 1920 AND THE PRESENT TIME.

Thus while private car and station wagon ownership rose over tenfold during the post war era, public transport patronage declined by half.

As far as the MTT was concerned the change in its fortunes first became apparent in 1951 when the balance sheet revealed a loss of £ 313 230. This happened a year after the retirement of Goodman who had managed the tramways since their inception. The operating deficit took Adelaide by surprise, at a time when the MTT was under "caretaker" leadership, following Goodman's retirement.

Three man inquiry. In 1951 a Committee of Inquiry into the Adelaide Municipal Tramways Trust was set up under the chairmanship of C.B. Anderson. The wheel had now turned a full circle. Ironically it was the retired Commissioner of Railways who was investigating the affairs of the M.T.T. The report criticised the condition of much of the track, the age of many of the tramcars, and most importantly its failure to plan for the future. It recommended that no new tramways be built and that its future operations be analysed by an independent transport expert.[2]

The first result of the inquiry was that from 1952 the M.T.T. became a branch of the State Government[3], and was to be subsidised. Henceforth public transport was to pursue policies which were aimed at bringing together road and rail services to emerge eventually as a single State Transport Authority in 1975.[4]

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[2]   South Australia. Parliament. *Parliamentary Papers No. 22. 1952.* Committee of Inquiry into the Municipal Tramways Trust.

[3]   South Australia. Laws, Statutes, etc. *Municipal Tramways Trust Amendment Act. 1952.* See Appendix E.

[4]   South Australia. Laws, Statutes, etc. *Municipal Tramways Trust Amendment Act. 1975.* See Appendix E.

Consultants appointed. De Leuw, Cather and Co. of Chicago acted as consultants and released their "Ten Year or Forward Plan" in 1952, which was substantially adopted. It led to the progressive abandonment of most tramways by 1958, and all trolleybuses by 1963. £ 6 000 000 was made available for the conversion to bus operation and the construction of the necessary bus servicing depots, yards and workshops.[5]

Following European and North American trends, the decline in the use of public transport was seen mainly as a financial problem to be met either by curtailing services or by public subsidy.

Railways. The post–war era opened with the railways at their maximum development, with the exception of a few short extensions. They had been upgraded in the 1920s, and were still enjoying the benefits of the Webb years. Apart from North Terrace, little new passenger construction had been undertaken during the inter–war years, and many stations needed attention.

The railways remained an independent service for twenty years, until the Metropolitan lines were merged in 1975 into the STA, and the non–Metropolitan lines to the Australian National Railways.[6]

Port Dock Station. Among the first stations to be rebuilt was the Port Dock Station in 1955, for which the design was prepared 'in–house'. It closed as a passenger

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[5]   C. Steele. *From Omnibus to O–Bahn* (Norwood S.A. Australian Electric Traction Association. 1986) p. 95

[6]   South Australia. Laws, Statutes, etc. *Railways. (Transfer Agreement) Act. 1975.* See Appendix E.

terminal in 1974 and was handed over as a goods station in 1975 to the ANR under the Transfer Agreement. It stands today virtually unused, in what must be a prime positioin in St. Vincent Street, while today's passenger traffic by–passes the centre of Port Adelaide.

Smaller precast concrete stations. The mid 1950s saw a number of stations rebuilt, many with precast frames. There are some fourteen of these unprepossessing buildings one of which, however, stands out. It is Taperoo on the Outer Harbor line. It had for some time been the target of vandals as well as graffiti "artists". In 1987 the Student Representative Council of Taperoo High School resolved to do something about its condition, and requested permission from the STA to adopt the station as an art project. The headmaster secured the STA's agreement, which involved overpainting the obscenities. The STA supplied the paint and materials; Adam Spellicy and other year 11 design students carried out the artwork under the supervision of their teacher, Peter Berger. The project was undertaken on four consecutive Sundays. Since completion in 1987 the artwork has been maintained by students from the school.[7]

Not only has the project been a training exercise, but the involvement of the school guarantees the continuance of a living piece of community art. More importantly the vandalism has ceased. Today the design contains the picture of a train, palm trees and a dove of peace.

Steel Passenger Shelters. Many modest steel passenger shelters of the type used on the Glenelg Tramway, have been erected in considerable numbers on all lines. All are olive green in colour, and most have attracted graffiti.

[7.] Interview with Jim Fergusson, Headmaster of Taperoo High School. 15 September 1989.

CHELTENHAM

STATION

Fig. 26

Both stations are of similar precast concrete framing with infilled panels and low pitched roofs. They are basically sound but grossly oversize for their present usage. The artwork at Taperoo Station has added interest to one of a group of similar but somewhat lack–lustre stations.

TAPEROO
STATION

Fig. 27

Tonsley Park Line. A single track branch line from Ascot Park to Tonsley was opened in 1966. It has three stations and terminates short of Sturt Road, where the train terminal is hidden behind an ambulance station. Each of the stations has an oversize platform and a large double sided steel shelter.

CLOVELLY
PARK STATION

on the
Tonsley Branch
Line.

Note the
immense
platform
and shelter.

Fig. 28

Noarlunga Centre Interchange. It was not until 1978 that the first modern road–rail interchange was provided on the southward extension of the system to Noarlunga. The design takes advantage of the topography by planning tracks and platforms at a lower level than the station concourse. The bus interchange which accommodates ten buses is approached by a ramp from street level, which passengers may approach by excalators from above. The design incorporates some interesting use of facing brickwork in the bus departure area. Amongst the carefully designed features are discrete supermarket trolley bays in the passenger waiting areas, which provide an invitation to commuters to shop on their way home.[8]

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[8] See Appendix C for contract details

NOARLUNGA
CENTRE
INTERCHANGE

Built
1979
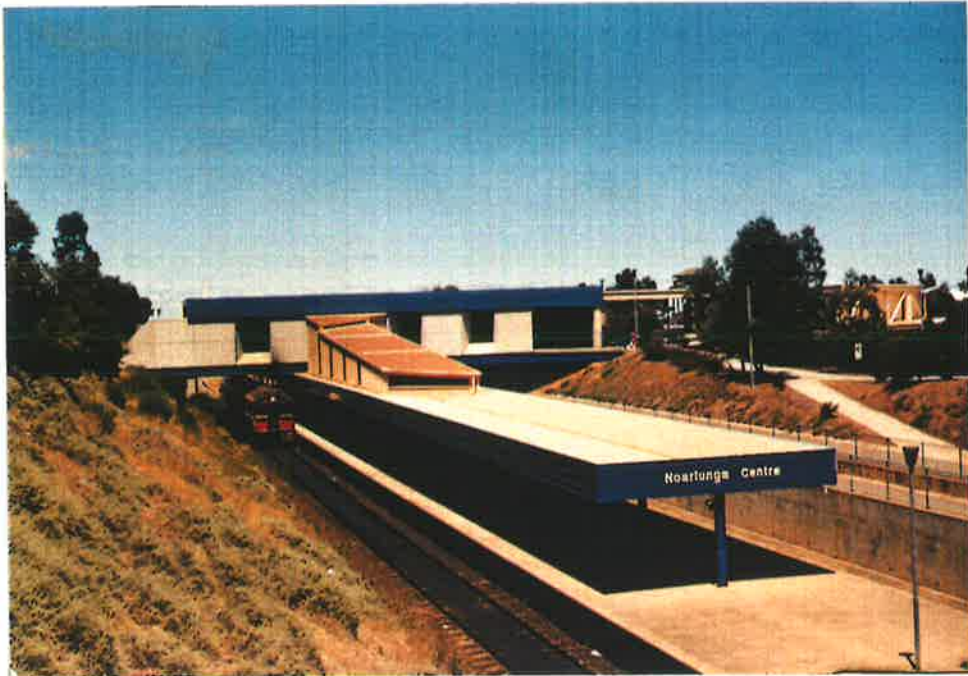
Fig. 29

Salisbury Interchange. Completed in 1986, this interchange is the STA's latest. The site is level and is surrounded by mature gum trees. The layout is designed to respond to the needs of train passengers arriving and departing by "kiss and ride", "park and ride" or bus feeder services from Salisbury Heights, Waterloo Corner and Virginia. The design displays an imaginative use of steelwork, in particular the use of barrel vaulting of several radii, for the station concourse, platform shelters, bus shelters and public toilets.[9]

SALISBURY
INTERCHANGE

Built 1986

Fig. 30

9. See Appendix C for contract details.

SALISBURY
INTERCHANGE

The architectural
handling of the
design of the
light simple and
functional structures
is the first
breakaway from
conventional railway
station architecture
on the STA system.

Fig. 31

Adelaide Station and Environs Redevelopment (ASER). The neo–Georgian monument to the Webb era, was by the 1980s becoming under–used, particularly after the completion of the Keswick ANR Station in 1984 had removed the need for it to handle inter–state and non–metropolitan traffic.

The proposal to capitalise on this large railway asset for commercial development, even though an attractive business proposition, represented the further consolidation of a long series of earlier encroachments into the Parklands dating back to the 1850s. In 1984 the Adelaide Railway Station Act[10] was passed to facilitate the developments on the site, and to exempt the participants in the consortium from compliance with the City of Adelaide Development Control Act 1976.

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10. South Australia. Laws, Statutes etc. *Adelaide Railway Station Act. 1984.* See Appendix F. For general details see Appendix D

As far as the railway was concerned the only improvements were new platforms and canopies and a reduction in the number of tracks. No interchange facilitiies were provided, with the exception of bus routes passing along North Terrace. Advantage was not taken of the opportunity to electrify the railway, and the concentration of diesel emissions from the underground parts of the station led to complaints of air pollution by occupants of adjacent offices. (see page 96)

Rail closures. The following lines in the metropolitan area have closed due to declining patronage:

Dry Creek to Northfield

Dry Creek to Port Adelaide

Glanville to Semaphore

Port Dock to 1.2 km north of Alberton

Grange to Henley

Woodville to Hendon

Hallett Cove to Willunga

Belair to Bridgewater

Eastern half of loop beyond Outer Harbor

The closure of the foregoing branches was justified on economic grounds. The railway reservations are still availble for future reinstatement of services should this be warranted. The withdrawal of STA services from the Belair – Bridgewater section was carried out early in 1988 after protests by the railway staff and the general public. The Bridgewater railcar depot had already closed in 1987, and had weakened the commercial effectiveness of the line. Thus it left former rail passengers with no alternative to joining the bus commuters down the tortuous Mount Barker Road, while day time visitors without cars to the National Park had no public transport beyond Belair.

Buses and Trolleybuses. Buses generally replaced trams, most of which were abandoned by 1958. Trolleybuses were abandoned by 1963, and the surviving private bus operators were absorbed into the State system in 1974. As a result of these modal changes in Adelaide, substantial additions were needed to the stock of buildings throughout the metropolitan area. Meanwhile the remaining tramway continued to operate from the City Depot in Angas Street.

Buildings. The first pressing problem during the tramway and trolleybus abandonment period was to find accommodation for garaging, washing and servicing the new buses being brought into operation. This was first achieved by making use of existing depots at Hackney, Thebarton, Magill (originally a horse tram depot) and Port Adelaide.

In 1955 the Hackney complex began to acquire new bus buildings. The first to be erected was the bus washing shed, which was framed by redundant tram rails clad in galvanised steel sheeting on the north side of the site. The second was the Hackney South Depot opened in October 1955, occupying a site which had formally been the Botanic Gardens nursery.[4] It is a steel framed brick clad building with asbestos cement roofs. It contains a servicing area, washing bay, stores, workshops, staff mess room and locker room.

The design of the Hackney South Depot was repeated on the site of the former trolleybus depot at the intersection of Port and Grand Junction Roads, Port Adelaide in 1956. In 1957 an administrative building was added containing a revenue office, public office, private offices, mess room, canteen and club room.

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4. C. Steele. *From Omnibus to O-Bahn* (Norwood SA Australian Electric Traction Association.) p. 97

HACKNEY
DEPOT

Fig. 32

Bay "A" of the former tram barn, the last remaining part of the old premises.

PORT
ADELAIDE
DEPOT

Fig. 33

The Port Adelaide depot at the junction of
Port and Grand Junction Roads replicated the Hackney South Depot.
Architects: Caradoc, Ashton, Fisher, Woodhead and Beaumont-Smith

No major works were built during the next twenty years, by which time it became apparent that a new approach to functional layout on a scale commensurate with the increasing size of the bus fleet, was due. Five new bus depots, a central workshop complex and clubrooms were included in a planned program of building between 1978 and 1981.

Uniform brief. The five new bus depots were built to a uniform design brief, and were tailored to conform to site restraints and varying bus parking demands, while exercising flexibility to vary the architectural treatment for each project.

The following buildings were included in the programme between 1978 and 1981:

Morphettville Depot   (1979)

St. Agnes Depot   (1980)

Lonsdale Depot   (1980)

Aldgate Depot   (1980)

Elizabeth Depot   (1981)

Regency Park Workshop Complex and Clubrooms (1981)[5]

[5.] Statistics relating to the above projects are in Appendix D.

MORPHETTVILLE
BUS DEPOT

View from
Morphett
Road.

Opened 1979.

Fig. 34

The first of five new Bus Depots built to a uniform design brief.
Photo shows the Administration and Amenities Block.

View from
Oaklands
Road

Fig. 35

The operational area, showing the fuelling station and washing bay on
the left and the bus cleaning and service building in the background.

North East busway. The rapid growth of suburbs towards Modbury was by 1960 generating commuter traffic on an increasingly congested road system, mainly along the North East Road, which was ill supplied with public transport. In 1962 the Steele Hall Liberal–Country League government proposed a freeway, and designated an alignment, mainly along the River Torrens valley.

By 1976 the traffic volume had increased, and congestion was intensifying mainly during morning and afternoon commuting hours. The Labour government launched the North East Area Public Transport Review which, in February 1979, resulted in a $ 73 000 000 light rail proposal from the Victoria Square tram terminus to Tea Tree Plaza, via the Modbury corridor, with nine intermediate stops.

However, in August 1979 the Labor government resigned early and during the ensuing election campaign the Liberal spokesman Michael Wilson announced that when his party was elected they would scrap the foregoing proposals in favour of a guided busway system. The Tonkin Liberal government duly came into office in September 1979, and the following month sent a deputation to Stuttgart and Mannheim to view the *O–Bahn* prototypes.

In 1980 the Councils of Tea Tree Gully, Enfield and Campbelltown passed resolutions in favour of the light rail proposals, the City of Adelaide indicated that it favoured the extension of the Northfield line to Tea Tree Gully, while at St. Peters and Walkerville there was opposition to any rapid transit scheme. On 6 November 1980, the *News* featured the results of a market research exercise, which showed that local public opinion was 47% for the tram, 32% for the *O–Bahn* and 21% undecided.

Work started in February 1982 and was opened as far as Paradise on 9 March 1986, and to Tea Tree Plaza on 20 August 1989. The need for the service was proved by

a 30% rise in bus patronage during the first quarter's operation, 24% of whom did not previously use public transport.[6] Furthermore car census returns for 1984 and 1987 showed that after the opening of the first section of the busway, car commuting along Payneham Road abated by some 20% or 8 000 vehicles on a normal working day.

The construction of the busway has given rise to a linear park along the banks of the River Torrens, and the *O–Bahn* Park. These have walking trails, bikeways, grass play and sports areas, as well as fishing facilities.[7]

THE *O–BAHN*
BUSWAY AT
ST. PETERS

Opened 1986
as far as
Paradise and
completed 1989

Fig. 36

Whilst the obvious advantages of a quick ride to and from the City for north-east commuters soon became apparent, so also did the disadvantages near the City terminal, along Grenfell Street. The inevitable concentration of peak–period articulated buses at the seven stops along the street contributed to traffic congestion. Prof. G.J. Fielding recommends that this should be alleviated by restricting Grenfell Street to 'bus only' traffic during afternoon peak hours.[8]

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6. Northeast Busway Project. *The O–Bahn Busway*. (Adelaide. Department of Transport) p. 1.

7. Ibid. p. 11

8. See Chap. 9 p. 106

With hindsight the view of John Bannon in 1980, then Leader of the opposition, during the House of Assembly debate on the *O-Bahn* proposition, may not have been misplaced when he called it "cheap and short sighted". However, the design of the *O-Bahn* bridges does provide a 4.2 m overhead clearance to allow for future electrification if required.[9]

Tramway. Adelaide's remaining tramway too underwent improvement during the post-war years. The largest of these was the Glengowrie Depot, which replaced the Angas Street City Car Barn in October 1986. The siting at the junction between the Sturt River and Morphett Road is strategic, as it holds out possibilities for useful extensions, as well as being near enough to Glenelg to obviate empty early morning trips to pick up commuters. The new tram barn presents an interesting silhouette in a predominantly residential area.

In 1979 Glenelg received a new tram station when the City Council undertook improvements to Moseley Square, which included landscaping and brick paving. The tubular steel passenger shelter with its semi-circular red colorbond roof is without doubt the handsomest in Adelaide, and complements its seaside setting.

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[9]   C. Steele. *From Omnibus to O-Bahn.* (Norwood. S.A. Australian Electric Traction Association 1986) p. 115.

**GLENGOWRIE
TRAM DEPOT**

Maxwell
Terrace

Opened
1986

Fig. 37

Glengowrie car barns from Morphett Road

Fig. 38

TRAM STATION
Moseley Square, Glenelg

Photo. Terry Castle & Co. Adelaide

84

LARGS

SEMAPHORE

PORT ADELAIDE

DRY CREEK

NORTHFIELD

ROSEWATER

CHELTENHAM

PARADISE

ALBERT PARK

PROSPECT

ENFIELD NAILSWORTH

WOODVILLE

HENDON

WALKERVILLE NORTH

GRANGE

HINDMARSH

FINDON

SAINT PETERS

PAYNEHAM

MORIALTA

HENLEY NORTH

HILL ST

NORTH ADELAIDE

THE AVENUES

HENLEY BEACH

OVAL

HACKNEY

MAYLANDS

MAGILL

MILE END

KENSINGTON GARDENS

KENSINGTON

NEW THEBARTON

MARRYATVILLE

ERINDALE

WEST TCE

CITY

RACE COURSE

RICHMOND

WAYVILLE WEST

SHOW GDS

BURNSIDE

KESWICK

UNLEY OVAL

PARKSIDE

BEAUMONT

LINDEN PARK

HYDE PARK

GLEN OSMOND

ST. LEONARDS

GLENELG

CLARENCE PARK

MORPHETTVILLE

KINGSWOOD

SPRINGFIELD

MITCHAM

SOMERTON

COLONEL LIGHT GARDENS

BELAIR

To BRIDGEWATER

BRIGHTON

TONSLEY PARK

BLACKWOOD

To CHRISTIE DOWNS

Diagram Map
of
ADELAIDE

Showing railways, horse tramways
electric tramways and trolleybus lines
at their maximum development.

REFERENCE

RAILWAYS
HORSE TRAMWAYS   Depots ●
ELECTRIC TRAMWAYS   Depots ■
TROLLEYBUS LINES

C.J.M. STEELE April 1978

Fig. 39 Reproduced from: CJM Steele and RT Wheaton *Adelaide on the Move* 1878–1978 (Norwood SA Australian Electric Traction Association 1978) p. 5.

LOOKING BACK OVER THE POST WAR YEARS
IDENTIFYING THE PROBLEM

During the years since the end of World War II Adelaide has undergone not only a massive population growth but also an extensive low density residential growth in the metropolitan area extending from Gawler to Noarlunga and beyond. In 1945 the urban fence around the perimeter of Adelaide was 6–10 kms from the City centre, while Port Adelaide, Gawler and Noarlunga were quite separate communities. The first generation City and metropolitan area was radial in form and at the 1947 census had a population of 382 454.

The initial need after the war had been to find cheap housing land for the increasing population. The extent and nature of much of this development, particularly on the outer fringes of the metropolitan area, has resulted in parts of it becoming devoid of reasonable amenities, which in turn has led to a sense of isolation and loneliness in some of these new areas.

By the time the estimated population passed the million mark[10], the metropolitan area had assumed a linear form, incorporating many post war developments in the north, south–west and south, making it some 80 kms in length.

As families moved to the outer suburbs, few were able to find work locally, and the daily commuting distances increased.

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[10]. Australian Bureau of Statistics. *South Australian Year Book 1988.* (Adelaide. South Australian Offiice. 1988) p. 37.

Most found their way to work by car, and whilst this usually presented no difficulty at the source of the journey, it led to congestion and parking problems towards the destination, mainly in the City. Parking stations and other motor related buildings proliferated to serve the army of motorists daily entering the City. This in turn contributed towards the displacement of families and businesses. The resident population of the City is estimated to have been 40 000 in 1920, 34 990 in 1947[11] and to have fallen to 9 279 by 1987.[12]

The number of cars grew relentlessly as each year passed, and is currently rising at 2½% per annum.[13] Thus the growth in the number of journeys by car to the City led to curtailments in public transport. At the same time the shrinking of the City and inner suburban population was accompanied by a growth in low density development in the outer fringes of the metropolitan area, whose populations were continually augmented by inner area residents moving out, as well as by immigration.

WHAT HAS BEEN GOING WRONG?

Despite these social forces, which have generated both growth and decline in the metropolitan area, Adelaide still retains the integrity of its built form and plan. How long this can remain so, with the conflicting pressures for urban redevelopment in a car dominated society, remains a matter of conjecture. However, the preservation of the City plan intact owes its survival, not only to enlightened and sympathetic planning policies, but also to three other factors.

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11. City of Adelaide *Plan 1974* (Adelaide. City of Adelaide. 1974) p. 36

12. City of Adelaide *Land Use Survey* (Adelaide. City of Adelaide. 1987) p. 18

13. J. King et al. *Union Transport Plan* (Adelaide. Committee of the four STA Unions. 1988) p. 11

["

When did these occur?

City squares and open spaces. Of the five City squares in the Adelaide plan only one was bisected when laid out in 1837, Victoria Square, the south half of which was to be the setting for a cathedral. It is today cut up into seven triangles. Light Square has been cut in two, while Hurtle and Hindmarsh Squares have been cut into four each, for traffic convenience, and are partly surrounded by street parking spaces. Only Whitmore Square and Wellington Square in North Adelaide remain as originally designed. All of them are daily surrounded by phalanxes of gyrating cars, which render them less useful for their main purpose, which is to provide areas for strolling, rest or recreation.

Metropolitan urban blight. The adoption of the MATS proposals in 1968[16] was a further attempt to come to terms with the motor car. Its proposals included the reservation of land for a north–south urban freeway, a number of expressways and a triple–deck connector road through the Parklands. These proposals cast a blight over the road reservations, the worst affected being Hindmarsh, Bowden and Brompton, which were blighted for fifteen years. The uncertainty hanging over the future of the area contributed to the decline in population of the Corporate Town of Hindmarsh, from 14 452 in 1947 to an estimated 7 500 by 1981. If the proposals had gone ahead, the heart of the town between Coglin Street, Park Terrace, Manton Street and Torrens Road would have been replaced by a four level *spaghetti* junction, situated at the epicentre of a new fast road system,[17] and Hindmarsh would have been annihilated.

[16.] The Metropolitan Adelaide Transportation Study is discussed in greater depth in Chapter 9.

[17.] Building and Architecture *Hindmarsh Phoenix* (No. 10. 1987) pp. 9–20

Had the MATS road proposals in the Hindmarsh area not been abandoned in 1983, it is likely that the progressive de–urbanisation would have continued. Its probable outcome would have been the conversion of the whole district into an urban wasteland devoid of beauty or practical use. There would have been a continual decline in population and real estate values as long as the road proposals hung like the sword of Damocles over Hindmarsh. Although the immediate threat of inundation by a network of MATS freeways and expressways was lifted by the State Government in 1983 between Gepps Cross and Darlington[18], car parking construction in the City was fast growing to become the second largest non–residential floor space user, as the number of cars daily entering the City increased.

Parking facilities. Within the City there are now twenty–one multi–storey parking stations, with more under construction. The present distribution of parking in the City is as follows:

Parking stations	42 699 car spaces (1987)[19]
Metered street parking	2 472 car spaces (1987)[20]
Unmetered street parking and casual parking }	5 000 car spaces (estimated)
Total	50 171 car spaces

18. Interview with Hugh Dixon, Dept. of Planning and Environment 12 Nov. 1988.

19. City of Adelaide. *Land Use Survey 1987* (Adelaide. City Council. 1987) p. 46

20. City of Adelaide. Interview with local inspector Highways Inspectorate. Adelaide. 15 Dec. 1988.

Floor Areas

OFFICES — 1 198 027
CAR PARKING — 1 152 873 (42 699 spaces at 27 m²)
RETAILING — 735 738
COMMUNITY SERVICES — 519 883
EDUCATION — 338 319
LEISURE & RECREATION — 221 962
MANUFACTURING — 154 343
WHOLESALING — 92 934

m²
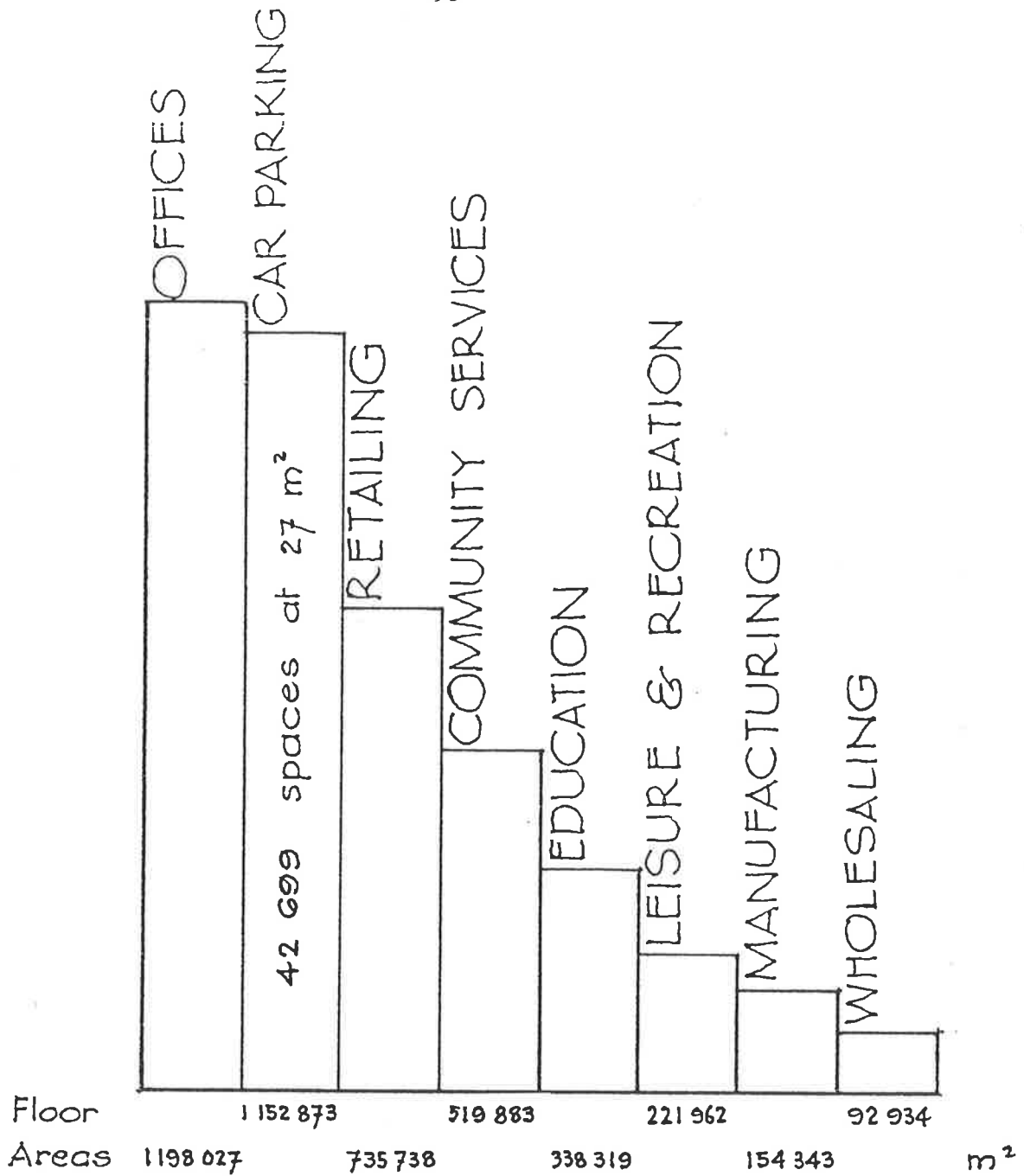
NON - RESIDENTIAL LAND USES IN THE CITY OF ADELAIDE ∘ 1987

Fig. 40   Derived from the City of Adelaide Land Use Survey 1987

The total number of off-street parking spaces has increased by 16% during the five years to 1987 or by 1178 spaces per annum.[21] The most recent estimates of the number of car journeys to the City exceed 50 000 vehicles per working day, and these are rising at the rate of about 2½% per annum.[22] Coupled with the growth of parking stations, is the growth of petrol stations, garages, car showrooms, accessory dealers etc. At present there are 130 motor related businesses within the City.[23]

Effects on the countryside. Car commuting from as far afield as Gawler and the southern suburbs has brought with it its own problems such as photochemical smog, which increases in intensity as traffic arteries converge on the City and inner suburbs. Congestion too is increasing and Prof. G.J. Fielding forecasts:

> "...... travel demands forecasted for 1996 indicate that much longer delays will be experienced at intersections on north-south routes to the west of the City, and all roads leading to the CBD."[24]

Thus the future prospect of further congestion, atmospheric pollution and distortion of the fabric of the City, can only worsen unless positive steps are now taken to ward off the spectre which haunts Adelaide like most car dependent cities. Planning policies to encourage the reduction of cars entering the City and other cognate matters will be needed, but it is to the practical aspects of improving the built environment that this thesis is directed. It proposes more consideration for the needs of pedestrians and cyclists, particularly in the City, and above all it proposes actions which should now be taken to

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[21.] City of Adelaide. *Land Use Survey 1987* (Adelaide. City Council. 1987) p. 7

[22.] Interview with Doug. Hayes. Department of Planning and Development. Corporation of Adelaide. 23 Feb. 1988.

[23.] Telecom Australia. *1988 Yellow Pages Adelaide* (Melbourne Vic. Telecom Australia. 1988) pp. 1048 – 1123.

[24.] Prof. G.J. Fielding. *Public Transport in Metropolitan Adelaide into the 1990s* (Irvine Calif. Inception Report. April 1988) p. 49.

halt the decline in public transport and prepare it for an age during which we cannot take for granted an abundant supply of oil.

Concentration of Employment. In the metropolitan area employment is concentrated in the central business district of Adelaide, and almost one–quarter of jobs are there.[25] In 1988 there were 89 700 jobs and the forecast for 2001 is 105 850 jobs or an 18% increase.[26]

If the present pattern of commuting to work is allowed to continue, by the year 2001 the increase in daily car journeys would add some 8 800 cars to the morning influx. The results of this would not only lead to further pollution and congestion, but an unacceptable increase in the number of parking stations and car related buildings, with a corresponding decline in those activities which are complementary to the economic health and character of the City.

Photochemical smog. The present focus of attention on the onset of the greenhouse effect has given heightened importance to minimising emissions into the atmosphere. Indeed it is regrettable that the report of Prof. G.J. Fielding[27] did not consider this aspect even in the City centre.

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[25] G.J. Fielding. *Public Transport in Metropolitan Adelaide into the 1990s.* (Irvine. Calif. Inception Report 1988) p. 10.

[26] Ibid. p. 46

[27] This became apparent at a Conference on the Inception Report held at Flinders University on 5 July 1988, at which the Professor amplified his findings. In response to a question, he confirmed that his report had not taken into account atmospheric pollution.

THE CITY
FROM GLEN
OSMOND
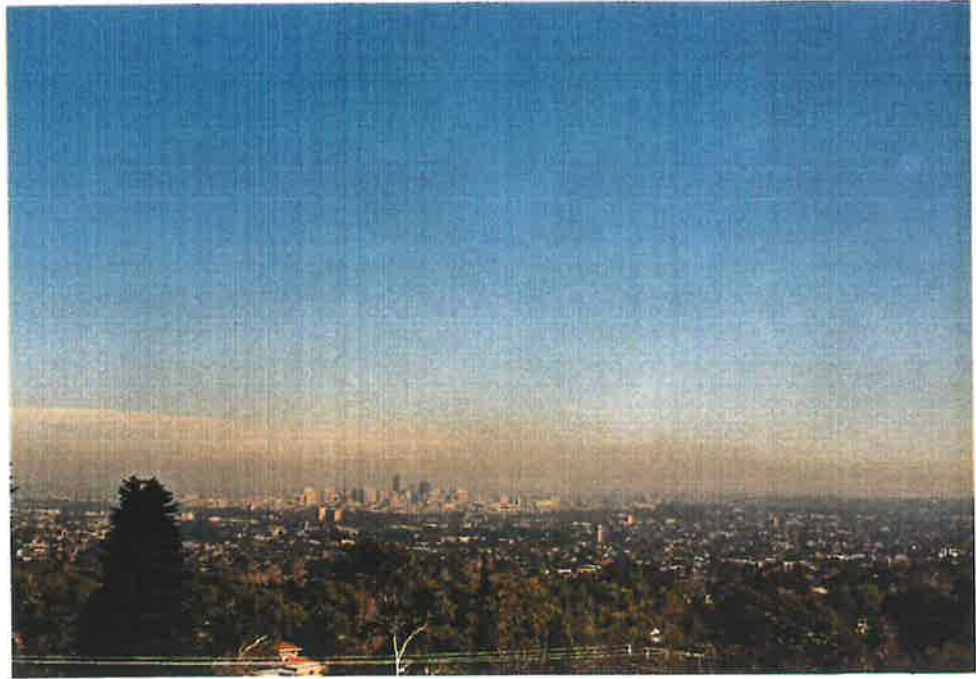
Fig. 41

A pall of photochemical smog hanging over Adelaide at 10.00 a.m. on 1 September 1988, an occurrence of increasing frequency.

Fig. 42

The same view after the brown haze had cleared.

The trails of brown haze closely follow the principal traffic routes to the City, and are today but a pale shadow of what is to come if the growth in car numbers outstrips present efforts to reduce noxious emissions.

Although Adelaide's brown hazes may not be amongst the worst examples of air pollution, Dr. Peter Ellyard states:

"The warning signs are ominous – the atmosphere's protective ozone layer is thinning; the stability of our climate is uncertain because of the greenhouse effect; forests are disappearing; farmland is degrading; many rivers and lakes are polluted; and thousands of species of plants and animals are dying out. The next decade will be critical."[28]

He details the reasons for this:

"The major cause of the worsening greenhouse effect is the increasing level of carbon dioxide in the atmosphere – now 25 per cent higher than it was at the beginning of the Industrial Revolution.

The burning of fossil fuels (coal, oil, petroleum and gas) by motor vehicles and for electricity generation causes around 85 per cent of this carbon dioxide build-up.

Motor vehicles are also the biggest sources of air pollution in our cities, adding carbon monoxide, unburned hydrocarbon and oxides of nitrogen to the air we breathe."[29]

During the week leading up to World Environment Day, 6 June 1990, the Australian Conservation Foundation ran a poster and press advertising campaign, urging restraint in the use of the family car on that day, and suggesting several alternatives.

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[28]   Dr. Peter Ellyard. *Personal Action Guide for the Earth* (Canberra Australian Government Publishing Service. 1989) p. 1.

[29]   Ibid. p. 4

Fig. 43

A problem which need never have arisen was given prominence in the following press report on 25 Feb. 1990:

"Toxic exhaust fumes from Adelaide Railway Station are jeopardising the future of the $50 million Riverside office complex on North Terrace.

Many workers are experiencing headaches, dizziness, nausea, watery eyes and other symptoms from inhaling diesel fumes from trains.

On some days, the fumes are so bad workers say they can be seen inside the office block.

The problems stem from the railway station's exhaust pipes built alongside the western wall of the Riverside complex, a part of the $340 million ASER redevelopment site."[31]

30.   *Australian* – 4 June 1990

31.   *Sunday Mail.* 25 Feb. 1990

**ASER
SCHEME**

completed 1989

The nine
2m diameter
exhaust pipes
are seen on
right.

Fig. 44

The ASER scheme from Morphett Street Bridge.

Yet another chance to electrify Adelaide's railways was allowed to slip by, leaving it with a diesel railway polluting the heart of the city.

SYNOPSIS OF CHAPTER 8

PUBLIC TRANSPORT AND THE IMPACT OF THE PRIVATE CAR

The post–war period has been characterised by the continuous growth in the number of cars and the decline of public transport.

The tramways and trolleybuses which as a consequence were abandoned, were replaced by buses for which new depots were constructed. The railways received less attention. A Busway was built in the north–east which was completed in 1989.

Meanwhile the mobility which the car made possible for most families, was to produce demographic changes in the whole metropolitan area. Nearly three quarters of the City population moved out, and these families with newcomers from elsewhere extended the built–up areas from Gawler to beyond Noarlunga.

As commuting distances from the outer areas increased, congestion became apparent at road intersections, and photochemical smog became a frequent occurrence of increasing severity towards the City. Parking at the City destinations became a daily problem. Adelaide's broad streets are still able to carry peak traffic flows, but are considered unlikely to be able to do so far into the 1990s.

CHAPTER 9

SEEKING AND FINDING SOLUTIONS

The post—war period has been punctuated by a Royal Commission and a series of reports on various aspects of transportation. Some of these have already been mentioned on in their historical context in Chapter 8, where their findings impacted on events in transport history. In the present chapter they are analysed in the light of this thesis with particular reference to their relevance in the re—use of transport land and buildings, and the fostering of sound policies for the built environment.

Railways Standardisation Agreement 1946[1]. Although the State Governments of South Australia, Victoria and New South Wales ratified the "gentleman's" agreement to standardise their lines at 4' 8½" (1.435m) very little was achieved in Adelaide except on the ANR lines. The anomalies created by the continuing existence of two gauges again place the problem high on the list of priorities. *was SG for sub lines intended?*

Royal Commission on State Transport. 1949. Two important recommendations emanated from the deliberations of the Royal Commission. Firstly, that the suburban railways should be electrified, and secondly, that the Holdfast Railway line should be rebuilt as an electric railway. It also supported Commonwealth policies, by recommending that all suburban lines should be standard gauge. No action was taken on any of these recommendations.[2]

[1.]   See Appendix E.

[2.]   See Appendix E.
also J.C. Ratcliffe and C.J.M. Steele. *Adelaide Road Passenger Transport* (Adelaide. Libraries Board of SA 1967) pp 118 – 119.

Committee of Inquiry into the MTT. 1952. Under the chairmanship of C.B. Anderson (retired Railways Commissioner) this Committee[3] was the catalyst which set into motion a chain of events, which was to sweep away most of the tramways and all the trolleybuses within eleven years, and to leave Adelaide with a bus–orientated public transport philosophy.[4]

Municipal Tramways Trust Amendment Act. 1952.[5] This Act set up the new State MTT, which at once reviewed its options and appointed De Leuw Cather and Co of Chicago, to make detailed recommendations leading to the implementation of the change–over from trams to buses. It also led to a further important commission for the firm, which they undertook between 1965 and 1968 (MATS).

Metropolitan Adelaide Transportation Study. This was a valuable in–depth investigation into Adelaide's transportation. Immense in size, with a mountain of useful information on roads and transport, its conclusions were far reaching. The most radical were the five freeways, two expressways and one east–west connector running across the North Adelaide Parklands, obliterating one of the golf courses in the process. Apart from road proposals, it proposed sweeping changes for the railway.

The biggest single public transport proposal was an underground railway linking North Terrace with the Main South line by a tunnel beneath King William Street to emerge south of Greenhill Road, abducting the Glenelg tramway as far as Goodwood, where it joined the main south line. The remainder of the tram line was then to be removed.

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3. South Australia. Parliament. *Parliamentary Papers. 1952.* No. 22 Committee of Inquiry into the Adelaide Municipal Tramways Trust. p. 128.

4. C. Steele. *From Omnibus to O–Bahn* (Norwood SA, Australian Electric Traction Association 1986) p. 45

5. See Appendix E.

100

METROPOLITAN ADELAIDE
TRANSPORTATION STUDY
Recommended Freeways and Expressways

HINDMARSH
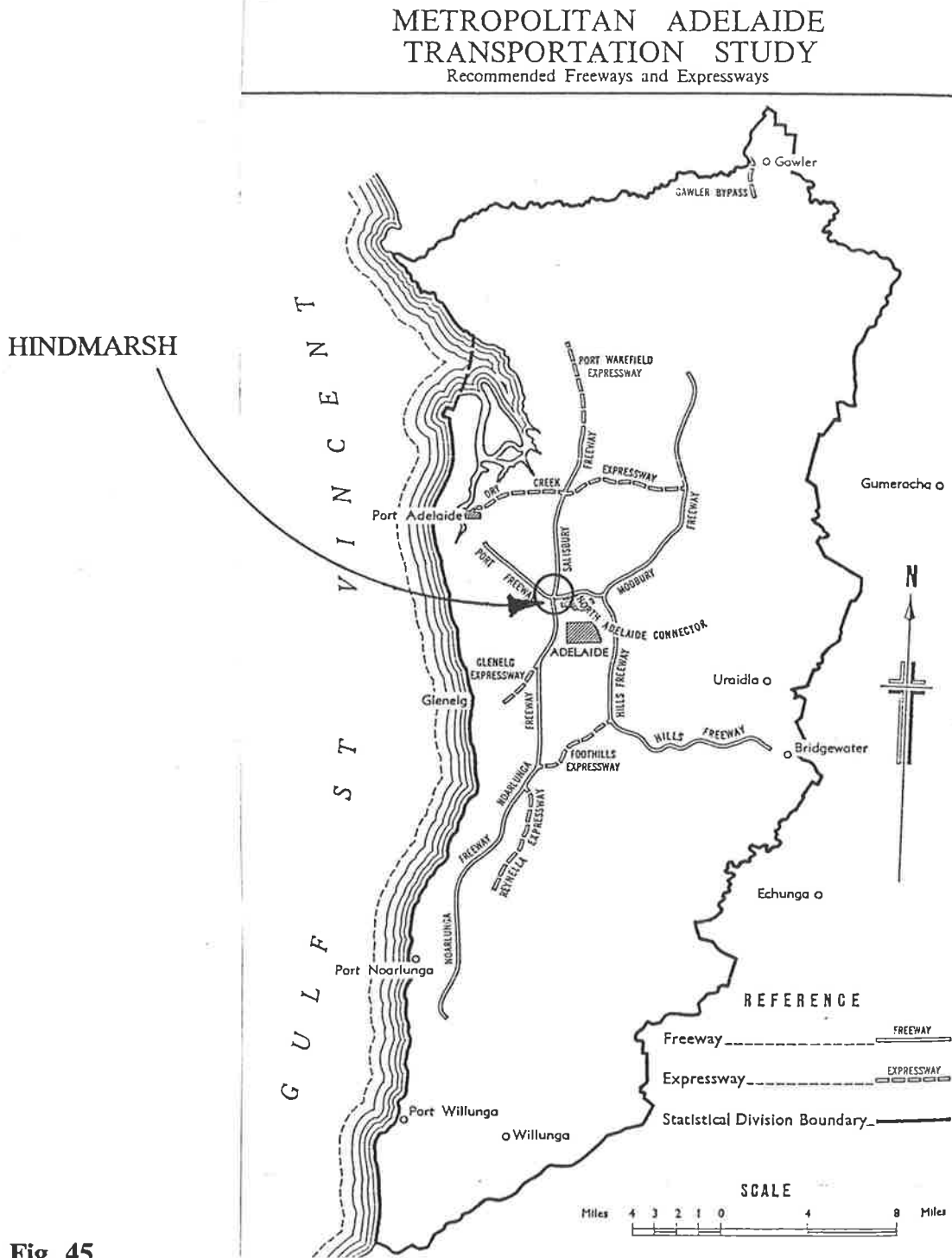
Fig. 45

The layout of Freeways and Expressways on a blank map of metropolitan Adelaide appears innocuous, but detailed examination of the proposals reveals their intrusive nature and the extent of property demolition as well as social dislocation involved. See Fig. 46 for details of the Hindmarsh road proposals.

6. Map from Commonwealth Bureau of Census and Statistics. *South Australian Year Book No. 4. 1969.* (Adelaide. South Australian Office 1969) p. 320

101
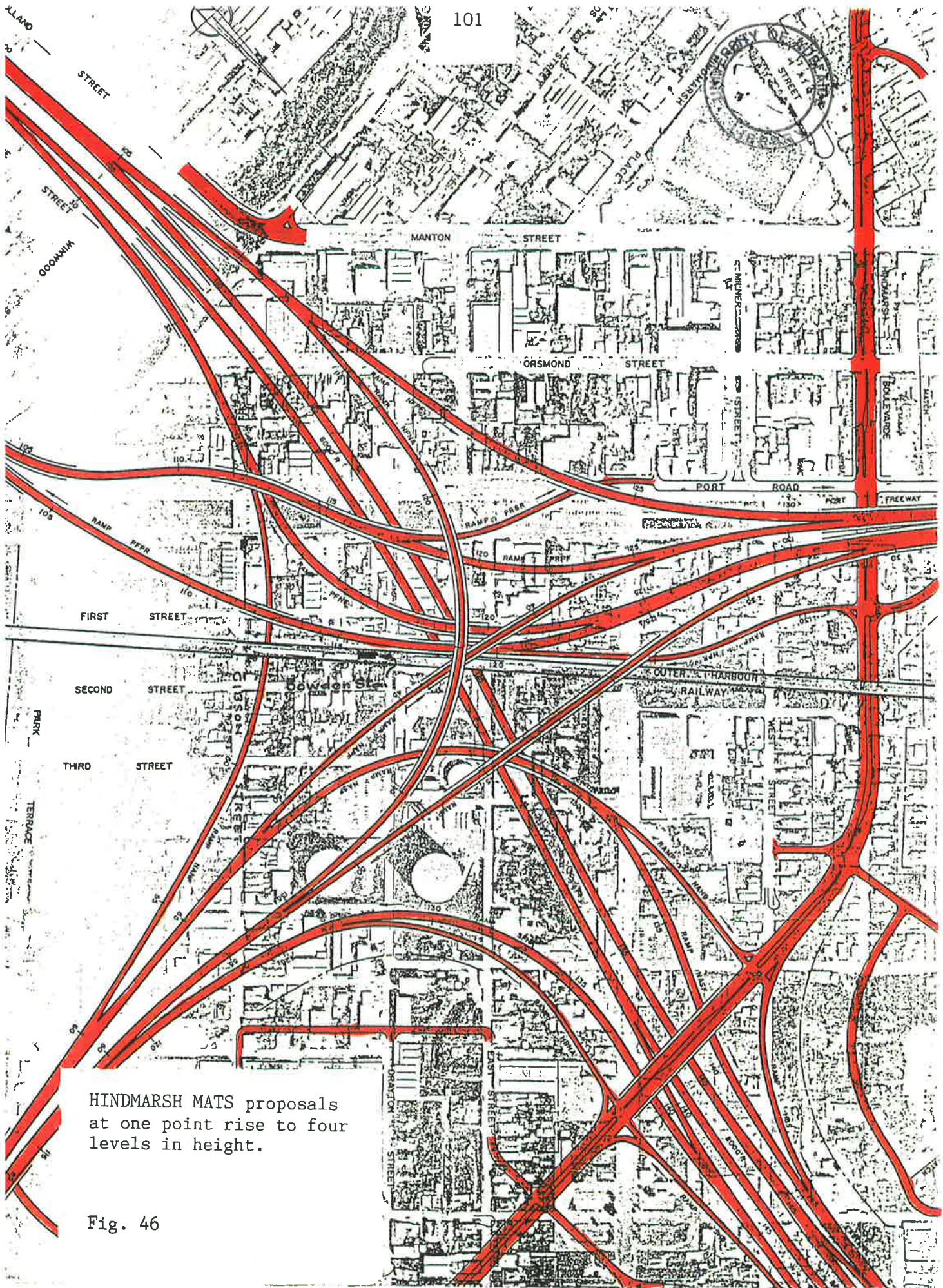
HINDMARSH MATS proposals
at one point rise to four
levels in height.

Fig. 46

SCALE IN FEET
200   400   600

NORTH   ADELAIDE   CONNECTOR

METROPOLITAN ADELAIDE TRANSPORTATION STUDY

In addition to highways proposals, grandiose improvements were proposed for the railways. Twenty five stations were to receive underpasses for pedestrians, and four at Marion, Kilkenny, Woodville and Commercial Road (Port Adelaide) were to have escalators. Two at Alberton and Hove were to be resited.

The scale of both highway and railway proposals shows that at no point was serious consideration given to the tailoring of needs to match realistic demand, nor for flexibility in adaptation of the infrastructure to respond to changes.

In November 1968 a conference was held to hear professional opinions on the proposals. Amongst the staunchest critics was Prof. R. Jensen who opposed the freeway concept and the closure of the Glenelg tramway in the strongest terms. A.G. Flint on the other hand was one of its strongest supporters. He claimed that by 1986 the metropolitan railway would be carrying 112 500 passengers on an average weekday.[7]

Adelaide Transportation 1970 Report. In June 1970 Don Dunstan, then Premier of South Australia, approached Siegfried M. Breuning of another U.S. firm, Social Technology Systems, to update the MATS report. It was submitted after a one month visit to Adelaide by two members of the firm. It confirmed the corrections of the MATS proposals, and made a few new ones. These included setting up an Institute of Transportation. It also urged that the State should proceed with the advance purchase of land needed for the new freeways and expressways. While urging the fostering of inner

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[7.] A.G. Flint was the superintending Engineer (Planning) for the SA Highways Department, and he quoted from the optimistic MATS estimate. As it turned out, however, the *STA Draft Business Plan 1988/89 – 1992/93* states (p. 25) that there were in fact only 44 615 boardings in 1986/87 on an average weekday.

area public transport, it suggests providing no service to outer neighbourhoods.[8] It had few practical consequences, its tone being mainly confirmatory.

City of Adelaide Plan 1974. After some 20 years of motor orientated thought, a carefully researched and well illustrated document emanated from the Adelaide City Planning Committee. It proposed that the core zone, north King William Street, east Hindley Street and west Rundle Street should be pedestrianised, and that cars would be effectively banned from the area. It proposed the extension of the tramway from Victoria Square to Adelaide Bridge with two lateral lines along Hindley and Rundle Streets.

Policies were proposed to limit City parking, particularly all day parking. Imaginative proposals were made to improve the City squares. Although some of the 1974 policies have subsequently been watered down the major pedestrian movement areas are defined, and the core area of the City has a total ban on new parking stations.

The most tangible result of the 1974 Plan was the completion of the Rundle Mall pedestrianisation in 1976.[9] This first project in traffic calming has been a success both for shoppers and shopkeepers, and is soon to be upgraded.

The City of Adelaide Plan Review 1990–91 comments as follows on the paradox of rising losses in revenue as commuter traffic increases.

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8. S.M. Breuning. *Adelaide Transportation 1970 Report* (Newton Mass. Social Technology Systems 1970) p. 11

9. Hannaford and Partners. *Rundle Mall Design and Implementation Report.* (Adelaide City Council. 1977).
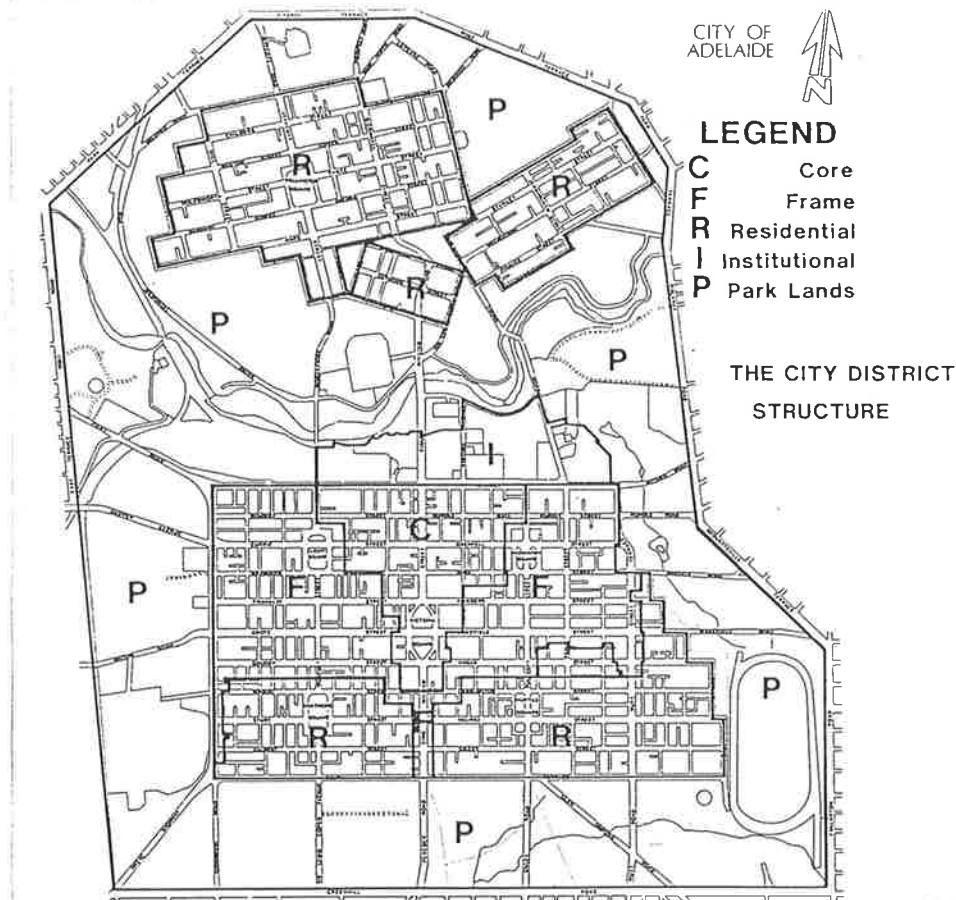
Fig. 47 THE CITY DISTRICT STRUCTURE PLAN
(from the Plan Review 1990–91).

"All–day commuter car parking needs are more elastic, since most commuters have an effective choice between travelling to work by car or by public transport. The percentage (and absolute number) of journeys to work taken by public transport has been declining in recent years. This has primarily been due to constraints on peak period public transport capacity imposed by the STA in order to restrict the Government funded operating deficit, in accordance with State policy. It is an ironic fact of public transport finance that the overheads involved in carrying more commuter passengers in peak periods have the direct effect of increasing the operating deficit.....

The number of additional parking spaces required in the City will depend on State Government policy in relation to the capacity and attractiveness of peak period public transport. It is clearly desirable in terms of quality of the City environment, pedestrian conditions, efficient land use and energy efficiency that there should be an increased commitment to public transport."

It is hoped that the proposals advanced in Chapter 10 of this thesis will in some measure reverse this paradoxical situation by increasing the rail participation in carrying commuters which, by its nature, is more adaptable than buses to peak loadings.

Urban Consolidation. Proposals embodied in the Supplementary Development Plan became law on 1 January 1989.[10] It is anticipated that in future years it will enable the metropolitan area to assimilate the projected population growth of some 200 000 by the year 2011, within the existing developed areas. Furthermore, it will result in the restraint of outward sprawl, leading to economies in roads and services. It will facilitate the development of viable public transport services by consolidating population.

Three important transportation reports were issued in 1988.

1. The Fielding Report (Inception). April 1988

    The Fielding Report (Final). December 1988

2. The STA Draft Business Plan. 1988 – 1993

3. The Union Transport Plan. 1988

The Fielding Report. The objective as stated in the opening sentence "is to identify alternatives that would permit the efficient delivery of public transportation in metropolitan Adelaide into the 1990s".[11] Although primarily dealing with value for money, operational flexibility, and an assessment of the STA's performance, it does touch on environmental aspects of public transport, as well as City parking.

Of cars in the city he says:

> "The automobile is comfortable and convenient, but wasteful of both commercial space when parked and road space when highways are congested."[12]

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[10] South Australia. Laws, Statutes etc. *Planning Act. 1982* Supplementary Development Plan, authorised 8 Dec. 1988.

[11] Prof. G.J. Fielding. *Public Transport in Metropolitan Adelaide into the 1990s* (Irvine Calif. Inception Report April 1988) p. i.

[12] Ibid. (Inception Report April 1988) p. 49

Three recommendations concern the built environment:

a) STA should evaluate rail, tram and busway stations for development possibilities.

b) MTA or DOT should review current and proposed suburban centres as potential sites for local and regional transit centres.

c) ► Conversion of King William Street into a transit mall.
    ► Restriction of Grenfell Street to bus only during peak afternoon hours.
    ► Extension of the Glenelg tram to the Adelaide Oval.[13]

The STA Draft Business Plan 1988 – 1993. This is primarily a cost cutting exercise aimed at pruning costs by $17 – 21 million during the five year period, and forecasting virtually nil development during that time. The STA's expressed attitude to capital expenditure over the five years is that it will give priority to those projects which reduce operating costs to a greater extent than they increase ownership costs.[14] (recurrent debt servicing costs etc.)

The Union Transport Plan. This is a detailed 53 page response by the four transport unions involved, deprecating the lack of any proposed growth targets for public transport at a time of growth in car ownership. It urges against the expansion of urban arterial roads into the City, and calls for reasonable growth targets for public transport at least equal to that for cars, as is currently being done in Brisbane, Perth, Melbourne and Sydney.[15]

[13.] Prof. G.J. Fielding. *Public Transport in Metropolitan Adelaide in the 1990s* (Irvine Calif. Final Report Dec. 1988) p. 78

[14.] State Transport Authority. Draft Business Plan 1988/89 – 1992/93. (Adelaide. STA. June 1988) pp. 38 – 40

[15.] J. King et al. Union Transport Plan. (Adelaide Committee of the four STA Unions. 1988) pp. 12 – 13.

EVALUATION OF CONFLICTING VIEWS
ON PUBLIC TRANSPORT

The accumulated wisdom of the foregoing studies has touched almost every aspect of public transport operation, management, finance and efficiency. Of these, two reports, the MATS 1968 and the Breuning Report 1970, concentrated on para-transit and the provision of urban freeways. Later reports centred on commercial aspects and efficient operation in the narrow sphere of STA operations or in the global connotation of urban consolidation in the metropolitan area. Although the 1950s had seen the end of the "golden age" of public transport, none of the postwar studies postulates or defines a philosophy for the role of public transport in a car orientated society.

In 1987, however, two professors from the School of Environmental Studies at Murdoch University, WA., published the results of four years study of transportation in thirty two of the world's principal cities, including the five state capitals of mainland Australia.[16] In their work they define the concept of a balanced urban transport system, which they describe in the context of cities in the developed world as follows:

> "One in which the automobile does not dominate – where trains, buses, walking and bicycling also perform major roles in the total transportation task." [17]

Of the thirty-two cities analysed, ten were in the USA. In these cities car ownership is twice that of Australian cities and over four times that of West European cities. The figures for both U.S. and Australian cities indicate the degree to which both countries have become dependent on the car for personal mobility. In every case the time

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[16.]   Profs. P.W.G. Newman and J.R. Kenworthy. "Transport and Urban form in 32 of the World's principal cities." (Paper presented at Monash Uni. Vic. Aug. 1987).
        Profs. J.R. Kenworthy and P.W.G. Newman "Learning from the best and the worst". (Paper presented at Boulder Colorado. Oct. 1987)

[17.]   Profs. J.R. Kenworthy and P.W.G. Newman. "Learning from the best and the worst." (Paper presented at Boulder Colorado. Oct. 1987) p. 3.

scale during which compact public transport orientated cities have been transformed into dispersed automobile orientated cities is thirty to forty years.

"The Australian" summarised the research as follows on 27 August 1987.

How the car is killing Australia

People must move back into the cities: researchers

By TONY ROBERTSON

AUSTRALIA'S car-dominated cities would reach crisis point unless society shifted radically from the concept of suburban living and reduced its dependence on private vehicles, two researchers responsible for a landmark study of the world's major cities have said.

The federal government-funded study warns that the Australian dream of a home in suburbia is largely responsible for the country's dependence on the car, bringing with it the real threat of energy and environmental crises.

It recommends major transport planning changes and says Australians must be encouraged to move back into the heart of the city.

If not, fuel shortages, pollution, transport-related inflation and the urban sprawl will leave cities at risk of not being able to survive.

The four-year international study, funded by the National Energy Research Development and Demonstration Council, is the work of Dr

Jeff Kenworthy and Dr Peter Newman of Murdoch University in Perth.

The pair studied land use and transport in Australia's mainland capitals and in 27 large cities in the United States, Europe, Asia, Canada and the Soviet Union.

Their study portrays Australia as a petrol-guzzling nation with a level of dependency on the car second only to the US. In contrast, European and Asian cities were fuel efficient and public transport oriented.

Dr Kenworthy said yesterday that Australia's urban sprawl, less efficient public transport and encouragement of more roads and parking space were the contributing factors to car dependency.

Crucial to this dependency was the social phenomenon of a largely suburban society with small inner-city populations.

"From our inception we have been the most urban country in the world, but the home of the Australian spirit is the bush and we have a strong anti-city ethic," Dr Kenworthy said.

Obsession

He said the Continental tradition was the opposite — wealthy people were located right in the heart of the city, close to culture, entertainment and education.

"But environmental and resource reasons are going to force us to rethink the whole idea of suburban life," Dr Kenworthy said.

The researchers give statistics that illustrate Australia's obsession with suburbia: the average European city has 65 people a hectare living in the

inner city while Sydney, with the most densely populated inner-city area in Australia, has 39 people a hectare in the city and Perth just 16.

Dr Kenworthy said the inner-city could be repopulated without resorting to high-rise developments, using planning tools to utilise small building lots.

A shift back to the city would reduce Australia's dependence on the car and alleviate the associated problems.

Dr Kenworthy said this must be coupled with a greater spread of jobs to sub-centres in the outer metropolitan area, linked by good rail services.

He said Sydney had the lowest average petrol consumption in Australia because of the high inner-city density, high patronage of the rail system and the lowest availability of parking space.

Perth had the highest consumption of petrol because it had more road space, more city parking and did not yet have a rapid transit electric rail system.

Although even in the late 1960s urban freeways were accepted as official policies in Adelaide, as in other Australian cities, voices were raised against them. One of the first to express alarm at the widespread tendency to accept the need for them was Prof. R. Jensen of Adelaide University, who in 1968 illustrated his thoughts by denouncing the voracious demands of the private car in cities when he said:

> "Urban freeways lead to the insensate destruction of the urban environment...... The price, however, of conceding to the motor vehicle..... is well illustrated in Los Angeles where two thirds of the whole area of the CBD is taken over in one from or another by the motor vehicle."[18]

[18.] Department of Adult Education. Papers of a Conference held at the University of Adelaide on *The Metropolitan Adelaide Transportation Study and the future development of Adelaide* 1 – 2 November 1968. p. 40 et seq.

Kenworthy and Newman have set out guidelines for the optimum levels of various activities in the CBD.[19] For comparison, the relevant figures for Adelaide have been abstracted:

on what basis?

Activity (1)	Optimum (2)	Level in Adelaide (3) (1980)
Road supply per worker in CBD	2 – 3 m	9.1 m
Parking spaces per 1000 workers in CBD	200 spaces	380 spaces
Vehicle maximum speed in CBD	30 kph	60 kph
Workers going to work by car	50 – 60%	77.7%
Workers walking or cycling to work	20%	5.8%
Workers going to work in CBD by public transport	20 – 30%	16.5%

Fig. 48   TRANSPORT INFRASTRUCTURE POLICIES

[19.]   Table derived from recommendations in the paper by Profs. PWG Newman and JR Kennedy "Transport and Urban form in 32 of the world's principal cities" (Murdoch Uni. WA 1987) Paper presented at Monash Uni. Vic. 24 – 26 Aug. 1987. pp. 13–16

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From the foregoing table it will be seen that Adelaide has some distance to go before achieving the levels in column 2.

The comparison with cities in the USA is inescapable and Leo Klaassen succinctly describes the dilemma facing so many cities:

> "...... we want to preserve the cores of our cities in their function as the heart of urban communities. ...... and the whole discussion on urban transport should focus on this point. Are we able to succeed or are we going the same way as American cities? Will the equilibrium between the attraction of the core and accessibility maintain itself in a period of rapid car growth or are all our efforts to maintain accessibility only doomed to destroy its attractiveness? We are in the middle of this struggle; the United States have passed through and are now experiencing that there is no way back."[20]

Adelaide could have fallen into the irrevocable abyss of urban freeways had they implemented the MATS proposals in 1968.

Perth on the other hand has constructed the Mitchell and Kwinana freeways to the immediate west of the CBD, thereby swallowing up the land reclaimed from the Swan River during the construction of the Narrows Bridge, and in so doing has irreversibly changed the character of the most scenic area of Perth by bisecting it with freeways.

Writing of Perth in the 1950s, before the bridge was built, Frank Hurley optimistically claimed in connection with the Narrows Bridge project:

> "The reclaimed area will be transformed into a park"[21]

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[20] L.H. Klaassen, J.A. Bourdrez and J. Volmuller. *Transportation and Reurbanization.* (Aldershot U.K., Gower. 1981) p. 53

[21] Frank Hurley *Australia a Camera Study* (Sydney. Angus and Robertson. 1959) p. 169

The bridge and the park were duly completed, but the latter has now been hijacked for a *spaghetti* junction to serve the freeways. Thirty five hectares of parkland have thus become a series of disconnected landscaped areas between traffic on the interchange access roads. No wonder there is not a single person visible in the photograph. Fig. 49

PERTH

Fig. 49

The Narrows Interchange between Mount Eliza (left) and the Esplanade (right) has abducted and fragmented 35ha in the centre of the Swan Riverside linear open space, leaving it no more than a well landscaped visual amenity.

Fig. 50

The Narrows Interchange

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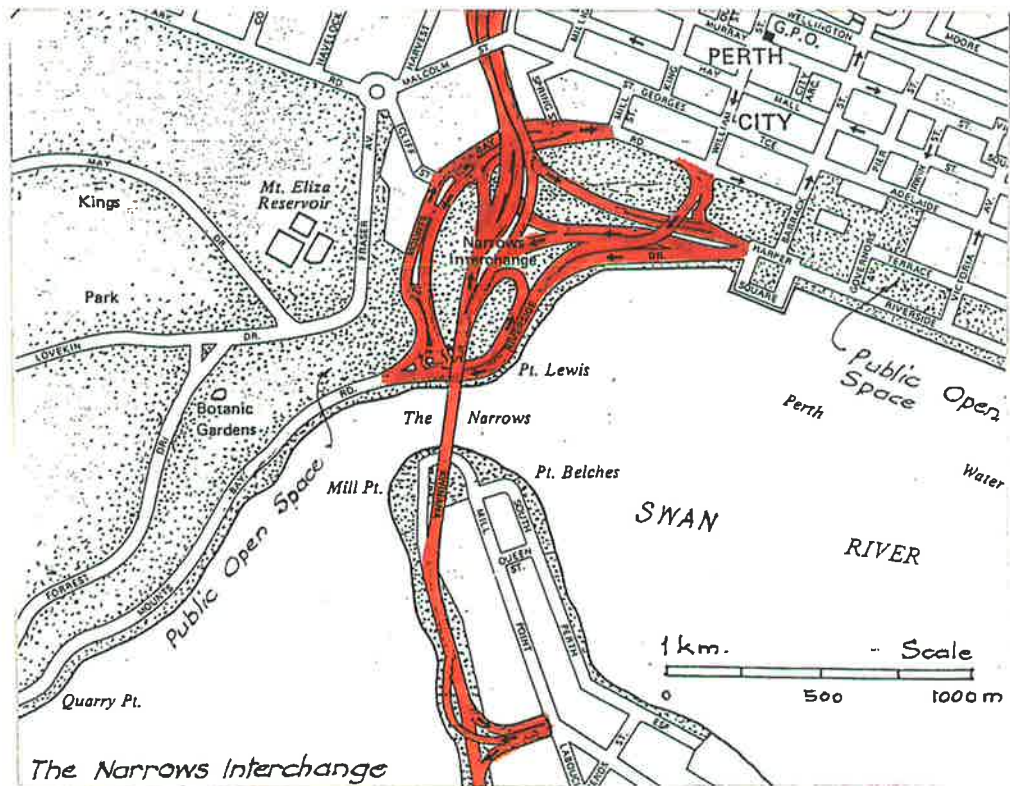
22. Railways of Australia *Rail across Australia* (Melbourne Vic. Railways of Australia Committee October 1984) p. 10

Implementation of a balanced urban transport policy. Kenworthy and Newman see the implementation of their proposals through urban planning and transport infrastructure policies. They see as essential, measures to restrict city road supply, particularly new roads, a reduction in the number of urban parking spaces and a lowering of parking standards in new buildings. They suggest policies to encourage a rapid transit system and to carry out traffic calming measures (pedestrianisation and bicycle facilities). These must be coupled with land use policies, including re-urbanization by increasing urban residential densities, central area activities and job densities.

They have produced a conceptual plan[23] for the re-urbanisation of a city, which bears a remarkable similarity to the STA's concept of Adelaide's main framework.

SUBCENTRE

CONCEPTUAL
PLAN FOR
REURBANIZATION

OUTER AREA
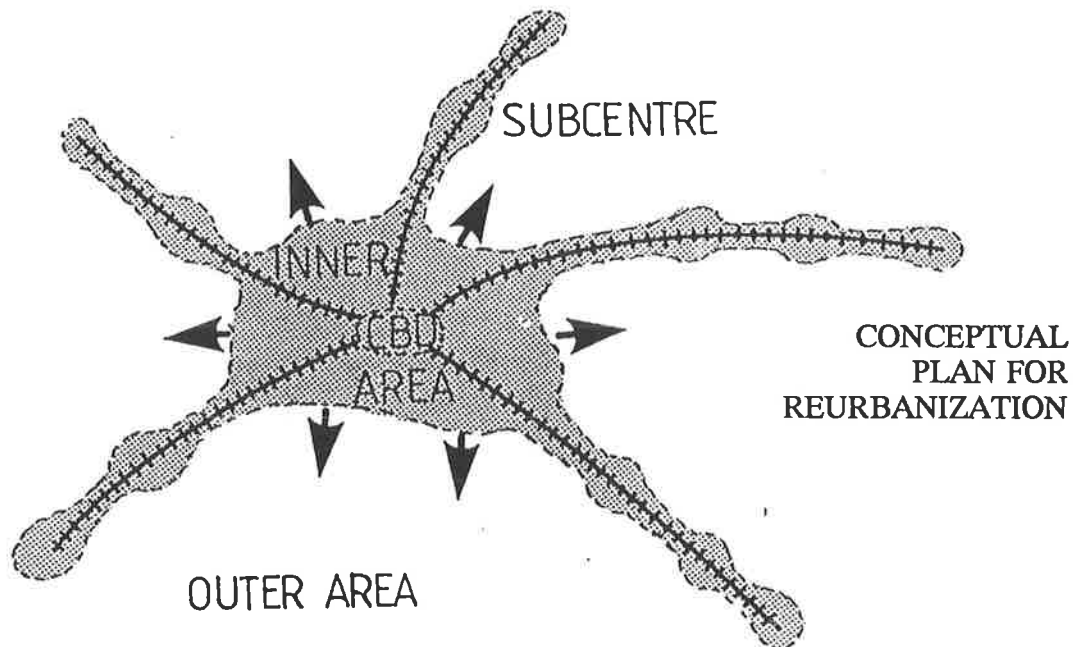
Fig. 51

[23.] Profs. P.W.G. Newman and J.R. Kenworthy. "Transportation and Urban form in thirty two of the World's Principal Cities" (Murdoch Uni. W.A. 1987) between pages 14 and 15.

The conceptual plan illustrates:

"A policy that provides a rapid transit option (most likely to be rail) which is substantially faster than the average traffic speed in the city and together with other improvements slowly builds up public transport in stages so that it provides something like 20 to 30% of the total passenger kilometres."[24]

This would be a readily achievable target for Adelaide.

Main framework. The STA perceives its main framework as consisting of four rail lines, one tram line and one busway. It is along this framework that the bulk of the STA's assets of buildings, artefacts and lands are to be found, and which hold the key to providing Adelaide with the transportation services it will need. See Fig. 52.

Strangely however there is no central point in Adelaide at which these routes converge. The trams stop at Victoria Square, the trains at North Terrace and the *O-Bahn* at Clarendon Street. The three modes are linked by a free bus which operates during business hours. At other times passengers have to make their own way between the terminals. The distance between the train and the tram is 1.2 km, the train and the *O-Bahn* .75 km and the tram and the *O-Bahn* .5 km. The proposal in the Fielding Report (p. 105) to extend the tramway to Adelaide Oval would go some way towards solving the problem, but would not provide a central interchange.

This thesis examines in Chapter 10 the practicality of grafting onto the Adelaide main framework, a transport system based on principles derived from the studies of Profs. Kenworthy and Newman. It takes on board the oft repeated proposals for electrification, gauge standardisation and the coordination of services. Proposals are made which

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24. Profs. P.W.G. Newman and J.R. Kenworthy. "Transportation and Urban form in thirty two of the World's Principal Cities" (Murdoch Uni. W.A. 1987) between pages 14 and 15.

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it is hoped will transform the built environment of the main framework railways by a series of modest steps from a 19th century heavy railway to a leaner and more cost effective service by the 21st century.
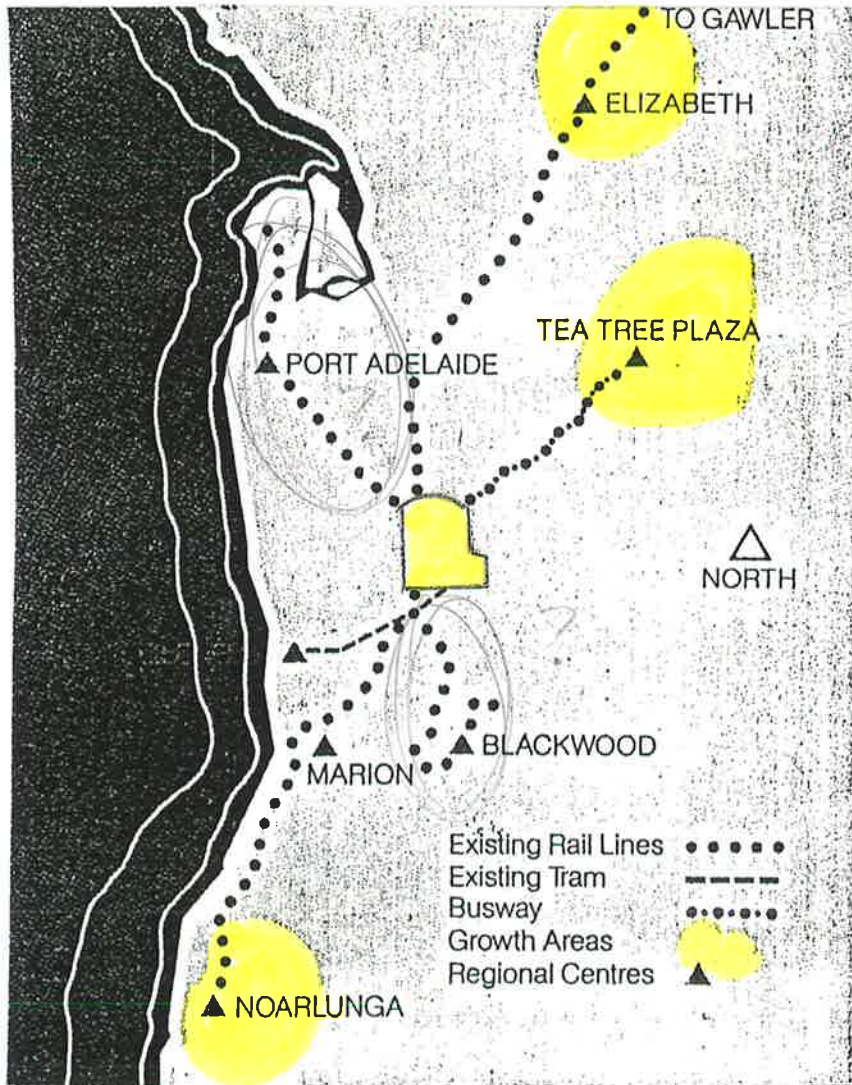
THE STA MAIN
FRAMEWORK
OF LINES

25

Fig. 52

European studies. Before considering these aspects of the present thesis, some experiences from comparable European cities may provide a yardstick against which the possibilities for Adelaide can be judged.

[25.] Plan taken for the *O–Bahn* Busway leaflet. North East Busway Project. *The O–Bahn Busway* (Adelaide. Department of Transport 1986).

Prof. Barry J. Simpson studies the planning aspects of thirteen European cities in relation to their transportation problems. He lists four main objectives in city centre planning:

1. To give accessibility.

2. To maintain and enhance the environment.

3. To cause minimum disturbance to existing users.

4. To stimulate the economy of the centre.

In discussing the performance of British, French and West German cities, he sees the 1960s as 'boom' years which were characterised by over-enthusiasm for commercial development and for car accessibility, which led to wholesale demolition for urban road construction.

Since those years he observes in the 1980s:

> "More and more members of the public other than those in local interest and pressure groups are beginning to appreciate the dangers for the quality of life of the city centre as elsewhere, in pursuing purely economic goals."[26]

No longer is it acceptable to adopt an environmental 'write-off' solution, as in some British cities such as Birmingham and Coventry, in order to attempt to provide full access for all traffic to the city centre.

Hence he adds:

> "Amongst the clearest benefits of light rapid transit are environmental ones. Light railways can bring in people with less environmental damage."[27]

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26. Prof. B.J. Simpson. *City Centre Planning and Public Transport.* (Wokingham. U.K. Van Nostrand Reinhold (U.K.) 1988) p. 171

27. Ibid. p. 169

The satisfactory infrastructure for a light rail system already exists in Adelaide – the present heavy rail network. It is around this that many of the proposals in Chapter 10 are made. Having regard to the quality of the built environment, in a city which is pre-eminent for its layout and the standard of its city building, ideas are advanced to deal with both small and large artefacts in the metropolitan area; likewise with the many small artefacts such as bus stops, shelters, railway stations, railway lands and more importantly those significant historic stations for which sympathetic new uses must be found, before further deterioration occurs.

SYNOPSIS OF CHAPTER 9

SEEKING AND FINDING SOLUTIONS

During the post-war years transportation studies adopted three distinct viewpoints: rail orientated, road orientated and environmentally orientated.

In the late 1940s interstate agreements were reached on railway gauge standardisation. A Royal Commission not only supported the foregoing, but advocated the electrification of the suburban network and the re-opening of the Holdfast line as an electric railway.

As car numbers rose in the 1950s emphasis was on accommodating the traffic load. Advisers on the bus conversion programme later produced MATS in 1968, which recommended freeway and expressway construction on a massive scale at considerable cost to the environment.

By 1974 the Adelaide City Plan produced environmentally friendly proposals, and in 1976 Rundle Mall became the first pedestrianised street.

During subsequent years strong views were expressed by Leo Klaassen and others against allowing unlimited access to all parts of city centres.

In 1987 Professors Newman and Kenworthy published papers calling for a balanced transport system to solve the dilemma created by the rapid and sustained rise in City car numbers. They were supported by Professor Simpson. He saw light rail as capable of bringing people to the city with less environmental damage than the road alternatives.

CHAPTER 10

PROPOSALS

1990 – 2000

LEGACY OF OLD RAILWAYS AND LINES

The original main framework of lines in Adelaide was designed in the age of steam, during the second half of the 19th century, by British engineers. The platforms were built to accommodate the largest anticipated trains, and like their British counterparts were mainly 3'6" high. The principal stations were ample and solid structures reflecting the architectural tastes of the day, as well as providing generous accommodation for travellers and railway staff in days when railways carried goods as well as passengers. Many of these stations were built to satisfy needs which have since declined, while others were never sited to attract local passenger traffic. Some now have redundant ticket offices, porters' rooms, lamp stores, luggage and waiting rooms, as a consequence of changes in railway administration and a steady reduction in patronage. Access to many platforms, particularly island platforms, is only by underpasses and ramps. These, often labyrinthine tunnels, and the isolated platforms they serve, act as deterrents to would–be travellers, rather than a convenient and safe means of access, particularly after dark.

Of the 210 kms. of line which existed at the peak of metropolitan railway development, 127 kms. remain in passenger operation.[1]

If the objective of reducing the number of cars daily entering the City is to be achieved, an alternative must be offered which is comparable or better than normal traffic

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[1] Railways of Australia. *Yearbook 1989* (Melbourne Vic. Railways of Australia Committee. 1989) p. 43.

speeds, in order to become attractive to motorists. The bus, with its frequent service and other stops, is likely to be too slow, and with increasing traffic volume this is not likely to improve. Railways are the preferred option.[2] The main framework of railways in the Adelaide metropolitan area, is available as a sound basis upon which to build a leaner, more efficient and preferably electric[3] public transport system, using and improving the present legacy of buildings and engineering works.

The lines converge on the City from five directions, and could be extended along the various available land corridors if required. Furthermore, the objective could be achieved without any major demolition or rebuilding, and could be carried out in stages to provide Adelaide with a viable and attractive alternative to the private car, during the next decade.

It is, therefore, to the railway that attention will be primarily directed, to examine in detail how it could be adapted and improved to provide for the ever rising daily tide of commuters to the City, and whether its present stock of buildings is what is required to help it perform that task. It also in some measure puts to the test the viability of a balanced transport system in Adelaide.

In the context of this thesis the expression "downgrade" is used to describe the improvement of station buildings and artefacts by reducing them in size to meet perceived needs, while at the same time releasing larger redundant railway buildings for other uses.

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[2] Profs. J.R. Kenworthy and P.W.G. Newman. "Learning from the best and the worst" (Paper presented at an international pedestrian conference at Boulder, Colorado Oct. 1987) pp. 29 – 33.

[3] Adelaide is the only mainland Australian capital city not yet committed to electric traction on its suburban railway network.

RAILWAYS – DOWNGRADE AND SURVIVE

"When in 1975 the non–metropolitan railway system was sold to the Commonwealth Government and the suburban rail network was retained by the South Australian Government, it was intended that the suburban rail network would form the basis of a rapid transit system to serve the metropolitan area and that a body to be known as the STA would be set up to co–ordinate all metropolitan transport modes."[4]

So far, however, very little in that direction has actually been achieved, and much of the present capital expenditure on improving passenger stations seems destined to perpetuate the existing mode of operation, rather than moving forward to a light rapid transit system co–ordinated with buses. In an area of medium density like Adelaide, LRT makes the best of both worlds – running on road tracks or segregated tracks, as the Glenelg tram. Hence it follows that passenger boarding must be at street level rather than from a high platform.

Station Layouts. Most of the present stations reflect needs which no longer exist. Platforms are too long, too wide and too high. Many still have buildings which were needed when they were fully staffed and handled goods as well as passengers. These buildings are a high maintenance liability, and do not meet today's traffic needs.

It is proposed that each of the suburban stations should be evaluated in relation to its present features, with particular reference to access and siting. Access is normally by footpath, but also by bridges over tracks or by tunnels under. Siting may or may not be appropriate to present day needs. Oversize buildings may require secondary uses, or be let or sold for other uses. Where changes are proposed, public consultation will be necessary if passenger confidence in the service is to be enhanced.

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4. J. King et al. *Union Transport Plan*. (Adelaide. Committee of four STA Unions. 1988) p. 28.
See also Appendix E.

In construction terms, the proposal is that the railway stations should be progressively slimmed down to meet the needs of light rapid transit, by the following measures:

1.   Reducing platforms to 300 mm high and 70 m long.

2.   Adapting or providing station shelters and furniture appropriate to present needs, both commercially and visually. This should include paving, lighting and signs.

3.   Providing parking facilities, where necessary, possibly with dual use or in conjunction with others.

Downgraded stations would be smaller, less forbidding and eerie, particularly at night, and easier for pedestrians to approach. They would be cheaper to build and maintain, and more adaptable to changing circumstances and needs. They are likely to be similar to those on the Port Melbourne and St. Kilda lines in Victoria which were converted from heavy to light rail in 1988. There, low platforms have either been adapted or built adjacent to existing stations. In one case at Port Melbourne the redundant station has become a postal sorting office. The Hong Kong Metro is another light rail system recently completed by an Australian consortium.

Closer to home, the Bay Line was converted from heavy to light rail in 1929, and has given sixty years satisfactory service. It is leaner than its heavy rail counterpart and is readily adaptable to changes in circumstances. Furthermore it has been free from excessive vandalism or graffiti. More importantly, its operating costs were less than half the cost per passenger journey of those of the STA heavy rail service during 1986/87.[5]

[5.]   See Appendix D. operating costs

Feasibility Studies. The case for the conversion of the built environment of the STA rail network to light rail is further examined by case studies of typical stations. These illustrate the practical possibilities of a gradual change to this mode within a measurable time, which it is suggested would be ten years.

First in importance is the adaptation of the railway built environment to accept LRT, and the promotion of viable development on railway lands which are surplus to operational needs.

The regauging to standard gauge of the train lines to allow through working with the ANR as well as the STA tramway, and also the electrification[6] of the railway are seen as paramount to an environmentally successful solution.

Not feasible

In advocating proposals for downgrading the rail network, the advice in the STA Business Plan has been followed:

"In future it will be necessary to allocate higher priority to projects
that minimise recurrent costs" [7]

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6. Railway electrification is no new proposal, and the historical roots go back to the turn of the century. See note in Appendix C.

Closer to our own times South Australia has consistently dragged its feet on this issue, the most recent occasion being 1988, when yet again it was dismissed. Meanwhile Queensland and Western Australia have taken steps to electrify the lines in their capital cities.

Brisbane completed its suburban electrification in February 1988, and in the same month Western Australia committed itself to the electrification of the Perth suburban services.

The STA by stalling on this important issue not only therefore deprives Adelaide of the immediate advantages of electric traction, but builds up added costs for future years, when surely the demand on environmental grounds will have to be met.

7. State Transport Authority. *Draft Business Plan 1988/89 – 1992/93* (Adelaide. STA. June 1988) p. iv.

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From this it necessarily follows that not only must construction and maintenance be cost effective, but energy input into buildings, day to day operation and periodic maintenance must be both low and flexible enough to allow future generations to adapt, extend or remove the buildings and structures of the present, should the need arise.

Long life/Loose fit/Low energy. These three slogans encapsulate the guiding principles first proposed by Alex Gordon in 1972[8.] when he advocated that the architect's approach to building design and construction should be based not on periodic demolition and reconstruction of buildings, but rather on the principle of recycling by conservation and by environmentally friendly adaptation and new construction.

Mr Gordon said that:

> "architects have long been concerned with the quality of everyday living, but the implications of other aspects such as recycling, slowing the rate of obsolescence, and the reduction of waste and energy consumption have not yet been discussed in depth by the profession."

As part of the ensuing study, ideas were advanced covering design concepts for many classes of building, such as offices, multi–storey parking stations, hospitals, schools etc. They apply equally to public transport buildings.

In rejecting the 'tight fit' design, this thesis eschews the concept that buildings must accommodate the exact needs of the moment at the lowest possible initial cost. This inevitably will lead progressively toward shorter rather than longer life structures.

[8.]   Maxim advocated by Alex. Gordon, President of the Royal Institute of British Architects, at their Spring Congress 1972, when he inaugurated a study to evolve a set of professional ideas to meet the environmental crisis.

Failure to apply the 'long life/loose fit/low energy' maxim to building design, is seen by Alex. Gordon as having at least four adverse consequences:

> "First, there will be direct economic waste, as a result of the unavoidable write-off of buildings after a comparatively short period.
> Second, there will be reduced functional efficiency quite early in the life of the building.
> Third, there will be environmental degeneration when buildings have become functionally and economically unsound.
> And fourth, amenity problems will be created by frequent rebuilding"[9]

Viewed in the light of the 'long life/loose fit/low energy' maxim, the STA building performance, particularly to small and medium stations, would appear to fly in the face of any environmental considerations.

The process of downgrading is primarily an acceptance of the railway network we have inherited and improving it by simple adaptations which will in future years fit into and contribute to the quality of the built environment, as part of a low or zero growth economy.

The environmental criteria used in evaluating the fitness of the present heavy railway and its station buildings must be those applicable to the built environment in general:

1. Circulation and access. Does it provide satisfactorily for passengers, cars and other vehicles?

2. Siting. Is the present position appropriate?

[9.] *Journal of the Royal Institute of British Architects* January 1974 p. 10.

3. Standards. Does the building satisfy present-day needs?

4. Structure. Is it sound?

5. Integrity. Has it lost its distinctive design features?

6. Quality. Is the architectural quality good?

7. Environmental Impact. Does the building respect the character of the immediate locality?

In order to examine the possibilities for downgrading the built environment of the railway system, a few examples of different types of station conversions are illustrated, while notes are given on a number of others.

For convenience they are divided into three general categories:

1. Heritage listed or historic stations.

2. Medium or small suburban stations.

3. Proposed resited or new stations from either of the above categories.

1. **HERITAGE LISTED AND HISTORIC STATIONS**

There are eleven historic stations in the metropolitan area:

Adelaide Terminal*	Mitcham
North Adelaide*	Blackwood
Gawler	Aldgate
Bowden*	Mount Lofty
Alberton*	Outer Harbour
Belair*	* Heritage listed

Each of these stations has architectural merit and significance in South Australian history. All have outlived their original uses but only one so far has been dealt with, the Adelaide Terminal, which is now part of the ASER complex. The other ten require new

or complementary uses to justify their retention. In the following pages these ten stations will be examined from this viewpoint.

Gawler Station. Near the northern extremity of the STA system, this complex of interesting buildings is one of the larger passenger stations. Its original accommodation is described by Loyau.[10] Today most still exists and there is a 2–storey station building, a parcel office, a high level signal cabin, an open train shed and a stone goods shed. Most is in good condition and retains its integrity, but in common with many STA buildings, has attracted several ill considered additions.

The least attractive additions are those associated with the pedestrian tunnel. It is now of questionable value as the line terminates as a single track 2 kms. further on. The closure of the tunnel and the removal of railings and sheeting would not only enhance the building but reduce lighting and maintenance costs.

The station is used for railcar stabling in addition to normal passenger services. It has good parking facilities. Situated some distance from the town centre, the buildings and adjacent lands urgently need new and secondary uses.

Offices, commercial use, light or service industries are all possible. Some residential building in the adjoining lands, or in the station buildings might be feasible. It would in some small measure compensate for the original siting of the station at so great a distance from the town centre.[11]

[10.] G.E. Loyau. *The Gawler Handbook*. (Adelaide. Goodfellow and Hele. 1880) pp. 131–132. Reproduced in Appendix C.

[11.] G.E. Loyau. *The Gawler Handbook*. (Adelaide. Goodfellow and Hele. 1880) p. 132

GAWLER
STATION

Built
1879

Fig. 53

GAWLER
STATION

Fig. 54

Insensitive handling of minor additions, railings and outbuildings at Gawler,
all but destroys the appearance of the station.

GAWLER
STATION

Fig. 55

The 1879 ironwork was cast locally, and serves as a permanent reminder
of the confidence of the late Victorian period.

North Adelaide Station. This is the only station apart from the terminal within the City. It is the worst in terms of decay, vandalism and graffiti. Built in 1857 to the design of William Hanson[12] in Italianate style, it includes a siding and a signal cabin adjacent to the level crossing.

A scheme for its conversion into a restaurant with a bistro in a carriage, permanently placed on the siding, and a cocktail bar in the signal cabin, it represents a first class project for the recycling of an attractive old building.[13] Designed by Sarkissian Associates, it makes full and imaginative use of all the old buildings without diminishing its usefulness as a downgraded station, which would simply be effected by lowering a section of the existing platform.

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[12] Possibly assisted by E.A. Hamilton. See D.A. Cumming and G. Moxham. *They built South Australia.* (Adelaide. By the Authors. 1986) p. 80

[13] South Australia. Department of Environment and Planning. *Heritage Register.* File 6228 – 13657

NORTH ADELAIDE
STATION
built 1857

A near derelict
building which
is still in use
as a passenger
station.

Fig. 56

BOWDEN
STATION

built
1857

Fig. 57

The station building is unused and graffiti covered.
The up platform has a flat roofed precast shelter,
entirely out of character with the original building.

Bowden Station. Built in 1857, this station also is similar in architectural style to the foregoing. It too has been covered with graffiti, possibly stimulated by the time lag between trains and the relative seclusion afforded by the platform canopy. The building is now unused except for occasional use as a mess room for the permanent way gang.[14]

It is obviously a suitable building for a wide variety of commercial or service industry uses, as it has good exposure to the Port Road, being situated in a prominent position at the end of Station Place, which has partly been rebuilt (1989). Now that this has taken place, the derelict station building stands in a new brick paved forecourt, immediately in front of the proposed Adelaide Entertainments Centre.

The proposal is that a suitable use should be found for the building, and that the operational parts of the platforms and approaches should be scaled down to a size commensurate with LRT needs. The occupied building would be fenced off and redundant areas of high platform suitably landscaped, possibly with poster advertising.

Alberton Station. This is the third in the trio of 1857 stations, and stands at the end of Adams Place. An Italianate building with stone walls, quoins and plinth, it is rich in the simple elegant details which are typical of the early Victorian interpretation of the architecture of Northern Italy into the Australian vernacular.

The building is void and has become graffiti covered. Its footbridge is dangerous due to lack of maintenance and is closed to the public. However, being situated at the end of a secondary shopping centre in Adams Place, the station building is marketable for office or commercial use.

[14.] Interview with Bill Fudali. Valuer STA. Adelaide. 12 Feb. 1988.

Station building converted to commercial or other use and separated from operational areas

Existing platforms adapted to light rail standards and landscaped

Tree

Tree

Paved Area

Ramp →

Underground tunnel preferably replaced by level crossing at end of platform

Boarded up Station Premises.

Lowered Platform

Scale of metres

To Adelaide

Pedestrian Tunnel

PLAN OF STATION
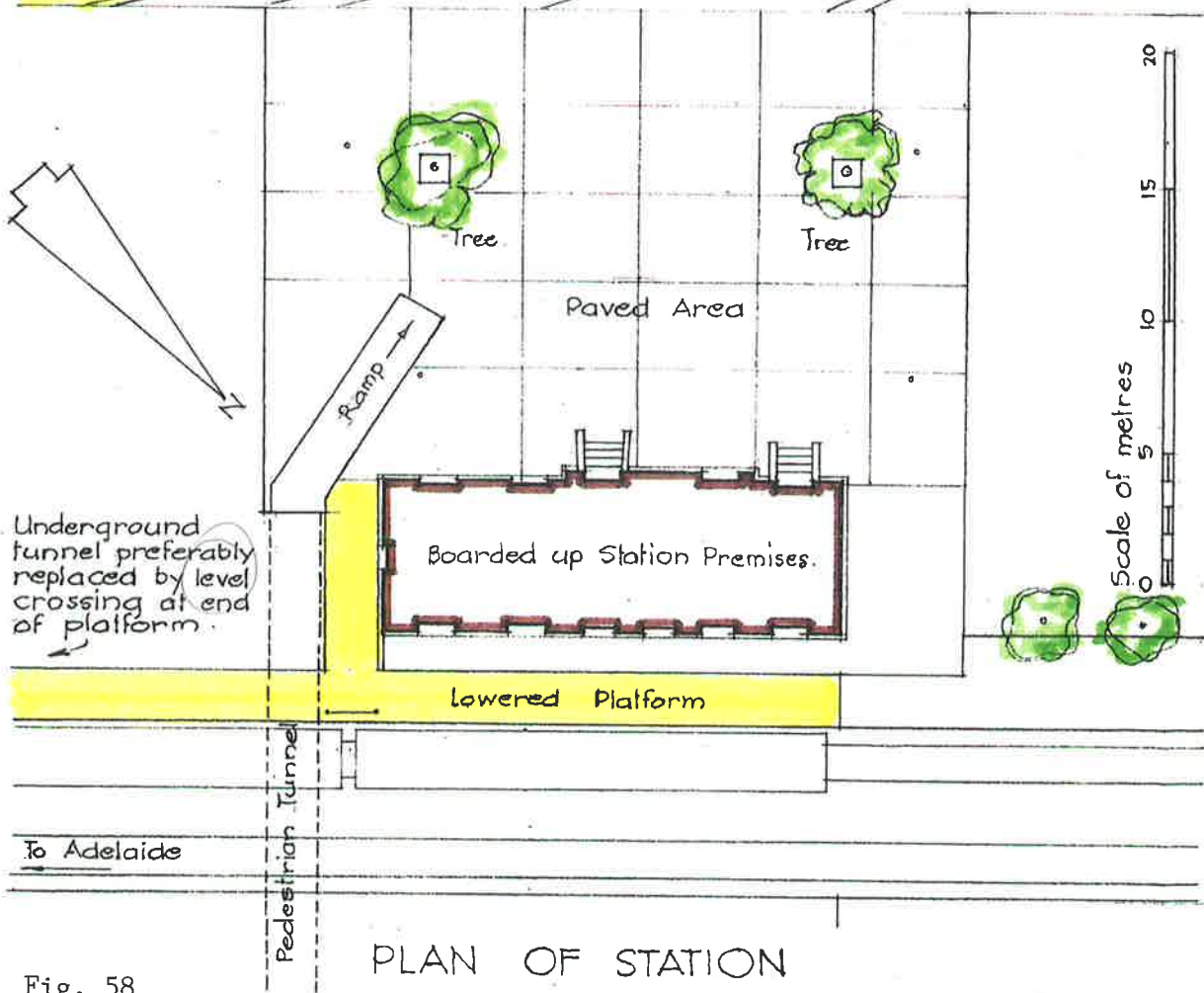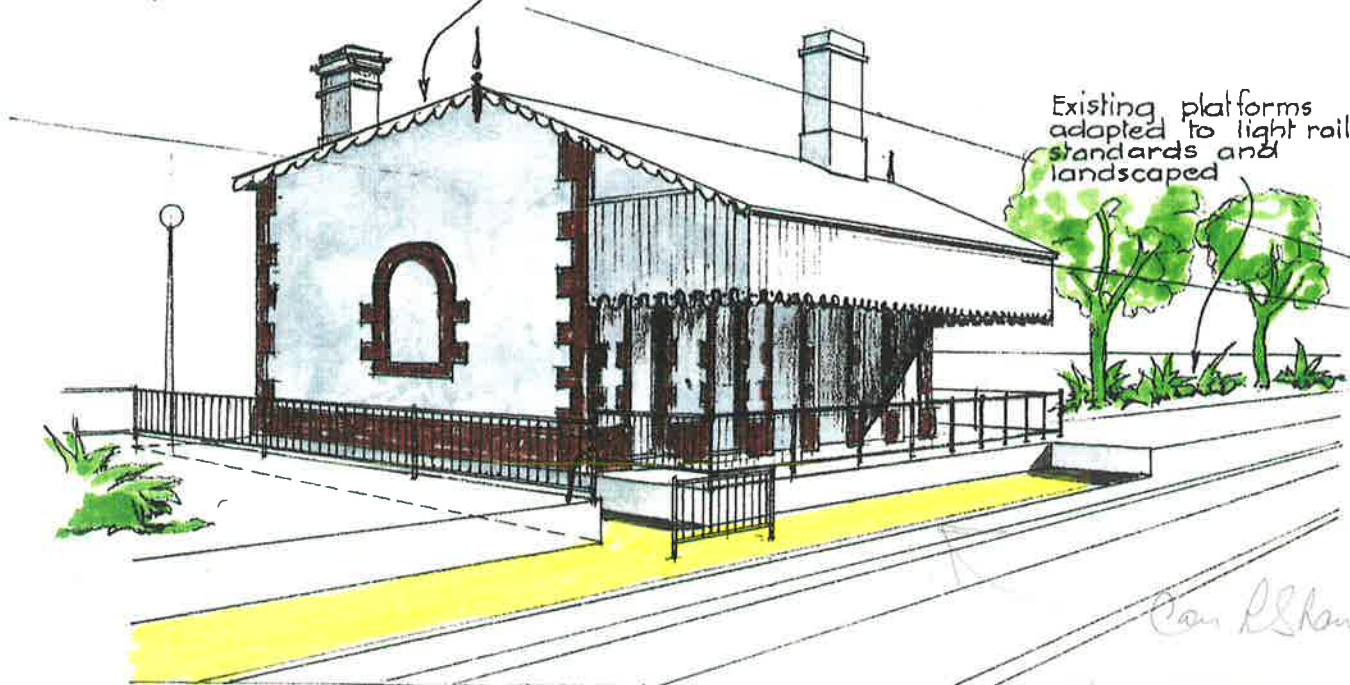
Fig. 58

AK 1/90

BOWDEN STATION

Downgrading on lines similar to Bowden is appropriate, and would not only provide a beneficial use for a redundant building but would also enhance the commercial prospects of the shopping centre.

ALBERTON STATION

Ornamental bargeboard finial and platform canopy.

Fig. 59

Blackwood Station. This station is similar in concept to Mitcham. It has integrated into the STA transport system to become a useful Rail/Bus interchange, but in order to justify its size a secondary use is needed for the station building. The station buildings remain in good condition. There is a picturesque Y ended island platform shelter and a waterpoint still occasionally used to supply water to steam locomotives.

Belair Station. Now the terminus of the STA rail undertaking, Belair Station is a pleasant group of brick, cement rendered and timber buildings, which at the present time are excellently maintained.

The station platform opens directly to the Belair National Park. On both platforms are interesting Victorian passenger shelters. The up platform has a huge passenger shelter, built for the accommodation of visitors from Adelaide to the National Park while awaiting their train home. It now has antique lamps.

The station is still staffed, but underused. A new use is required for the buildings to provide them with a real *raison d' être* in present day terms.

BELAIR STATION

Fig. 60

Simple but sensitively handled joinery details of a gable
on the roof of a passenger shelter.

Mount Lofty Station. This late Victorian stone building is empty, but still in good condition. It is surrounded by a useful area of ground on both sides of the line. It once housed a busy station master and his family, and one wonders why this attractive stone building could not be converted into two or more useful housing units, rather than risk vandalism, or the wastefulness of being allowed to deteriorate slowly. Since 1988 it has been the responsibility of the ANR.

MOUNT
LOFTY
STATION

built
1882

Fig. 61

The conversion of this station to residential or other use, need not preclude its future use for its original purpose, if so required. On the Main South Line from Mitcham south–eastwards the *repertoire* of architectural features, such as windows, stone dressings, finials and bargeboards, is generally standardised.

Aldgate Station. This interesting group of stone, brick and timber buildings is in distinctly late Victorian garb. The earlier simple gabled roofs have given way to hips with gablets, and the roof pitches are increased to 35°.

The group of buildings was being used as canvases for community art when the station perematorily closed early in 1988. There are bird pictures and a skyscape on the platform fence. The shapely "Y" ended island platform shelter, typical of the SAR, was also undergoing artwork when it closed.

There is a particularly solid stone goods and parcels building with two fine 3–centred ashlar arches, where a hundred years ago horse carts backed up for loading and unloading.

Aldgate?

It will, however, now be the responsibility of the ANR to find new uses for this excellent group of buildings in its tree lined rural setting.

At present only one commercial user is in occupation, a propane gas distributor. The view of the station buildings from Mount Barker Road is marred by the collection of industrial *bric-à-brac* between the station and the road.

ALDGATE STATION

One of the 3-centred ashlar arches on the goods building.

Fig. 62

A "Y" ended island platform shelter at the now disused Aldgate Station

Fig. 63

2. MEDIUM AND SMALL SUBURBAN STATIONS

Amongst the most volatile of buildings, this group contains most of the stations on the STA network. Almost all were established when the respective lines came into service, but the original buildings, often timber framed, corrugated iron structures have in recent years been disappearing at an accelerating rate. Many stations have been the recipients of new steel olive green passenger shelters, whether their condition or circumstances demanded it or not.

The STA proudly reported:

> "A programme to improve the appearance and convenience of railway stations continued during the year on the Outer Harbor and Gawler Central lines. Twenty one passenger shelters were replaced with those of a low maintenance design."[15]

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[15] Railways of Australia. *Yearbook 1988*. (Melbourne Vic. Railways of Australia Committee. 1988) p. 41

Whilst recognising the robustness of their construction, the choice of colour and their ubiquitous appearance willy-nilly throughout the metropolitan area, assures the anonymity of the "improved" stations by failing to have regard for the individual local requirements or their immediate environments.

In 1988 many stations on the Main South Line received their steel shelters. Some had possessed picturesque architectural features, having survived over one hundred years. The STA, thereby through insensitive handling, has all but destroyed the continuity of design and local features which once distinguished the network of the South Australian Railways.

Only a few of the original smaller stations survive with their architectural integrity intact. As this group contains the majority of the stations which are available for recycling, they are dealt with by selecting a few of the many stations for closer scrutiny.

First however a few examples are given of the present apparently haphazard program of upgrading.

Four recent station "improvements" serve as illustrations of the manner in which the STA by undertaking works which tend to perpetuate the heavy railway, is obfuscating and hindering any lasting improvements to the built environment or the service.

Grange Station. This terminal was resited in 1986. The new platform was constructed with doubly reinforced concrete footings, thereby making any adaptation virtually impossible without high energy consuming concrete breaking equipment. The finished *ensemble* of platform, concrete cribs and steel shelter could hardly have been less appropriate in this suburban setting. (Fig. 65)

Pinera Station. Before 1988 it had two pitched roof corrugated iron shelters framed in old rails and painted olive green. Both were sound although graffiti covered. One of these was replaced by a new steel shelter in 1988. Why one wonders was this considered necessary at Pinera which is amongst Adelaide's most obscure and secret stations. (Fig. 66)

Glenalta Station. Here again similar treatment was meted out in 1988, where there is now one "Y" ended original steel shelter and one new steel passenger shelter, as at Pinera.

Keswick Station. As part of the same "upgrading" program, three shelters were replaced by three standard olive green shelters. The architectural character of the previous shelters has been lost, and there is still no connection with the ANR station next door. (Figs. 67 and 68)

This improvement program in retrospect hardly appears to have been worthwhile undertaking. None of the works was urgent and nothing has been provided which is aesthetically attractive or inviting. One is drawn to the conclusion that it would have been better if the works had not been attempted, and that the stations had remained as they were until a comprehensive policy is evolved for the whole built environment of the railway.

Proposals are made for two medium sized suburban stations, at Womma near Elizabeth and at Edwardstown, an inner suburb.

GRANGE
STATION

rebuilt
1986

Fig. 64

The precast cribbage ABOVE conceals excavation from passengers on the platform shelter but does not conceal the haphazard design.

A flashback to 1986 LEFT shows the construction of the platform footing at Grange. A good example of a bad "tight fit" solution to a simple problem.
Photo. STA 1986 Annual Report to Staff.

Fig. 65

PINERA
STATION

The old
shelter on
the left, the
new on right,
erected 1988.

Fig. 66

KESWICK STATION

Late 1988

Fig. 67

One of the original shelters at Keswick on
Platform 1 just before removal.

KESWICK STATION

February 1989

Fig. 68

Three ubiquitous steel olive green shelters have removed the last
vestiges of individuality from Keswick Station. Platform 1 is
nearest the camera.

Edwardstown Station. The line from Goodwood to Brighton was opened in 1913. Its platform is large enough to receive a ten car train and is 170 m long. It is only approached through ramps and tunnels, from Messines Avenue and Railway Terrace. To reach a train standing at the platform a passenger has to walk 118 m from Messines Avenue or 93 m from Railway Terrace. The size of the platform necessitates no less than six 5 m. high post top lanterns, while a further ten bulkhead lights are permanently required in the tunnels. Passenger accommodation comprises a 3-compartment steel shelter seating eighteen.

To the west of the station is a pine tree plantation with casual parking used by a dozen or so cars on an average working day. The east of the railway reservation is a featureless wasteland. The immense platform has six planted areas with four clumps of mature bushes.

Judged from the seven points of the Environmental Criteria (p. 124), Edwardstown rates almost NIL. Worst of all, its hapless passengers only have access through dark tunnels to an isolated high island platform, and when arriving at the top of the ramp can have no idea of the number of people who may already be in the shelter.

This unstaffed station still has a role within the network, but its bad design, immense size and the maintenance costs of the present station artefacts do not warrant its retention.

It is proposed that a smaller station should be built adjacent to Delaine Avenue, and that passenger access be direct from that road. It would have a smaller less enclosed shelter with an ample canopy. It would display posters and STA information, and would be readily visible from adjacent roads. Entrance to the platform would become an invitation rather than a challenge. The proposal is illustrated in Figure 69.

Footpath

RAILWAY TERRACE

to City

MESSINES AVENUE

ST. LAWRENCE AVE.

Footpath

RAILWAY TERRACE

to City

MESSINES AVENUE

Cycle Park

2m dia. Pedestrion tunnels with ramps. 110m from entry to train at platform. Tunnel lit by 8 bulkhead lights day and night.

Tunnels closed and filled

MAXWELL AVE.

N

2 car train

Passenger Shelter

170m long Platform with 6 post-top lanterns

Park and Ride to this point

to Noarlunga

Platform to become giant tree and shrub planter.

Park and Ride to this point

HYMAN AVE.

New 70m platform with 2 post-top lanterns.

Passenger Shelter

VIEW FROM DELAINE AVE.

2 car train

Litter bin

Illuminated sign

VIEW

DELAINE AVE.

Scale of metres
0 10 20 30 40 50 60 70 80 90 100

Ak 6.89.

EXISTING LAYOUT

PROPOSED LAYOUT

Fig. 69

EDWARDSTOWN STATION

EDWARDSTOWN
STATION

1989
photo

Fig. 70

One of the least attractive of inner suburban stations, Edwardstown is not situated on a traffic route. Its underground tunnel access is an open invitation to molesters and is therefore perceived as a potentially disturbing threat to the lone traveller, particularly a woman.

WOMMA
STATION

1989
photo

Fig. 71

In an outer suburban area, Womma is similar in some respects to the above. It has a high isolated platform approached only by foot tunnels one of which can be seen on the right of the above photo.

The old station platform should be retained, and after removal of the shelter, lamp columns and other artefacts, should be allowed to become the largest planter in Adelaide, 170 m x 12 m. The well established bushes on the platform and shrubs in the planters, would need little encouragement to spread, and by doing so would help to enhance the rather bleak appearance of much of the railway reservation at this point.

Edwardstown is one of the stations mentioned by Prof. G.J. Fielding as worth examining as a potential site for residential development on redundant railway land which adjoins the present station.[16] If this were done it would become a residential adjunct to the station and would reduce the dangers to passengers of its present isolated location.

Womma Station. A precast concrete structure, Womma is considerably better patronised than Edwardstown, although somewhat smaller. The platform is 145 m long. Parking facilities are provided on each side of the station for over a hundred cars in all.

Amongst the less desirable features are the long tunnels and ramps for pedestrians. The walk from the nearest footpath in Womma Road to the train is 170 m from either side of the line or about 1½ minutes walk by an able bodied person. As at Edwardstown, passengers who have negotiated the long ill–lit tunnels find themselves isolated on the island platform.

Womma Station is, however, in a more pleasant situation than Edwardstown and scores better on the Environmental Criteria.[17] With its large platform, nine post–top lanterns and twenty four bulkhead lights, it is, nevertheless, a maintenance liability.

[16.] Prof. G.J. Fielding *Public Transport in Metropolitan Adelaide in the 1990s* (Irvine Calif. By the Author. Final Report Dec. 1988) p. 77 and p. 96.

[17.] See page 124

EXISTING LAYOUT

WOMMA ROAD

Elizabeth Park

Penfield

Park and Ride

Park and Ride

DAUNTSEY ROAD

Pedestrian Tunnels

Precast Concrete Shelter

145 m long platform 1m high

Four Car Train

RAMSAY PARK

footpath

Ramp up

Stairs up Ramp up

Bar

Bar

to Adelaide

Scale of metres

PROPOSED LAYOUT

To Gawler

WOMMA ROAD

Elizabeth Park

KNIGHTON ROAD

Park and Ride

Illuminated Sign

Park and Ride

3 New Planters

New trees

DAUNTSEY ROAD

Station Shelter

80m long platform 300 mm high

Four Car Train

SUGGESTED BISTRO ON FORMER STATION PLATFORM

Bar

Bar

A

A

SECTION A-A

AK 2/90

Fig. 72 WOMMA STATION

Ideally the substantial station should be found a new social or commercial use and a smaller more accessible station built nearer Womma Road, where it would benefit from greater exposure to passing traffic. The slimmed down platform would be 70m in length at light rail height, extending from the back of the pavement. The present ramps and tunnels would be filled.

A possible use for the old building is suggested by the large daytime car parks, which are hardly used in the evenings. The present platform could become the site of a restaurant or bistro with a cabaret. The clientele would have the choice of arriving by car or travelling by train from Gawler, Salisbury or Adelaide. Music and dancing would be unlikely to cause annoyance to residents in this location.

3.   PROPOSED NEW OR RESITED STATIONS

It is inevitable that when the viability of individual stations is reviewed, a few will disappear while others will need re-siting to better serve their catchment areas. By the same token developing areas may need new stations.

Two re-sited stations are suggested in this thesis as typical examples of stations rebuilt near their present locations. They are at Mitcham and Outer Harbor. The only new station suggested on an existing line is at Gulf Point Marina, where with good exposure to Lady Ruthven Drive, an imaginative design might capture the spirit of the Marina and by so doing help to promote that venture as well as the STA service.

MITCHAM
STATION

built
1881

Fig. 73

A homely building in a leafy setting, with boundless possibilities for recycling to meet present day needs and at the same time consolidate the urban environment.

Mitcham Station. This is a pleasant reminder of the homely architecture of the late Victorian era and was the first of four stations to be built on the Main South Line between 1881 and 1883, under the direction of H.C. Mais.[18]   Somewhat similar in character to those built twenty–five years earlier, it has painted stone walls, typical late Victorian segmental arches and steeper pitched roofs.   The joinery has greater sophistication.   Nestling comfortably beneath an ample canopy of trees, it is separated from Belair and Grange Roads by long footpaths, which are unsuited for passenger access. The island platform is approached by an underground tunnel. To reach this, it is necessary to walk along footpaths overhung by trees 125 m from Grange Road and 100 m from Belair Road. This route clearly presents a threat to lone passengers, particularly after dark.

A proposal is made for a new and smaller light rail station to be built with access from Grange Road.   It is illustrated in Fig. 74.

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[18].   D.A. Cumming and G. Moxham. *They built South Australia*. (Adelaide. By the Authors. 1986) p. 126 – 128.

148

EXISTING LAYOUT

PROPOSED LAYOUT
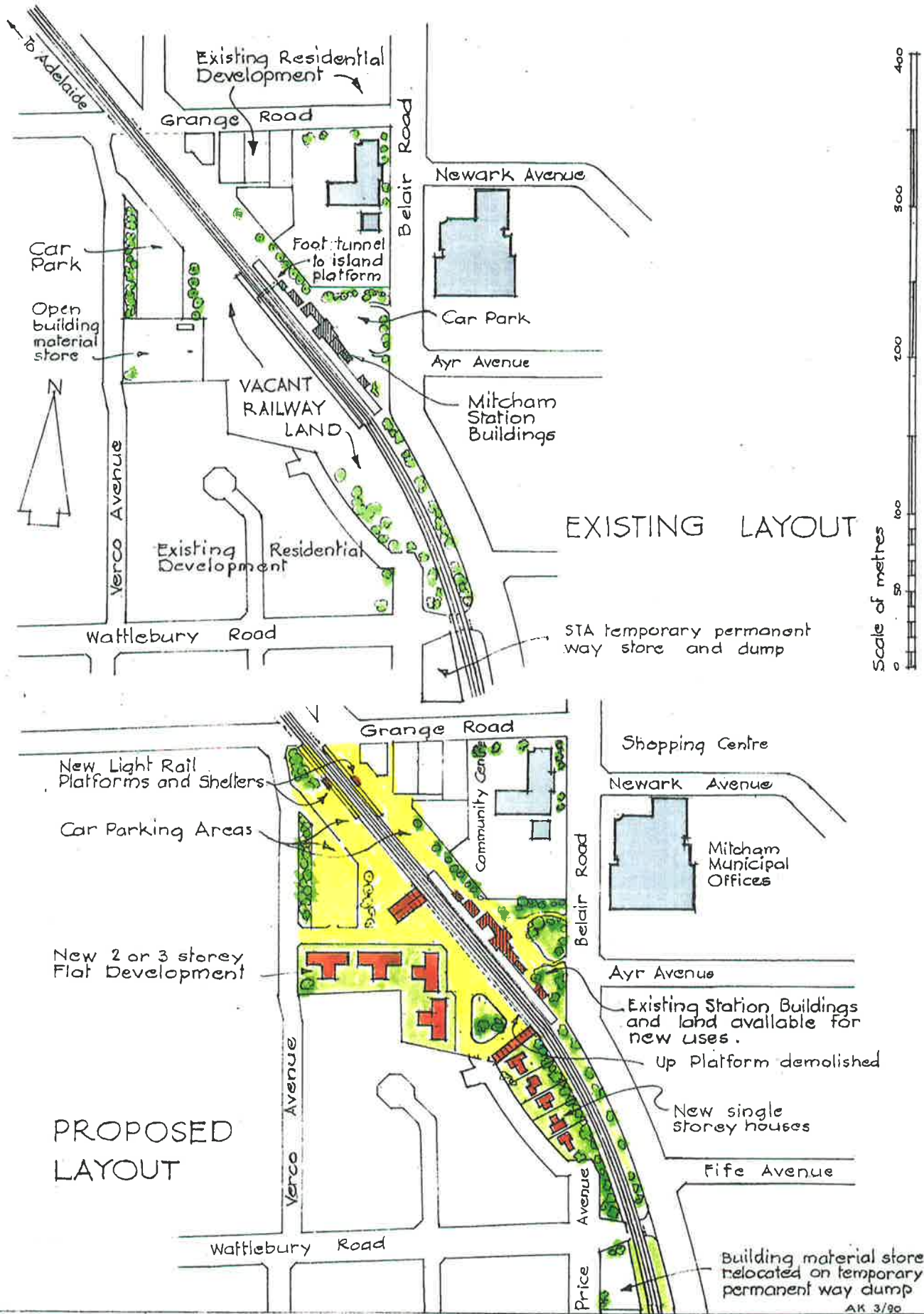
Fig. 74 MITCHAM STATION

The land to the west of the railway will be used for new residential development and car parking near the station for commuters. Meanwhile, the old buildings have almost limitless possibilities for imaginative re–use. These include a group of retirement or other units, a motel, restaurant, conference or recreational centre, offices or an addition to the present Community Centre adjacent to the station. *Too close to rail*

Outer Harbor Station. When the Outer Harbor was opened in January 1908, the railway line was built to convey passengers and goods to the City. The station is a solid two–storey brick building with a steeply pitched roof, presenting the appearance of "no–nonsense" robustness, often apparent in engineer designed buildings. It may, therefore, have been designed by A.B. Moncrieff [19] who was at that time acting as Deputy Commissioner of Railways and officer in charge of a number of projects, of which Outer Harbor was the largest.

The Overseas Passenger Terminal has since acquired a new building, while the station at the other end of Fotheringham Road has gradually and quietly fallen into decay. Its three ticket windows remain as silent reminders of bygone activity, while the recent removal of the loop line beyond the station reinforces the image of decline.

The need exists for a station, but not of the size of the present building which is void. Its solid construction lends it to adaptation or extension for a variety of uses. It is in a splendid situation, near the former Missions to Seamen group of buildings. It overlooks the North Haven Golf Course and is very near to the developing Gulf Point Marina, the Caravan Park and the Royal South Australian Yacht Squadron.

[19.] D.A. Cumming and G. Moxham *They built South Australia.* (Adelaide. By the Authors. 1986) p. 141.

Possible future uses for the station building might be a club house for the golf course, a restaurant or a recreation centre with a bistro. The ample railway reservation would provide space for a landscaped backdrop to the golf course with parking, or possibly the opportunity to enter into another field of recreational activity.

A single platform station to terminate the Outer Harbor line is proposed alongside the present building at the east end of Fotheringham Road.

It is also considered that the Gulf Point Marina will require its own station. It is proposed that a new station be built opposite the main entrance at Australia II Avenue, tailored to the specific needs of its location.

OUTER
HARBOR
STATION

1988
photo

Fig. 75

The Outer Harbor line now terminates at this station. It is empty, but solidly built. It needs a new use.

NORTH HAVEN
GOLF COURSE

Lines removed

OLIVER ROGERS ROAD

Car Parking

Platform

Station building

Verandah

Possible vertical
extension to Station

FOTHERINGHAM RD.

Ramp

Space for Tennis
or Netball Courts

Platform

Scale of Metres

150

100

50

0

PROPOSED
STATION

Park & Ride

PERSPECTIVE SKETCH
OF STATION SHELTER IN
OLIVER ROGERS ROAD
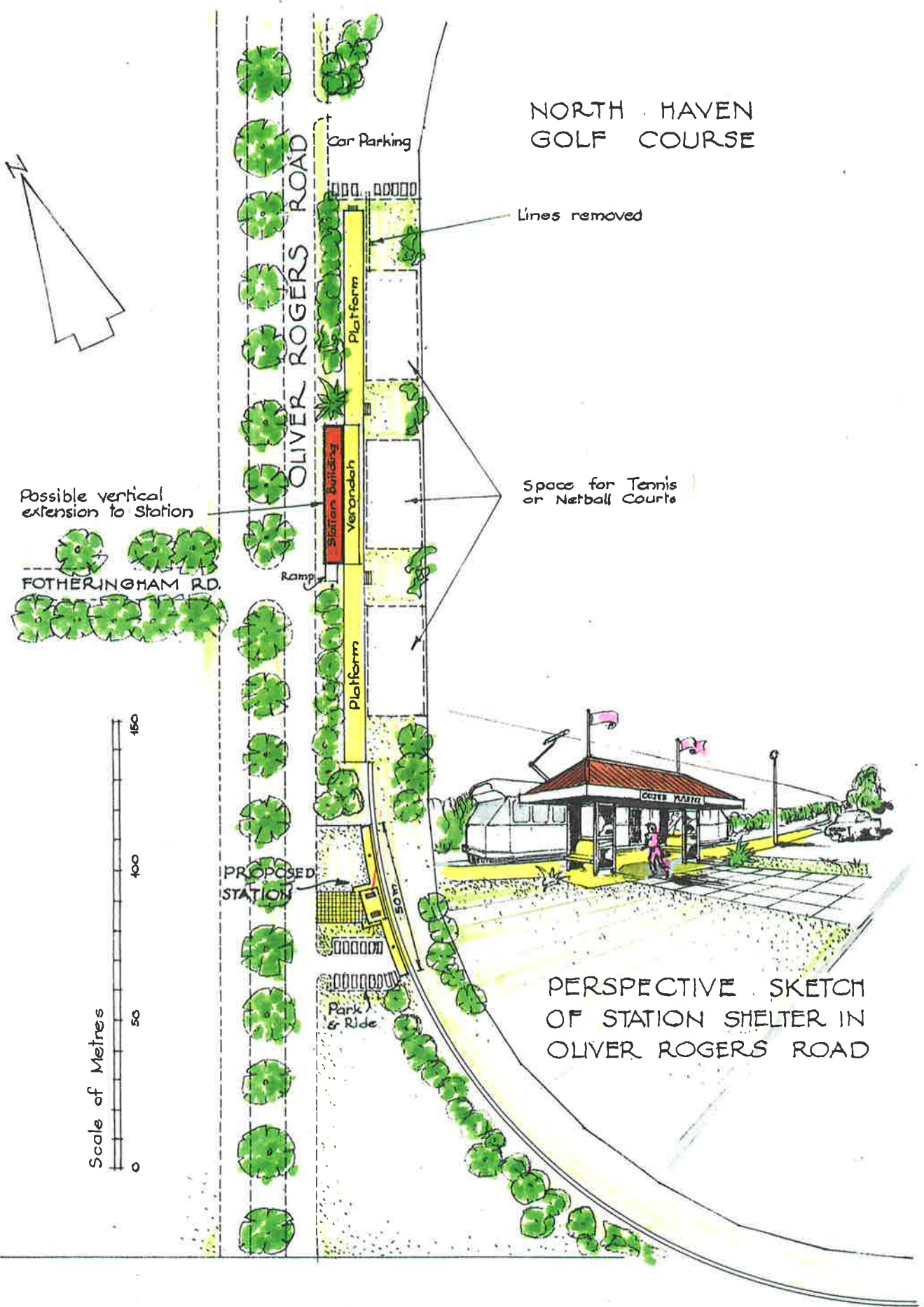
Fig. 76 OUTER HARBOR STATION

AK 11/89

LAND ASSETS AND ARTEFACTS

Looking towards the future, there are throughout the metropolitan area a number of land corridors which have potential use as rail or other links, bike–ways or linear parks.

They are: The former Holdfast railway line.

The Sturt River corridor.

The Tonsley line extension.

The former Dry Creek–Northfield railway line.

The Noarlunga Freeway reservation.

The former Willunga railway line.

The City Transit mall.

Pedestrianisation within the City.

Land Corridors.   Several of these land corridors may well have early significance for transportation purposes as housing development in the metropolitan area consolidates.   It is, however, important that they should not be lost to new suburban building.   Pending ultimate decisions on their use for public transport, interim use as linear parks or bike–ways should be considered.

Many of the land corridors are broad enough to accommodate not only rapid transit, but also cyclists and pedestrians within landscaped areas, and thus promote the concept of a balanced transport system as a part of normal urban living.

Holdfast Railway Reservation.   This is now a grass reservation from the Camden Oval almost to Bakewell Bridge, which once formed part of the more popular railway between Glenelg and the City.   It closed in 1929 for electrification, but despite recommendations to do so, nothing has materialised.[20]

[20.]   South Australia. Parliament. Parliamentary Papers No. 14. 1949. *Report of the Royal Commission on State Transport*

Sturt River Corridor. A report appeared in *the Advertiser*,[21] which indicated that studies were being undertaken by the Department of Transport on both the former Holdfast line and also a new line to follow the Sturt River as far as Darlington. The proposal is that an extension of the tramway from the Glengowrie Depot, along the Sturt River as far as the Main South Road, would provide an alternative route to the City from the populous Marion area. It would also relieve commuter traffic congestion by providing a huge car parking facility in the Marion/Sturt/Main South Roads triangle for car commuters driving up from Hackham, Morphett Vale and Reynella.

It would at the same time make better use of the Glenelg tramline, which is at present not used to its full capacity.

Tonsley line extension. A short railway extension has been proposed to cross Sturt Road to a new terminus in Main South Road.[22] The present Tonsley Station is hidden behind an ambulance station and is not visible from Sturt Road. Its objective is the same as the foregoing proposal: to provide a fast ride to the city, while allowing motorists to park in the Marion triangle.

Dry Creek to Northfield line. This railway closed during 1987, and since closure has been deteriorating into a bulk refuse tip, while tracks and platforms still remain. The well established trees and bushes of the railway reservation would readily convert into a linear park, possibly with a bike–way. The line is within the area of the proposed MFP.

[21.] *Advertiser* 27 March 1987

[22.] J. King et al. *Union Transport Plan.* (Adelaide Committee of the four STA Unions. 1988) p. 30

Noarlunga Freeway Reservation. This strip of land from Reynella to Noarlunga Downs is one of the last vestiges of the MATS proposals which still remain Government policy for implementation in the metropolitan area. If it were put into effect in this fast growing southern suburban area the extra cars it would generate in the daily commuters' procession Citywards, would only add to the congestion along the route to the CBD, and fuel demands for new parking stations in the City.

Willunga Railway Reservation. The circuitous route of the old developmental line to Willunga still exists in the form of a snake–like chain of earthworks and other artefacts from Hallett Cove to its former destination at Church Road, Willunga. It is unlikely to be significant unless extensive development occurs along its route. A single track rail extension from Noarlunga Centre, via Seaford to Willunga, using part of the above earthworks was costed at $40 000 000. [23]

City Transit Mall. Of the recommendations in the Fielding Report, two contiguous proposals for King William Street and King William Road are as follows:

1. Conversion of the north half of King William Street into a transit mall.

2. Extension of the Glenelg Tram to the Adelaide Oval.[24]

This proposal echoes the City of Adelaide Plan 1974. It is not only significant from the public transport viewpoint, but also from the wider civic aspect. The reduction in private cars would relieve the City of its greatest concentration of motor generated air pollution, and at the same time would open up the possibility of a 40 m wide boulevard of magnificent proportions to become the apogee of traffic calming.

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[23] Department of Environment and Planning. *Long Term Development Strategy for Metropolitan Adelaide* Sept. 1987 Section 3. infrastructure Railways. p. 87.

[24] Prof. G.J. Fielding. *Public Transport in Metropolitan Adelaide in the 1990s.* (Irvine Calif. Final Report. Dec. 1988) p. vi and p. 78.

Prof. G.J. Fielding links the above with a further proposal to close Grenfell Street to all but buses on weekdays between 4 and 6pm. This arises mainly because of the addition of *O-Bahn* buses operating at 4 minute (ave:) headways during the peak period. While the desirability of this restriction is not in question, it casts doubts on the *O-Bahn's* ability to increase its capacity to meet future demands, which may reasonably be anticipated by future residential development.

Pedestrianisation within the City. Adelaide is well supplied with recreational walks within the Parklands. Residents and workers within the City are, however, less well provided with convenient routes. Only two roads are at present pedestrianised, Rundle Mall and Topham Mall at the south end of Topham Street. It is self evident that short business journeys within the City are best done on foot, but at present would-be walkers are assailed by traffic and exhaust fumes at almost every turn, particularly in King William Street.

The City of Adelaide Plan 1974 proposed three major pedestrianisations:

> Hindley Street (East)
>
> Rundle Street (West)
>
> King William Street (North). [25]

The pedestrianisation of Rundle Street was successfully accomplished twelve years ago. If public transport were to be contained within a median strip in the King William Mall proposal, there is no reason why it should not include pedestrianisation between Victoria Square and North Terrace.

[25.] Adelaide City Council *City of Adelaide Plan 1974*. (Adelaide. City Council. 1974) pp. 132 – 134

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City Squares. Apart from the open space provided by the Parklands, Adelaide is generously endowed with five squares. Four of these City squares are, however, cut into by roads to improve traffic circulation. Two have kerbside parking adjacent to the grassed areas. Their usefulness as public open spaces for sport or recreation is thus diminished. Modest proposals were put forward in the City of Adelaide Plan 1974, to make some of the squares more attractive for games, leisure activities and relaxation.[26]

In an endeavour to achieve the objective of limiting City car parking and hence car circulation within the City, it is suggested that all five squares should revert to their original sizes, and all adjacent kerbside parking should cease. If this were done it would improve the amenity of the squares by limiting both noise and exhaust fumes, as well as the danger of accidents to people emerging from between parked cars.

URBAN CONSOLIDATION

The proposals which were incorporated in the Supplementary Development Plan became law on 1 January 1989. By their implementation the Government anticipates that the metropolitan area will be able to assimilate the projected population growth up to 2001. While it is estimated that between 1981 and 2001, the inner areas will decline in population by 38 000, the outer areas will increase by 222 200, to reach a population of 1 138 700 by 2001.[27]

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[26] Adelaide City Council. *City of Adelaide Plan 1974.* (Adelaide. City Council. 1974) pp. 29 – 31.

[27] South Australia *Supplementary Development Plan by the Minister. Statement of Investigations.* (Adelaide. Department of Planning and Environment 8 Dec. 1988) pp. 4–5

By achieving a more compact urban form and reducing demand for fringe growth, the Government aims at accommodating the increased population within the existing urban area.

This must be good news for the STA, and it is supported by Professor. G.J. Fielding who observes that

> "Adherence to this policy will improve the effectiveness of public transit."[28]

Hindmarsh. The urban blight which had been cast over parts of Hindmarsh between 1968 and 1983, gave the Corporation of Hindmarsh a chance to provide a foretaste of the practical effects of urban consolidation on an older inner suburb, after the MATS proposals were abandoned.

A site between South Road, Torrens Road, Port Road and the Main North rail line having an area of 88ha became available when the MATS proposals were abandoned in 1983.

Of the first higher density scheme to be opened, between Brown, West and Third Streets, *Building and Architecture* commented:

> "New dwellings in pleasant surroundings are now emerging phoenix-like from the plugholes and industrial wastelands of Hindmarsh, an area once threatened with obliteration by the MATS freeways."[29]

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[28]. Prof. G.J. Fielding. *Public Transport in Metropolitan Adelaide in the 1990s.* (Irvine. Calif. Final Report. Dec. 1988) p. 74.

[29]. Building and Architecture. *Hindmarsh Phoenix* special feature. Vol. 14. No. 10. Nov./Dec. 1987.

A near suburb only 4 km from the City Centre, it is likely to appeal to City workers. The area is served by two rail links. It is to be hoped that these lines will be adapted to provide a more attractive service to serve a potential population of some 18 000 in Hindmarsh.

Other similarly blighted areas occurred along the proposed routes of the freeways, expressways and the connector road to the north of the City.

STREET FURNITURE

The most numerous and visible structures of public transport are those which appear on the streets. It is they which help to mould the visual image of the public transport service. They include bus and tram stops, seats, passenger shelters, tram standards, rails, guideways, paving and the many other artefacts which blend with their immediate surroundings to form the back group for kaleidescopic street scenes.

The *Streetscape Design Guide for South Australia* states:

> "In many instances street furniture will be needed and should be regarded as an integral part of the overall streetscape and be designed accordingly."[30]

This design criterion is basic, but it is only a part of the message and image which a public transport system is called upon to portray in building up and maintaining the goodwill of the travelling public. From this viewpoint the STA reveals the shallowness of its attempts to portray and communicate its corporate image in an attractive and useful way.

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[30] South Australian State Planning Authority, *Streetscape Design Guide for South Australia* (Adelaide, State Planning Authority. 1980) p. 49.

sta **The corporate image.** Behind most enterprises there is a forceful logo which represents visually its public image. The State Transport Authority (SA) logo can hardly be said to achieve this.[31] The choice could be confused with STA[32] Travel, or even taken for an abbreviation for station, although in fact the logo never appears on stations or bus stops. However, when the Circle line 100 came into existence, it borrowed the well established London Transport logo, which appears on each of the route's 125 stops, and seven times on each of the orange and white buses, in addition to the STA logo.[33]

It is suggested that a new and meaningful logo should be adopted, perhaps as the outcome of a public competition. It should not only be suitable for printing, painting or embroidering on fabrics; it should also be adaptable to a three dimensional form in various temporary or permanent materials. It should be capable of being carved, cast, pressed in metal or internally illuminated. Its function is to present in visual form the STA's image of efficiency, reliability, visual good taste and if possible its local origins.

Examples of street furniture are given on the following pages. The stop signs contain a perplexity of numbers and colours which are liable to be confused with traffic signs particularly by those with poor eyesight. There are few directional signs to railway stations, the busway or the tramway.

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[31] The State Transport Authority (Victoria) which operates bus lines as well as the state railways has adopted the V/LINE logo for all purposes on these services.

[32] Students Travel Association.

[33] Prof. G.J. Fielding considers the STA should be renamed the "State Transit Agency." *Public Transport in Metropolitan Adelaide in the 1990s.* (Irvine. Calif. Final Report. Dec. 1988) p. ii

GILLES ROAD
Glen Osmond

This standard bus stop
sign conveys two messages.
The top half is for the
driver, reminding him
to go no further.

The bottom half is
passenger information.
It is one of the few
suburban stops to
indicate a destination.
It does not provide a
timetable, which would
show that there are
only four buses each
week day.

Fig. 77

PORTRUSH ROAD
St. Georges

Like all Adelaide
stops it uses the
archaic style
"Hail bus here."
It is confusing
to give two
separate stop
numbers. One of
the routes is the
circle line which has
borrowed the 55 year
old logo of London
Transport, which also
appears on the
orange and white
buses.

Fig. 78

Passenger Shelters. Amongst the most numerous and varied of the larger pieces of street furniture, are the passenger shelters on the bus and tram routes. Where they occur outside the City they are usually the responsibility of the local authority except where they are in a transport reservation (railway, tramway or busway).

The STA has provided two standardised types of metal shelter for passengers:

1. **The City tram and bus stop shelters.** These were designed and made in-house at the Hackney Workshops in aluminium. They are of an adaptable design available in many shapes and sizes, fitting unobtrusively into most environments and providing an easily recognisable passenger facility. They do not require periodic painting. Most lack travel information, and their appearance might be enlivened by poster advertising.

VICTORIA SQUARE

Aluminium shelter of similar construction to most City shelters, this includes a small office, a drinking fountain, seats and a litter bin.

Fig. 79

2.   **The Suburban bus stop shelters** are steel, painted in a wide variety of colours, and made by various contractors for immediate placement at locations.   They have a rounded steel roof sloping towards the back, and usually an opening towards oncoming traffic.   They may be sited facing the kerb or away from it.   Their smooth panels attract graffiti, but with or without these "adornments" they are amongst the least attractive of the passenger shelters.

ERINDALE
Kensington
Road

A standard
STA suburban
shelter in
a typical
kerbside
arrangement
of stop sign,
shelter
and litter
bin.

Fig. 80

HAWTHORN
Belair Road.

Artwork
commissioned
by the Mitcham
City Council
and designed
by Mitchell
McRitchie for
the City
Council in
January 1988

Fig. 81

TRANMERE
Glynburn Road

Advertising
rarely occurs on
bus shelters. In
this case it adorns
a back–facing steel
shelter. A Stobie
pole supports both a
"Pot–hook" symbol
reminding the driver
to turn right, and the
archaic "Hail bus here"
sign.

Fig. 82

SEACLIFF
Kauri Parade

An unexpected touch
of quality opposite the
up platform at Seacliff
Station.
One of the few brick
shelters, this
admirably fits its
corner site, and contrasts
with the fibro railway
station shelter, almost
lost on its immense
platform at the other
side of Kauri Parade.

Fig. 83

NETLEY

Marion
Road

Fig. 84

A larger timber shelter providing better protection for standing passengers, by extending the full width of the footway. Note that the name of the stop is indicated as well as the stop numbers.

NORTH PLYMPTON

Marion Road

A slimmer timber passenger shelter recently erected by the Marion City Council, echoes a much earlier type. The grouping of the Stobie pole, shelter, litter bin and traffic sign is visually less satisfactory than the above example.

Fig. 85

BEAUMONT
Sturt Place

This older type
passenger shelter
in the City of
Burnside is mounted
on the rear of the
footway and discharges
its rainwater through
a pipe, just visible
below the right
bracket, to fall
behind the railings
into the adjoining
garden.

Fig. 86

BEAUMONT
Glynburn Road

A recently erected
varnished hardwood
shelter, showing the
name of its provider,
but not the location
of the stop.
Several of this type
have been erected in
the City of Burnside
but early in 1989
Council resolved
to stop using exotic
or rainforest
hardwoods.

Fig. 87

TOORAK
GARDENS

Grant
Avenue

Fig. 88

A concrete block shelter incorporated into a landscaped island by the City of Burnside.

BEDFORD
PARK

Sturt
Road

Fig. 89

If poster advertising is to be used to produce revenue, or to enhance the appearance of shelters, it is preferable that it should be within display panels. This aluminium example is in the City of Marion.

TUSMORE

Portrush
Road

Fig. 90

A double sided, steel framed shelter, with exposed aggregate concrete panels outside the Burnside Municipal offices, which stands on a brick paved area.

ELIZABETH
EAST

Main North
Road

Fig. 91

This double sided precast concrete shelter has seats for sixteen. The ceiling height is only 1.85m. It is painted olive green with a white fascia.

Former Tramway Artefacts. When horse and later electric tramways were abandoned, their rails were removed and the roads reinstated. As was to be expected many were reused. Some horse car rail lengths are now in use at Glen Osmond as supports for road barriers, while ex–electric tram rails are often used as beams for light structures, such as footbridges in Hazelwood Park.

The majority of tramway traction poles, however, remain where they were during their working life, but many have now acquired street lights, notices of various kinds and other service wires. Almost all are rusty and unmaintained. The time has surely come for their removal. However, some have found new uses, such as at the Beaumont Bowling Club, where again they have become masts to support the span wires for the floodlights over the greens.

LINDEN PARK

Beaumont Bowling Club

Even though the former tramway poles have been shorn of some intermediate mouldings, the finials show a three dimensional sensitivity. They were obviously designed to be looked up to, and have well scalloped leaves on the undersides.

Fig. 92

The role of street furniture. Like other elements of the built environment, the street furniture of public transport performs an invaluable function, albeit less dramatic than the larger artefacts. The Adelaide passenger shelters present a mixed bag of all shapes and sizes, having been erected mainly by local authorities to their own designs and priorities. Signs, however, are mainly STA and are generally standardised in style and colour. These display little imagination in design or concept.

Historically great care was lavished on the quality of the smaller buildings and artefacts of the original electric tramway system. The present offerings do not emulate the visual impact of their predecessors, nor do they fully satisfy functional requirements. The design quality and suitability of the many examples on the foregoing pages vary hugely, but the diversity provides local flavour as well as easier recognition by passengers, particularly at night. However, as they form part of the corporate image of the public transport network, an ongoing programme of improvements is suggested, which should include:

1. The creation of a new logo.

2. The use of uniform and distinctive lettering throughout the service.

3. All stops should indicate the service numbers, direction and places served from them.

4. All train, tram and bus shelters should become public transport information points, and show their location.

The objective of presenting visually a coordinated public transport system does not appear to rank high on present priorities, although good examples of the exploitation of graphic design to put over forcefully a message are to be found in the public transport systems of Paris, London and more recently Melbourne, with the coming into being of the MET.

RETROSPECT AND PROSPECT

The development of Adelaide's public transport systems has traversed over one hundred and fifty years since the first spring cart service in 1839. Each separate system has constructed buildings and artefacts peculiar to its own needs. Many of these remain. The systems themselves have either kept pace with the times or have become moribund and been supplanted.

Stage coaches and horse buses gave way to railways. Horse tramways were followed by electric tramways, and these in turn for the most part bowed out to buses. The post–war era presents a new set of challenges.

1945 – The era of para–transit. After World War II public transport patronage declined and private car ownership rose dramatically. The car was here to stay and private para–transit had arrived. The immediate financial effect on the MTT was catastrophic, as tram ridership declined. It was, therefore, acquired by the State Government, which promptly appointed a new Board to manage the affairs of the Trust.[34]

During the immediate post war years, public transport philosophy was strictly governed by the views of the inter–war period. The selection of a suitable transport mode

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34. See Appendix E.

was usually based on accepted parameters expressed in terms of the density of patronage, one set of which is quoted in Kempe's 1943 Year–Book.[35]

Faced with a City like post–war Adelaide, the cheapest transport mode was buses, and thus Adelaide like many U.S. and European cities opted to abandon the tramways. The Glenelg line, which at that time enjoyed greater patronage, alone was reprieved.

An interesting illustration of the "economic choice" method of comparing operating costs for individual routes is to be found in the report of the Committee of Inquiry into the MTT in 1952, which eventually led to general tramway abandonment.

Prospect – Unley – Mitcham route	Estimated annual Profit 1952	
By tram operation	£ 7747	**Table of comparative operating profits.**
By trolleybus operation	£ 10793	
By fuel bus operation	£ 4753	
36		**Fig. 93**

[35.] H.R. Kempe and W. Hanneford–Smith. *The Engineers Year–Book for 1943* (London U.K. Morgan Bros. 1943) p. 2105. Comparative Operating Costs.

TRAMCARS AND OMNIBUSES.

In a paper before the I.E.E. Irish Centre in 1936, Mr. E. S. Hippisley gave interesting data. It is claimed that, except on the heaviest routes, trolley buses provide the most economical as well as the most attractive form of passenger road transport in urban and suburban service.

The decline in tramcars is stated to be mainly due to the high cost of track renewals, which demands a very frequent service to be profitable. The overhead construction required by trolley buses is less costly than the tram track and overhead line. With motor buses, fuel, repair and depreciation costs are comparatively heavy.

The following figures were obtained from Ministry of Transport returns and the local reports of Municipal Transport Undertakings, the cost of fuel, plus tax, being adjusted to 1s. 3¼d. per gallon for petrol, 1s. for Diesel oil, and electricity averages about ¾d. per unit. For comparing operating costs, the unit of frequency of service is: ' seats per hour each way,' which takes into account both seating and capacity provided and headway between vehicles.

$$\text{Seat per hour each way} = \frac{\text{No. of vehicles} \times \text{seats per vehicle} \times \text{schedule speed.}}{2 \times \text{route miles}}$$

Included in the operating costs are interest on capital expenditure, 3½ per cent.; and depreciation of vehicles and route equipment, 3½ per cent., being the annual sum to accumulate to capital sum in the permitted period for loans (e.g. tramcars, 20 years; trolley buses, 8 years, motor buses, 5 years).

The costs are based on two-axle, double-deck vehicles with seating capacity of 60 for tramcars and 54 for buses.

The curves show that :—

(1) The costs for tramcars are lower than those for any other class of vehicle for frequencies of over 1,750 seats per hour each way, or headways of less than two minutes.
(2) The costs for trolley buses are less than those for Diesel buses at frequencies of over 600, or headways of less than 5½ minutes.
(3) Trolley bus costs are less than petrol bus costs at frequencies of over 400, or headways of less than 8 minutes.

It follows that the trolley bus is best suited for services requiring headways of between 2 and 8 minutes.

[36.] South Australia. *Parliamentary Papers.* 1952 No 22A. Committee of enquiry into the Metropolitan Tramways Trust. Final Report. pp. 30 – 31

The carrying capacity of the foregoing three transit modes was calculated by the American Transit Association as follows:

By tram operation	13 500	passengers carried
By trolleybus operation	10 000	per hour in a
By fuel bus operation	9 000	single lane of traffic.

Hence it followed that as the maximum loading for King William Street, which had its heaviest passenger load during the evening peak of 6000 passengers per hour, buses or trolley buses would suffice.[37]

The changeover from trams to buses was completed in 1958, by which time the first generation of post–war bus depots had been built. They were at Hackney and Port Adelaide, but elsewhere buses were somewhat awkwardly accommodated in former tram barns. The new buildings were cheap and quickly erected, but contributed little to the quality of the street scene.

Above all, economies in the short term were what was wanted, since it had come to be realised that financially viable public transport was a thing of the past. Subsidies had come to stay.

During the immediate post–war era the SAR received scant attention in practical terms, but considerable attention from a Royal Commission and several select committees recommending electrification, gauge standardisation and the reopening of the Holdfast Railway. Nothing materialised.

[37.] South Australia. *Parliamentary Papers.* 1952 No 22A. Committee of enquiry into the Metropolitan Tramways Trust. Final Report. p. 17.

Between 1950 and 1960 the number of cars in the metropolitan area had more than doubled, and many thought that any "forward looking" city needed freeways and expressways to keep up with car growth, and not to be seen to be lagging behind the U.S. and European trends.

1968 saw the publication of the MATS proposals which designated some 80 miles (133kms) of freeways and expressways in the metropolitan area.

Exponents and opponents of the MATS proposals debated the issues. The latter drew attention to its dangers to the established character of Adelaide, but the Government duly approved them in principle. Later in 1983 they were abandoned between Gepps Cross and Darlington.

In the 1960s and 1970s the bus-orientated public transport system was becoming firmly established, but it was not operating from a rational depot network.

The years between 1979 and 1989 were a decade of heavy capital expenditure which saw the building of central workshops, five bus depots, a tram depot, two railway interchanges, a resignalling project and the busway.

The workshops, depots and road/rail interchanges were essential improvements to achieve better working, but the railway resignalling and the busway were contentious, the latter having been the subject of political controversy. In all probability the resignalling project would have been avoided if light rail had been adopted, and $44 500 000 would have been saved.

The birth pangs of the North East Transit Project were long and painful in the 1970s. In retrospect it seems astounding that after three years work by the Director of the NETP and his technical team, the opposition spokesman on transport, Michael Wilson, in the middle of an election campaign on 4 September 1979, promised that a Liberal Government when elected would abandon the light rail proposals in favour of a busway.

This they did. The first section to Paradise was an instant success with passengers. It proved beyond doubt that the need existed, and better still that motorists could be weaned from their cars.

However, having been chosen for the worst of motives as an election issue, the project was completed in 1989 without undue problems. It was soon found that parking spaces at interchanges had been underestimated. It was also found that the short headway between busway buses arriving in Grenfell Street was causing congestion. Prof. F.J. Fielding therefore recommended the closure of this street during week day afternoon peak hours to all but public transport. This problem might have been avoided if the busway services had terminated at Hindmarsh Square, as the City of Adelaide recommended. However, in true belt and braces style, overhead clearances were maintained along the busway, which would allow for the electrification of the *O-Bahn* should future needs demand.

Looking to the future. It is to be hoped that when the lease of the Hackney Depot expires on 31 July 1992, the site will revert to Parklands, and the STA central depot will have been re-established at the Mile End site which has already been acquired for the purpose. A new use for the administrative offices should be found before the STA departure to Mile End. The architectural features of Bay A of the former tram barn, bear the hallmarks of Edwardian architecture and merit re-erection elsewhere in an appropriate setting, possibly at the St. Kilda tramway museum.

The post-war contraction of the railway in Adelaide and the continuous rise in the number of cars, appear to have combined to act as a soporific to the realistic planning of the future of the railway.

The last thirty years in the U.S.A. have shown that the premature closure of railways is often counterproductive, in that it accelerates car commuting to intolerable levels, leading in some instances to the costly rebuilding of suburban lines to relieve pressure on the roads.

In South Australia the lessons of history are that periods of expansion breed complacency, with the same results. The SAR went through one such heyday prior to World War I, and was abruptly brought to its senses during the Webb years 1922–1930. Likewise the continuous growth of the MTT and its inter-war profitability produced inertia, so that it emerged ill-equipped to meet the challenge of the post-war years. Those years might have been well spent in planning the future. In 1929 Webb wanted to convert the whole suburban network to electric light rail, but only one route to Glenelg was completed.

It may well be that the impetus of the MFP will inspire the STA to complete the task which was initiated with enthusiasm by Webb and carried out with assiduity by Goodman sixty years ago.

Multi Function Polis. The decision to site the MFP in the Gillman area is good news for Adelaide. It presents the public transport system with a challenge it must not ignore. A dual gauge railway system is already in place in much of the area proposed for the MFP, and this could be adapted to help integrate the MFP into the metropolitan area by providing fast connections with the City, Port Adelaide, Gawler and the southern suburbs. The opportunity should be taken to utilise and extend this system to provide

some of the internal lines of communication the MFP will need, and by so doing to abate the road supply required in new developments. Thus it would become possible to reduce new roads to the environmentally friendly levels proposed by Kenworthy and Newman, and illustrated in **Fig. 48.**

Balanced transport policy. The pursuit of a policy, as portrayed in this thesis, within which walking, cycling, public transport and motor cars have a part to play, appears to be gaining public acceptance with the rise in understanding of the advantages to our common environment. Of the choices which are clearly available, this thesis argues that the better choice is to improve the present public transport built infrastructure by using a LONG LIFE/LOOSE FIT/LOW ENERGY form of construction at a relatively low capital cost.

The other policy is to continue to allow unrestricted access to all areas for all traffic, the final result of which would be the construction of new and larger roads, which would themselves encourage more traffic, and might even lead to Adelaide following Perth and Brisbane into the *imbroglio* of inner city freeways.

This at least was the choice foreseen by the City of Adelaide, in its 1987 public discussion leaflet.

A decision is required!

Over the next two months, the draft 86-91 City Plan will be finally adopted.

The Plan will guide the City towards the end of the twentieth century. What direction should the Council take on Urban Design:

(1) Maintain the tradition.
Take a firm stance, hold out for appropriate design solutions. Encourage new design which enhances the traditional character and form of the City.

(2) Let it go, follow Perth and Brisbane.
Let only current design ideas and economic circumstances determine the future. Allow Adelaide to lose its distinction.

The answer is likely to be somewhere in the middle, given the amount of change which has already occurred.

The Urban Design Guidelines are now being prepared. They will give developers an indication of the issues Council will consider when determining applications for development approval. It is intended therefore that the statutory provisions of the Plan cover envelope controls governing the public face of a building to the street — such as height, setback, predominant height of facade at street line, desired proportions etc. The Guidelines will emphasise the City's urban design character as briefly in this document in order to help achieve compatible new development.

It is because many new developments have eroded the traditional urban pattern of the City, a process which "suburbanises" the City, that a conscious effort is needed to remind ourselves of those cultural aspects of traditional built form character that are important. If we fail to consciously decide on a future direction, the character of Adelaide will be lost; the City will have lost its distinction.

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The outcome of the choice for Adelaide in no small measure hinges on the role which public transport plays.

The STA today provides a good service, but with modest, environmentally sound improvements to the network it would set Adelaide on course to meet the challenge of the twenty-first century.

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38. Part of a discussion leaflet issued in 1987 by the City of Adelaide Planning Department. "The Council eventually accepted the argument that Adelaide's best chance of attracting growth in employment and tourism lay in emphasising what is distinctive about its physical characteristics."
Planner London. December 1988 pp. 24 – 25

SYNOPSIS OF CHAPTER 10

PROPOSALS 1990 – 2000

At present 60 per cent of the peak network of metropolitan Adelaide's passenger railways is still operational. These lines are the preferred option for carrying heavy passenger traffic swiftly and efficiently. When the STA came into existence, it was hoped that the long mooted electrification would be implemented, and that the service would be co-ordinated with buses and trams.

This has not yet been achieved. Meanwhile, older stations have remained only part used, and many have become void and run down.

Proposals are advanced which will enable a comprehensive public transport system to emerge from the Metropolitan Tramways Act Amendment Act 1975, which gave wide powers to the STA.

The preferred option is the adaptation of the present heavy railway, with its immense stations to a standard gauge electric light rail system.

Station layouts to serve such a system are examined in the light of currently acceptable environmental criteria.

A modest building programme spread over a ten year span would deal sympathetically with Heritage and other historic buildings, and would encompass the whole network by downgrading the size of most stations. These would be slimmed down to meet perceived needs, and to equip them for increased service into the twenty first century at a fraction of the cost of urban freeways.

Alternative uses are proposed for redundant buildings and lands. Land corridors are discussed as possible future transit links or for amenity areas.

Proposals for pedestrianisation in the City are supported, as well as the enhancement of the five City squares, which should revert to their original sizes.

The State's acceptance of urban consolidation, if implemented, will enable the public transport system to operate more effectively, and should add impetus to the railway improvement program. The MFP offers a further incentive.

The visual impact of most of the smaller STA buildings and artefacts is naive, artless, and in some cases, ineffective. A new and more meaningful logo with properly co-ordinated street furniture is implicit in the creation of a better public image.

CONCLUSIONS

The history of public transport in Adelaide shows that the City has been well served. Systems generally met perceived needs. The buildings and artefacts were mainly satisfactory. Many have matured with the system. Of those that have not, some have been allowed to deteriorate, while others display wholly unsympathetic designs which have been juxtaposed to otherwise acceptable buildings.

The increase in the number of cars from 1950, placed enormous pressures on the character of the City built environment. Pressure for new roads threatened the integrity of the City and Parklands. Motor related buildings proliferated and supplanted existing uses, while concurrent pressures for commercial and administrative buildings progressively combined to drive out small businesses as well as households, thereby drastically reducing the resident population. If carried to its ultimate conclusion, the process will degrade the City to a functional but sterile corporate business centre catering for the needs of public and private administration.

The motor car is mainly responsible for this distortion, which if unchecked will ultimately destroy much of the *ambiance* which characterises Adelaide. However, this point has not been reached and the trends can be reversed if full use is made of the public transport land and buildings which past generations have bequeathed to the present.

Adelaide is the least environmentally vitiated of Australian State capitals. The integrity of its street pattern, layout and built form, however, can only be retained into the twenty-first century if measures are now taken to safeguard the City by some limitation in the daily car influx.

A relatively simple series of planning controls and construction measures should be inaugurated, which would enable a better balanced transport system to develop, and leave room for those who prefer to walk, cycle or travel by public transport, as well as for those who need cars. The State railway is a large repository of obsolescent buildings and vacant lands which are available for recycling.

A rail-based public transport main framework is likely to provide the most satisfactory solution in an era which will continue to be car-dominated. The infrastructure already exists, mainly in the form in which it was constructed in the 19th and early 20th centuries. To enable this to become reality a series of proposals are made to recycle much of the railway built environment with the primary objective of creating a more attractive and accessible light rail system for the travelling public. Such an objective is readily attainable during the 1990s. Visually recognisable STA architecture for all buildings and artefacts within a safe and attractive environment can win back patronage from car commuters. The opportunity exists for the STA to improve its image as well as its service within a balanced transport system, in which the dominance of the motor car declines.

EPILOGUE

THE FUTURE

A RETROSPECTIVE VIEW FROM 2011

In this year 2011, the population of Adelaide stands at 1 203 700, a rise of over 20 per cent within a quarter of a century. Since the 1980s the number of City workers has grown to 116 000. Had the travelling trends of that decade continued, there would have been 15 000 extra cars commuting daily to the CBD. The environmentally destructive potential of such an imbalance was realised as being intolerable. It was further understood that with growing employment prospects, workers were drawn, as if my magnetism, to the City, and that the resultant social and economic gains would be jeopardised by reverting to old car use patterns.

By the early 1990s both urban consolidation and the limitation of City car parking had become accepted policies whose effects were manifest in the City and inner suburbs. The curtailment of City parking led to the need for improvements in public transport. A modest northward extension of the tramway was built allowing most passengers the advantage of travel to their desired destinations. This won the STA an increase in ridership, and spared the City many parking spaces.

By the turn of the century, the effects of these policies were assuming visible and tangible form. The density of the City population grew in tandem with the intensification of business activity within the CBD and the steady reduction in car growth. As a result, the new City workers, mainly young people, demanded that the City Corporation implement its proposals to improve the City Squares by forming better leisure sports and recreational open spaces for the enjoyment of all who lived or worked in the City. Furthermore, a short program of works was undertaken, one part of which increased the size of some of the squares by absorbing adjacent metered parking spaces. With the decline of car use in the CBD, the City Corporation carried out traffic calming in the north half of King William Street and the east half of Hindley Street, as was first mooted by them in 1974. These measures were greeted with public acclaim in the manner of the pedestrianisation in Rundle Mall. The growing number of cyclists focussed attention on its need for safe travel. As a result, a full network of cycle lanes in the City was designated which led to an increase in the number of cyclists commuting to work, thereby doubling the previous daily cycle influx to three thousand.

Architects have been taking advantage of opportunities to provide imaginative types of housing. Nowhere has this been more marked than in the City where the Residential Zone is being developed in a manner complementary to the Cataneo plan. Greater impetus is being given to conservation as new uses are found for old buildings. Sympathetic architecture has been created around heritage buildings, which highlights their significance both in residential areas and elsewhere.

Even the STA has enthusiastically joined in the moves to preserve and enhance Adelaide and its suburbs by finding new uses for its near derelict, old and historic buildings, particularly on the railway. The once derelict Outer Harbor Station now has a recreational use, while new, smaller stations and slimmed down stations are meeting all operational needs more efficiently than their predecessors, on the newly electrified lines.

The 1908 Outer Harbor Station building was found to be structurally sound and has been converted into a country club, serving the golf course and the yacht marina. It is now possible for yuppies to leave their City offices on Friday, arriving at Outer Harbor within thirty minutes; to play a round of golf, then sail off into the Gulf on their yachts, returning on Monday mornings. This new and energetic way of life provides a strong incentive for the STA to resume its weekend services.

Pricked by conscience about its less than sympathetic treatment of numerous historic railway stations, the STA finally decided to remove many of the trite and utilitarian shelters it had used in the 1970s and 1980s. These had become the source of enlightened complaints from passengers. A large number of the shelters were replaced during the downgrading program. Special attention was paid to historic stations, such as Bowden and Alberton, whose spacious buildings were adapted to suitable commercial, office or residential use.

The construction of the MFP proceeded rapidly during the mid 1990s and finally integrated with the metropolitan area, thanks largely to the priority placed by the STA on extending LRT for both the working and residential population, as the project developed. Fast, direct journeys became possible between the various points in the MFP, such as Osborne, Port Adelaide and Technology Park, as well as direct links with the City, and northern and southern suburbs, including Flinders University.

The latest and professionally designed STA logo, which now stands for State Transport Adelaide, is proudly affixed to all STA buildings, vehicles and most artefacts. Being adaptable, it is readily buildable in most permanent materials, whilst on large buildings it is floodlit or internally illuminated. The logo's outstanding design and colours made it easily distinguishable at bus or tram stops, now designated as such, instead of displaying the archaic invocation to hail bus or tram, as the case might be.

The new appearance of the City of Adelaide received a welcome from its proud citizens who now flock in their thousands to stroll along King William Mall on summer evenings, the well designed brick paving in contrasting geometrical shapes, enhancing its whole length from North Terrace to Victoria Square.

With the advent of the extended tramway, no time was lost by the STA to provide a new attraction, apart from its primary purpose. Some of the older cars were converted to illuminated floats displaying animated images in multi–colour lights. In a gesture of innovative enterprise, a number of cars were fitted out to display illuminated *tableaux* depicting appropriate themes for display on festive occasions. One singularly successful *tableau* re–enacted the arrival of the "Buffalo" at Holdfast Bay. Such displays, reflecting as they do the inspired ingenuity of Adelaidians, attract thousands of visitors eager to experience the new, and ever–increasing, *repertoire* of the Festival City. Other cars were used for commercial advertising which produced valuable revenue for the STA.

Of paramount importance, however, are the citizens of Adelaide who now enjoy its many splendid changes, and whose enthusiastic presence add vitality and life to a City of which they are justly proud. Many Adelaidians, however, ask why it had taken so long to implement these simple improvements.

APPENDIX A

BUILDINGS

OF THE

STAGE COACH ERA

Booking Offices

Grenfell Street/Pirie Street complex

Buangor Changing Station

Skipton Changing Station

STAGE COACH BUILDINGS

Booking Offices. Of all the operational buildings of the coaching era, only two booking offices are known to exist intact in South Australia. The first is at Penola.[1] This house at the junction of Church and Riddoch Streets, is known to have been in existence during the early days of Cobb and Co operation, and is claimed to have been a booking office from 1857 onwards. Although not positively confirmed as such, the building has recently been renovated and is a restaurant. It contains a brass plaque which lends an air of authenticity. It reads as follows:

```
RESTORED
COBB & CO BOOKING OFFICE
OPENED BY
(Rt.) Hon. Dr. D.S. Hopgood MP

MINISTER OF ENVIRONMENT & PLANNING
4 SEPTEMBER 1984
A COMMUNITY EMPLOYMENT PROJECT
```

The second is at 46 Wellington Square, North Adelaide.[2] It formed part of the portfolio of properties owned successively by W. Rounsevell, Cobb and Co and J. Hill. It is now a small house.

Grenfell Street/Pirie Street Complex. This group of stone buildings probably came into being about 1852, when W. Rounsevell started in the coaching and livery stable business. It clearly appears in the Duraya Panorama of 1865, when the complex was mainly single storey. Of particular interest, the panorama shows a coach factory on the site of 217 Pirie Street, on the south side. A signwriter was evidently at work on the building on the day of the photograph. He had already written "COACH FACTO", when he left his ladder leaning against the wall and climbed down. The coachbuilder is believed to have been L. Maraun[3].

In the absence of any extant changing stations in South Australia, two in Victoria are examined.

Buangor changing station. Victoria. This building is one of the few existing stables, built specifically for fast coach operation. It is a large basalt structure, carefully detailed and well built, probably between 1857 and 1864.

---

[1] Details in Department of Environment and Planning File No. 7023. 12529.

[2] Recorded in Lands Memorial book No. 225 (Memorial 228) GRO (old system) Torrens Building. Victoria Square. The house changed hands in 1989 for $150 000.

[3] Josiah Boothby. *The Adelaide Almanac*. (Adelaide C. Platts et al. 1867) p.12

BUANGOR

Victoria

CHANGING
STATION

Fig. 94   Rear view in 1988.
Note gantry arm over arch to loft.

Fig. 95.   Interior of Changing Station, showing posts supporting loft above and timber partitions between stalls, one of which can be seen on left. The basalt floor is still intact.

FRONT ELEVATION
TO WESTERN HIGHWAY

REAR
ELEVATION

Clerestory
and Dormer
Windows now
removed

Corrugated
Iron Roof

Coursed
Basalt
Masonry
Walls

SIDE ELEVATION

Hay Loft

Stable for
20 horses

SECTION A-A

19.8 m

23.5 m

A

9.4 m

Stable
20 stalls

Ladder up to Hay
Loft on First Floor

N

Western Highway kerb
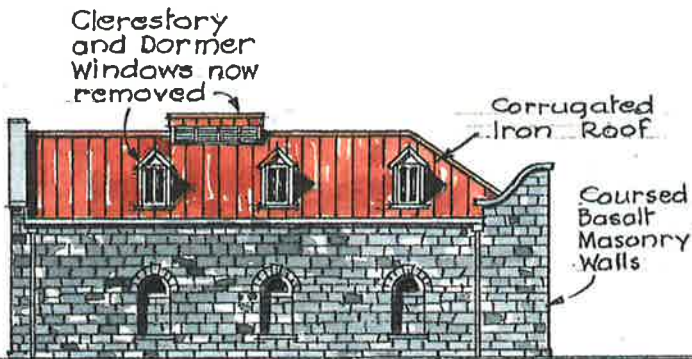
A

GROUND FLOOR PLAN

Scale of metres

5   0   5   10   15
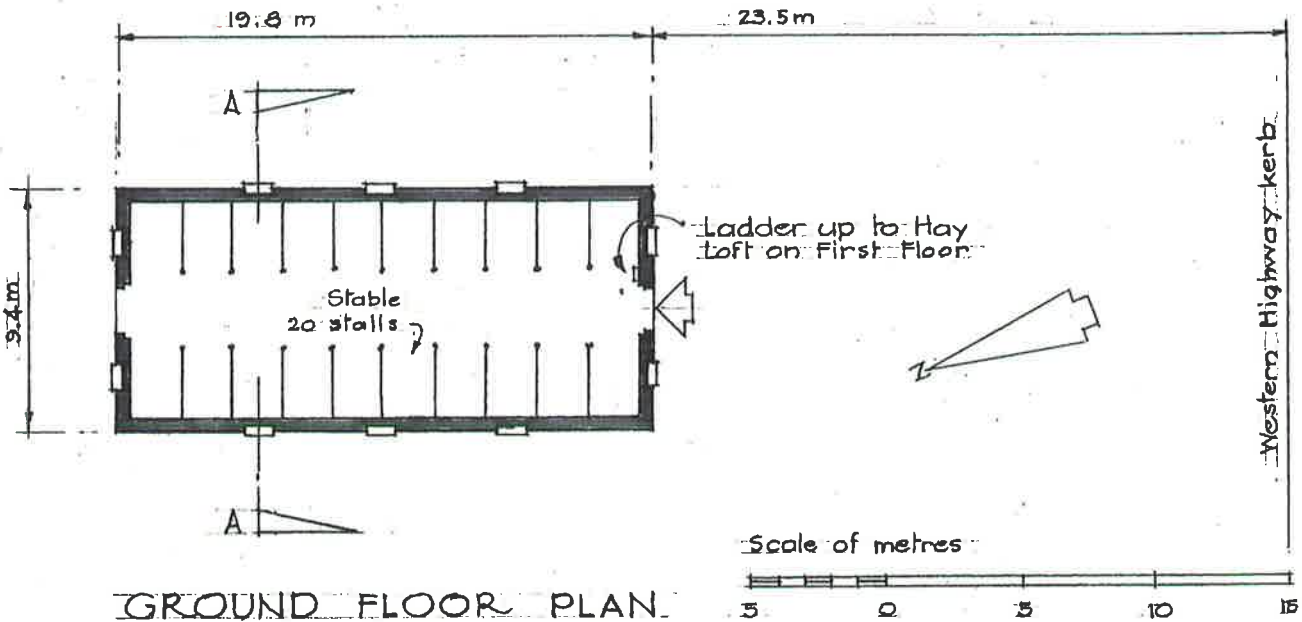
Built circa 1860

AK 6/89

COBB & CO CHANGING STATION
AT BUANGOR VICTORIA

Fig. 96

Despite exhaustive searches, no detail of the origin or early years of the building could be found, other than press references to the Cobb and Co. coaches which passed along the section between Ararat and Ballarat.[4]

Earlier researchers, W.J. Mitchell and R.M. Drews also made similar observations in their thesis about this building, and appended the following paragraph:

> "At Buangor a massive stable stands on the northern side of the Adelaide Highway. No evidence of the date of construction could be found, but the earliest Lands Department maps show this to be the site of Mac's Hotel (now located opposite)." [5]

Based on circumstantial evidence the *Ripponshire Advocate* concluded that construction probably commenced in 1860 and was completed by 1861.[6]

The researches of Robert Sands, architect for the restoration of the building, adduced from early building history in Victoria that the date of construction was some years later. As railway construction on the Mount Alexander line had by 1862 been completed, there was likely to have been a surfeit of masons in the area, and he suggests that the carcass of the building may have been executed by a group of retrenched itinerant masons, rather than a contractor, between 1863 and 1864.[7]

Skipton Changing Station. Victoria. The Cobb and Co. stables at Skipton resemble the Buangor example in several important respects. They are both of solid basalt and both adopt a basically similar plan. They were both built towards the end of the stage coach era in the late 1850s or early 1860s, possibly under the direction of the same person.

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[4] References consulted:

Lorna Banfield. *Like the Ark. The story of Ararat.* (Ararat Vic. The Ararat Advertiser 1974).

The Argus. Melbourne Vic. early contemporary copies.

The Mount Ararat Advertiser (Vic). early copies from commencement of publication on 1 Aug. 1857.

State Library. Melbourne Vic. Local history and Architects indices.

Interview with Carlotta Kellaway, Historian. Ministry of Environment and Planning. Melbourne. Vic. 6 Jan. 1989.

[5] W.J. Mitchell and R.M. Drews. "The nineteenth century buildings of Ararat" (B. Arch. (Hons.). Thesis. University of Melbourne. 1970) p. 60.
The observation in parentheses is incorrect, as the present hotel opposite is unconnected with the former Mac's Hotel.

[6] *Ripponshire Advocate.* 11 Aug. 1989. p. 9.

[7] Interview with Robert Sands, architect on 20 Jul. 1990.

The Skipton Hotel, to which the stables are adjacent was built in 1856, and it is probable that the stables were built soon after this. Although the railway reached Skipton only in 1916, the Western Stage Coach Co. continued to operate for several years westwards to Streatham. The Skipton stables retained their original form until 1939, when the then licensee, William Liston ordered the replacement of the original roof and the formation of a wide opening in front in order to convert the building into a parking station for his car owning customers.[8] The building remains in use for parking and storage.

Both stables were cool and well ventilated, even in summer by contemporary standards.[9] The small openings and ventilation apertures provided good air circulation and the thick walls eliminated solar penetration.

---

[8] Information supplied by Mr. Claud Notman and members of the Skipton Historical Society. 14 June. 1989.

[9] Standards for stables during the Victorian era are discussed in: Duke of Beaufort and A.E.T. Watson. *Driving* (London. Longmans Green and Co. 1894) p. 80. and also in *Hunting* (by the same authors and publishers) p. 89.

9
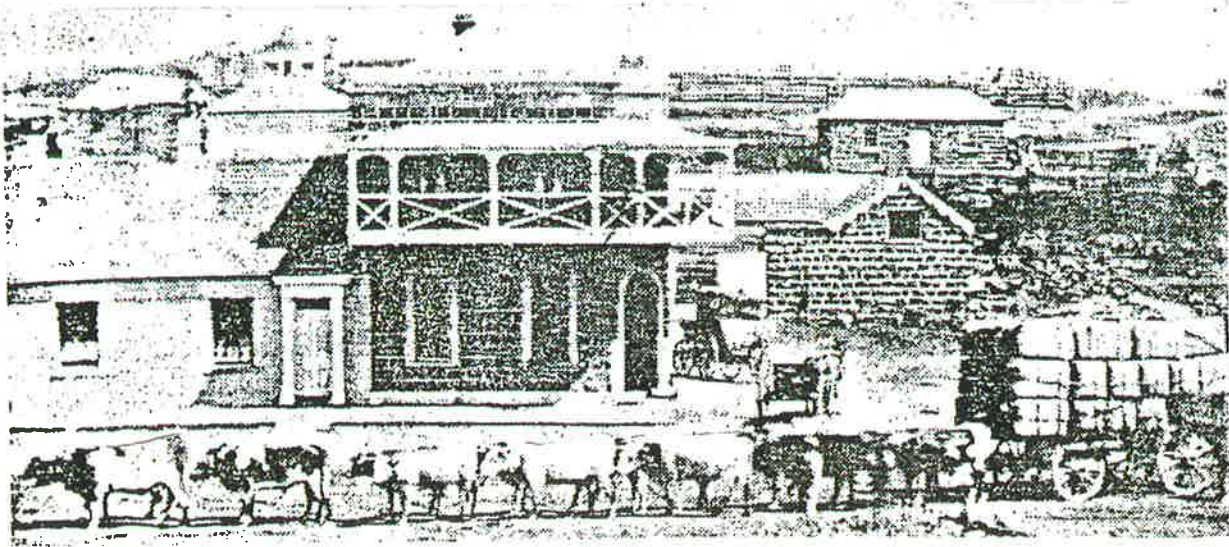
Fig. 97 THE SKIPTON HOTEL c. 1865

The changing station is to the right of the hotel.

The same view in 1989.

Fig. 98

The changing station can be seen in the space between the hotel and the shop.

10.   Photograph reproduced from C. Notman. *But a Heartbeat in Time.* (Skipton Vic. By the Author. 1989) p. 51
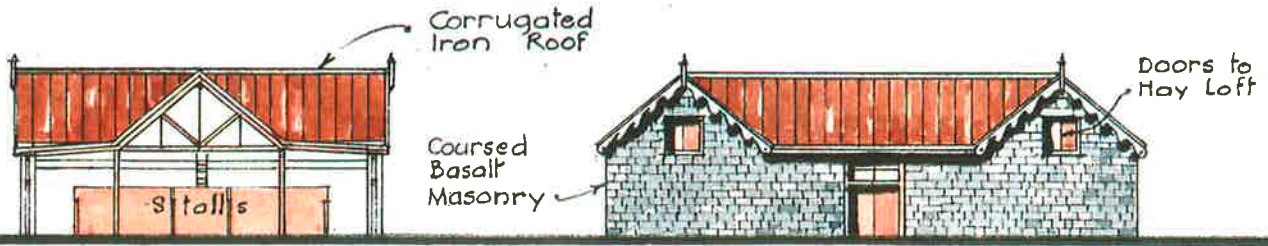
SECTION A·A

FRONT ELEVATION
Rear Elevation similar.

Corrugated Iron Roof

Coursed Basalt Masonry

Doors to Hay Loft

Stalls
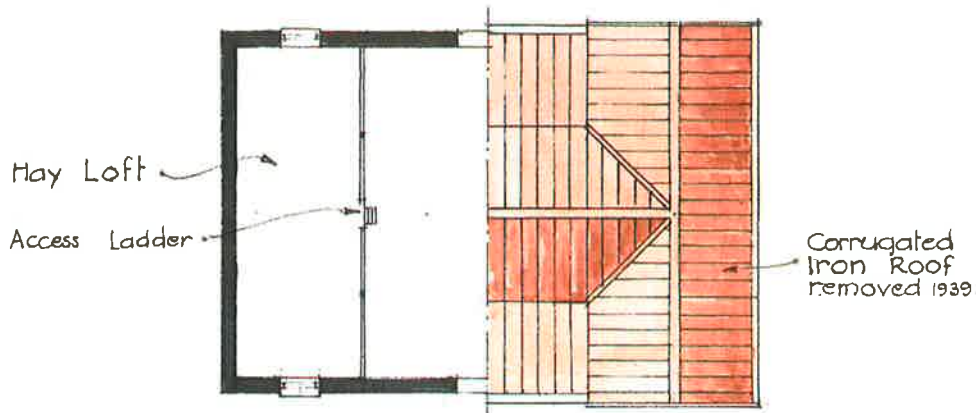
HALF HAY LOFT PLAN Conjectural

HALF ROOF PLAN Conjectural

Hay Loft

Access Ladder

Corrugated Iron Roof removed 1939

Possible arrangement of stalls to accomodate up to 24 horses

Basalt Stone Slab floor removed

12.4 m

18.8 m

A

A

Garage Entrance 1939

Scale of Metres

5   0   5   10   15
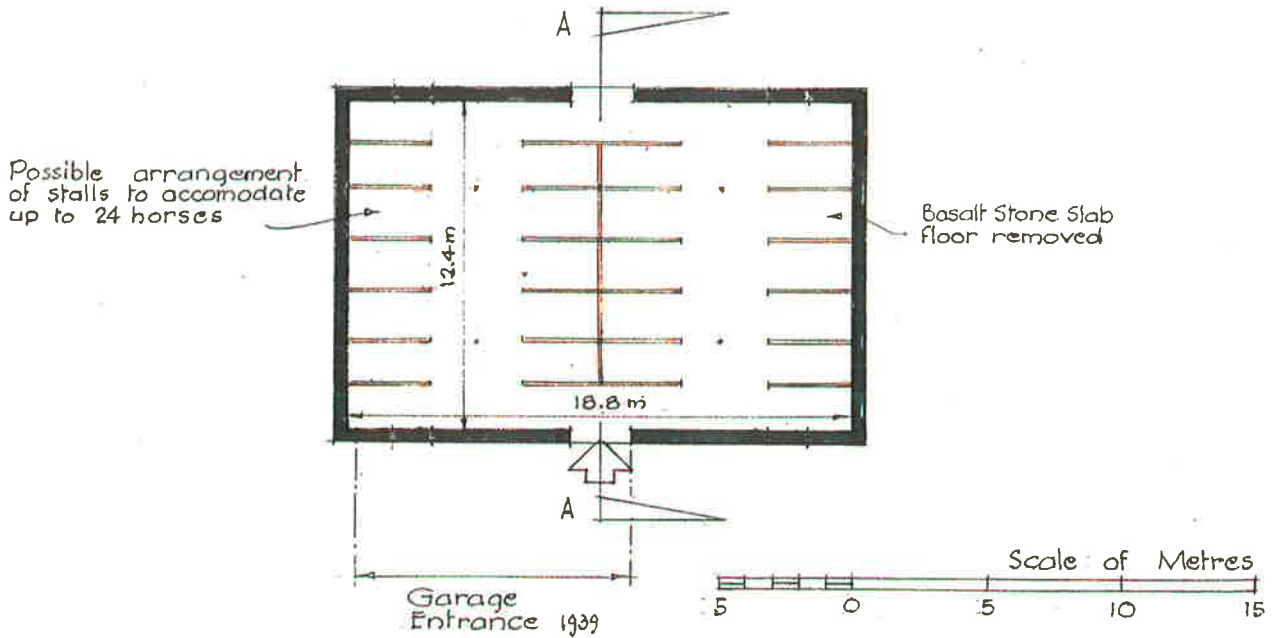
GROUND FLOOR PLAN AS ORIGINALLY BUILT

Built circa 1856 - 1860

AK. 7/89

COBB & C⁰ CHANGING STATION AT SKIPTON · VICTORIA

Fig. 99

APPENDIX B

HORSE TRAMWAYS

OF ADELAIDE

Permanent Way

TRAMWAY DESIGNERS

Depots

> North Adelaide
> Thebarton
> Clarence Park
> Parkside
> Dover
> Mitcham
> Nailsworth
> Somerton
> Payneham

HORSE TRAMWAY BUILDINGS AND ARTEFACTS

Permanent way. With the exception of the Port Adelaide line which was 5'. 3" (1.600 m) gauge, all lines were 4'.8½" (1.435 m) gauge.

The types of rail used, were however, more numerous. The Mitcham and Port Adelaide companies used flanged railway type rails on cross sleepers, bedded below the road surface. The short length of rail on display outside the former Nailsworth Depot in Main North Road, shows a section of flat bottom grooved rail, as used on most street tramways until recent years.

The majority of lines were, however, built with Larson or saddle type rails, spiked to triangular longitudinal timbers and connected by fishplates.[1]

The illustration (p. 194) shows a typical arrangement as it was on the majority of lines. It appears to have been fairly successful, but suffered when fishplates were loose and allowed the rail to tilt on its longitudinal bearer.[2]

Kingsborough notes that the Adelaide and Goodwood line

"had the unenviable reputation for having the worst track and road bed of any of the Adelaide tramway systems".[3]

1. L.S. Kingsborough. *The horse tramways of Adelaide*. (Libraries Board of S.A. 1971) pp. 69 – 72.

2. Frank E. Wilson. *The British tram*. (Percival Marshall London U.K. 1971) p. 25.

3. L.S. Kingsborough. *The horse tramways of Adelaide*. (Libraries Board of S.A. 1971). p. 32.

Cross Section
of Larson Rail
from Mountain View
Place. Glen Osmond.

70 mm

28 × 16 mm (1⅛" × ⅝")
holes for spikes staggered
at 760 mm (30") centres

Tarmac
Surface

Gauge 1.435 (4'-8½")

Larson running
rails weighing
45 lbs. per yard

Longitudinal rail
bearers were cut
from 150 mm (6")
square timbers

Transomes at 1.524 (5') centres
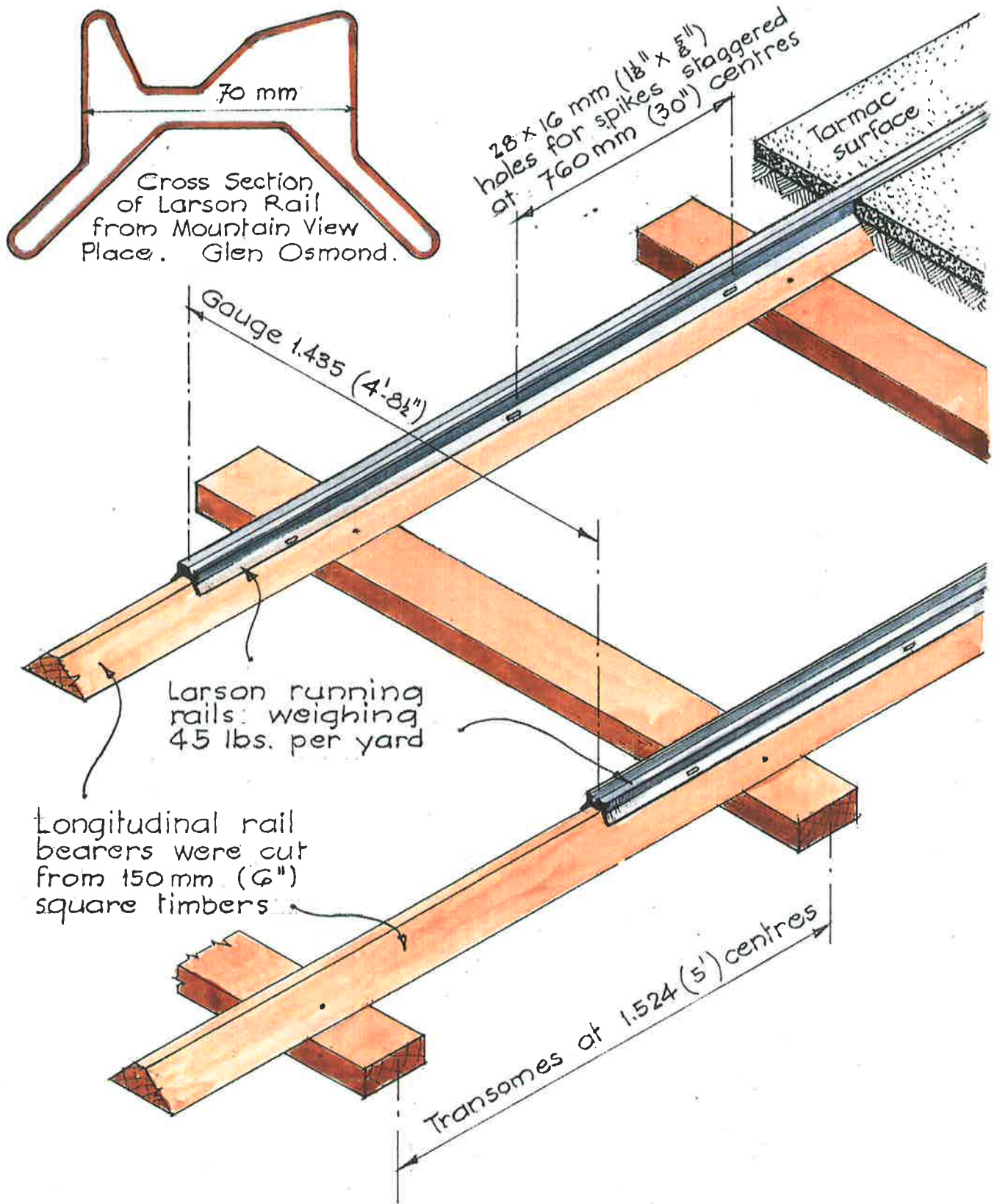
This method was used on
most of the horse tramways
built in Adelaide & suburbs.

Fig. 100

AK 6/89

ISOMETRIC SKETCH OF LARSON TYPE RAIL CONSTRUCTION

GLEN
OSMOND

Allandale
Avenue

Fig. 101

This pair of ex–horse tram rails marking the southern end of Allandale Avenue, displays gross irregular wear on the running surfaces. Perhaps they emanated from the Goodwood line. A further pair supports a barrier at Mountain View Place, but these appear to have been almost new when they embarked on their second lease of life. The rails are of the Larson type illustrated in Fig. 100.

TRAMWAY DESIGNERS

Edmund W. Wright. (1824 – 1888) architect and engineer.[4] He was responsible for the whole of the Adelaide and Suburban network. He also designed the Hindmarsh and Goodwood lines. On certain of the Adelaide and Suburban projects he was in partnership with J.H. Reed.[5]

Two of his depots have in part survived. The largest at North Adelaide (p. 197) shows a complex made up of stone and galvanised iron buildings with two 2–storey dwellings. The Maylands depot (pp. 25 & 26) is a bluestone building of substantial size. Of particular interest is the small office building with living accommodation which has survived intact. Similar office blocks were erected at Walkerville and at Payneham depots.

The Thebarton depot of the Adelaide and Hindmarsh line was a galvanised iron building, housing 16 cars in a barn adjacent to the stables. Note the covered manger in the forecourt. (p. 198).

The Clarence Park depot of the Goodwood line housed six cars in a utilitarian galvanised iron car barn and stables. It is symmetrically planned around the two lines (p. 199).

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[4] D.A. Cumming and G. Moxham *They built South Australia*. (Adelaide. By the Authors 1986) pp. 205 – 206.

E.J.R. Morgan and S. Gilbert. *Early Adelaide Architecture*. (Melbourne Vic. Oxford University Press 1969) pp. 155 – 156.

[5] Ibid. p. 152

Stone built
Car Shed

WCs

Stables

Stables

Stone
built

Chaff House

Harness
Room

Urinal

Dwelling

Dwelling

Galvanised Iron

2-storey

Blacksmith

Stables

Stables

Galvanised
Iron
Buildings

N

WC
Bathrm

Stable for Change Horses

Stone built
Offices

Verandah

Lane now named Roneo Place

ELEVATION OF DWELLINGS

metres

| 10 | 5 | 0 | 5 | 10 | 15 |

metres

| 10 | 5 | 0 | 10 | 20 | 30 | 40 |

GOVER STREET

O'CONNELL STREET

Fig. 102

AK 10/87

ADELAIDE AND SUBURBAN TRAMWAY
DEPOT • NORTH ADELAIDE

ELEVATION TO HENLEY BEACH ROAD

metres

10   5   0   5   10   15   20

Office

Car Barn

W.C.

HENLEY STREET

Stables

stables

Stables

Horse Shelter

N

HENLEY BEACH ROAD

PLAN OF DEPOT

metres

10   0   10   20   30   40   50
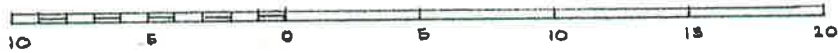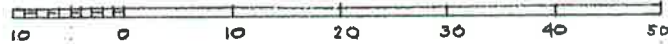
AK 11/87

Fig. 103

ADELAIDE AND HINDMARSH
TRAMWAY DEPOT AT THEBARTON

Galvanised Iron Roof and Cladding
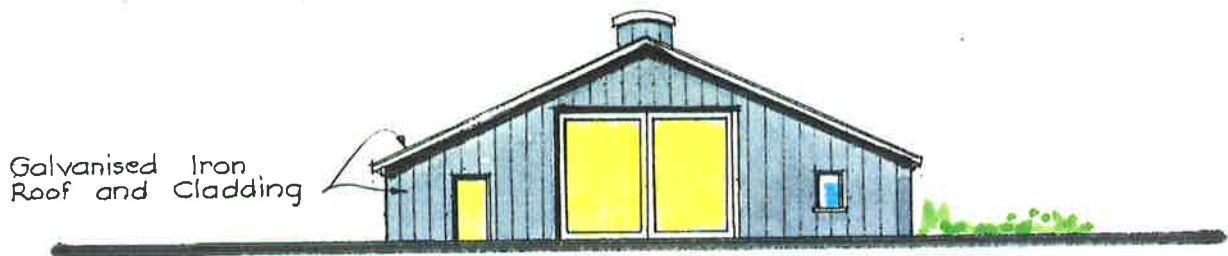
ELEVATION TO GOODWOOD ROAD

metres

10 5 0 10 20

N

CROSS ROAD

Accomodation for 6 cars and 34 horses

Car Shed

Stables

Stables

Office

Waiting Room
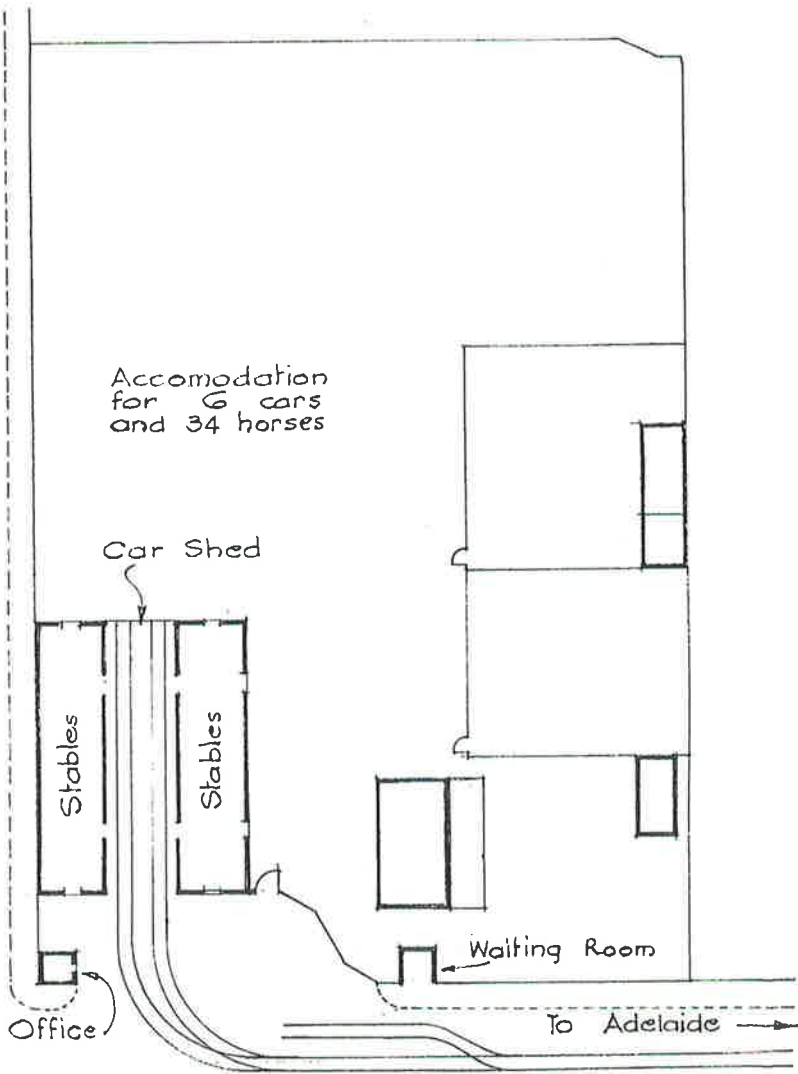
To Adelaide →

GOODWOOD ROAD

PLAN OF DEPOT

metres

10 0 10 20 30 40 50

AK 11/87

Fig. 104

ADELAIDE AND GOODWOOD TRAMWAY
CLARENCE PARK DEPOT

George Chamier[6] was the engineer for three of the smaller Adelaide tramways, the Adelaide and Hyde Park, the Adelaide and Parkside and the Glenelg, Brighton and Marino lines.

The Parkside shed and stables were built in bluestone and accommodated 14 cars. A passenger waiting shed was provided in Fullarton Road (p. 201).

The Dover depot (p. 202) for the Brighton line was built at the southern end of the line. It was one of the smaller tramways. The buildings were galvanised iron and included a passenger waiting shed. The former terminal of this line is now marked by a plaque on a pedestal at the junction with Broadway.

The trackwork and buildings of the remaining five lines were each designed by different architects and engineers.

James McGeorge[7] was responsible for the Adelaide Unley and Mitcham line. The first stable and car barn was near the Mitcham terminus. (p. 203)[8]. It was a handsome stone building with accommodation for four cars. By 1881 the depot became a subsidiary one. A new principal depot and offices were built at Unley to respond to an increase in traffic.

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[6] D.A. Cumming and G. Moxham *They built South Australia*. (Adelaide. By the Authors 1986) pp. 35 – 36.

[7] Ibid. p. 135 and

E.J.R. Morgan and S. Gilbert. *Early Adelaide Architecture* (Melbourne Vic. Oxford University Press. 1969) p. 151.

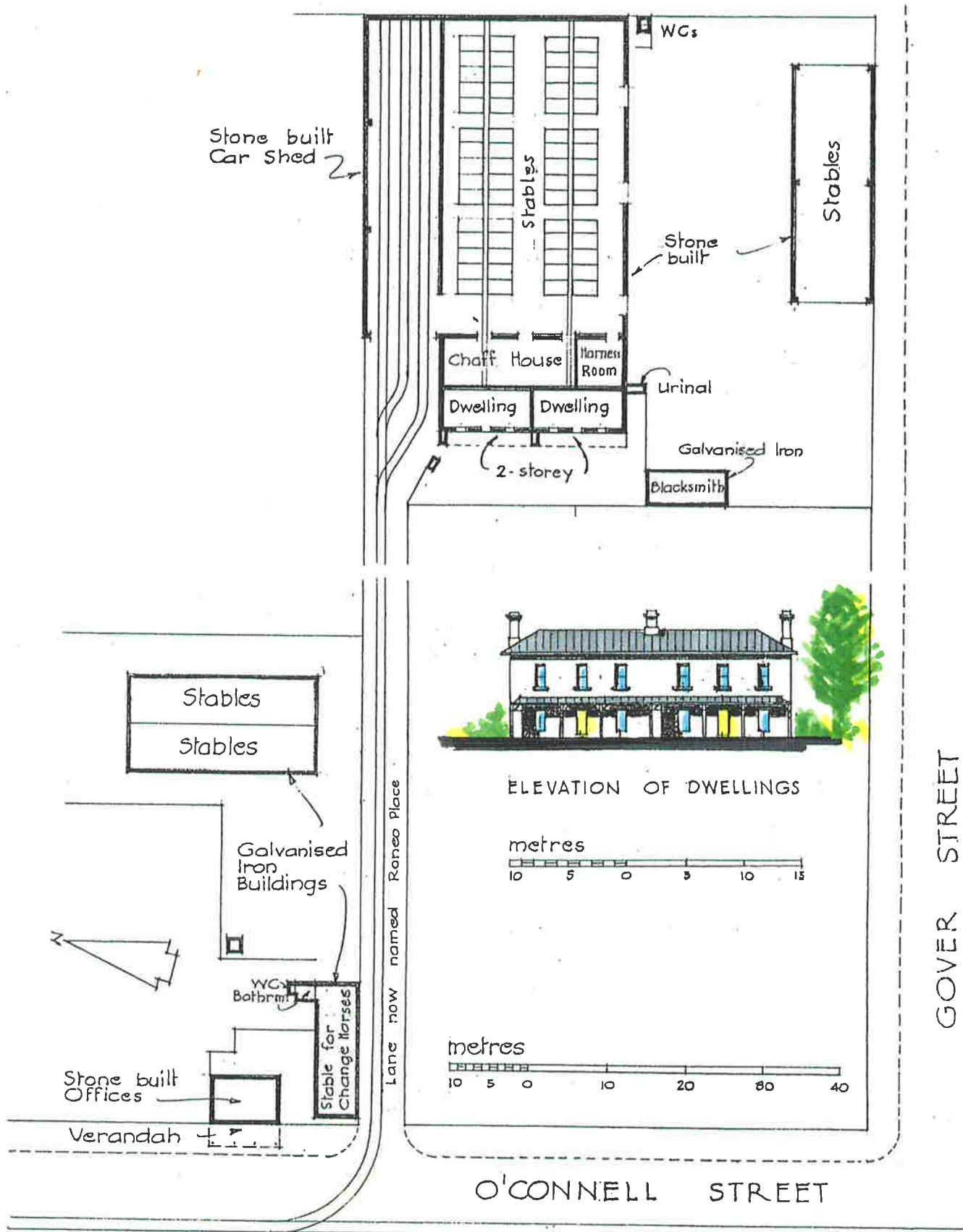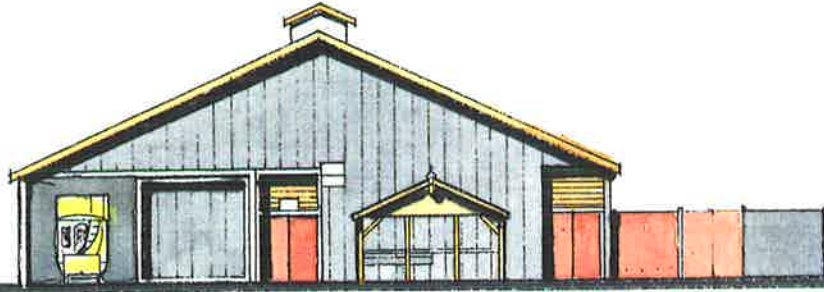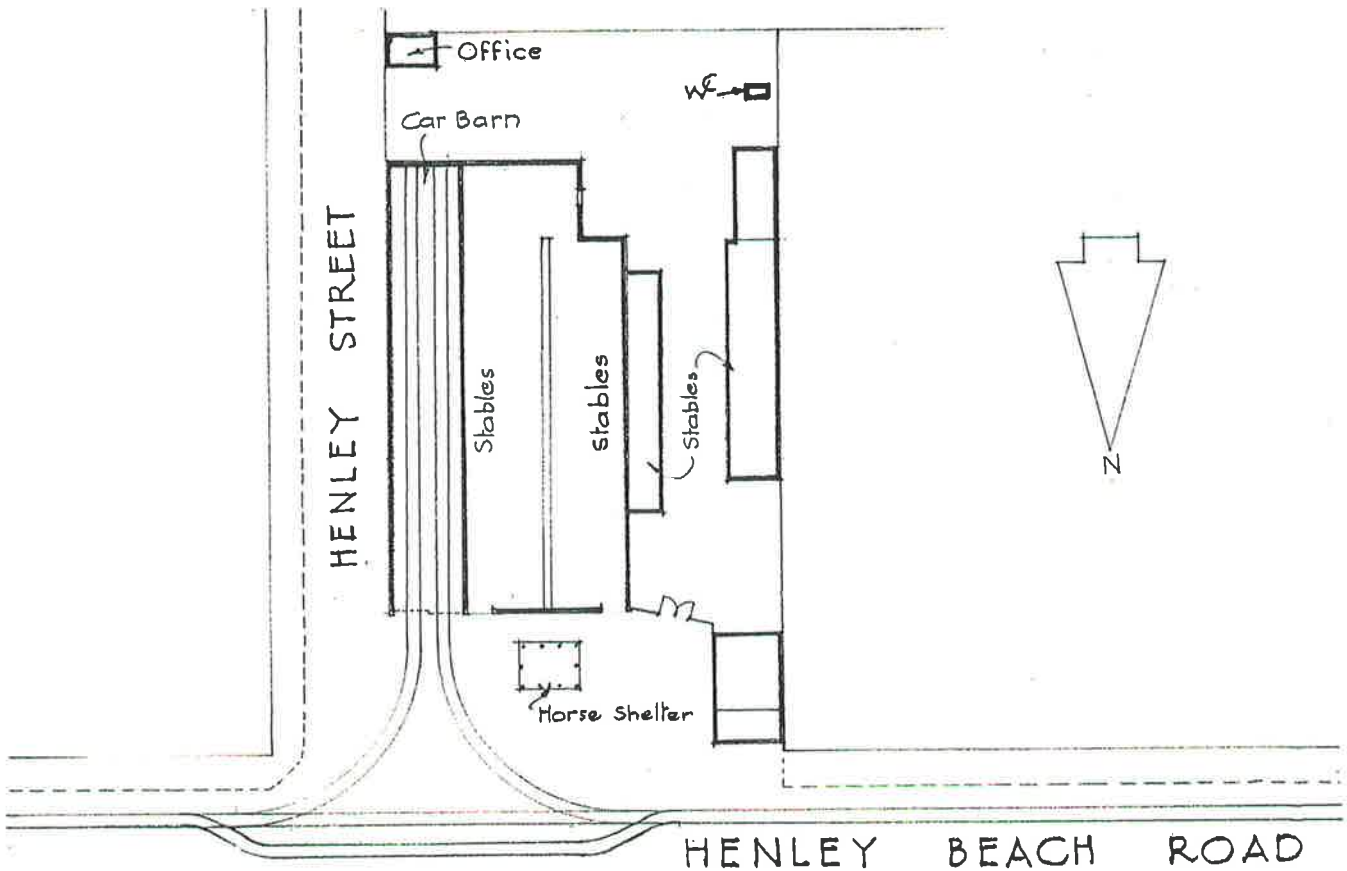[8] The elevations of the Mitcham Depot are derived from J.C. Ratcliffe and C.J.M. Steele *Adelaide Road Passenger Transport*. Plate V. **Fig. 1.**

FRONT ELEVATION

metres

10   0   5   10   15   20

N

CAMPBELL ROAD

Car Shed

Stables

Stables

Office

Waiting Shed

To Glen Osmond Rd. ⟶
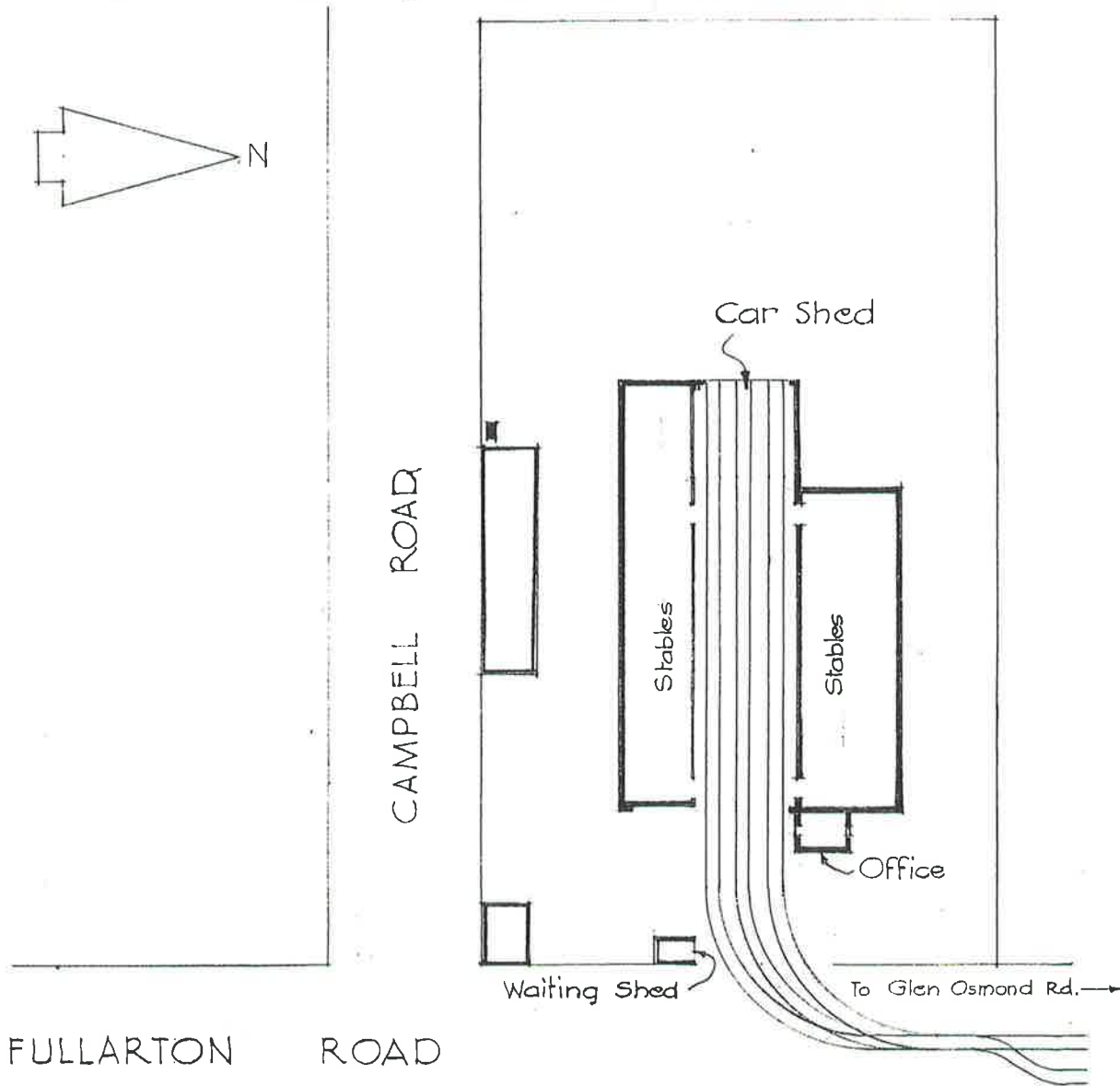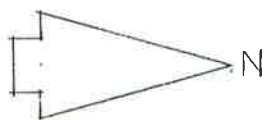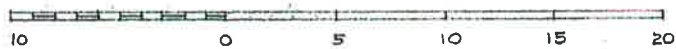
AK 11/87

FULLARTON ROAD

PLAN OF DEPOT

metres

10   0   10   20   30   40   50   60   70   80   90   100

ADELAIDE AND PARKSIDE TRAMWAY PARKSIDE DEPOT

Fig. 105

ELEVATION TO BRIGHTON ROAD

metres

10   5   0   10   20

PLAN OF DEPOT

Hay loft over

Blacksmith

Tram shed for 4 cars

Stables for 20 horses

BROADWAY

N

Passengers Waiting shed

To Marino

BRIGHTON ROAD

To Glenelg

metres

10 5 0   10   20   30   40
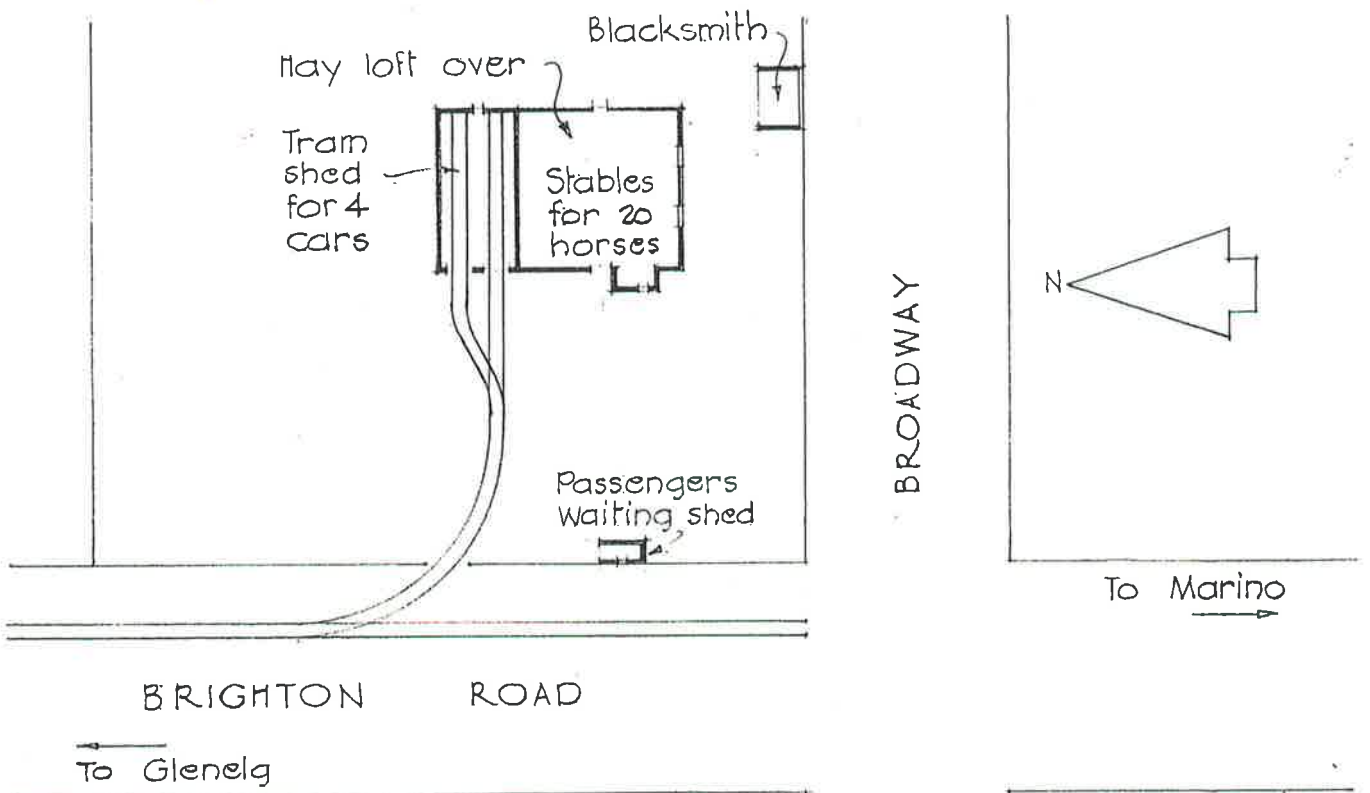
AK 9/87

GLENELG BRIGHTON AND MARINO TRAMWAY   DEPOT AT DOVER

Fig. 106

FRONT ELEVATION (NORTH)

SIDE ELEVATION (EAST)

metres

10   5   0   10   20

Chaff Store

Car. Shed

Stables reduced in 1881

Stables

N

Galvanised Iron

Stone with brick arches over openings

PRINCES ROAD

To Mitcham

To Adelaide

PLAN OF DEPOT

AK 9/87

metres

10 5 0   10   20   30   40
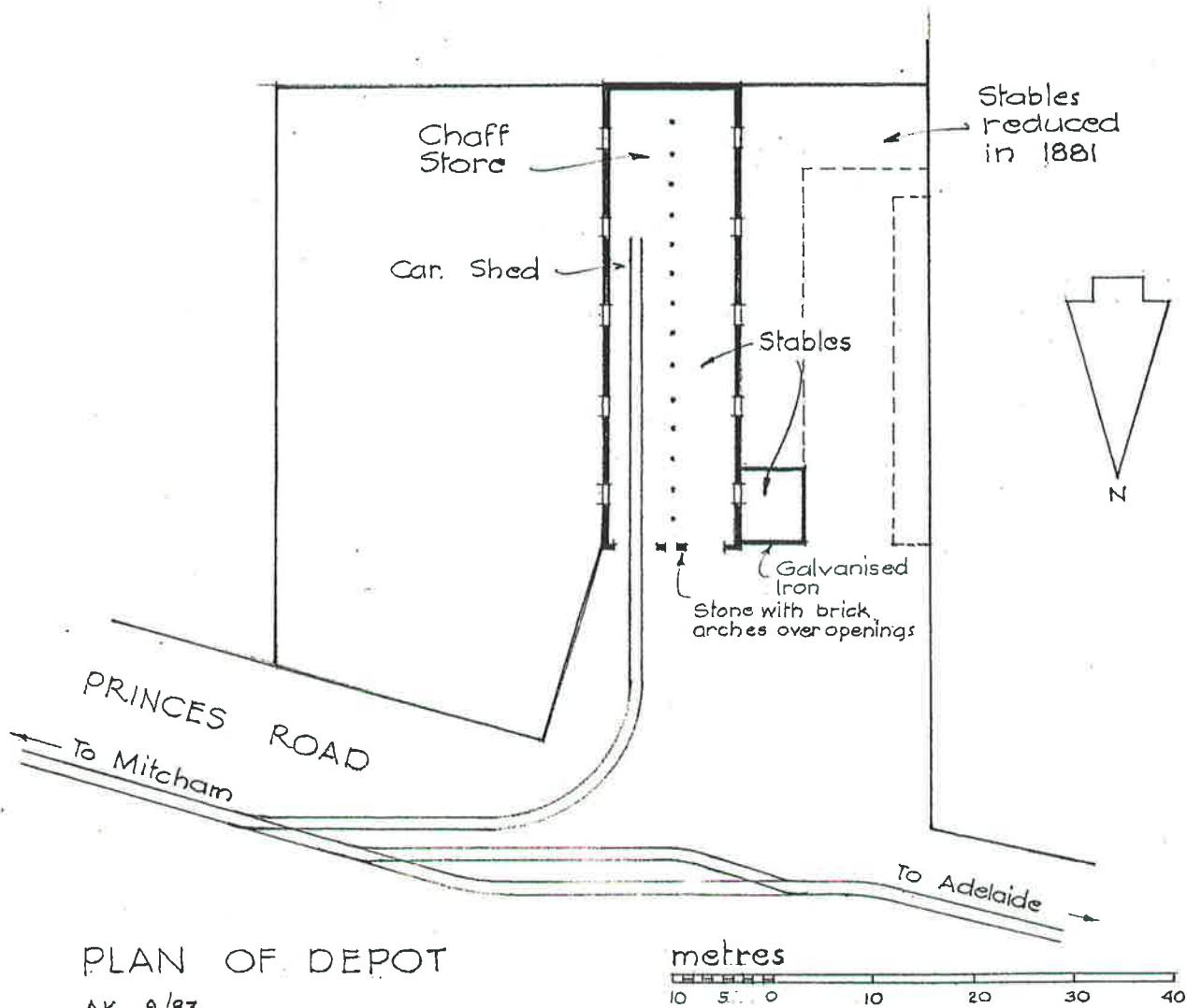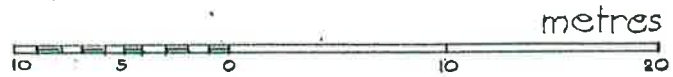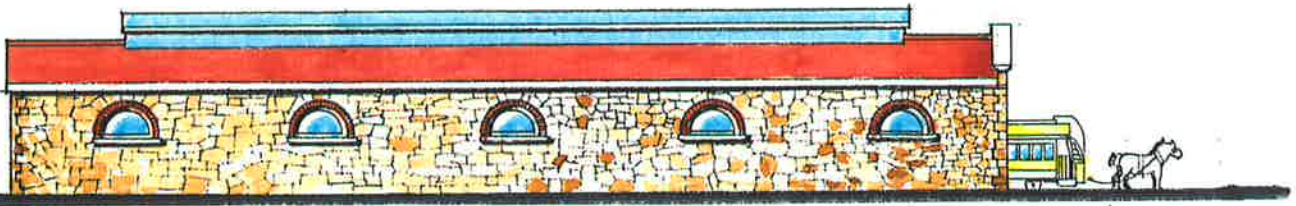
ADELAIDE UNLEY AND MITCHAM
TRAMWAY   MITCHAM   DEPOT

Fig. 107

A.R. Hamilton[9] and W.A. Campbell acted as engineers for the Port Adelaide line. It operated from sheds at the junction of Port and Commercial Roads. It ran as a steam tramway between 1879 and 1900 and thereafter as a horse tramway.

C.W. Smith[10] was the engineer for the Adelaide, Prospect, Nailsworth and Enfield line. The Nailsworth car shed (p. 205) is stone built with accommodation for ten cars and stalls for horses on either side. A turntable was provided in the forecourt to serve the two tracks in the car shed.

Grainger,[11] Naish and Worsley[12] were the architects and engineers to the Glenelg, New Glenelg and Somerton Tramway. The building at the junction of White and Walker Streets is unique in that it contains a car shed for up to six cars, stalls for ten horses and a dwelling with a hay loft on the first floor. The two–storey part of the building was of limestone with brick quoins and gauged brick arches over the openings while the car shed is in galvanised iron. (p. 206).

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[9]   D.A. Cumming and G. Moxham. *They built South Australia* (Adelaide. By the Authors. 1986) p. 80.

[10]   L.S. Kingsborough. *The horse tramways of Adelaide.* (Adelaide. Libraries Board of South Australia. 1971) p. 33.

[11]   D.A. Cumming and G. Moxham. *They built South Australia* (Adelaide. By the Authors. 1986) p. 74.

[12]   Ibid. p. 205.

FRONT ELEVATION

metres
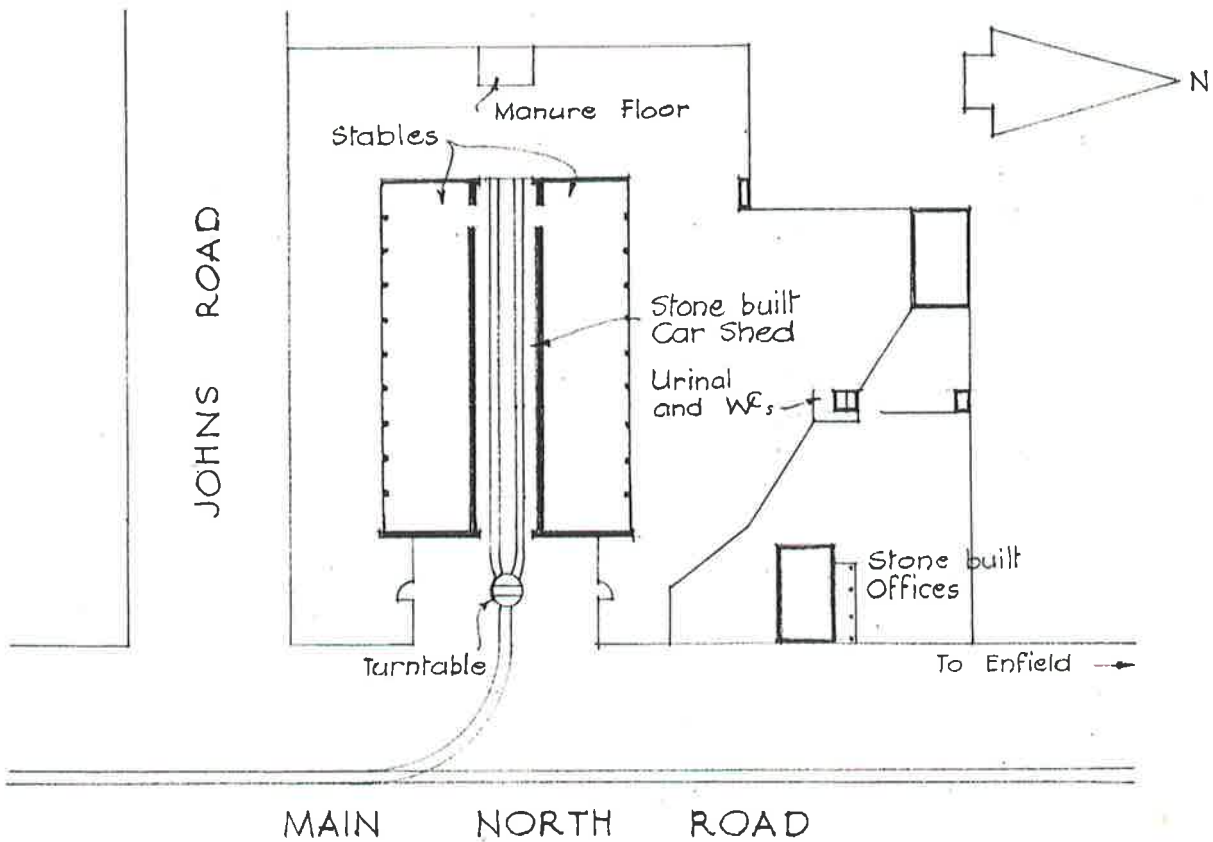
PLAN OF DEPOT

metres
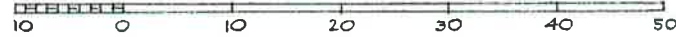
Fig. 108

AK 11/87

ADEAIDE PROSPECT NAILSWORTH AND
ENFIELD TRAMWAY ·· NAILSWORTH DEPOT
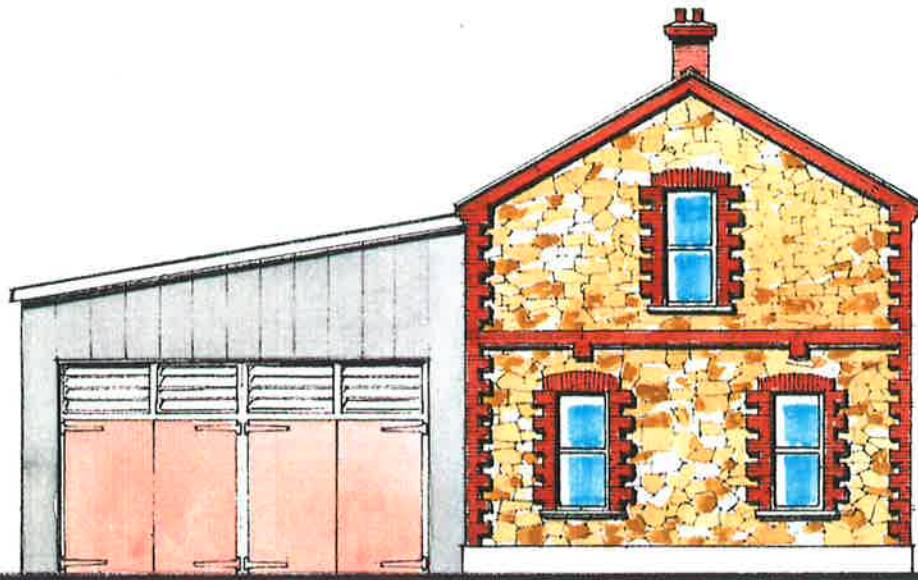
ELEVATION TO WHYTE STREET

metres

0   5   10   15

KING GEORGE AVE. (formerly Radstock Rd.)

59.61 m

92.55 m n.t.s.

Hay loft over and Stable for 10 horses

Car shed

Car Shed and Stable Galvanised Iron

Limestone Dwelling

N

to Brighton Road

WHYTE STREET
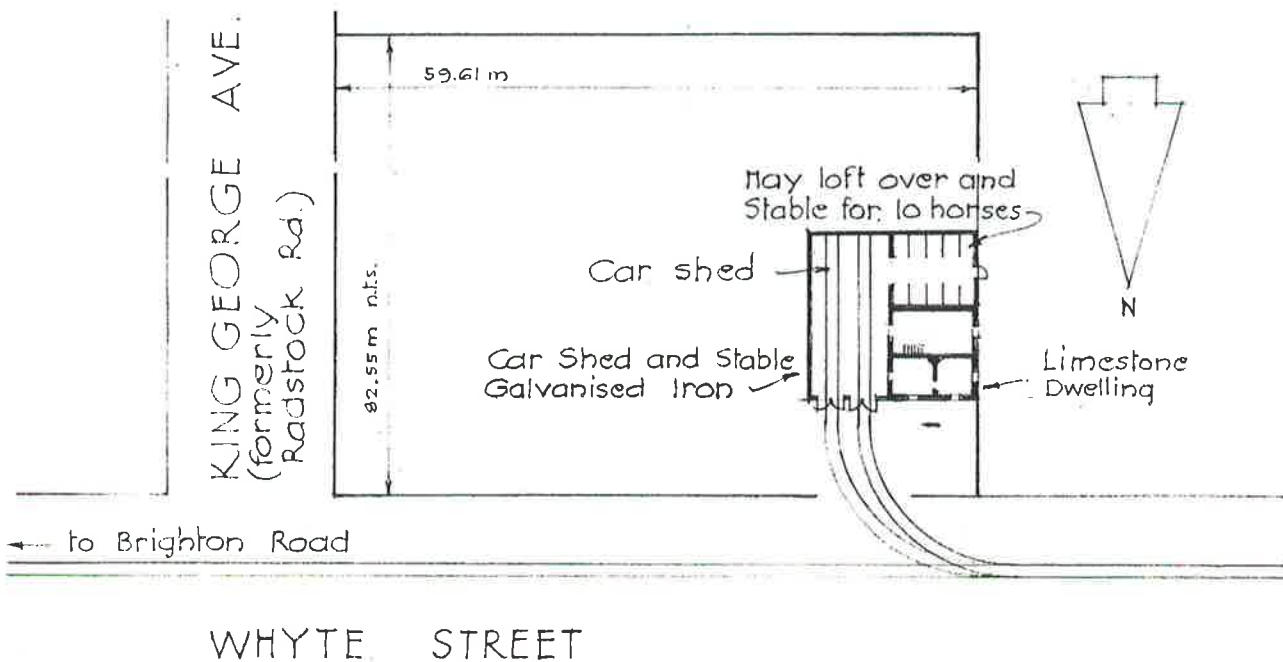
PLAN OF DEPOT

Fig. 109

WALKER STREET

metres

10   0   5   10   15
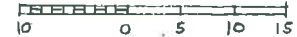
AK 10/87

GLENELG NEW GLENELG AND SOMERTON
TRAMWAY   DEPOT AT SOMERTON

Bayer[13] and Withall were appointed engineers to the Adelaide, Payneham and Paradise Tramway, which was the last of the Adelaide horse tramways to be built. The depot was built on the north side of Payneham Road. (p. 208) The design of the car shed and stables is a flamboyant composition of brick, stone and cement renderings, surmounted by a pediment concealing a high clerestory. There is also a single storey stone office and dwelling. Subsequently additional stables were built in galvanised iron.[14]

The stone and brick car shed was demolished in the 1970s, and is now part of the site of the Payneham Tavern Hotel.

It is possible that the designer of the somewhat pretentious depot was by Charles A. Bayer who had recently arrived from England.

[13.]   D.A. Cumming and G. Moxham. *They built South Australia* (Adelaide. By the Authors. 1986) p. 74.

[14.]   Except where otherwise stated the details of the front elevations of buildings illustrated were taken from contemporary photographs found in the L.S. Kingsborough Private Reference Group documents (PRG 327) Mortlock Library. State Library of S.A.

The plans of the various car sheds etc. are derived from linen tracings made by the above (from 40' = 1" scale EWS survey plans) found in the foregoing collection.

FRONT ELEVATION

Brickwork Clerestorey end and Centre Panel
Timber Louvres
Stone Panels to Gable
Brickwork

Chaff Stores
Urinal
WC
Lane
Car Shed
Stables
Harness Room
Stables
Office and Dwelling
To Paradise →
C.G.I. Fencing
To Adelaide ←
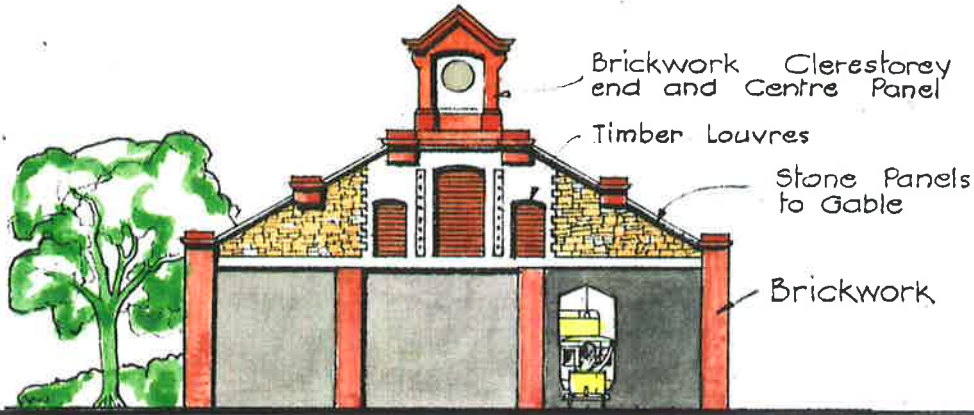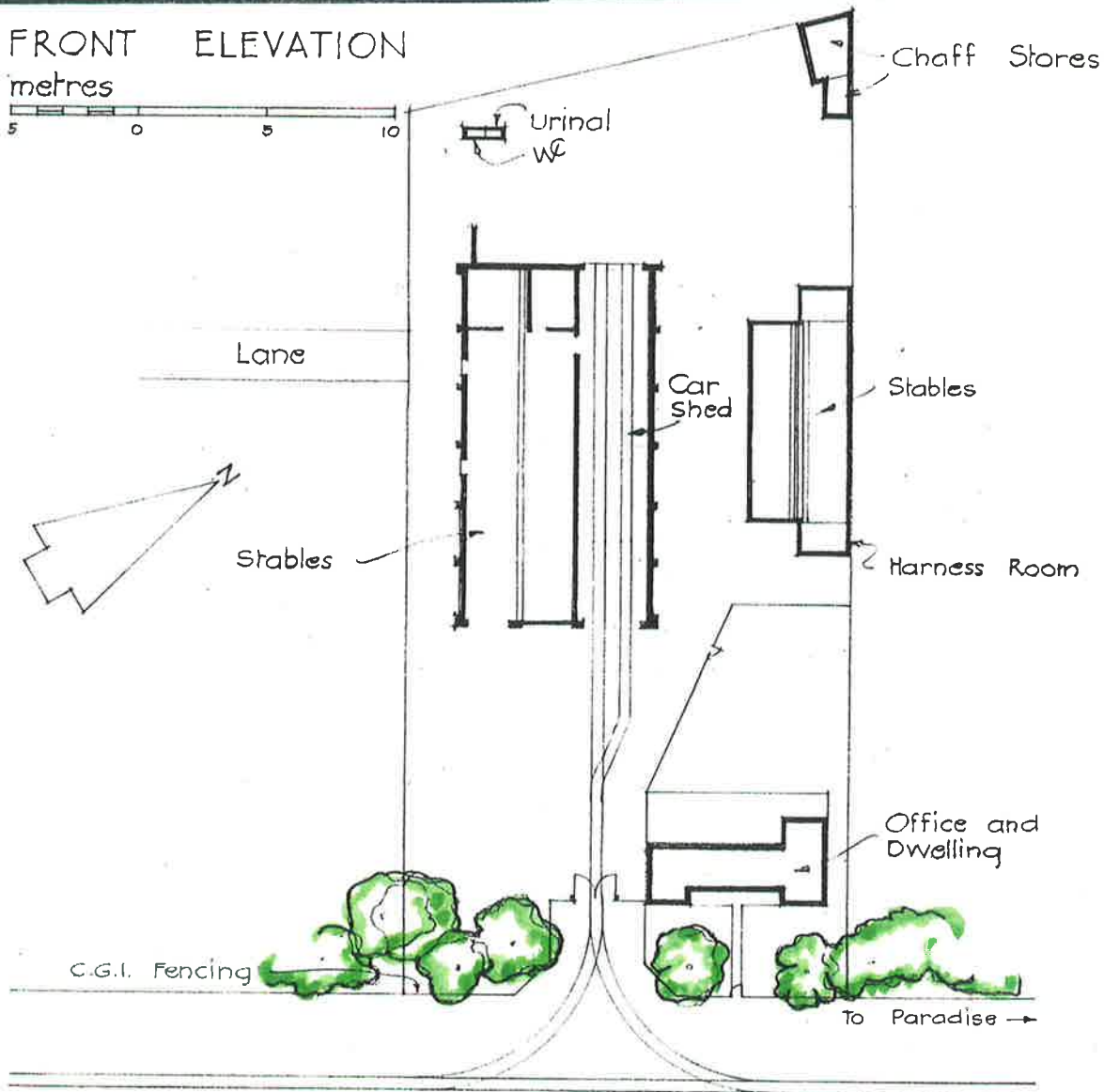
PAYNEHAM ROAD

PLAN OF DEPOT

metres

AK 10/87

ADELAIDE PAYNEHAM AND PARADISE TRAMWAY PAYNEHAM DEPOT

Fig. 110

APPENDIX C

RAILWAYS

and

ELECTRIC TRAMWAYS

up to 1945

Railway Gauges in Australia

Gawler Railway Station

Suburban Railway Electrification

Plans of Hackney Tramway Depot

Details of Tramway Signal Cabin

GAUGES IN AUSTRALIA

In the United Kingdom the Gauge Act of 1846 put an end to the controversy over main line railway gauges. W.E. Gladstone, then Secretary of State for War and Colonies, promptly informed all the Australian colonies of the passing of the Act which stipulated a 4'.8½" (1.435 m) gauge, and recommended that in the event of railways being constructed in Australia, they should be uniformly of this gauge.

In 1850 the Port Adelaide Railway was the first to secure parliamentary powers, and the gauge was to be 4'.8½". However, the Sydney Railway Co., in New South Wales was by now being planned, and they appointed an Irish Chief engineer, named Shields who advised the company that the Irish 5'.3" gauge was superior. An enquiry of the Palace of Westminster elicited the response to the question of the 5'.3" gauge, that provided the gauge was uniformly adopted, no objection would be raised. So in 1852 an Act was passed designating 5'3" as the gauge for railways in New South Wales. Victoria and South Australia followed suit. In the meantime Shields and the Sydney Railway Co. parted company. He was succeeded as chief engineer by Wallace, a Scot, who had experience in the UK and Europe, and advocated nothing as fervently as the repeal of the 1852 Act, and a return to the 4'.8½" gauge. This he achieved.

At the same time, South Australia was pressing ahead with plans for the Adelaide City and Port Railway. B.H. Babbage was appointed engineer. He had arrived in South Australia in 1851, after working for I.K. Brunel, the English engineer, on the Great Western Railway and a railway from Genoa to Milan in Italy. His view on railway gauges was that the 5' 3" gauge was preferable to 4'.8½". G.S. Kingston Chairman of the Select Committee[1] questioned him on this point. It emerged that he was well aware that the Sydney Railway was to use the 4'.8½" gauge. His reply was that as Victoria was the adjacent state it was preferable to use the 5'.3" gauge which that state proposed to adopt. He added, however, that whatever other states did, he thought the extra 6½" width made it easier to inspect and maintain parts under the chassis, and that it made the locomotives more stable. This view was endorsed by W.B. Hayes, the colonial Architect and Superintendent of Works, who had himself prepared plans for 200 miles of railways in Ireland where the 5'.3" gauge was in use.

Thus the die was cast at the very inception of the railway system, and the problems it created still remain with the Australian Railways. By 1865 Queensland on the advice of Fitzgibbon, engineer to the Southern and Western Railway, opted for a 3'. 6" (1.05 m) gauge. Western Australia having first started with a 3'.0" (900 mm) gauge, converted to 3'.6".

---

[1]   South Australia. Parliament. *Parliamentary Papers 1853*. No. 87. "Report of the Select Committee on Plans and Estimates for the Adelaide City and Port Railway."

By 1900 the distribution of gauges was as follows:

New South Wales	4'.8½"	2531 miles	4218 kms
Victoria	5'.3"	3122 miles	5024 kms
South Australia	5'.3"	493 miles	821 kms
	3'.6"	502 miles	836 kms
Queensland	3'.6"	2503 miles	4175 kms
Western Australia	3'.6"	2275 miles	3791 kms [2]

Since these figures were produced, South Australia's narrow gauge lines have been relegated to the Eyre Peninsula and two short lines north of Gladstone and Peterborough. Standard gauge has been adopted to link Adelaide with the Indian – Pacific Line, and some lines are dual gauge. Meanwhile tramways use the 4'.8½" gauge as laid down in the General Tramways Act 1884.

[2]   O.S. Nock. *Railways of Australia.* (London.   Adam and Charles Black. 1971) p. 28 et. seq.

GAWLER RAILWAY STATION

The present station at Gawler was built in 1879, and is described in some detail by Loyau. In size it is second only to Adelaide. The development and prosperity of the town was largely the result of the enterprise of James Martin, whose foundry not only manufactured agricultural implements, but also railway locomotives, wagons, carriages and bridges. Amongst his contributions to the station were the cast–iron columns and brackets on the platform. By 1890 James Martin's Phoenix Foundry employed 700 men.

> "The history of Martin's expanding business is the history of Gawler's transition from a sleepy bush hamlet into a thriving industrial town. The architectural symbols of Gawler's nineteenth-century prosperity are monuments to the spirit of optimism produced by Martin's manufacturing enterprises".[3]

[3.] Readers Digest. Robert Irving. Architectural Consultant. *Book of Historic Australian Towns.* (Sydney NSW. Readers Digest Services 1982) pp. 141 – 143.

THE NEW RAILWAY STATION.

For some years the Gawler Railway Station has been found inadequate to meet public requirements, and great inconvenience was felt on the arrival and departure of trains from the crowded state of the platform, the insufficient accommodation for passengers, and the limited space apportioned for a ticket office.

All this has been remedied by the erection of a new and handsome structure, which, in the hands of Messrs. Robin & Hack, the contractors, and workmen employed by them, has been completed, and is now opened to the public. The cost of this building was £4,200; and is, judging from its appearance, worth the expenditure. It is two storys high; the rooms on the ground floor are 12 feet from floor to ceiling, and those above them 11 feet 9 in. high. The booking office, waiting rooms, ladies' apartment, stationmaster's, luggage, and other departments are liberally provided for, and there is a splendid refreshment room, measuring 24 feet by 19 feet. The Stationmaster's residence joins the Station, and its fittings and conveniences correspond with the rest of the surroundings. It must indeed prove gratifying to Mr. Bennet, the indefatigable and obliging Stationmaster, to witness the termination of this important work, as he has for many years had to bear all the inconveniences of the former old and dilapidated structure, and was compelled to remove, with his family, from the residence apportioned him on the premises, in consequence of its being untenable, to some better habitation. It affords regret that the town is situated at so great a distance from the station, and though the intervening spaces are being gradually filled with substantial houses and shops, it will be some time ere these erections are sufficiently extended to cause the locality to be considered as belonging to Gawler. At present it is called "Basset Town," and after leaving it Gawler South, or the Munno Para East district, is passed through. The municipal boundary in this direction is the bridge over the Para. Communication between the Railway Station and Gawler proper is by tramcar and 'bus—fare 3d.

That the spirit of progressiveness actuates many of the residents is shown in changes visible in all directions to those who have been absent even a few months from the old place. Tenements which were once considered good enough for the town are rapidly vanishing, and their sites are filled by something substantial and more worthy of the Modern Athens. To enumerate all such alterations would be impossible; but on the Plains these are everywhere to be observed.

GAWLER RAILWAY STATION

Rebuilt 1870

G.E. Loyau's enthusiastic description of the new station. 4

MURRAY STREET

Loyau criticised the siting of the station so far from the town. Two trams provided the missing link.

Fig. 111

4. George A. Loyau. *The Gawler Handbook* (Adelaide Goodfellow and Hele. 1880) pp. 131 – 132

Illustration between p. 136 and 137.

SUBURBAN RAILWAY ELECTRIFICATION

Proposals for suburban electrification have been around since 1903. It was officially raised at the first progress report of the Railways Commission, which recommended:

> "That the Government be requested to obtain a report and estimate of cost, of electrifying the suburban railway service from a competent electrical expert."[3]

Subsequently the Commissioner of Railways, A.G. Pendleton reported favourably, and A.B. Moncrieff, the Chief Mechanical Engineer provided estimates of cost for the conversion.[4] However, it was decided to appoint J.E. Bradford, an electrical engineer from the Westinghouse Electrical Co. to report in greater detail on the proposal.[5] This resulted in a further report on the matter.[6]

Bradford proposed a New Power Station at Port Adelaide to serve the suburban railways as well as the proposed electric tramway.

Estimates were given for two forms of conversion:

A.   Using 3rd rail power collection and Direct Current, in the sum of £411,805.

B.   Using overhead power collection and Alternating Current, in the sum of £341 385

Bradford gave a forecast of a 25 per cent increase in traffic generated by the changeover. The Railways Commissioner was generally supportive[7] but a good deal less optimistic and did not want to electrify the Mitcham line.

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[3]   South Australia. Parliament. *Parliamentary Papers 1903.* No. 33. "Report of Railways Commissioner."

[4]   South Australia. Parliament. *Parliamentary Papers 1903.* No. 50. "Report of Railways Commissioner."

[5]   South Australia. Parliament. *Parliamentary Papers 1903.* No. 57. "Report on the appointment of consultant".

[6]   South Australia. Parliament. *Parliamentary Papers 1903.* No. 80. "Report on the Electrification of South Australian Suburban Railways."

[7]   South Australia. Parliament. *Parliamentary Papers 1903.* No. 80A. "Additional Report by Railways Commissioner."

Nothing eventuated from the foregoing proposals, except the Power Station at Ocean Steamers Road, which later supplied the tramways and trolley buses.

By 1929 Webb was advocating transfer of all suburban services to the MTT and conversion to electricity. On Tuesday 14 May 1929, at Question Time in the House of Assembly the following exchange between the Minister of Railways and two members of the House of Assembly took place.

TRANSPORT IN METROPOLITAN AREA

Mr ANTHONEY – In last week's press the Railways Commissioner is reported as having said that the whole of the metropolitan area's transport should be handed over the Tramways Trust. Is the Commissioner to be taken seriously in regard to this statement, and if so, do the Government concur in the view expressed by him?

The MINISTER of RAILWAYS (Hon. R.L. Butler) – If the honorable member read the report correctly he will have noticed that I said the Railways Commissioner was in favour of the transport in the metropolitan area being controlled by one body, namely, the Tramways Trust. That is the opinion of the Railways Commissioner.

Mr. Blackwell – Does that include Port Adelaide, too?

The MINISTER of RAILWAYS – Yes; when we introduced the Bill for the electrification of the Glenelg railway it also provided for the Tramways Trust taking over the line from Henley Beach to Woodville, and the difficulty of connecting Port Adelaide and would not be very great. The idea of the Railways Commissioner is that the transport of the whole of the passengers in the metropolitan area should be carried out by one body under an electrification scheme. [8]

---

8. South Australia. Parliament. *Official Reports of Parliamentary Debates.* (Hansard) Answers to questions in the House of Assembly 14 May 1929. Adelaide. Harrison Weir Government Printer 1929. p. 89.

Amongst the press reports referred to by Mr. Anthony was the following, which encapsulates the view of Mr. Webb as well as Mr. Butler the Premier and Minister of Railways.

" MR WEBB FAVOURS TRAMS FOR THE WHOLE METROPOLITAN AREA

Discussing the drastic cuts[9] to be made in the Port Adelaide train service, the Premier (Mr. Butler) said yesterday that he and the Railways Commissioner (Mr. Webb) agreed that ultimately all passenger traffic should be co-ordinated under one control – preferably the Tramways Trust, and a complete system of electric trams instituted for the whole metropolitan area." [10]

---

[9] Cuts of 11 trains per day in each direction between Adelaide and Port Adelaide.

[10] *Register News–Pictorial.* Sat. 11 May 1929 p. 3.

Fig. 112

PLAN OF THE MTT
CENTRAL DEPOT AT
HACKNEY ROAD

From The Tramway and Railway World. 13 Jun. 1918. p. 356.
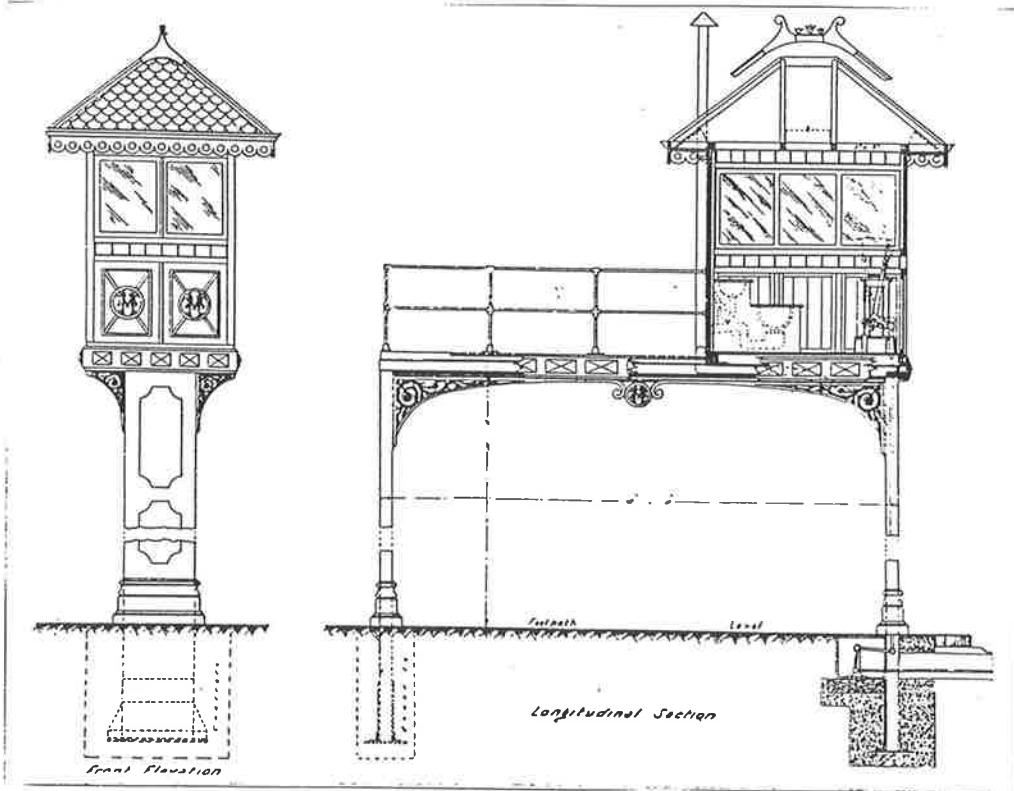
Fig. 113 End Elevation and Section
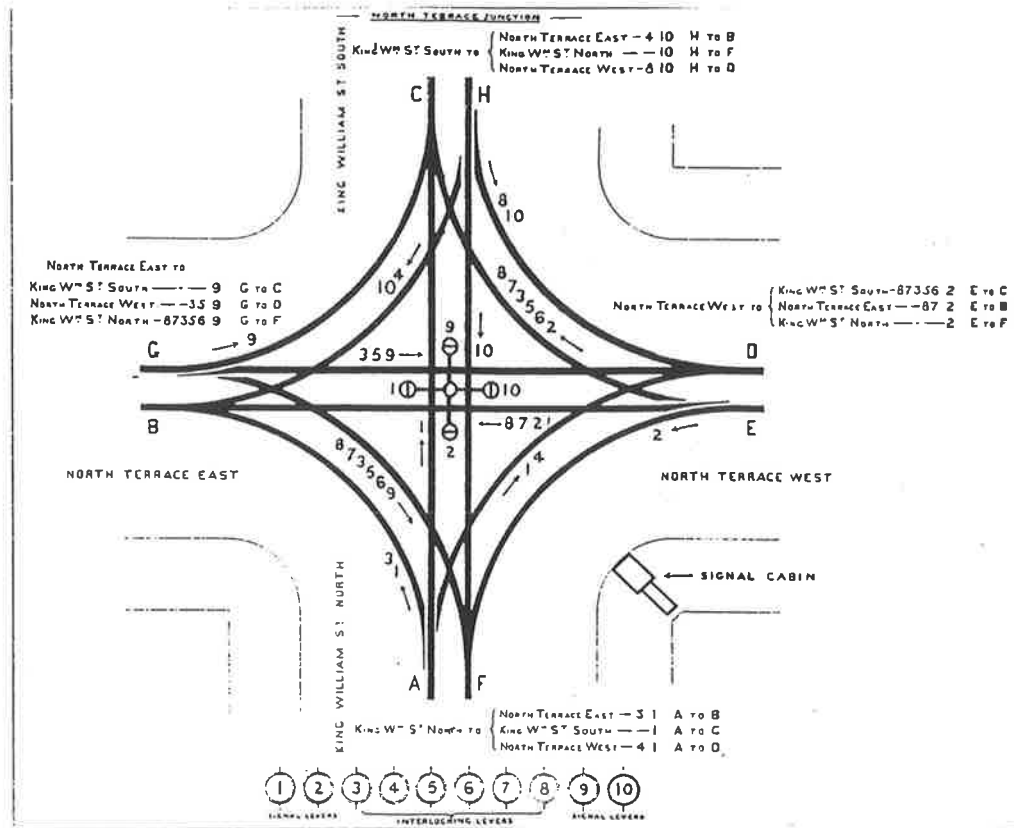
Fig. 114 Street Intersection

TRAMWAY SIGNAL CABIN

From The Tramway and Railway World 13. Jun. 1918 p. 303.

APPENDIX D

POST–WAR DEVELOPMENT

Railway Interchanges and redevelopment

Morphettville and other depots

Regency Park complex

Tramway buildings

North–east busway

Highway, busway, tramway and light rail conversion costs

Comparative operating costs in Adelaide

NEW RAILWAY INTERCHANGES

Noarlunga Interchange. In 1979 the railway was extended by a double track as far as the Noarlunga Centre, where a 2–storey bus/rail interchange was built. The architects were Walter Brooke and Associates and the engineers were Kinhill. H.J. Farah Pty. Ltd. carried out the station construction contract for $430 000.

Salisbury Interchange. This contract was a Federally funded bi–centennial project, for which the station buildings and interchange cost $1 300 000. The architects were Woods Bagot.

ADELAIDE STATIONS & ENVIRONS REDEVELOPMENT

The whole transformation involved firstly the evacuation of the railway offices and their conversion into a casino, and secondly the building of four separate blocks, partly over the tracks. The new buildings were a convention centre (2–storeys) an office block (10–storeys) a hotel (21–storeys) and an exhibition building (2–storeys). An underpass was constructed beneath North Terrace to the Adelaide Arcade, and a 13–storey office block was built to house the railway staff displaced by the casino.

The architects for the ASER Scheme were Woodhead Australia and John Andrews International. Woods Bagot designed the TAB/STA offices and Stanley Psaltis designed the Adelaide Arcade.

MORPHETTVILLE BUS DEPOT

This depot was the prototype, and also the largest of the second generation of bus depots. The layout is freed from the constraints imposed by adaptation of former tramway buildings.   It adopts a functional approach to the maintenance and servicing of large numbers of buses.

It comprises:

> An office and amenities building
> A fuelling station
> A washing bay
> A bus cleaning and servicing building.

Staff and other car parking occupies 19 per cent of the site.

The facades of the office and amenities block are faced in dark brown brickwork, surmounted by a white overhanging fibro fascia and roofed in red steel colorbond. The main road frontages are well landscaped by a belt of trees which also serve to attenuate noise generated by the operation of the depot. The architects were Woodhead Australia, and the contractor, Jennings Industries. The contract sum was $3 369 175.[1]

---

1.   Cost and contract information supplied by Woodhead Australia Architects.

STAFF CAR PARK

Car Park

N

300

250

200

150

100
90
80
70
60
50
40
30
20
10
0 5

Metres

MORPHETT ROAD

OFFICE & AMENITIES BUILDING

SERVICE BUILDING

Bus Cleaning

North Gate House

Drive-in Theatre

Washing Bay

26 tour buses

247 Standard buses

Fuelling Station

South Gate House

OAKLANDS ROAD
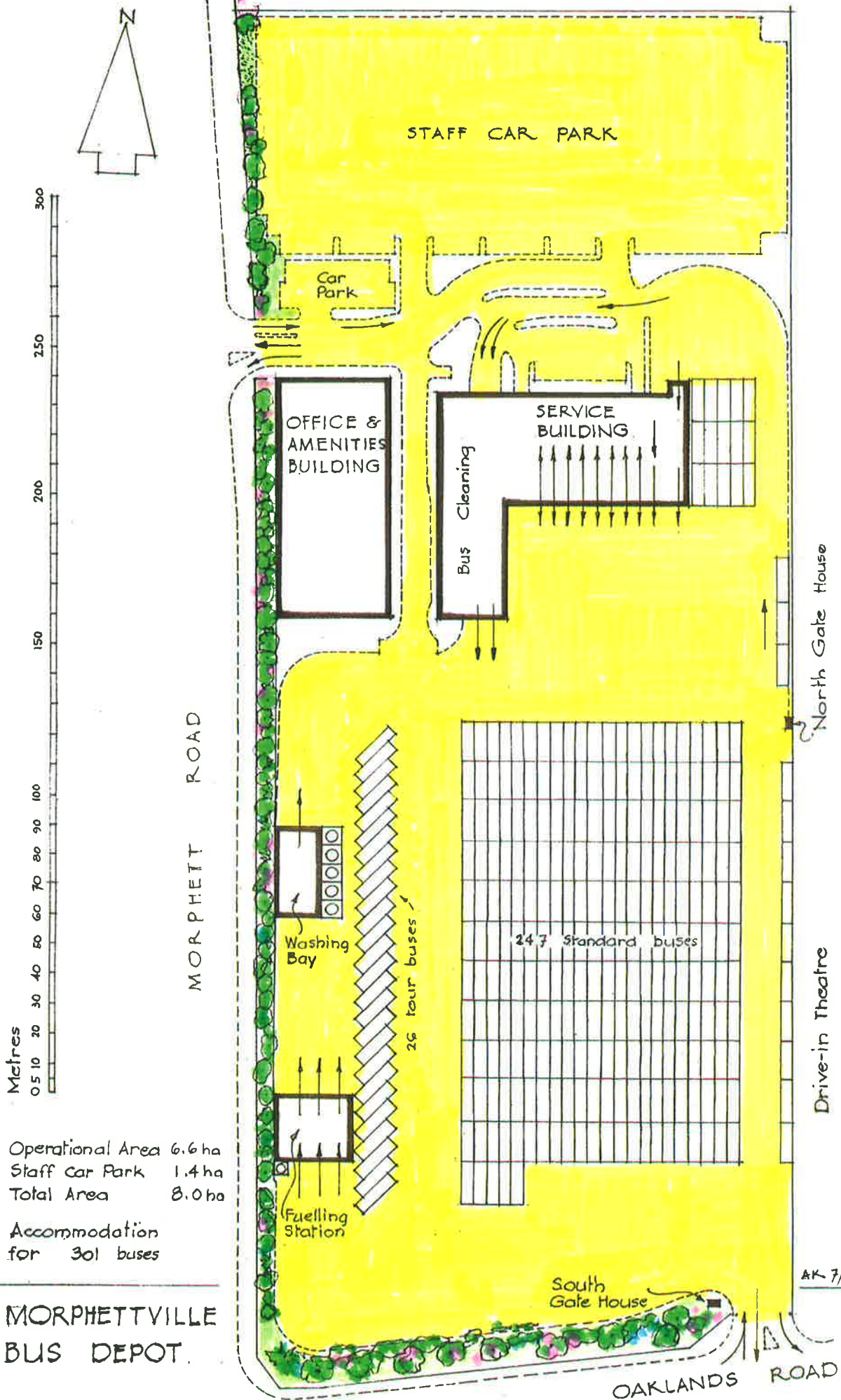
AK 7/89

Operational Area 6.6 ha
Staff Car Park   1.4 ha
Total Area   8.0 ha

Accommodation
for 301 buses

MORPHETTVILLE
BUS DEPOT.

Fig. 115

ST. AGNES, LONSDALE, ALDGATE AND ELIZABETH DEPOTS

Contractural information about the four other depot complexes, which followed the prototype Morphettville, in 1980 and 1981 are as follows:

St. Agnes Depot (formerly the site of Bowman's Bus Garage)
Architects:	Woodhead Australia
Engineers:	Kinhill
Opened:	1980

Lonsdale Depot
Architects:	Woodhead Australia
Engineers:	Kinhill
Opened:	1980

Aldgate Depot
Architects:	Woodhead Australia
Engineers:	Kinhill
Contractor:	Baulderstone
Cost:	$1 569 234
Opened:	1980

Elizabeth Depot
Architects:	Woodhead Australia
Engineers:	Kinhill
Contractor:	Jennings Industries
Cost:	$1 136 617
Opened:	1981[2]

---

2. Cost and contract information supplied by Woodhead Australia Architects.

REGENCY PARK WORKSHOPS AND CLUBROOMS

This group of buildings, not only provides workshops for the whole STA undertaking, but also replaces the Staff Assembly Room and Club Premises in Hackney Road, which were sold in 1980. A large games oval is also provided for staff and their families.

Architects:	Woodhead Australia
Engineers:	Kinhill
Contractors:	Baulderstone (workshops)
	Metutee and Williams (clubrooms)
Cost:	Workshops $1 569 234
	Clubrooms $ 221 321
Opened:	1981[3]

[3.]   Costs and contractual information supplied by Woodhead Australia. Architects.

TRAMWAY BUILDINGS

Glengowrie Depot. The new depot stands on a narrow 1.5 ha site, near to housing. It was therefore, necessary for sound attenuation measures to be taken within the building to obviate some of the problems which beset its predecessor in Angas Street in 1930. The depot complex includes a single–storey office building, with a Staff car park near the entrance in Maxwell Terrace. The architects were Raffen Maron and the engineers Kinhill. The cost was $4 500 000.[4]

Glenelg Tram Terminal. The designers of the Moseley Square project were Kinhill.[5]

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[4] Interview with Mr. Hall Raffen Maron Architects Adelaide. 8 April 1988.

[5] Interview with Mr. C. Watson. Glenelg City Council. Glenelg SA. 8 April 1988.

NORTH EAST BUSWAY

The architecture of the busway stations is clean and businesslike, without dark corners or obvious magnets for graffiti writers. Recognising the short intervals between buses there is little waiting time, and only canopies mounted on steel columns are provided.

From the environmental viewpoint the *O-Bahn* busway construction is less adaptable than its railway counterpart of lines and sleepers on a bed of ballast. Its 3m deep pile footings, concrete sleepers and guideways cannot be readily adapted to light rail if so requiried, as in some German busways which accept buses, trolley buses and trams. The heavy concrete supporting structure is visually more intrusive than rail, and complies less favourably with the long life/loose fit/low energy criteria, particularly in an environmentally sensitive linear park.

Architects for the stations:	Hassell and Partners
Engineers:	Kinhill, Pak–Poy and Kneebone, Fargher Mansell and John Cornell
Contractor:	Baulderstone
Cost estimate:	Works $ 74 500 000
	Buses $ 24 000 000 [6]

[6.] STA. *The O-Bahn busway Adelaide* Adelaide. North east busway project, Department of Transport. 1988) pp. 1-14. (The STA 1989 Annual Report notes an increase in the construction costs. p. 44).

Precast Concrete Running Slabs

Precast Concrete Sleepers at
4m centres on 600 mm dia.
bored Piles ave. 3m deep

2.9m

4m

2.9m

Stormwater
Channels
where
required

ISOMETRIC VIEW
OF O-BAHN TRACK

Sleepers at
4m centres

Bored Piles
ave. 3m deep

6.2m

CROSS SECTION THROUGH GUIDEWAYS

Isometric Drawing

Scale of metres
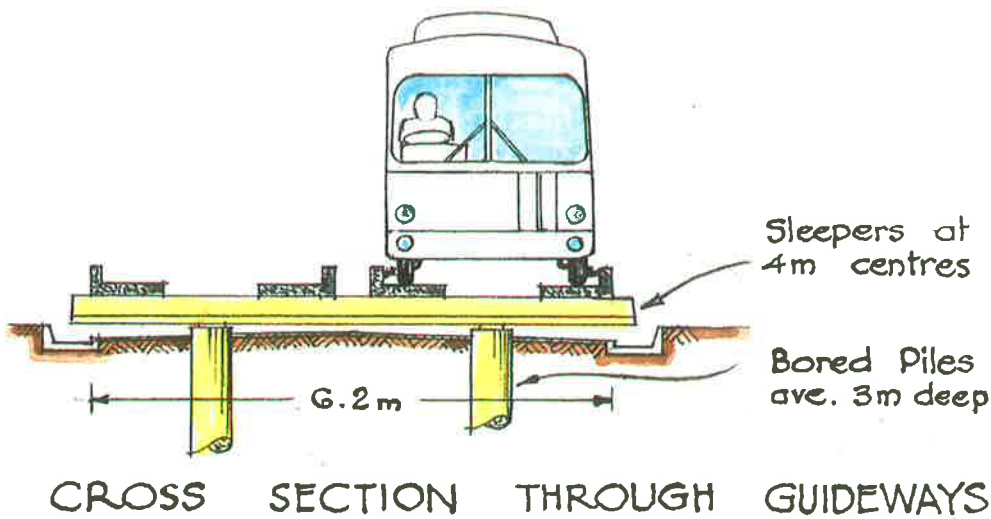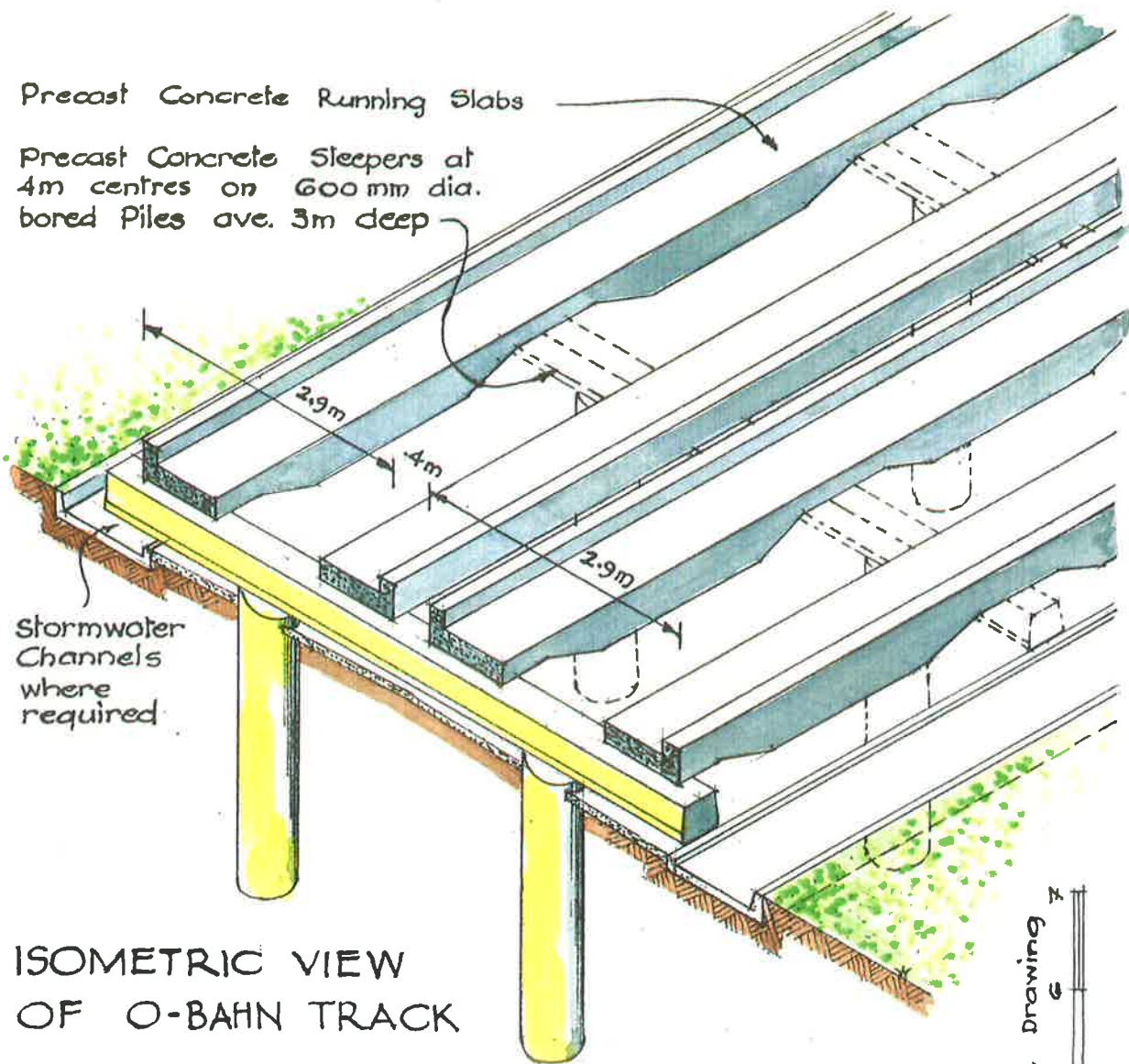
AK 1/90

DETAILS OF O-BAHN
BUSWAY CONSTRUCTION

Fig. 116

CONSTRUCTION COSTS

In order to compare the infrastructure costs of the various transport modes, estimates or contract costs derived from State or Commonwealth sources are given below:

Highway widening costs. Widening outer suburban main traffic routes from 4 to 6 lanes:

Average cost per kilometre $1 395 000 (1986)[7]
(estimated)

Busway costs. The construction of the *O–Bahn* busway infrastructure included a high standard of landscaping, considerable earthworks and bridges.

Average cost per kilometre $6 208 333 (1988)
(estimated)

The foregoing cost estimates for providing the infrastructure for buses appear less favourable than those for the light rail alternative.   Adduced mainly from recent contracts in Melbourne Vic. (with the exception of one estimate given for Adealide) the figures indicate that the infrastructure costs are by comparison lower.

Tramway construction. A new double track tramway, 6.1 km in length was laid between Tyler Street, Preston and McLeans Road, Bundoora (Vic.) for the MET Melbourne (Vic.).   It is mainly in a median strip along Plenty Road and was completed in 1987.

Cost per kilometre: $1 155 393 (contract final account)[8]

The proposal to extend the Glenelg tramway from Victoria Square to the Adelaide Oval, along King William Street and Road, a distance of 1.8km was made by Prof. G.J. Fielding.   The work would be mainly in the most heavily trafficked street in Adelaide.

Cost per kilometre: $2 788 000 (estimate 1988)[9]

Light Rail Conversion costs. In 1988 the MET converted 13.2km of double track heavy railway to light rail between Clarendon Street and St. Kilda and also to port Melbourne (Vic.).   The work involved regauging to 1.435m (4'.8½") and adapting the existingt railway stations to light rail working.   It also included the cost of an extension to the Fitzroy Depot to accommodate the extra cars needed to operate the service, but not the cars.

---

7.   Based on information on the following roads: Reynella–Darlington (hilly route), Salisbury–Gawler (level route) and Gepps Cross to Waterloo Corner (level route) in: Department of Environment and Planning. *Long term Development Strategy for Metropolitan Adelaide.* Sept. 1987 Section 3. Infrastructure. Highways. pp. 85 – 86.

8.   Interview with Phil. Smithers.   Metropolitan Transit Authority. Melbourne (Vic.) 9 Jan. 1989.

9.   Prof. G.J. Fielding. *Public Transport in Metropolitan Adelaide in the 1990s.* (Irvine. Calif. By the Author. Final Report Dec. 1988) p. 76.

Cost per kilometre: $1 409 433 [10]
(estimated final account 1988)

In the South Melbourne heavy rail conversions, no overhead work was required, as the former railway was electric. It is, therefore, necessary to abstract the overhead work component from the Bundoora extension, in order to produce a unit rate which would be appropriate for the Adelaide proposals in Chapter 10.

South Melbourne Conversion $1 409 433
Bundoora overhead work
     updated to 1988 $ 17 000
                               ─────────────

Cost per kilometre: $1 426 433

The STA rail network is made up as follows:

Single track   16 kms
Double track   105 kms
Four tracks   6 kms
                          ─────────────

127 kms [11]

If this is reduced to a double track equivalent (viz: 125kms) the cost of converting the infrastructure may be expected to be in the region of $178 000 000. This figure spread over a ten year span would appear to be well within Adelaide's capacity, by comparison with some of the present railway commitments.

The present resignalling project will cost $44 500 000.[12] The purchase of fifty new diesel electric railcars will add $143 000 000 to the bill.[13] These and other financial commitments tend to perpetuate the present expensive railway infrastructure, and by deferring a decision on electrification add to the eventual conversion costs.

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[10]   Interview   with   Phil.   Smithers   Metropolitan   Transit   Authoriity.
Melbourne. Vic. 9 Jan. 1989.

[11]   Railways of Australia. *Yearbook 1989* (Melbourne Vic. Railways of Australia Committee 1989) p. 43.

[12]   STA *Draft Business Plan*. 1988/89 to 1992/93 (Adelaide. STA. June 1988) p. 24.

[13]   Australian. 11 Oct. 1989 p. 39.

Operating costs. To offset this expenditure, income wold be derived from the lease or sale of land and buildings, as well as the lasting financial advantage of lower operating costs per passenger carried. The relative costs of the three modes are shown in Fig. 117, based upon statistics for 1986 – 1987[14], the same base year used in the STA Draft Business Plan.

OPERATING COSTS FOR 1986 – 87

STA ADELAIDE

No. of Passenger Journeys (1)		Operating Cost $ (2)	Cost per passenger journey $ (3)	
Bus	46 694 000	110 209 000	2.36	(1.43)
Tram	2 458 000	5 370 000	2.18	(1.28)
Train	11 798 000	53 432 000	4.53	(3.30)

Total patronage
60 950 000 passengers

Figure in parentheses
in Col. (3) include
Government subsidies.

Fig. 117

Based on the same figures the net operating cost (including subsidies) for 1986 – 87 was as follows:

Per bus $91 000 p.a. Per tram $150 000 p.a. Per railcar $322 000 p.a.

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14. Railways of Adelaide. *Yearbook 1988.* (Melbourne Vic. Railways of Australiia Committee 1988) p. 41.

HONG
KONG

Light
rail

Fig. 118

A vehicle made in Australia travels along the light rail system built by an Australian consortium in Hong Kong.[15]

MELBOURNE

Light
rail

Fig. 119

Melbourne's recently opened light rail [16] operates over former rail tracks as well as along streets.

15.   Railways of Australia. *Yearbook 1989*. (Melbourne V ic. Railways of Australia Committee. 1989) p. 6.

16.   Ibid. p. 47.

APPENDIX E

A SUMMARY OF THE
PRINCIPAL RAILWAY, TRAMWAY
AND OTHER RELEVANT ACTS.

1850 – 1984

Date of Assent

19 Feb. 1850   *Adelaide City & Port Railway Act. 1850* (private)
        Authorising a railway from the City to Port Adelaide with branches to the "present place of shipment" (sic) and the North Arm. Became void and undertakers were appointed.

19 Jun. 1856   *South Australian Railway Act. 1866–56*
        Appointing South Australian Railway Commissioners and authorising them to construct the Adelaide City & Port Railway and the Adelaide and Gawler Town Railway, and to raise a further £36 000 for the completion of the Port Line.

9 Aug. 1870   *The Tramways Act, 1870 (Imperial)*
        An act to facilitate the construction and to regulate the working of tramways. It applied to England, Wales and Scotland, but not Ireland. It stipulated a 4'8½" gauge (1.435m) unless some other gauge is prescribed in the special act (Sec. 25). It required the promoters to repair that part of the road where the tramway is laid extending 1'6" on either side of the running rails, which were requiried to be level with the road surface.

23 Nov. 1871   *Adelaide Glenelg and Suburban Railway Act, 1871 (private)*
        Authorising a line from King William Street to Glenelg Jetty, with a speed limit of 30 mph.

6 Nov. 1874   *Port Adelaide and Semaphore Railway Act. 1874*
        Enabling a line to be built from Port Adelaide to Semaphore Beach, LeFevre's Peninsula.

27 Oct. 1876   *Adelaide and Suburban Tramways Act, 1876*
        Sanctioning the construction, operation and maitnenance of tramways by horse traction between the City and the town of Kensington and Norwood.

21 Dec. 1877   *Gawler Town Railway Act. 1877*
        Extension of the SAR line from Gawler Town to the Market Reserve.

        Port Adelaide and Suburban Tramway Act. 1877
        An act to authorise the construction maintenance and working of tramways by horse or steam power between Port Adelaide, Portland Estate, Alberton, Queenstown and Cheltenham.

        The Adelaide Unley and Mitcham Tramways Act. 1877
        Authorising to construction of tramways for horse or steam traction between the City, Unley, Upper Lower and West Mitcham and other adjacent places.

        Glenelg and Brighton Tramways Act. 1877
        Extending from the North end of Moseley Street along Tarlton Street to the beach and then southwards to Brighton. This line was 5'3" gauge and horse or steam traction was authorised.

Date of Assent

21 Dec. 1877
cont'd.

Adelaide and Hindmarsh Tramways Act. 1877
An act to empower a tramway to be built and operated by horse or steam power between the City, Thebarton, Hindmarsh, Bowden, Brompton and Croydon, also to Henley or Kirkaldy Beach.

30 Nov. 1878

Adelaide to Nairne Railway Act. 1878
Extending the SAR line from Adelaide SE to Nairne.

30 Nov. 1878

Adelaide Parklands Act. 1878
Extending an area of Parkland north of North Terrace towards the Torrens River and westwards to Morphett Street for railway purposes.

Holdfast Bay Railway Act. 1878 (private)
Authorising a railway to be constructed between Glenelg and the 2nd. signal station west of Adelaide Railway Station.

Grange and Military Road Railway Act. 1878. (private)
Authorising a railway between Grange and Woodville.

18 Nov. 1881

Morphett Street Bridge Act. 1881
The Commissioner of Railways was authorised to construct a good and substantial bridge over North Terrace and the Adelaide and Port Railway.

Adelaide and Suburban Tramways Extension Act 1881
Authorising extensions to East Adelaide.
Walkerville and Stepney.

Adelaide and Parkside South Tramway Act. 1881
Giving authority for a horse tramway from the City to Parkside, Fullarton and Parkside South.

Adelaide and Hindmarsh Tramways Extension Act. 1881
Extending to New Thebarton and via Henley Beach Road to Kirkaldy Beach, by horse, steam or other power.

Glenelg Railway Act. 1881
An act enabling the amalgamation of the Holdfast Bay Railway Co. Ltd. with the Glenelg and Suburban Railway Co. Ltd.

18 Nov. 1881

Port Adelaide and Suburban Tramway Sale Act. 1881
Authorising the liquidators of the tramway to sell the assets to William Randall Cave and John Daly the younger.

17 Nov. 1882

Adelaide and Suburban Tramways Extension Act. 1882
Authorising extensions to Burnside, Maylands and Magill.

The Prospect and Nailsworth Tramway Act. 1882
Sanctioning the building of a horse tramway frolm Adelaide to Prospect, Nailsworth and Enfield.

Date of Assent

17 Nov. 1882
cont'd.

The Adelaide Payneham and Paradise Tramways Act. 1882
An act enabling a horse tramway to be built from the City to Kent Town, Collegetown, Stepney, College Park, East Adelaide, Payneham, West Marden, Felixtow, Glynde, Hectorville, East Marden, Clareville, Campbelltown, Sydenham and Paradise.

Adelaide, North Adelaide and Ovingham Tramways Act. 1882
Authorising the construction of a horse tramway from the City to North Adelaide, Bowden, Brompton and Ovingham. It was not built.

The Adelaide and Hyde Park Tramways Act. 1882
An enabling act to allow a horse tramway from the City via North Unley, Unley, Hyde Park and Hawthorne to Westbourne Park.

Glenelg, New Glenelg, Somerton and New Brighton Tramway Act. 1882
An act enabling a small tramway to be built in streets in South Glenelg and operated by horse tractioin. It closed within three years.

17 Nov. 1882

The Glenelg Brighton and Marino Tramway Act. 1882
Authorising a horse drawn tramway between Glenelg, New Glenelg, Somerton, Brighton, Old Brighton, Shoreham and Dover, with a branch in Somerton Park along Scarborough Street.

Largs Bay Railway Act. 1882 (private)
Authorising a steam powered railway between Glanville Railway Station and the Jetty at Largs Bay, by the Largs Bay Land and investment Co. Ltd.

24 Oct. 1883

Adelaide and Parkside Tramway Extension Act. 1883
Authorising an extension from Pirie Street along Pulteney Street and Flinders Street to Hutt Street.

22 Nov. 1883

Glenelg Railway Act Amendment Act. 1883
Required the newly amalgamated railways to run at least 14 trains per day between Adelaide and Glenelg not less than 5 on either line.

10 Sep. 1884

The General Tramways Act. 1884
An act to regulate the construction and working of tramways in South Australia. It specifies (Sec. 6) that rails shall be of steel or iron, weighing not less than 20lb/yard with 1¼ wide grooves, the tops of which shall be level with road surfaces. A gauge of 4'8½" is standardised. It re-states the responsibilities of operators as regards maintenance and abandonment as well as general conduct of tramways which appear in the Imperial Tramways Act, 1870. It requires carriages to be moved by horses or mules except where otherwise prescribed.

Date of Assent

16 Nov. 1887   *The Railway Refreshment Rooms Act. 1887*
                Regulation of refreshment rooms and requirement of the
                Treasurer to collect fees and issues licences.

9 Dec. 1887   *The South Australian Railways Commissioners Act. 1887*
                A wide ranging act dealing with the appointment and conduct of
                commissioners, and for the examination and appointment of
                officers and employés (sic) in the service. It transferred control
                of the railways from the Commissioner of Public Works.

6 Dec. 1889   *The Adelaide Payneham and Paradise Tramways Act. 1882*
                Amendment and Tramways Extension Act. 1889
                Authorising an extension along Baliol Street, Rugby Street,
                Harrow Road and Fourth Avenue.

4 Oct. 1891   *The South Australian Railway Commissioners Act. Amdt. Act. 1891*
                Requiring that where the Chairman differs from a decision by the
                other two Commissioners, the matter shall be referred to the
                Minister.

9 Dec. 1891   *The Adelaide Unley and Mitcham Tramways Act 1877*
                Amendment and Tramways Enlargement Act 1891
                An act authorising the duplication of the tramway between
                Adelaide and Unley tram sheds.

9 Dec. 1896   *The Adelaide and Parkside Tramway Enlargement Act. 1896*
                Authorising the duplication of the line from South Terrace to
                Parkside.

23 Dec. 1898   *The Grange and Henley Beach Railway Act. 1898*
                Authorising the line between Grange and Henley Beach as
                already built, and limiting its speed to 20 mph.

21 Dec. 1899   *The Glenelg Railway Purchase Act. 1899*
                Sanctioning the purchase by the Government of the railway for
                £120 000.

21 Dec. 1901   *The Harbor and Railway Act. 1901*
                Authorising the construction of a harbor at Light's Passage and a
                railway to it extending from Largs Bay.

21 Dec. 1901   *The Adelaide and Suburban Electric Traction Act. 1905* (private)
                Known as the Snow Act, to enable indirect municipalisation of
                the horse tramways to occur. It expired and was repealed in
                1904.

24 Dec. 1904   *The Tramways Electric Traction Act. 1904*
                The Government was authorised to purchase most of the horse
                tramways simultaneously, and to operate them by electricity.

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Date of Assent

22 Dec. 1906   *The Municipal Tramways Trust Act. 1906*
This act endorsed the purchase of certain tramways, and created the Municipal Tramways Trust to construct and work them.

21 Dec. 1907   *The Tramways Trust Crown Lease Act. 1907*
Authorising leases to the MTT of land at Hackney Road and Ocean Steamship Wharf for a term of 42 years (+ an option of a further term of 42 years) at an initial rent of £250 per acre per annum.

11 Dec. 1909   *The Goodwood to Willunga Railway Act. 1909*
Authorising the construction of a branch to Willunga.

7 Dec. 1910   *The Goodwood to Willunga Railway Act. 1910*
Providing for certain detail matters including a poll of ratepayers on the proposed railway.

14 Dec. 1912   *The Port Adelaide Elective Tramways Act. 1912*
Enabling the City of Port Adelaide to have representatives on the M.T.T.

7 Dec. 1921   *South Australian Railways Commissioners Acts.*
Further Amendment Act. 1921
An act providing for two commissioners instead of one. (W.A. Webb became the Chief Commissioner in 1922, sharing the post with the former sole incumbent J. McGuire, until he died in 1927).

5 Jan. 1928   *Glenelg, Brighton and Marion Electric Tramways Act. 1927*
An act to transfer to the MTT the two railway lines to Glenelg, the line between Grange and Henley Beach, and part of the line between Woodville and Grange.

30 Oct. 1929   *Municipal Tramways Trust Lease Act. 1929*
Authorising the extension of the MTT's leases of land at increased rentals after expiry of the 1st. term on 31 July 1950.

28 Nov. 1935   *The Municipal Tramways Trust Act. 1935*
Consolidating the powers of the MTT to operate buses as well as trams, and defining the powers, obligations and liabilities of the constituent Metropolitan Councils.

10 Dec. 1946   *Railways Standardization Agreement Act. 1946*
Embodying a 6 page agreement, covering the States of New South Wales, Victoria and South Australia. As far as S.A. was concerned the whole system was to be converted to standard gauge. The Commonwealth would bear the cost of regauging, whilst the state would convert existing rolling stock up to a value of £ 3 684 064. If this cost should exceed £ 4 912 085 the Commonwealth would bear the excess.

There were subsequent Agreements on 1 Dec 1949 and 28 Nov 1968.

23 Oct. 1952   *Municipal Tramways Trust Amendment Act. 1952*
A Statute authorising the governor to appoint a new 5 member Trust, to replace the then existing Trust, drawn from members of the participating local Councils.

25 Nov. 1971   *Hallet Cove to Port Stanvac Railway Extension Act. 1971*
An act authorising a railway extension at 5'3" gauge.

11 April 1974   *State Transport Authority Act. 1974*
An act setting up a unified authority of seven members appointed by the Governor on the nomination of the Minister, to manage and operate all the state's public transport.

1 Aug. 1974   *Brighton to Christie Downs Railway Duplication and Extension Act. 1974*
Authorising new track and works to a gauge of 1600mm.

21 Aug. 1975   *Railways (Transfer Agreement) Act. 1975*
An act to transfer non–Metropolitan lines to the Australian National Railways.

10 Apr. 1975   *Rundle Street Mall Act. 1975*
Authorising the Corporation of the City of Adelaide to convert the street to a Pedestrian Mall and to manage it. It also provides for the conveyance of the Parking Station Site at the junction of Pulteney and Rundle Streets to the City Corporation for $1 160 000.

4 Dec. 1975   *Municipal Tramways Act Amendment Act. 1975*
This is an amending act striking out the words "Municipal Tramways Trust" and substituting "State Transport Authority". It re–enacts clauses allowing the STA to operate trams by electricity anywhere in the state, to construct and remove tramways and operate or cease to operate them, as well as motor buses which may be run outside the State.

5 May 1977   *State Transport Authority Act Amendment Act. 1977*
Amending the number of members from 7 to 8.

19 Nov. 1981   *State Transport Amendment Act (No. 2). 1981*
This act defines the powers and functions of the STA.
It defines "public transport service" as being:

a)   by tram bus or train.
b)   by means of any automated or semi–automated vehicular system

or

c)   by any other means

but does not include the carriage of goods predominantly.

10 May 1984   *Adelaide Railway Station Act. 1984*

This Statute facilitates the redevelopment of the station between the contracting parties:

a) The State

b) South Australian Superannuation Fund Investment Trust

c) Kumagai Gumi Co. Ltd.

d) Aser Property Trust

It vests in the STA (Section 766), and exempts the developers from compliance with the City of Adelaide Development Control Act 1976, in respect of the ASER site.

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6628.10844	Adelaide Railway Station
6628.13657	North Adelade Railway Station and Signal Cabin
6628.10379	Gawler Railway Station
6628.10834	Former Maylands Horse Tram Depot, Magill Road
6628.10934	Alberton Railway Station
6628.10557	Bowden Railway Station
6628.10986	Former No. 1 Converter Station, East Terrace
6628.11524	Belair Station
6628.10278	Overland Corner Hotel, near Barmera
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