Copyright and use of this thesis
This thesis must be used in accordance with the provisions of the Copyright Act 1968.

Reproduction of material protected by copyright may be an infringement of copyright and copyright owners may be entitled to take legal action against persons who infringe their copyright.

Section 51 (2) of the Copyright Act permits an authorized officer of a university library or archives to provide a copy (by communication or otherwise) of an unpublished thesis kept in the library or archives, to a person who satisfies the authorized officer that he or she requires the reproduction for the purposes of research or study.

The Copyright Act grants the creator of a work a number of moral rights, specifically the right of attribution, the right against false attribution and the right of integrity.

You may infringe the author's moral rights if you:
- fail to acknowledge the author of this thesis if you quote sections from the work
- attribute this thesis to another author
- subject this thesis to derogatory treatment which may prejudice the author's reputation

For further information contact the University's Copyright Service.
sydney.edu.au/copyright
THE RAILWAY STATIONS OF NEW SOUTH WALES

1855-1980

Stuart Alan Sharp

This thesis is submitted in partial fulfilment of the requirements of the degree of Master of Economics in the Department of Economic History at the University of Sydney.

August, 1982.

COPYRIGHT
THE RAILWAY STATIONS OF NEW SOUTH WALES

1855-1980

PART FOUR
(Section Two)

CHRONOLOGICAL HISTORY
(1917-1980)
# TABLE OF CONTENTS

## PART ONE: INTRODUCTION
1. INTRODUCTION
2. METHODOLOGY

## PART TWO: STATION BASE DATA
3. STATION BASE DATA

## PART THREE: ENVIRONMENT BASE DATA
4. THE DECISION MAKERS & THE PROCESS
5. OVERSEAS INFLUENCES
6. USER NEEDS & RESPONSES
7. STATEWIDE & LOCAL FACTORS
8. MATERIALS & BUILDING METHODS
9. STATIONS IN ART & LITERATURE
10. IMPACT ON NON N.S.W. STATION BUILDINGS IN N.S.W.
11. RECYCLED BUILDINGS

## PART FOUR: CHRONOLIGICAL HISTORY
12. EARLY VICTORIAN 1851-1860
13. MID VICTORIAN 1861-1878
14. HIGH VICTORIAN 1879-1892
15. LATE VICTORIAN 1893-1900
16. EDWARDIAN 1901-1916
17. TRANSITION 1917-1929
18. EARLY MODERN 1930-1944
19. AUSTERITY 1945-1954
20. MID 20TH CENTURY 1955-1980

## PART FIVE: CONCLUSIONS
21. CONCLUSIONS
# CHAPTER OUTLINE - VOLUME FIVE

## PART FOUR (SECTION TWO): CHRONOLOGICAL HISTORY, 1917-1980

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>DESCRIPTION</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td><strong>Transition Period (1917-1929)</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>17.1 The Transition to Materials Leadership</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>17.2 The Transition to Design Leadership</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>17.3 The position in 1929</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Bibliography</td>
<td>34</td>
</tr>
<tr>
<td>18</td>
<td><strong>Early Modern Period (1930-1944)</strong></td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>18.1 Introduction</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>18.2 The Re-emergence of impressive structures</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>18.3 The position in 1944</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Bibliography</td>
<td>78</td>
</tr>
<tr>
<td>19</td>
<td><strong>Austerity Period (1945-1954)</strong></td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>19.1 Introduction</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>19.2 Extension of the Early Modern Period</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>(1945-1950)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19.3 Four years of austerity (1951-1954)</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>19.4 The position in 1954</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>Bibliography</td>
<td>105</td>
</tr>
<tr>
<td>20</td>
<td><strong>Mid Twentieth Century Period (1955-1980)</strong></td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>20.1 The search for economy 1955-64</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>20.2 Nominal modernisation 1965-75</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>20.3 The birth of a station improvement</td>
<td>146</td>
</tr>
<tr>
<td></td>
<td>programme 1976-80</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20.4 The position in 1980</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>Bibliography</td>
<td>161</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

INDEXED BY NUMBER
<table>
<thead>
<tr>
<th>Figure No.</th>
<th>Station</th>
<th>Volume</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perthville</td>
<td>1</td>
<td>89</td>
</tr>
<tr>
<td>2</td>
<td>Wingen</td>
<td>1</td>
<td>89</td>
</tr>
<tr>
<td>3</td>
<td>standard design</td>
<td>1</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>Greenethorpe</td>
<td>1</td>
<td>91</td>
</tr>
<tr>
<td>5</td>
<td>Caragabal</td>
<td>1</td>
<td>91</td>
</tr>
<tr>
<td>6</td>
<td>Fairfield</td>
<td>1</td>
<td>42</td>
</tr>
<tr>
<td>7</td>
<td>Ashfield</td>
<td>1</td>
<td>42</td>
</tr>
<tr>
<td>8</td>
<td>Rydal</td>
<td>1</td>
<td>43</td>
</tr>
<tr>
<td>9</td>
<td>Quirindi</td>
<td>1</td>
<td>43</td>
</tr>
<tr>
<td>10</td>
<td>Ashfield</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>12</td>
<td>Sydney</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td>14</td>
<td>Maitland</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>15</td>
<td>Petersham</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>16</td>
<td>Bowenfels</td>
<td>1</td>
<td>47</td>
</tr>
<tr>
<td>17</td>
<td>Picton</td>
<td>1</td>
<td>47</td>
</tr>
<tr>
<td>18</td>
<td>Stanmore</td>
<td>1</td>
<td>48</td>
</tr>
<tr>
<td>19</td>
<td>Auburn</td>
<td>1</td>
<td>48</td>
</tr>
<tr>
<td>20</td>
<td>Narrandera</td>
<td>1</td>
<td>49</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>1</td>
<td>49</td>
</tr>
<tr>
<td>22</td>
<td>Millthorpe</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>23</td>
<td>Bomen</td>
<td>1</td>
<td>51</td>
</tr>
<tr>
<td>24</td>
<td>West Tamworth</td>
<td>1</td>
<td>51</td>
</tr>
<tr>
<td>25</td>
<td>Liverpool</td>
<td>1</td>
<td>52</td>
</tr>
<tr>
<td>26</td>
<td>Stanmore</td>
<td>1</td>
<td>53</td>
</tr>
<tr>
<td>27</td>
<td>Sydenham</td>
<td>1</td>
<td>53</td>
</tr>
<tr>
<td>28</td>
<td>Capertee</td>
<td>1</td>
<td>54</td>
</tr>
<tr>
<td>29</td>
<td>Gunning</td>
<td>1</td>
<td>54</td>
</tr>
<tr>
<td>30</td>
<td>Albury</td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>31</td>
<td></td>
<td>1</td>
<td>55</td>
</tr>
<tr>
<td>32</td>
<td>Carrick</td>
<td>1</td>
<td>56</td>
</tr>
<tr>
<td>33</td>
<td>Lindfield</td>
<td>1</td>
<td>56</td>
</tr>
<tr>
<td>34</td>
<td>Hilldale</td>
<td>1</td>
<td>57</td>
</tr>
<tr>
<td>35</td>
<td>Toolijooa</td>
<td>1</td>
<td>57</td>
</tr>
<tr>
<td>36</td>
<td>Breadalbane</td>
<td>1</td>
<td>58</td>
</tr>
<tr>
<td>37</td>
<td>Raglan</td>
<td>1</td>
<td>59</td>
</tr>
<tr>
<td>37A</td>
<td></td>
<td>1</td>
<td>59</td>
</tr>
<tr>
<td>38</td>
<td>Lewisham</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>39</td>
<td></td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>40</td>
<td>Kiama</td>
<td>1</td>
<td>61</td>
</tr>
<tr>
<td>41</td>
<td></td>
<td>1</td>
<td>61</td>
</tr>
<tr>
<td>42</td>
<td>Ivanhoe</td>
<td>1</td>
<td>62</td>
</tr>
<tr>
<td>43</td>
<td>standard plan</td>
<td>1</td>
<td>63</td>
</tr>
<tr>
<td>Figure NO.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>44</td>
<td>Nambucca Heads</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>45</td>
<td>East Hills</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>46</td>
<td>Bombo</td>
<td>1</td>
<td>65</td>
</tr>
<tr>
<td>47</td>
<td>Fassifern</td>
<td>1</td>
<td>65</td>
</tr>
<tr>
<td>48</td>
<td>Umbango</td>
<td>1</td>
<td>66</td>
</tr>
<tr>
<td>49</td>
<td>Naweenda</td>
<td>1</td>
<td>66</td>
</tr>
<tr>
<td>50</td>
<td>Elderslie</td>
<td>1</td>
<td>67</td>
</tr>
<tr>
<td>51</td>
<td>Guildford</td>
<td>1</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>&quot;</td>
<td>1</td>
<td>68</td>
</tr>
<tr>
<td>53</td>
<td>Mount Druitt</td>
<td>1</td>
<td>69</td>
</tr>
<tr>
<td>54</td>
<td>&quot;</td>
<td>1</td>
<td>69</td>
</tr>
<tr>
<td>55</td>
<td>Pokataroo</td>
<td>1</td>
<td>70</td>
</tr>
<tr>
<td>56</td>
<td>Warren</td>
<td>1</td>
<td>70</td>
</tr>
<tr>
<td>57</td>
<td>Grenfell</td>
<td>1</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>&quot;</td>
<td>1</td>
<td>71</td>
</tr>
<tr>
<td>59</td>
<td>Burren</td>
<td>1</td>
<td>72</td>
</tr>
<tr>
<td>60</td>
<td>Campsie</td>
<td>1</td>
<td>72</td>
</tr>
<tr>
<td>61</td>
<td>Waratah</td>
<td>1</td>
<td>73</td>
</tr>
<tr>
<td>62</td>
<td>Waverton</td>
<td>1</td>
<td>73</td>
</tr>
<tr>
<td>63</td>
<td>Canberra</td>
<td>1</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>&quot;</td>
<td>1</td>
<td>74</td>
</tr>
<tr>
<td>65</td>
<td>Redfern Receiving Station</td>
<td>3</td>
<td>124</td>
</tr>
<tr>
<td>66</td>
<td>Rookwood</td>
<td>3</td>
<td>124</td>
</tr>
<tr>
<td>67</td>
<td>Royal National Park</td>
<td>3</td>
<td>125</td>
</tr>
<tr>
<td>68</td>
<td>Como</td>
<td>3</td>
<td>125</td>
</tr>
<tr>
<td>69</td>
<td>Port Kembla North</td>
<td>3</td>
<td>126</td>
</tr>
<tr>
<td>70</td>
<td>Lidcombe</td>
<td>3</td>
<td>126</td>
</tr>
<tr>
<td>71</td>
<td>Campbelltown</td>
<td>3</td>
<td>127</td>
</tr>
<tr>
<td>72</td>
<td>Burwood</td>
<td>3</td>
<td>127</td>
</tr>
<tr>
<td>73</td>
<td>Finley</td>
<td>3</td>
<td>128</td>
</tr>
<tr>
<td>74</td>
<td>Oaklands</td>
<td>3</td>
<td>128</td>
</tr>
<tr>
<td>75</td>
<td>Aylmerton</td>
<td>3</td>
<td>129</td>
</tr>
<tr>
<td>76</td>
<td>Galong</td>
<td>3</td>
<td>129</td>
</tr>
<tr>
<td>77</td>
<td>Fassifern</td>
<td>3</td>
<td>130</td>
</tr>
<tr>
<td>78</td>
<td>Griffith</td>
<td>3</td>
<td>130</td>
</tr>
<tr>
<td>79</td>
<td>Glencoe</td>
<td>3</td>
<td>131</td>
</tr>
<tr>
<td>80</td>
<td>Glenbrook</td>
<td>3</td>
<td>131</td>
</tr>
<tr>
<td>81</td>
<td>Walcha Road</td>
<td>3</td>
<td>132</td>
</tr>
<tr>
<td>82</td>
<td>Marinna</td>
<td>3</td>
<td>132</td>
</tr>
<tr>
<td>83</td>
<td>Old Junee</td>
<td>3</td>
<td>133</td>
</tr>
<tr>
<td>84</td>
<td>Kywong</td>
<td>3</td>
<td>133</td>
</tr>
<tr>
<td>85</td>
<td>Flemington</td>
<td>3</td>
<td>134</td>
</tr>
<tr>
<td>86</td>
<td>Illabo</td>
<td>3</td>
<td>134</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>87</td>
<td>Mungindi</td>
<td>3</td>
<td>135</td>
</tr>
<tr>
<td>88</td>
<td>Marinna</td>
<td>3</td>
<td>135</td>
</tr>
<tr>
<td>89</td>
<td>Corowa</td>
<td>3</td>
<td>136</td>
</tr>
<tr>
<td>90</td>
<td>&quot;</td>
<td>3</td>
<td>136</td>
</tr>
<tr>
<td>91</td>
<td>&quot;</td>
<td>3</td>
<td>137</td>
</tr>
<tr>
<td>92</td>
<td>Ganmain</td>
<td>3</td>
<td>137</td>
</tr>
<tr>
<td>93</td>
<td>Baan Baa</td>
<td>3</td>
<td>138</td>
</tr>
<tr>
<td>94</td>
<td>Whittingham</td>
<td>3</td>
<td>138</td>
</tr>
<tr>
<td>95</td>
<td>Telararah</td>
<td>3</td>
<td>139</td>
</tr>
<tr>
<td>96</td>
<td>&quot;</td>
<td>3</td>
<td>139</td>
</tr>
<tr>
<td>97</td>
<td>Cheltenham</td>
<td>3</td>
<td>140</td>
</tr>
<tr>
<td>98</td>
<td>&quot;</td>
<td>3</td>
<td>140</td>
</tr>
<tr>
<td>99</td>
<td>Warwick Farm</td>
<td>3</td>
<td>141</td>
</tr>
<tr>
<td>100</td>
<td>Culcairn</td>
<td>3</td>
<td>141</td>
</tr>
<tr>
<td>101</td>
<td>&quot;</td>
<td>3</td>
<td>142</td>
</tr>
<tr>
<td>102</td>
<td>Yanco</td>
<td>3</td>
<td>142</td>
</tr>
<tr>
<td>103</td>
<td>Berrigan</td>
<td>3</td>
<td>143</td>
</tr>
<tr>
<td>104</td>
<td>Parkville</td>
<td>3</td>
<td>143</td>
</tr>
<tr>
<td>105</td>
<td>Mittagong</td>
<td>3</td>
<td>144</td>
</tr>
<tr>
<td>106</td>
<td>Werris Creek</td>
<td>3</td>
<td>144</td>
</tr>
<tr>
<td>107</td>
<td>Moree</td>
<td>3</td>
<td>145</td>
</tr>
<tr>
<td>108</td>
<td>Whittington</td>
<td>3</td>
<td>145</td>
</tr>
<tr>
<td>109</td>
<td>Jerilderie</td>
<td>3</td>
<td>146</td>
</tr>
<tr>
<td>110</td>
<td>Cowra</td>
<td>3</td>
<td>146</td>
</tr>
<tr>
<td>111</td>
<td>Warialda</td>
<td>3</td>
<td>147</td>
</tr>
<tr>
<td>112</td>
<td>Breeze</td>
<td>3</td>
<td>147</td>
</tr>
<tr>
<td>113</td>
<td>West Tamworth</td>
<td>3</td>
<td>148</td>
</tr>
<tr>
<td>114</td>
<td>Queanbeyan</td>
<td>3</td>
<td>148</td>
</tr>
<tr>
<td>115</td>
<td>Taree</td>
<td>3</td>
<td>149</td>
</tr>
<tr>
<td>116</td>
<td>Junee</td>
<td>3</td>
<td>149</td>
</tr>
<tr>
<td>117</td>
<td>Hay</td>
<td>3</td>
<td>150</td>
</tr>
<tr>
<td>118</td>
<td>Bungendore</td>
<td>3</td>
<td>150</td>
</tr>
<tr>
<td>119</td>
<td>Omega</td>
<td>3</td>
<td>151</td>
</tr>
<tr>
<td>120</td>
<td>standard plan</td>
<td>3</td>
<td>152</td>
</tr>
<tr>
<td>121</td>
<td>Lake Cargelligo</td>
<td>3</td>
<td>153</td>
</tr>
<tr>
<td>122</td>
<td>Coopernook</td>
<td>3</td>
<td>154</td>
</tr>
<tr>
<td>123</td>
<td>Mooreland</td>
<td>3</td>
<td>154</td>
</tr>
<tr>
<td>124</td>
<td>Boggabri</td>
<td>3</td>
<td>155</td>
</tr>
<tr>
<td>125</td>
<td>Cobar</td>
<td>3</td>
<td>155</td>
</tr>
<tr>
<td>126</td>
<td>Tumut</td>
<td>3</td>
<td>156</td>
</tr>
<tr>
<td>127</td>
<td>Belmore</td>
<td>3</td>
<td>156</td>
</tr>
<tr>
<td>128</td>
<td>East Hills</td>
<td>3</td>
<td>157</td>
</tr>
<tr>
<td>129</td>
<td>High Street</td>
<td>3</td>
<td>157</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>130</td>
<td>Gerringong</td>
<td>3</td>
<td>158</td>
</tr>
<tr>
<td>131</td>
<td>Loftus</td>
<td>3</td>
<td>158</td>
</tr>
<tr>
<td>132</td>
<td>Leeton</td>
<td>3</td>
<td>159</td>
</tr>
<tr>
<td>133</td>
<td>Griffith</td>
<td>3</td>
<td>159</td>
</tr>
<tr>
<td>134</td>
<td>Coonamble</td>
<td>3</td>
<td>160</td>
</tr>
<tr>
<td>135</td>
<td>Narrabri</td>
<td>3</td>
<td>160</td>
</tr>
<tr>
<td>136</td>
<td>Redfern</td>
<td>3</td>
<td>161</td>
</tr>
<tr>
<td>137</td>
<td>Granville</td>
<td>3</td>
<td>161</td>
</tr>
<tr>
<td>138</td>
<td>Rowena</td>
<td>3</td>
<td>162</td>
</tr>
<tr>
<td>139</td>
<td>Wingham</td>
<td>3</td>
<td>162</td>
</tr>
<tr>
<td>140</td>
<td>Raleigh</td>
<td>3</td>
<td>163</td>
</tr>
<tr>
<td>141</td>
<td>Blackheath</td>
<td>3</td>
<td>163</td>
</tr>
<tr>
<td>142</td>
<td>Woy Woy</td>
<td>3</td>
<td>164</td>
</tr>
<tr>
<td>143</td>
<td>Edgemoi</td>
<td>3</td>
<td>165</td>
</tr>
<tr>
<td>144</td>
<td>Rydal</td>
<td>3</td>
<td>165</td>
</tr>
<tr>
<td>145</td>
<td>Gravesend</td>
<td>3</td>
<td>166</td>
</tr>
<tr>
<td>146</td>
<td>standard drawing</td>
<td>3</td>
<td>167</td>
</tr>
<tr>
<td>147</td>
<td>Scone</td>
<td>3</td>
<td>168</td>
</tr>
<tr>
<td>147A</td>
<td></td>
<td>3</td>
<td>168</td>
</tr>
<tr>
<td>148</td>
<td>Dundee</td>
<td>3</td>
<td>169</td>
</tr>
<tr>
<td>149</td>
<td>Cowra</td>
<td>3</td>
<td>169</td>
</tr>
<tr>
<td>150</td>
<td>Canberra</td>
<td>3</td>
<td>170</td>
</tr>
<tr>
<td>151</td>
<td>Newcastle</td>
<td>3</td>
<td>170</td>
</tr>
<tr>
<td>152</td>
<td></td>
<td>3</td>
<td>171</td>
</tr>
<tr>
<td>153</td>
<td>Hay</td>
<td>3</td>
<td>171</td>
</tr>
<tr>
<td>153A</td>
<td>Cockle Creek</td>
<td>3</td>
<td>310</td>
</tr>
<tr>
<td>154</td>
<td>Moree</td>
<td>3</td>
<td>311</td>
</tr>
<tr>
<td>155</td>
<td>Minnamurra</td>
<td>3</td>
<td>311</td>
</tr>
<tr>
<td>156</td>
<td>Guildford</td>
<td>3</td>
<td>312</td>
</tr>
<tr>
<td>157</td>
<td>Marayong</td>
<td>3</td>
<td>312</td>
</tr>
<tr>
<td>158</td>
<td>Harris Park</td>
<td>3</td>
<td>313</td>
</tr>
<tr>
<td>159</td>
<td>Mendooran</td>
<td>3</td>
<td>313</td>
</tr>
<tr>
<td>160</td>
<td>Burcher</td>
<td>3</td>
<td>314</td>
</tr>
<tr>
<td>161</td>
<td>Narrandera</td>
<td>3</td>
<td>314</td>
</tr>
<tr>
<td>162</td>
<td>Hay</td>
<td>3</td>
<td>314</td>
</tr>
<tr>
<td>163</td>
<td>Mount Victoria</td>
<td>3</td>
<td>315</td>
</tr>
<tr>
<td>164</td>
<td>Carrathool</td>
<td>3</td>
<td>315</td>
</tr>
<tr>
<td>165</td>
<td>Milguy</td>
<td>3</td>
<td>316</td>
</tr>
<tr>
<td>166</td>
<td>Aberdeen</td>
<td>3</td>
<td>316</td>
</tr>
<tr>
<td>166A</td>
<td>Waratah</td>
<td>3</td>
<td>317</td>
</tr>
<tr>
<td>167</td>
<td>Newtown</td>
<td>3</td>
<td>316</td>
</tr>
<tr>
<td>168</td>
<td>Towradgi</td>
<td>3</td>
<td>318</td>
</tr>
<tr>
<td>169</td>
<td></td>
<td>3</td>
<td>318</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>170</td>
<td>Ardlethan</td>
<td>3</td>
<td>319</td>
</tr>
<tr>
<td>171</td>
<td>Nulabor</td>
<td>3</td>
<td>319</td>
</tr>
<tr>
<td>172</td>
<td>Sydney</td>
<td>4</td>
<td>33</td>
</tr>
<tr>
<td>173</td>
<td>Campbelltown</td>
<td>4</td>
<td>33</td>
</tr>
<tr>
<td>174</td>
<td>Parramatta</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>175</td>
<td>Blacktown</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>176</td>
<td>Parramatta Junction</td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>177</td>
<td></td>
<td>4</td>
<td>35</td>
</tr>
<tr>
<td>178</td>
<td>Honeysuckle Point</td>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>179</td>
<td></td>
<td>4</td>
<td>36</td>
</tr>
<tr>
<td>180</td>
<td>Burwood</td>
<td>4</td>
<td>72</td>
</tr>
<tr>
<td>181</td>
<td>Bundanoon</td>
<td>4</td>
<td>73</td>
</tr>
<tr>
<td>182</td>
<td>Menangle Park</td>
<td>4</td>
<td>73</td>
</tr>
<tr>
<td>183</td>
<td>Marulan</td>
<td>4</td>
<td>74</td>
</tr>
<tr>
<td>184</td>
<td>Menangle</td>
<td>4</td>
<td>74</td>
</tr>
<tr>
<td>185</td>
<td>Mount Victoria</td>
<td>4</td>
<td>75</td>
</tr>
<tr>
<td>186</td>
<td>Goulburn</td>
<td>4</td>
<td>75</td>
</tr>
<tr>
<td>187</td>
<td>Wallerawang</td>
<td>4</td>
<td>76</td>
</tr>
<tr>
<td>188</td>
<td>Brewangle</td>
<td>4</td>
<td>76</td>
</tr>
<tr>
<td>189</td>
<td>Kelso</td>
<td>4</td>
<td>77</td>
</tr>
<tr>
<td>190</td>
<td>Bathurst</td>
<td>4</td>
<td>77</td>
</tr>
<tr>
<td>191</td>
<td>Katoomba</td>
<td>4</td>
<td>78</td>
</tr>
<tr>
<td>192</td>
<td>West Tamworth</td>
<td>4</td>
<td>78</td>
</tr>
<tr>
<td>193</td>
<td>Harden</td>
<td>4</td>
<td>79</td>
</tr>
<tr>
<td>194</td>
<td>Tamworth</td>
<td>4</td>
<td>79</td>
</tr>
<tr>
<td>195</td>
<td>Maitland</td>
<td>4</td>
<td>80</td>
</tr>
<tr>
<td>196</td>
<td>Wagga Wagga</td>
<td>4</td>
<td>123</td>
</tr>
<tr>
<td>197</td>
<td>Uardry</td>
<td>4</td>
<td>123</td>
</tr>
<tr>
<td>198</td>
<td>Byrock</td>
<td>4</td>
<td>124</td>
</tr>
<tr>
<td>199</td>
<td>Glen Innes</td>
<td>4</td>
<td>124</td>
</tr>
<tr>
<td>199A</td>
<td>Bethungkin</td>
<td>4</td>
<td>125</td>
</tr>
<tr>
<td>200</td>
<td>Binalong</td>
<td>4</td>
<td>125</td>
</tr>
<tr>
<td>201</td>
<td>Tenterfield</td>
<td>4</td>
<td>126</td>
</tr>
<tr>
<td>202</td>
<td>Werris Creek</td>
<td>4</td>
<td>126</td>
</tr>
<tr>
<td>203</td>
<td>Dubbo</td>
<td>4</td>
<td>127</td>
</tr>
<tr>
<td>204</td>
<td>Junee</td>
<td>4</td>
<td>127</td>
</tr>
<tr>
<td>205</td>
<td>Spring Hill</td>
<td>4</td>
<td>128</td>
</tr>
<tr>
<td>206</td>
<td>Blacktown</td>
<td>4</td>
<td>128</td>
</tr>
<tr>
<td>207</td>
<td>Eskbank</td>
<td>4</td>
<td>129</td>
</tr>
<tr>
<td>208</td>
<td>Newtown</td>
<td>4</td>
<td>129</td>
</tr>
<tr>
<td>209</td>
<td>Burwood</td>
<td>4</td>
<td>130</td>
</tr>
<tr>
<td>210</td>
<td>Granville</td>
<td>4</td>
<td>130</td>
</tr>
<tr>
<td>211</td>
<td>Petersham</td>
<td>4</td>
<td>131</td>
</tr>
<tr>
<td>212</td>
<td></td>
<td>4</td>
<td>131</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>212A</td>
<td>Summer Hill</td>
<td>4</td>
<td>132</td>
</tr>
<tr>
<td>213</td>
<td>Table Top</td>
<td>4</td>
<td>133</td>
</tr>
<tr>
<td>214</td>
<td>Ettamogah</td>
<td>4</td>
<td>133</td>
</tr>
<tr>
<td>215</td>
<td>Maryvale</td>
<td>4</td>
<td>134</td>
</tr>
<tr>
<td>216</td>
<td>Kentucky</td>
<td>4</td>
<td>134</td>
</tr>
<tr>
<td>217</td>
<td>Shellharbour</td>
<td>4</td>
<td>135</td>
</tr>
<tr>
<td>218</td>
<td>Awaba</td>
<td>4</td>
<td>135</td>
</tr>
<tr>
<td>219</td>
<td>Sunnyside</td>
<td>4</td>
<td>136</td>
</tr>
<tr>
<td>220</td>
<td>Otford</td>
<td>4</td>
<td>137</td>
</tr>
<tr>
<td>221</td>
<td>Kingswood</td>
<td>4</td>
<td>137</td>
</tr>
<tr>
<td>222</td>
<td>Liverpool</td>
<td>4</td>
<td>138</td>
</tr>
<tr>
<td>223</td>
<td>Corowa</td>
<td>4</td>
<td>138</td>
</tr>
<tr>
<td>224</td>
<td>Temora</td>
<td>4</td>
<td>139</td>
</tr>
<tr>
<td>225</td>
<td>Waverton</td>
<td>4</td>
<td>139</td>
</tr>
<tr>
<td>225A</td>
<td>Forbes</td>
<td>4</td>
<td>140</td>
</tr>
<tr>
<td>226</td>
<td>Yass Town</td>
<td>4</td>
<td>141</td>
</tr>
<tr>
<td>226A</td>
<td>Hamilton</td>
<td>4</td>
<td>141</td>
</tr>
<tr>
<td>227</td>
<td>Breeza</td>
<td>4</td>
<td>142</td>
</tr>
<tr>
<td>228</td>
<td>Croydon</td>
<td>4</td>
<td>143</td>
</tr>
<tr>
<td>229</td>
<td>Petersham</td>
<td>4</td>
<td>143</td>
</tr>
<tr>
<td>230</td>
<td>Newtown</td>
<td>4</td>
<td>144</td>
</tr>
<tr>
<td>231</td>
<td>Summer Hill</td>
<td>4</td>
<td>144</td>
</tr>
<tr>
<td>232</td>
<td>Katoomba</td>
<td>4</td>
<td>145</td>
</tr>
<tr>
<td>233</td>
<td>Kiama</td>
<td>4</td>
<td>145</td>
</tr>
<tr>
<td>234</td>
<td>Auburn</td>
<td>4</td>
<td>146</td>
</tr>
<tr>
<td>235</td>
<td>Gerringong</td>
<td>4</td>
<td>167</td>
</tr>
<tr>
<td>236</td>
<td>St. Leonards</td>
<td>4</td>
<td>168</td>
</tr>
<tr>
<td>237</td>
<td>Wollstonecroft</td>
<td>4</td>
<td>168</td>
</tr>
<tr>
<td>238</td>
<td>Parkes</td>
<td>4</td>
<td>169</td>
</tr>
<tr>
<td>239</td>
<td>Byron Bay</td>
<td>4</td>
<td>169</td>
</tr>
<tr>
<td>240</td>
<td>Canterbury</td>
<td>4</td>
<td>170</td>
</tr>
<tr>
<td>241</td>
<td>Cabramatta</td>
<td>4</td>
<td>171</td>
</tr>
<tr>
<td>242</td>
<td>Canley Vale</td>
<td>4</td>
<td>171</td>
</tr>
<tr>
<td>243</td>
<td>Turramurra</td>
<td>4</td>
<td>172</td>
</tr>
<tr>
<td>244</td>
<td>Epping</td>
<td>4</td>
<td>172</td>
</tr>
<tr>
<td>245</td>
<td>Green Swamp Road</td>
<td>4</td>
<td>173</td>
</tr>
<tr>
<td>246</td>
<td>Berrigan</td>
<td>4</td>
<td>173</td>
</tr>
<tr>
<td>247</td>
<td>Barraba</td>
<td>4</td>
<td>174</td>
</tr>
<tr>
<td>248</td>
<td>Moulamein</td>
<td>4</td>
<td>174</td>
</tr>
<tr>
<td>249</td>
<td>Inverell</td>
<td>4</td>
<td>175</td>
</tr>
<tr>
<td>250</td>
<td>Oolong</td>
<td>4</td>
<td>205</td>
</tr>
<tr>
<td>251</td>
<td>Ravensworth</td>
<td>4</td>
<td>205</td>
</tr>
<tr>
<td>252</td>
<td>Frampton</td>
<td>4</td>
<td>206</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>253</td>
<td>Urana</td>
<td>4</td>
<td>206</td>
</tr>
<tr>
<td>254</td>
<td>Galong</td>
<td>4</td>
<td>207</td>
</tr>
<tr>
<td>255</td>
<td>Bowning</td>
<td>4</td>
<td>207</td>
</tr>
<tr>
<td>256</td>
<td>Branxton</td>
<td>4</td>
<td>208</td>
</tr>
<tr>
<td>257</td>
<td>Ourimbah</td>
<td>4</td>
<td>208</td>
</tr>
<tr>
<td>258</td>
<td>Valley Heights</td>
<td>4</td>
<td>209</td>
</tr>
<tr>
<td>259</td>
<td>Moree</td>
<td>4</td>
<td>209</td>
</tr>
<tr>
<td>260</td>
<td>Gunnedah</td>
<td>4</td>
<td>210</td>
</tr>
<tr>
<td>261</td>
<td>Peak Hill</td>
<td>4</td>
<td>210</td>
</tr>
<tr>
<td>263</td>
<td>Strathfield</td>
<td>4</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>212</td>
</tr>
<tr>
<td>264</td>
<td>Sydney</td>
<td>4</td>
<td>212</td>
</tr>
<tr>
<td>266</td>
<td></td>
<td>4</td>
<td>213</td>
</tr>
<tr>
<td>267</td>
<td></td>
<td>4</td>
<td>213</td>
</tr>
<tr>
<td>268</td>
<td></td>
<td>4</td>
<td>214</td>
</tr>
<tr>
<td>269</td>
<td></td>
<td>4</td>
<td>214</td>
</tr>
<tr>
<td>270</td>
<td>Humula</td>
<td>4</td>
<td>215</td>
</tr>
<tr>
<td>271</td>
<td>Denman</td>
<td>4</td>
<td>215</td>
</tr>
<tr>
<td>272</td>
<td>Merriwa</td>
<td>4</td>
<td>216</td>
</tr>
<tr>
<td>273</td>
<td>Culcairn</td>
<td>4</td>
<td>216</td>
</tr>
<tr>
<td>274</td>
<td>Linden</td>
<td>4</td>
<td>217</td>
</tr>
<tr>
<td>275</td>
<td>Goondah</td>
<td>4</td>
<td>217</td>
</tr>
<tr>
<td>276</td>
<td>Fassifern</td>
<td>4</td>
<td>218</td>
</tr>
<tr>
<td>277</td>
<td>Bowral</td>
<td>4</td>
<td>218</td>
</tr>
<tr>
<td>278</td>
<td>Mittagong</td>
<td>4</td>
<td>219</td>
</tr>
<tr>
<td>279</td>
<td>Moorlands</td>
<td>4</td>
<td>219</td>
</tr>
<tr>
<td>280</td>
<td>Toronto</td>
<td>4</td>
<td>220</td>
</tr>
<tr>
<td>281</td>
<td>Punchbowl</td>
<td>4</td>
<td>220</td>
</tr>
<tr>
<td>282</td>
<td>Culgoora</td>
<td>4</td>
<td>221</td>
</tr>
<tr>
<td>283</td>
<td>standard drawing</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>37</td>
</tr>
<tr>
<td>285</td>
<td></td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>286</td>
<td>Weja</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>287</td>
<td>Forest Hill</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>288</td>
<td>Burgooney</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>289</td>
<td>Lake Cargelligo</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>290</td>
<td></td>
<td>5</td>
<td>41</td>
</tr>
<tr>
<td>291</td>
<td>Matakana</td>
<td>5</td>
<td>41</td>
</tr>
<tr>
<td>292</td>
<td>Tahmoore</td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td>293</td>
<td>Box Tank</td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td>294</td>
<td>Broken Hill</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>295</td>
<td>Willow Tree</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>296</td>
<td></td>
<td>5</td>
<td>44</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>297</td>
<td>Eungai</td>
<td>5</td>
<td>44</td>
</tr>
<tr>
<td>297A</td>
<td>Tallimba</td>
<td>5</td>
<td>45</td>
</tr>
<tr>
<td>298</td>
<td></td>
<td>5</td>
<td>45</td>
</tr>
<tr>
<td>299</td>
<td>standard drawing</td>
<td>5</td>
<td>46</td>
</tr>
<tr>
<td>300</td>
<td>Lake Cowal</td>
<td>5</td>
<td>47</td>
</tr>
<tr>
<td>301</td>
<td>North Star</td>
<td>5</td>
<td>47</td>
</tr>
<tr>
<td>302</td>
<td>Goolagong</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>303</td>
<td>Punchbowl</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>304</td>
<td>Casino</td>
<td>5</td>
<td>49</td>
</tr>
<tr>
<td>305</td>
<td>Villawood</td>
<td>5</td>
<td>49</td>
</tr>
<tr>
<td>305A</td>
<td>Sefton</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>305B</td>
<td>Chester Hill</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>306</td>
<td>Yagoona</td>
<td>5</td>
<td>51</td>
</tr>
<tr>
<td>307</td>
<td>Birrong</td>
<td>5</td>
<td>51</td>
</tr>
<tr>
<td>308</td>
<td>Pymble</td>
<td>5</td>
<td>52</td>
</tr>
<tr>
<td>309</td>
<td>Birrong</td>
<td>5</td>
<td>52</td>
</tr>
<tr>
<td>310</td>
<td>Yagoona</td>
<td>5</td>
<td>53</td>
</tr>
<tr>
<td>311</td>
<td>Croydon</td>
<td>5</td>
<td>54</td>
</tr>
<tr>
<td>312</td>
<td>Burwood</td>
<td>5</td>
<td>54</td>
</tr>
<tr>
<td>313</td>
<td>Turella</td>
<td>5</td>
<td>55</td>
</tr>
<tr>
<td>314</td>
<td>Padstow</td>
<td>5</td>
<td>55</td>
</tr>
<tr>
<td>315</td>
<td>Carramar</td>
<td>5</td>
<td>56</td>
</tr>
<tr>
<td>316</td>
<td>Padstow</td>
<td>5</td>
<td>56</td>
</tr>
<tr>
<td>317</td>
<td>Teven</td>
<td>5</td>
<td>80</td>
</tr>
<tr>
<td>318</td>
<td>Tyumba</td>
<td>5</td>
<td>80</td>
</tr>
<tr>
<td>319</td>
<td>Jannali</td>
<td>5</td>
<td>81</td>
</tr>
<tr>
<td>320</td>
<td>Warren</td>
<td>5</td>
<td>81</td>
</tr>
<tr>
<td>321</td>
<td>Guildford</td>
<td>5</td>
<td>82</td>
</tr>
<tr>
<td>322</td>
<td>Condobolin</td>
<td>5</td>
<td>82</td>
</tr>
<tr>
<td>323</td>
<td>Pennant Hills</td>
<td>5</td>
<td>83</td>
</tr>
<tr>
<td>324</td>
<td>Dulwich Hill</td>
<td>5</td>
<td>83</td>
</tr>
<tr>
<td>325</td>
<td>Griffith</td>
<td>5</td>
<td>84</td>
</tr>
<tr>
<td>326</td>
<td>Morisset</td>
<td>5</td>
<td>84</td>
</tr>
<tr>
<td>327</td>
<td>Roseville</td>
<td>5</td>
<td>85</td>
</tr>
<tr>
<td>328</td>
<td>Miranda</td>
<td>5</td>
<td>85</td>
</tr>
<tr>
<td>329</td>
<td>Mount Druitt</td>
<td>5</td>
<td>86</td>
</tr>
<tr>
<td>330</td>
<td>Seven Hills</td>
<td>5</td>
<td>86</td>
</tr>
<tr>
<td>331</td>
<td>Denistone</td>
<td>5</td>
<td>87</td>
</tr>
<tr>
<td>332</td>
<td>Quakers Hill</td>
<td>5</td>
<td>87</td>
</tr>
<tr>
<td>333</td>
<td>Captains Flat</td>
<td>5</td>
<td>88</td>
</tr>
<tr>
<td>334</td>
<td>Dunheved</td>
<td>5</td>
<td>89</td>
</tr>
<tr>
<td>335</td>
<td>Leightonfield</td>
<td>5</td>
<td>89</td>
</tr>
<tr>
<td>336</td>
<td>Rutherford</td>
<td>5</td>
<td>90</td>
</tr>
<tr>
<td>337</td>
<td>Menindee</td>
<td>5</td>
<td>90</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>338</td>
<td>Illabo</td>
<td>5</td>
<td>91</td>
</tr>
<tr>
<td>339</td>
<td>Dungog</td>
<td>5</td>
<td>91</td>
</tr>
<tr>
<td>340</td>
<td>&quot;</td>
<td>5</td>
<td>92</td>
</tr>
<tr>
<td>341</td>
<td>Bomaderry</td>
<td>5</td>
<td>106</td>
</tr>
<tr>
<td>342</td>
<td>Cockle Creek</td>
<td>5</td>
<td>106</td>
</tr>
<tr>
<td>343</td>
<td>Blandford</td>
<td>5</td>
<td>107</td>
</tr>
<tr>
<td>344</td>
<td>Clyde</td>
<td>5</td>
<td>107</td>
</tr>
<tr>
<td>345</td>
<td>Towradgi</td>
<td>5</td>
<td>108</td>
</tr>
<tr>
<td>346</td>
<td>&quot;</td>
<td>5</td>
<td>108</td>
</tr>
<tr>
<td>347</td>
<td>Waverton</td>
<td>5</td>
<td>109</td>
</tr>
<tr>
<td>348</td>
<td>Granville</td>
<td>5</td>
<td>109</td>
</tr>
<tr>
<td>349</td>
<td>Dora Creek</td>
<td>5</td>
<td>110</td>
</tr>
<tr>
<td>350</td>
<td>&quot;</td>
<td>5</td>
<td>110</td>
</tr>
<tr>
<td>351</td>
<td>Rooty Hill</td>
<td>5</td>
<td>111</td>
</tr>
<tr>
<td>352</td>
<td>Broken Hill</td>
<td>5</td>
<td>165</td>
</tr>
<tr>
<td>353</td>
<td>Gymea</td>
<td>5</td>
<td>165</td>
</tr>
<tr>
<td>354</td>
<td>Granville</td>
<td>5</td>
<td>166</td>
</tr>
<tr>
<td>355</td>
<td>Croppa Creek</td>
<td>5</td>
<td>166</td>
</tr>
<tr>
<td>356</td>
<td>Sawtell</td>
<td>5</td>
<td>167</td>
</tr>
<tr>
<td>357</td>
<td>Trangie</td>
<td>5</td>
<td>167</td>
</tr>
<tr>
<td>358</td>
<td>Blacktown</td>
<td>5</td>
<td>168</td>
</tr>
<tr>
<td>359</td>
<td>&quot;</td>
<td>5</td>
<td>168</td>
</tr>
<tr>
<td>360</td>
<td>Hurstville</td>
<td>5</td>
<td>169</td>
</tr>
<tr>
<td>361</td>
<td>Koolweang</td>
<td>5</td>
<td>169</td>
</tr>
<tr>
<td>362</td>
<td>Warrimo</td>
<td>5</td>
<td>170</td>
</tr>
<tr>
<td>363</td>
<td>Beresfield</td>
<td>5</td>
<td>170</td>
</tr>
<tr>
<td>364</td>
<td>Casula</td>
<td>5</td>
<td>171</td>
</tr>
<tr>
<td>365</td>
<td>Mount Colah</td>
<td>5</td>
<td>171</td>
</tr>
<tr>
<td>366</td>
<td>Cochrane</td>
<td>5</td>
<td>172</td>
</tr>
<tr>
<td>367</td>
<td>Lapstone</td>
<td>5</td>
<td>172</td>
</tr>
<tr>
<td>368</td>
<td>Orange East Fork</td>
<td>5</td>
<td>173</td>
</tr>
<tr>
<td>369</td>
<td>Broadmeadow</td>
<td>5</td>
<td>173</td>
</tr>
<tr>
<td>370</td>
<td>Kembla Grange</td>
<td>5</td>
<td>174</td>
</tr>
<tr>
<td>371</td>
<td>Waverton</td>
<td>5</td>
<td>175</td>
</tr>
<tr>
<td>372</td>
<td>Guildford</td>
<td>5</td>
<td>175</td>
</tr>
<tr>
<td>373</td>
<td>Mount druitt</td>
<td>5</td>
<td>176</td>
</tr>
<tr>
<td>374</td>
<td>Edgeroi</td>
<td>5</td>
<td>176</td>
</tr>
<tr>
<td>375</td>
<td>Canley Vale</td>
<td>5</td>
<td>177</td>
</tr>
<tr>
<td>376</td>
<td>Coffs Harbour</td>
<td>5</td>
<td>177</td>
</tr>
<tr>
<td>377</td>
<td>&quot;</td>
<td>5</td>
<td>178</td>
</tr>
<tr>
<td>378</td>
<td>Bargo</td>
<td>5</td>
<td>178</td>
</tr>
<tr>
<td>379</td>
<td>Normanhurst</td>
<td>5</td>
<td>179</td>
</tr>
<tr>
<td>380</td>
<td>Lewisham</td>
<td>5</td>
<td>179</td>
</tr>
<tr>
<td>Figure No.</td>
<td>Station</td>
<td>Volume</td>
<td>Page</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>381</td>
<td>Burwood</td>
<td>5</td>
<td>180</td>
</tr>
<tr>
<td>382</td>
<td>Murwillumbah</td>
<td>5</td>
<td>180</td>
</tr>
<tr>
<td>383</td>
<td>Gosford</td>
<td>5</td>
<td>181</td>
</tr>
</tbody>
</table>
17. TRANSITION PERIOD (1917-1929)

17.1 THE TRANSITION TO MATERIALS LEADERSHIP

The volatility of the environment in the last years of the Edwardian period continued in 1917. Hutchinson continued to favourably consider the concept of portability and in January, 1917, approved a series of standard plans for a "portable type" as in figures 283 and 285. In addition to his use of one and three room floor plans, he approved a five room design which included a ladies' waiting room and toilet. Hutchinson never used the five room pattern and erected only two structures from his 1917 standard plan. The only timber "portable types" ever erected, with the two exceptions, were those approved in the Edwardian period on the Humula, Griffith, Caragabal and Merriwa lines.

In March, 1917, the Government terminated the 1915 agreement with the London based financial firm, Norton Griffiths & Co. Early that year, "there was a very considerable reduction of public works and hundreds of State employees were put off". The Government stopped the city railway works which included construction on the underground system. The cessation of Government projects, which involved Norton Griffiths in some non rail matters, and the large community opposition to the Norton Griffiths agreement, were probably the main factors in the termination of the agreement.

Above all, the most significant development was the transfer on the 1st January, 1917, of the Railway Construction Branch from the Department of Public Works to the Department of Railways. There was no indication in the Department of Public Works annual report for the year as to the reason for the transfer, other than the reference that the transfer resulted from "the passing of the Government Railways (Amendment) Act in 1916". With the transfer, the Construction and Existing Lines Branches were within the one Department, the first time this had occurred since the separation of the two Branches in 1876.

(1) At Burgooney in 1917 and Mendooran in 1918.
(3) Evatt, ibid., says that in 1917 "...the Sydney Press ... resumed their old condemnation of the Norton Griffiths Contract".
The decision to transfer the Construction Branch was made before the termination of the Norton Griffiths agreement and before the general reduction in Government capital works projects. Thus, the transfer was not related to any decline in the rate of new railway construction. On the contrary, the Government pursued a very active construction programme, opening 249 miles in 1917, 242 miles in 1918, 145 miles in 1919 and 191 miles in 1920. In fact, all throughout the 1920s, various governments continued a most vigorous construction programme. From 1917 to 1932, the Government opened a total of 1,647 miles of railway.

Indicative of the importance of rail construction was the creation of the portfolio of Minister for Railways in November, 1916. Previously, the Department of Railways came within the administration of the Minister for Public Works. The Government at the time was annoyed by the absence of co-ordination between the Department of Public Works and the Railway Commissioners. The creation of the new portfolio and the transfer of construction duties to the Commissioners were actions aimed at improving the level of co-ordination. In 1916 the Premier said that "we have the extraordinary anomaly of 300 miles of line which have been opened in the anxiety to push communication through the wheat belt, but which have not been completed up to the high standard of polish and finish to which the Commissioners are accustomed ... they are not railways, but merely tracks, without any platforms, station masters' houses and so on. But if the railway construction works were under the one hand those difficulties would disappear at once." Thus, the stimulus to the transfer was related more to positive aspects, particularly to the rapid development of the rail system, rather than to any negative aspect such as a cessation of or a reduction in the level of construction. If the latter had been the case, the Government probably would have left the Construction Branch within the Department of Public Works as it did with the Metropolitan Railway Construction Branch.

(5) Calculated from table 7.5, Chapter 7.
(6) ibid.
Ever since the Labor Party first took office in New South Wales in 1910, the Premier, William Holman, had been making public statements suggesting at the least autonomy for the Department of Railways in the construction of new lines. The transfer of manpower resources in 1917 was merely another step in fulfilling Holman's policy.

Governments throughout the Transition period continued to view primary production as the leading sector of the economy. Of the 1,647 miles of new railway in the period, all but 19 miles was in country areas. The direction of the development of the rail system was a response to popular beliefs. Ward wrote that "people and governments alike continued to act on the traditionally hallowed belief that Australian development must continue to be primarily rural development". (8)

In implementing government policies, railway administrators faced considerable problems in 1917. In August of that year, a total of 32,360 railway employees, representing 67% of the total railway workforce, went on strike for over one month in protest over the introduction of a card system to record the duration of time required to perform specific tasks. Three years after the start of the strike, about 3,300 men had not been re-employed. As a result of the strike, there was considerable industry disharmony amongst staff, particularly where strike breakers had to work with those who went on strike. Because of the industrial tension, the Government appointed a Royal Commission in 1920 to examine the subject. (9) The industrial difficulties were greater in the country because it was virtually impossible for staff from both sides of the debate to avoid each other physically even when not at work.

At the same time, the railway commissioners found it very difficult to recruit sufficient skilled labour to carry out all the construction projects. With the transfer of the Construction Branch, the railway commissioners now had the task of recruiting all labour. In a submission to a

Royal Commission into the Proposed Reduction of the Working Week from 48 to 44 hours in 1920, the Railway Commissioners alleged that they were behind in their work and that they had to make special provision to at least keep output. They reported 'great difficulty' in recruiting bricklayers and carpenters for any class of work and also boilermakers, moulders and fitters for country work. Witnesses generally to the Commission made no accusation against the capacity or energy of railway workmen as a whole, except in the case of bricklayers. The main difficulty which witnesses expressed was industrial unrest and the uncertainty of labour cost. (10)

Skilled labour was thus in a strong bargaining position and the Department of Railways had to contend not only a shortage of labour but with the payment of above minimum wages. Any reduction in hours worked meant that more staff would have to be employed. As an example, the Department claimed that the number of iron trade workers at Eveleigh locomotive depot would have to be increased an additional 260 positions on top of the then staff of 3,051. (11) However, the main implication was that staff would almost be unobtainable for the railways. The 44 hour week was introduced in 1926.

Not only did the railways face problems with labour, but it had to finance operations, construction and renewals with less revenue from freight and passenger receipts. In 1919 and again in 1923, drought crippled rural industries thereby reducing revenue from freight. Also in 1919 a widespread influenza attack reduced patronage and increased sick leave considerably. To make matters worse, the New South Wales Government in 1920 introduced large scale freight concessions for rural producers and at the same time froze fare and freight rates until 1925.

The locations to which the railways extended new lines in 1917 were mainly small and were mostly agriculturally oriented. Hutchinson basically used two designs. Firstly, at the smallest of locations, such as at Ulamambri and Weja,


(11) ibid.
he used skillion roofed buildings as in figure 286 of Weja. (12) Hutchinson had desisted from the use of this type of building in 1915 so its re-introduction in 1917 is puzzling. However, it possibly stemmed from his closer association with the Permanent Way Branch which had continued to use the design since the 1890s. At all but the smallest of locations, Hutchinson used Deane's 1892 initial island/side platform design, as at Forest Hill, in figure 287. Hutchinson's only structures erected from his 1917 standard portable type were at Burgooney, as shown in figure 288, and at Mendooran. He also strayed from his policy of standardisation with the use of a modified version of Deane's 1892 design at Kempsey. (13) The structure was similar to those the Permanent Way Branch had used in the Edwardian period at Wollongong, Wyong, Coonamble and Narrabri. However, the application of the design at Kempsey was the first use by the Construction Branch.

The architecture used by the Construction Branch and the Permanent Way Branch was moving closer together. Whilst Hutchinson moved away from standardisation, due probably to the transfer of his Branch to the Department of Railways, this was only temporary. Hutchinson soon found that the transfer had other implications. The first was the appointment of James Fraser as Chief Commissioner from the 1st January, 1917. Unlike all his predecessors since the appointment of Chief Commissioner Eddy in 1888, Fraser had a firm policy of using materials for construction that would allow the minimum expenditure on renewals. In 1919, Fraser said:-

".:.on all modern re-construction work, structures of all kinds have been erected in permanent manner and with a view to economy in maintenance. Such a policy can be supported as wise, in view of the fact that structures in brick and steel cost little more than in perishable timber, and in the case of those built wholly of brick, need no maintenance,

(12) Photograph No. 165 of the Singleton Collection, held by the Australian Railway Historical Society, Sydney, shows a one or two room structure at Ulamambri.

(13) The 1917 structure at Kempsey was replaced in 1940 with the present building. For photograph of original structure, see The Staff, 28th October, 1926, p. 609. See also Town and Country Journal, 5th December, 1917, p. 10.
an important factor in these days when labour costs are high."(14) Fraser's policy tied the work of construction and renewals more closely together.

Initial construction was now perceived by rail administrators as having a close link to maintenance. Hutchinson's problem was that he had difficulty in recruiting sufficient skilled workers, particularly bricklayers, to implement Fraser's policy. Whilst Hutchinson's policy on standardisation had initially suffered in the transfer of his Branch from the Department of Public Works through the influence of the Permanent Way Branch, Hutchinson soon found that the transfer provided him with a means of fulfilling Fraser's policy.

Hutchinson would have been aware of the increasing importance and use of concrete. There were many periodicals at the time expressing the virtues of the product. Typical was an article in 1915 which stated that "there is no building material which offers so wide a scope to the genius and skill of both architect and constructor". (15) The Signalling and Telegraph Branch had commenced experimenting in 1916 with the first use of pre-cast concrete buildings. (16) In that year, the Signalling and Telegraph Branch was undertaking pioneering work in the application of pre-cast concrete. In England, the Midland and Great Northern Joint Railway also used pre-cast concrete for structures, but its use was "rare" in the United States of America. (17) It was also used in Queensland but earliest plans date from May, 1918. (18)

The pressure on Hutchinson to find a solution to the problem of using permanent materials must have been great as his Branch employed the use of pre-cast concrete on a station building for the first time in November, 1917, at Lake Cargelligo as shown in figures 289 and 290. The

(14) J. Fraser, The Development of the New South Wales Rail System - An Address to Interstate Gathering, Institute of Civil Engineers, October, 1919, State Rail Authority Archives.
(16) For details, see chapter 8.
(18) Letter from Queensland Railways (ref. B81.95.IL) dated 30th April, 1981, to S. Sharp.
rapid speed with which engineers from the Construction Branch acted is indicated by the early timing of the authorisation of the payment for the manufacture of the solid concrete blocks in June, 1917.\(^{(19)}\) The building cost £501.\(^{(20)}\) The units measured approximately three feet three inches by one foot three inches and were constructed in the permanent way workshops at Goulburn. The units were cement rendered.

Hutchinson retrospectively approved the design nearly two years after the erection of the building, as in figure 121. The floor plan of the structure was almost identical to the 'portable type' he had approved in 1917. There was only three inches difference in length and four inches in width.

Hutchinson improved the 1915 design by extending the rafters to provide an awning a little over five feet in width, but he ruined the operational capacity of the structure by the elimination of a double door in the rear of the 'store', which was included on the 1915 design to facilitate intermodal transfers. There was a shift in macro function. The design was heavily oriented towards freight. Despite the 'store' having seats around two walls, it was not called a general waiting room or even a 'shelter shed'. Staff issued tickets over a counter and not through a ticket window.

Whilst Hutchinson installed a fire place in the ladies' waiting room, he did not provide any heating for staff or for users of the "store". The floor plan was highly

\(^{(19)}\) Order book No. 259, State Rail Authority Archives.  
\(^{(20)}\) ibid.
inefficient. The layout of a "living room" made it difficult for staff to use because they could not be absent from the counter, lest they miss public enquiries. The provision of a "living room" was a feature absent from earlier designs and gave the staff washing and cooking facilities that were unheard of in other designs.

The use of pre-cast concrete at Lake Cargelligo was largely an experiment. After it, engineers continued to use timber. They continued to use skillion roofed structures for small locations, such as at Matakana in figure 291, and Deane's 1892 design for the larger centres such as at Tahmoor, in figure 292. This use of former designs appears not to have been intended for any length of time as the plans they used for structures in 1918 and early 1919 had been approved some time before 1917. (21)

At the end of 1918, the First World War was finished. Many of the soldiers who had returned from overseas service were "eager for expansion, development and rising standards of living". (22) Governments, both Commonwealth and State, combined to meet the demands of soldiers by introducing a system of closer settlement which involved the sub-division of large properties into smaller holdings. Much of the closer settlement took place in wheat areas, the area of cultivation doubling in the time from just before the War to the end of the 1920s. (23)

The increased importance of wheat farming had a great impact on politics. Wheat farmers, displeased with the lack of sufficient Government attention to their problems, had since 1910 been mobilising political force against the Labor Party. It was they who were the main impetus which created a rurally oriented politically party, called the Progressives, in 1919. This was the start of the Country Party. From then, rural based and biased politicians either took direct control of both the Commonwealth and State Governments or were a powerful force even in opposition.

---

(21) In the case of structures at Tahmoor, Yerrinbool and Aylmerton, the plans dated from 1913.
The traditional belief in the primary role of the rural sector was supported by the policies of Governments of all political flavours. All political parties supported railway construction but the Country Party put particular stress on it. (24)

Under the influence of Country Party Government, few wheat farmers by the late 1920s in the Riverina and Lachlan districts were located more than ten miles from a railway. (25) Not all lines which the Government opened in the late 1920s were in wheat areas, but most were in agricultural areas, such as the branch lines to Kunama, Kurrajong, Taralga and Tumbarumba. The power of rural interests, particularly the Country Party, was evident in a decision in 1923 by the Commonwealth Government to grant to the States funds specifically to be used for the maintenance of roads "outside city areas". (26)

The problem of insufficient skilled manpower and active Government policies aimed at rapid railway extension were compounded by a feeling by some rural dwellers that station buildings in country areas were inferior to those in Sydney. (27) It would seem that Hutchinson chose concrete as a major building product to overcome these three issues and this contributed to the introduction of widespread use of pre-cast concrete units from mid 1919. Starting with buildings on the Menindee-Broken Hill line, Hutchinson approved a number of drawings. (28) The structures were either of one room as at Box Tank, in figure 293, or multi roomed as at Broken Hill, in figure 294. (29)


(28) The drawings for Mount Gipps, The Gorge and Box Tank are from one plan dated 14th June, 1918, State Rail Authority Way and Works Plan Room.

(29) The awning has been removed from Box Tank and extra rooms added at Broken Hill.
Separate plans appear to have also applied to the section between Kempsey and Macksville, also in 1919. At Macksville, Hutchinson provided a ticket window in place of a counter. Apart from the structures at Broken Hill and Macksville, and an example at Murwillumbah dating from 1920, all other concrete buildings were no larger than 53 feet in length.

In mid 1920 Hutchinson approved standard plans, as in figure 43, from which all subsequent pre-cast concrete structures were built. He called the design "Pc". There were some exceptions, such as the structure at Willow Tree, shown in figures 295 and 296, but these were rare. The introduction of standard drawings in 1920 represented the pinnacle of standardisation of station architecture in New South Wales. Not only was virtually every building from 1920 to 1932 on new rail lines erected from the one plan, but Hutchinson achieved a very close resemblance to the brick structures which the Permanent Way Branch continued to use. Apart from materials the differences were related to floor plans & minor aspects. From the exterior there was little difference, as evident by the last minute decision to replace the concrete units with bricks at Flemington and Lidcombe in 1923 and 1924 without alterations to the designs. (30) The gabled roof dominated architecture almost exclusively.

With the standard 1920 drawings, Hutchinson took the opportunity to provide rear access to the combined general waiting room/parcels office, the name of which he changed to "shelter shed". He also extended the application of concrete to the roof material by providing concrete slates in place of corrugated iron. However, the absence of heating in all rooms, the policy of not lining the ceiling in the shelter shed and the use of a "counter" to sell tickets, all suggested that the orientation was not passengers but freight. Hutchinson also used concrete units for the off platform men's toilet, as at Eungai in figure 297. He also eliminated cement rendering of the exterior walls as had been applied at Lake Cargelligo.

(30) Robert Ranken approved the use of concrete units for Flemington on 21st August, 1923, and at Lidcombe on 16th September, 1924. See plans dated such, State Rail Authority Archives Way and Works Plan Room respectively. A notation appears on the Lidcombe plan "altered to Brick".
In the years between 1920 and 1930 Hutchinson implemented three design changes. He firstly chose to add ladies' waiting rooms to existing structures where this facility did not exist. Examples of this exist at Tumbarumba and Tallimba, the latter being shown in figures 297 and 298.

The second design change was more substantial. In 1922, an unknown engineer approved a modified version of Hutchinson's 1920 "Pc" design for Leeton, shown in figure 132. It closely resembled Deane's 1897 Pioneer design at Warren. This was classified "Ac5" in the standard plan shown in figure 299. This same pattern was used by Ranken in the Permanent Way Branch in 1927, for a replacement structure at Willow Tree, shown in figures 295 and 296. Apart from these two instances, the "Ac5" pattern was not utilised.

The remainder of the 'Ac' series bore close external resemblance to Hutchinson's 1920 "Pc" classification as evident in the "Ac2" pattern of Lake Cowal, shown in figure 300. It was also an attempt to more closely align concrete structures with the Deane gable roofed building used by the Permanent Way Branch. The alignment involved a renaming of the rooms. The 'shelter shed' was to be known as the "general waiting room" and the living room was to be called "station officer (sic) room". Whereas 'Pc' buildings were drawn in four sizes, the modified "Ac" series provided an additional two room version. This difference was more nominal than real as, despite the absence of formal plans for the original two room structure, one example was built (i.e. at Toongabbie). It was nonetheless an attempt to eliminate the dominance of freight in the design of the 1919 buildings.

Apart from the renaming of the rooms, the most obvious alteration was to the awning supports on some examples. In the 1920 modification, two simple unembellished, cast metal brackets forming two inverted "U"s replaced the timber braces on the 1919 examples. This aped the bracket

---

(31) Plan of Willow Tree dated 14th July, 1927, signed by R.L. Ranken, State Rail Authority Way and Works Plan Room.

(32) It will be noted that in figure 299 it is indicated that "elevations of above buildings will be generally similar to the standard A types".
design used on Deane's gable roofed design following the construction of the Moree station building in 1903.\(^{33}\)

The attempts to more closely align the architecture of the rural pre-cast concrete stations with brick buildings in the metropolitan area and to eliminate the freight overtones of concrete buildings were failures. Only four examples of the "Ac" type were built. Two were two room examples at Brewongle and Kelso on the up platforms in 1921 and the other two were of the largest size, at Leeton in 1922 and Willow Tree in 1926. These last two examples were an exact replica of Deane's modified 1898 design - only the building materials differed. It is worthy to note that the four examples that were built featured the two omissions in the floor plan arrangements for the 1919 designs. In the 1919 designs there was, formally at least, no two room design such as that built at Brewongle and at Kelso and there was no large four room example as at Leeton and Willow Tree. Thus, the 1920 "Pc" design filled a planning gap.

The use of pre-cast concrete received attention in the 1924 Fay/Raven Royal Commission into railway and tramway services. It said that "the use of ferro-concrete on the railway is a distinct feature (and has undoubtedly done much to reduce the cost of many articles hitherto having a short life span owing to climatic and other conditions").\(^{34}\)

The Commission cited that the manufacture of the concrete units occurred at both Goulburn and Auburn but noted that future production would centre on the new Signalling and Telegraph Workshops at Chullora.\(^{35}\) At the same time, the Commission noted that, as in the case of the concrete units, all timber preparation was centred at a single location at Lidcombe.\(^{36}\)

The Commission recommended the construction of both the city railway to St. James and new country lines "without interruption".\(^{37}\) It recognised that developmental branch lines could not cover operating losses from their receipts and recommended that the Government allocate

\(^{33}\) The last example of the use of "circular" brackets was at Chatswood No. 2/3 platforms in 1901. From 1903, engineers used the "inverted U" pattern (No examples were erected in 1902).


\(^{35}\) ibid.

\(^{36}\) ibid.

\(^{37}\) ibid., p. cxviii.
Forced special finance to cover this situation.\(^{(38)}\) Forced with the pressure of a continued substantial programme of new works, Hutchinson took advantage in 1925 of the new Chullora concrete works to achieve further economies.

In 1925, the third design modification took place. The new Chullora concrete works reduced the width of the concrete units from 15 inches to 10 inches while retaining the most common length of three feet three inches. At the same time, the units were rusticated to resemble timber weatherboards. Previously, the units were flush. Different lengths of units were employed over doorheads and at the ends of buildings. From this point, the units were also used for the faces of platforms. In this period, all buildings including residences, signal boxes, weighbridge cabins and relay huts were made of the same concrete units. Simultaneously, the fibro cement roof slates were replaced by corrugated fibro sheeting on both roofs and awnings.

There was a period of overlap between the use of the two sizes of units. This was probably accounted for by the production of the units at Chullora and elsewhere. Many of the concrete units still in existence on station buildings are stamped "signalling branch". The building at Tumbarumba is an example. As foreshadowed in the Fay/Raven Royal Commission report, a new concrete plant was installed at Chullora in 1925 which eliminated manufacture of the units at Goulburn and Auburn.

The introduction of 'Pc' and 'Ac' types followed closely Hutchinson's 1915 concept of portability. However, the concept related more to the manufacture of the units at a central location and cartage to individual station sites than to the movement of actual buildings. With the use of the units, the engineers had managed to overcome the high cost of labour, the difficulties of recruiting skilled labour and problems of procuring materials. The use of pre-cast concrete units eliminated the need for carpenters or bricklayers to be used in the construction of country railways which since 1899 had been undertaken by day labour. Besides the cheaper construction, the Railway Commissioners cited in 1919 that one of the advantages of using pre-cast units

\(^{(38)}\) ibid. The Government introduced an allocation in 1928 of £1 million per annum for developmental lines which sum remained constant until 1952/53.
concrete units was that they were constructed "in such a manner as to enable them to be added to without alteration and to be taken down and removed if required." It is significant that, whilst some additions were made in the 1920s, not one concrete station was ever removed and re-erected. The Commissioners also took the time to record the cost advantage. "The first cost of buildings constructed in ferro-concrete is somewhat less than that of wooden buildings and maintenance charges are of course greatly reduced."

The use of concrete units accordingly represented the ultimate in cost savings. There were both savings in initial and maintenance costs, labour costs and design costs.

Despite the very serious attempt to design buildings which reflected more closely revenue receipts, the experiment failed. For "portable" buildings, the structures were too permanent. In many instances, the new railways in the Transition period reached locations where there was simply insufficient long term traffic. The Government opened lines with great enthusiasm but the years of prosperity were few in number. The developmental line to Taralga provides an example. In 1923, three years prior to the opening of the line to Taralga, an historian at the time wrote that "railway communication is the one thing needed to make Taralga one of the most important and richly productive districts in the State." The impact of the motor car following the opening in 1926 of the line to Taralga was such that "the railway to Taralga reached a pinnacle in the mid 1920s." Every year after the opening of the line in 1926 the railway Taralga increased the size of the losses. It closed in 1957.

There were many locations like Taralga where traffic declined soon after the Government had opened the line. With the portability of buildings, engineers could have removed rooms to other locations, but they chose not to.

(40) ibid.
Engineers continued to build new structures at each new location notwithstanding in the vast majority of cases the fact that traffic was not at a level sufficient to utilise the full resources of the building. For example, of the 28 "Pc/Ac" examples at which staff were in attendance at the time of opening, only five remained manned in 1980, none of which were on branch lines.

In other instances, "Pc/Ac" types have required subsequent extensions because the original structures were too small for the traffic. In most instances timber extensions have been provided such as the provision of a ladies' waiting room at North Star in figure 301, and the addition of extra space for parcels offices at Ivanhoe in figure 42 and Leeton in figure 132.

Even from the mixture of timber and concrete units did not stimulate local residents to complain about unsightly appearances. In most cases, the structures were at small rural centres and served a public which was more interested in the provision of freight services than the architecture of buildings. Typical of the lack of interest was the absence of any reference to the building in the local newspaper when the Government opened the line to Hillston in 1923. The remark closest to an awareness of architecture at any station related to Leeton where there was community pressure for a "bigger and better appointed building, more conveniently set...".

Whereas in former periods local residents endeavoured to ensure that their structures were equal to those at other locations, this was not the case to the same extent in rural areas in the Transition period. The locations served in most cases were too small for any organised community opinion to be vocalised. This was further demonstrated by the absence of comment with the use of designs other than of the "Pc/Ac" type on existing lines, such as the application of a skillion roofed type at

(43) Hillston Spectator, 22nd June, 1923, p. 2.
(44) A.E. Bowmaker, A Brief History of Leeton, Leeton, Rotary Club of Leeton, 1968, p. 87.
Goolagong in 1924, shown in figure 302. The decision to use timber for replacement buildings in the Transition period was purely economic. It was too costly to send a team specially to one location to erect a concrete building when the same team could be used to erect a series of buildings along a single line.

At many locations outside of Sydney, there was a need to implement improvements but the absence of sufficient funds always acted as a mitigating factor. The local Parliamentary member for Cooma in 1922 requested electric lighting for the station but the Minister for Railways said that "in view of the present financial position, the provision of this facility will have to stand over". In 1919, a Parliamentarian drew attention to the absence of accommodation at Newnes Junction. He said there was "no shed nor accommodation of any kind for the public". He requested, "seeing that at smaller places where there is only one tenth of the traffic adequate accommodation is provided", that the Commissioner provide "accommodation in accord with the public requirements". The reference to 'adequate' accommodation was perhaps an indicator, to some degree, of an appreciation by the public of the official policy to align the size of structures to the level of traffic.

Although the policy to provide more frugal structures in locations where traffic levels were low was a failure, the introduction of pre-cast concrete units was innovatory. Freeland has argued that the Transition period was a time when "Australian architects continued to look even more anxiously towards America for inspiration". This was not the case with the use of pre-cast concrete structures. Even the application of the material outside New South Wales was not widespread. Biddle has commented that the design is "not really United Kingdom style at all".

---

(46) ibid., Vol. 78, 1919 Session, p. 2943.
(47) ibid.
(49) Letter from G. Biddle dated 22nd September, 1979, to S. Sharp.
In the Transition period, the New South Wales Government railways became a leader in materials application. Just as Freeland's remarks about the influence of American architecture are inappropriate for New South Wales station buildings, so too is his statement that the period was a time of functionalism.\(^{(50)}\) New South Wales station buildings were most frugal in terms of capital costs, maintenance, manpower and planning, but the concept of "portability" was nominal. Had engineers added or subtracted rooms during the period, they would have been functional to the extent that the structures might have been more closely related to levels of traffic. Concrete structures were economically but not operationally functional.

Despite the innovatory use of the concrete system, there was no clear public reaction to the application of the material. Both metropolitan and country press made no comments about the use of concrete units. Trade journals, architecture periodicals and other possible sources similarly did not bother to report anything about the new materials system. This was typical of the widespread disinterest in station architecture that occurred at most times in the history of station architecture in New South Wales.

17.2 THE TRANSITION TO DESIGN LEADERSHIP

With rurally based governments in office at all times throughout the Transitional period, it was very difficult for officials to carry out major works in urban areas. Even the Sydney harbour bridge did not have the support of country based politicians. On the subject, Michael Bruxner, the then Member for Northern Tablelands and later Minister for Transport, said, "I recognise it as a necessary work but it is not so vital to the progress and well being of New South Wales as the rural works."\(^{(51)}\) Ball, the first Minister for Transport, claimed that between 1917 and 1920 when he was in office "country and city expenditure had been in the ratio of 6 to 1."\(^{(52)}\)

\(^{(50)}\) Freeland, Architecture in Australia, p. 233.


\(^{(52)}\) ibid.
Sydney was growing rapidly in the 1920s. By 1921, 45% of all jobs and 43% of the population of the State were in Sydney. Sydney continued to expand in the 1920s, putting great demands on the Government to provide public utilities in the form of water supply, drainage, electricity and transport. Although the bias of the country was strong, the votes of urban electorates were not altogether uncounted. There was community pressure to proceed with the construction of suburban railways as laid out in the City and Suburban Electric Railway Act, 1915. In the Transition period, this resulted in the underground extension of the railway from Central to St. James in 1926 and in the same year the opening of the electrification of the railway between St. James and Oatley.

The functions of rural and metropolitan railways were different in nature, the former being primarily for freight and the latter for commuter travel. The financial results of each group were also different. For rural development lines, increasing losses were being incurred but, for the metropolitan travel, passenger journeys in the 1920s increased by an average of 3.5% per annum from 104.3 million in 1919/20 to 130.3 million in 1927. Requirements for station buildings for residents in the country and Sydney differed in regard to facilities. For rural landholders, it was the provision of freight and parcel facilities, namely loading docks, wheat stacking areas and the erection of goods sheds, that was more important than the architecture of their station buildings. In Sydney, whilst there was little regard for the provision of goods facilities, passengers were equally not interested in the building themselves possibly because they were accustomed to tram travel and the concomitant absence of facilities (e.g. waiting sheds and toilets) that were not provided for that mode. In 1926, the Sydney tram system reached its maximum physical extent.

(53) ibid., p. 115.
(54) I.A. Brady, Eastern Suburbs Railway, Sydney, Australian Railway Historical Society, 1979, p. 22.
(55) Spearitt, Sydney Since the Twenties, p. 143.
The most striking manifestation of the difference in the nature of rural and urban station structures was evident in the near total absence of the use of pre-cast concrete for station buildings in the Sydney region. The locations at which concrete buildings existed in rural areas were mainly small where the population was sufficiently small and unable to combine and place pressure on engineers to improve the standard of the finish of structures. Even where concrete buildings existed at larger centres, such as Broken Hill and Murwillumbah, there was virtually no public interest in the structures. With this knowledge about the nature of rural existence, engineers probably thought that they could act with impunity in approving unlined concrete buildings.

The official reason for the general absence of concrete units in Sydney, Newcastle and Wollongong is unknown. However, some suggestions seem to provide an explanation. The metropolitan areas of Sydney, Newcastle and Wollongong were different - the people lived in a different environment, they had greater opportunity to more effectively vocalise their concerns through the power of large metropolitan newspapers. Parliamentarians also did their share of bringing to public attention the great differences of standards amongst station buildings within the Sydney metropolitan area. In 1922, Lang was most critical of the expenditure on the then new Milson Point railway station. On the subject he said that "while we have that expensive railway station and its accessories lying useless, we find also that within nine miles of Sydney there are elaborate railway stations such as those at Homebush and Strathfield which of recent years have been places of residence of Ministers of the Crown and Railway Commissioners. These are well catered for; but the moment you leave those aristocratic centres you strike a station like Flemington which I suppose returns to the Commissioners more revenue than any other station outside Sydney - two or three times the amount of a station like Strathfield or Homebush". (56) It was the juxtaposition of many suburban station buildings that enabled Parliamentarians to voice criticisms about the comparative standards of structures. It would seem that

arguments such as those by Lang directed approving officers to pay more attention to ensuring a greater equality amongst Sydney stations. Indicative of this tendency was the decision in 1924 to scrap plans for the reconstruction of Flemington station in pre-cast concrete units and to re-erect the buildings in brick to the same design as buildings on the North Shore line. Lang's condemnation of Strathfield and Homebush was reflective of earlier attempts at other locations to ensure that regions or localities received similar standard structures.

There was possibly another reason for the virtual non-use of concrete in the Sydney metropolitan area. Because of a much higher density of landuse, the architecture in the non railway sector was more prolific and obvious. The juxtaposition of dense commercial and residential development along railway lines drew the attention of the travelling public and railway engineers to the concept of integration of railways and, particularly railway architecture, with the level of presentation of surrounding non railway buildings.

The absence of concrete structures does not automatically suggest that metropolitan buildings were of a higher standard. In fact, the reverse is almost true. The same adverse financial situation which railway administrators faced in the country applied in the metropolitan areas. The high wages of staff was a crippling factor of economic life. The shortage of funds prevented many small improvements from being implemented.

Throughout the Transition period, Hansard is rife with pleas for improvements. In 1918 Bavin called attention to "the inadequate provision made at Milsons Point railway station for the selling of tickets". In 1919, Bruntell referred to the "shocking inadequacy of the conveniences for the public, particularly awning accommodation at Parramatta railway station". At Newtown in 1922 Burke informed the Minister of the "considerable congestion at the ticket office of the Newtown railway station during the busy hours of the day and also when the funeral trains are using the station".


Ball pressed for a new building at Dulwich Hill at many times throughout the 1920s, but none was erected. Even in 1923 when the Minister said that "plans for new station buildings for Dulwich Hill have been prepared", engineers waited 12 more years before approving the design. In 1924, Weaver had to plead with the Minister to paint the buildings at St. Leonards. There was no attempt to alleviate congestion at any location. Butler referred in 1927 to the "dense overcrowding" at St. James saying that it "not only consitutes a menace to women and children passengers, but that it is positively disgusting and immoral". Just as finance could not come to the aid of immorality, it also neglected safety aspects. McGirr made repeated requests for the provision of an overhead footbridge at Fairfield but none was provided in the Transition period. Even in the Newcastle metropolitan area, there was official disregard for overcrowding, such as at Cokcle Creek in 1924.

Not only did engineers in the early and mid 1920s grossly neglect urban users in the provision of alterations and improvements to existing structures, they acted with the utmost frugality in the approval for new structures. Engineers often used overhead booking offices where there was more than one platform, such as at Epping in 1928. This was an attempt to centralise booking and parcels facilities in order to save on manpower. To the extent that they obviated the need for separate booking clerks, overhead offices were successful. However, at such locations staff were still allocated for platform duties. Thus, the facilities were only partially successful. The intention to economise was evident in the use of timber for the overhead offices. Metropolitan stations received the same basic, frugal, timber structures as rural examples as shown in a comparison between structures erected at Punchbowl and Casino,

(61) ibid., Vol. 98, 1924 Session, Sydney, Government Printer, 1924, p. 3340.
(64) ibid., Vol. 97, 1924 Session, Sydney, Government Printer, 1924, p. 1954.
(65) Plan of Epping unsigned, dated 31st July, 1928, State Rail Authority Way and Works Plan Room.
both of which were approved in 1929, in figures 303 and 304. (66)

The only two new lines which the Government opened in the Transition period were between Regents Park and Cabramatta in 1924 and between Bankstown and Regents Park in 1928. Although all platform level structures on these lines were erected in brick, engineers provided only the barest of facilities. On the Regents Park-Cabramatta line, the bricks were of a dull colour and the concrete roof slates, which were the same as used on concrete buildings in rural areas, weathered to a depressing black colour as shown in figure 305 of Villawood. The structures on the Regents Park-Cabramatta line contained a ladies' waiting room, a ladies' toilet and a men's toilet. There was no general waiting room and, in order to achieve staffing economies, there was no provision for accommodation for staff. There was no booking office nor parcels office. Engineers in later years either added timber booking offices, as at Sefton in figure 305A, or erected separate structures as at Chester Hill in figure 305B.

When the Government opened the line between Regents Park and Bankstown engineers changed the pattern that had existed on the Regents Park-Cabramatta line. They provided brick structures with general waiting rooms but they also erected timber overhead booking offices at Yagoona and Birrong as in figures 306 and 307. Despite the cheap construction of the overhead offices, they were unnecessary. The same facilities could have been included in the single island platform as had been the case on the North Shore line, shown in figures 308 and 243 of Pymble and Turramurra respectively. Notwithstanding this transgression, engineers had achieved economies by at least eliminating platform staff and by erecting structures not only void of any embellishment but employing inexpensive dull coloured, unattractive bricks as shown in figures 309 and 310 of Yagoona and Birrong.

(66) The structure at Punchbowl complements a manned building on an island platform. Prior to the erection of the overhead office, staff issued tickets from the platform. Thus, the overhead office increased the staffing level. For Punchbowl, see plan signed by R.L. Ranken dated 13th February, 1929, and for Casino see plan initialled JHC dated 17th September, 1929, both State Rail Authority Way and Works Plan Room.
The use of cheap, timber overhead booking offices, the application of cheap bricks and the various successful attempts at eliminating passenger facilities and on-platform staff, highlighted the desire to achieve the most economically possible station structure. There is evidence to indicate that engineers also wished to economise by the use of pre-cast concrete units as they were doing in rural areas. In two instances, engineers did approve and erect concrete structures in the Sydney metropolitan area. The first was at Toongabbie in 1919 and the second, shown in figure 311, was the overhead booking office at Croydon in 1923. In addition to these, engineers proposed to erect concrete buildings at Flemington and Lidcombe in 1923 and 1924 respectively but for an unknown reason they used bricks in place of concrete units.

In view of the initiatives aimed at reducing costs, it is impossible to support the view that station buildings in the Sydney metropolitan area were superior in other than materials to structures outside Sydney. Even when engineers rebuilt the stations between Redfern and Strathfield in 1926 for the sextuplication, they approved the largest examples of Deane's 1892 initial island/side platform design but the structures were unembellished and utilised unattractive coloured bricks as shown in figure 312 of Burwood. Gone were the plynth courses, moulded bricks around openings, roof ventilators, ornate brackets and coloured glazing panels of the earliest examples of the design in the Late Victorian and Edwardian periods.

Up to the last year of the Transition period, engineers in the Construction and Permanent Way Branches consistently used Deane's 1892 design in the metropolitan areas of Sydney, Newcastle and Wollongong. However, this policy changed course in 1929. In that year Francis Wickham, who had assumed the leadership of the Construction Branch in 1925 following Hutchinson's retirement, approved a new design for structures on the new line between Tempe and

(67) Plan of Toongabbie signed by R. Kendall dated 22nd September, 1919, State Rail Authority Way and Works Plan Room. Photograph No. 494, C.C. Singleton Collection, Australian Railway Historical Society, shows the erected structure.

(68) Plan of Croydon signed by R.L. Ranken dated 7th February, 1923, State Rail Authority Way and Works Plan Room.
East Hills. Wickham approved all structures from a single plan. They all looked the same as the structure at Turella, shown in figure 313. All measured only 54 foot 8 inches in length, with the exception of the example at Kingsgrove, which provided for a signal frame.

The most significant features of the design were:

* the use of a cantilevered awning (the first since Angus's initial island platform design of 1891),
* the absence of staff accommodation,
* the absence of ticket selling and parcels facilities,
* the provision of a "corridor" nine feet wide which contained seating and acted as a general waiting room, despite having only a gravel floor,
* the total absence of heating to all rooms (the first design to eliminate chimneys),
* the first use of cavity brickwork (at building ends),
* the first use of terra cotta roofing material (restricted to ridging), and
* the first time a new design had been introduced in the Sydney metropolitan area.

It was the first time that a plan identified the hierarchy of officers involved in the planning process. The plan provided space for an indication to be made as to the name of the officers who drew it, who traced it, who checked it, who passed it and who approved it.

Following construction of the East Hills line buildings, engineers installed booking and parcels facilities at all locations, converting the corridor and lengthening the building as at Padstow in figure 314. Other than the use of cantilevered awnings, the exterior presentation of the structures bore close resemblance to its predecessor, namely Deane's 1892 design. From a comparison of figures 315 and 316 of Carramar and Padstow respectively, the

(69) Plan No. 482/8/K signed by F.E. Wickham, dated 6th October, 1929. This plan was not available for reproduction from the State Rail Authority. The cited was in the possession of Mr. I. Dunn, Assistant Station Master, Kingsgrove Railway Station.

(70) Angus's 1891 initial island platform design was simultaneously introduced at Katoomba. Prior to 1929, engineers introduced all new designs in country areas.
similarity of the colour of the brickwork in the wall protecting the entrance to the men's toilet will be noted. Both designs used the same floor plan in relation to the siting of the men's toilet, the cleaner's passage, the ladies' toilet and the ladies' waiting room. However, the different method of awning support and roodscape ensured a classification separate from Deane's design.

Of all the design changes that occurred between 1855 and 1980, that involving Wickham's design - the second island/side platform type - is the most puzzling because there appears to be no perceivable change in the environmental conditions that might have stimulated the emergence of a new design. The characteristics of the new design were much the same as those of the previous design. Both suggested an intention to economise through material and manpower savings. There was no sudden change in the economy. As McCarthy says: "What was later to become the depression was, in November 1929, nothing more than a recession". (71) Thus, economics does not seem to be the stimulant.

It is possible that the design was associated with the expansion in the sale of residential properties in the district. Kelly refers to the "real estate boom of the 1920s" and argues that this was caused partially by "the progress of transport". (72) Just as transport stimulated land sales it is possible that this had a snow-balling, reverse effect from which Wickham perceived the need to approve a new design as a symbolic indicator of new suburban development.

Wickham would probably have been aware of the history of local pressure for the line in view of the fact that it was only the third suburban line to be opened since 1900. More particularly, Wickham may have known that it was the Leader of the Parliamentary opposition, J.T.Lang, who "went over the proposed route in November 1923 and promised to have the proposal examined by a Parliamentary Standing Committee". (73)


(73) J. Davies, West of the River Road, Sydney, Towrang Publications, 1980, p. 52.
Spearitt argues that the construction of the East Hills line was the direct result of pressure on Government by real estate agents. He argues that "land owners stood to make a fortune when the area became accessible and hence subdividable". He points out that construction of the line was far ahead of demand and maintains that construction of the line "could have been postponed".

If the pressure on the Government was so great to have the line constructed ahead of the already approved Eastern Suburbs Railway, then it is possible that the pressure was equally as great on railway engineers to introduced a new design that would be attractive and, more importantly, that would mark the area as a region of significance and one with a clear path to future prosperity. It may be more than co-incidental that a new land subdivision, a new railway line and a new design were implemented simultaneously.

The appearance of the new design in 1929 was partially linked to the development of local industry. McQueen indicates that, whilst the use of cantilevered awnings was well known before the 1920s, the widespread employment of this technology had to wait the development of the local steel industry. Clearly, Wickham took advantage of this development.

Whilst the new design was linked partially to technological innovation, it appears that it was not related to trends in architecture outside the railway sector. The architecture of the station buildings on the East Hills line possessed many features of the architecture in Freeland's

(74) Spearitt, Sydney Since the Twenties, p. 50. B.J. Madden, Tempe-East Hills Railway, Hurstville Historical Society, 1981, p. 37, cites other factors which may have stimulated construction.

(75) ibid.

(76) ibid., p. 147.

Early Modern period. In particular, he cites the absence of decoration, "overpoweringly horizontal" window heads and sills which were "emphasized into a sort of string course", rounded building corners, flat roofs sunken below unbroken parapets with their horizontal line of capping, metal framed windows and light coloured brickwork. (78) Although all of Freeland's characteristics were not evident on the East Hills line, many were.

The most important point is that Freeland's Early Modern period commences in 1934 - five years after Wickham utilized many of the architectural features of that time. Whereas all previous engineers had been design followers, Wickham appears to be the first officer to use a form of architecture in advance of its general application in the non railway sector.

However, just as there were no press or other reports about the innovatory use of the concrete units system, there was also no reference to the introduction of the new design of buildings on the East Hills line. The opening of the railway line received very little attention by the press and no reference was made at the time of the opening to the architecture of the structures. (79)

17.3 THE POSITION IN 1929

The architectural change that occurred in 1929 on the East Hills line at the end of the Transition period was the result of a completely different set of environmental characteristics that preceded the materials change involving pre-cast concrete units at Lake Cargelligo at the start of the period in 1917. The 1929 change seemed largely to be associated with no obvious change in politics, economics or society, unlike the 1917 change which ended a time of complex environmental fermentation.

(79) For absence to references on buildings, see Daily Telegraph, 1st September, 1931, p. 1., 8th September, 1931, p. 1, 10th September, 1931, p. 7 and 24th September, 1931, p. 1. See also Sydney Morning Herald, 22nd December, 1931, p. 5. B. Madden orally advised S. Sharp on 23rd October, 1981, that there was no reference to the buildings in the Hurstville Propeller and Labor Daily at the time of the opening.
In 1929, Wickham was approving the use of pre-cast concrete structures in country areas using Hutchinson's standard "Pc" design of 1920. The standardisation of rurally located structures in 1929 was a fait accompli. It was merely a matter of implementation. The Transtition period represented the zenith of standardised plans, a standardised system of approving plans, standard designs and standard materials. To a very large degree, engineers in both the Construction and Maintenance Branches used only one design - Deane's 1892 initial island/side platform type. Hutchinson's 1920 standard "Pc" type was little more than a refinement of Deane's 1892 design, taking into account the application of standard sized concrete units. Application of non concrete designs were minor, serving only isolated rural centres on occasions when an existing structure was in an area where engineers were not using concrete buildings.

The year 1929 was the start of the introduction of hierarchic approval of plans. This highlighted the large number of officers involved in the planning and approval process and demonstrated the difficulty of determining who was responsible for the emergence of new designs.

Politicians from rural areas dominated State politics for the whole of the Transition period. Hutchinson and, subsequently, Wickham responded to political pressure for the rapid construction of new lines by approving and using a construction method which would allow the rapid erection of buildings at the cheapest cost. The use of pre-cast concrete structures saved on the employment of skilled workers in country areas, achieving considerable labour savings considering the number of structures involved. It is significant that the two engineers did not attempt to build ornate structures to be symbolic monuments to rural enterprise. Clearly, there was no community or other pressure for ostentation.

For the years between 1919 and 1928 the architecture used by the Construction and Permanent Way Branches was very similar. In 1929, the Construction Branch broke away with Wickham's design. If standardisation of all architecture were a policy, why did Wickham ruin the situation? Wickham possibly considered that a change was necessary to keep
railway architecture more closely aligned to designs outside the rail sector. Engineers by 1929 had used Deane's design continuously for the previous 37 years and it is probable that the monotony of repetitious use was a sufficient fillip to prompt consideration of a new style. That may have been so but the reason Wickham chose the East Hills line in 1929 is a mystery.

Despite the frugality of metropolitan station buildings between 1917 and 1928 and the presence of two concrete structures in Sydney, there was clear resistance to the employment of the same low overall presentation for the metropolitan areas as existed in rural areas. The resistance is evident by the almost universal application of brick and the absence of concrete structures. It was mainly in the type of materials that there was a distinction between the Sydney, Newcastle and Wollongong conurbations and elsewhere. Despite this difference, it cannot be argued that station buildings in country areas were much poorer cousins to their metropolitan counterparts in regard to the provision of facilities.

The emergence of the new design for the East Hills line confirmed the leadership of the Construction Branch in the design of station buildings. Every new design before that time was a product of the Construction Branch - the Permanent Way Branch and its predecessor, the Existing Lines Branch later had always subsequently adopted Construction Branch designs. By his action in 1929, Wickham led not only railway architecture, but was possibly a leading force in architecture generally.

The changes in macro functions were significant in the period. Buildings in rural areas had been slowly becoming freight centres since 1890. In the Transition period, they achieved this appellation. With the erection of buildings on the Regents Park-Cabramatta and East Hills lines, the concept of the commuter station had first emerged. In both cases, individual room functions had altered sufficiently to demonstrate a basic change of building roles in the intentions of approving officers.

The Transition period ended in a recession. The period once again demonstrated the importance of economy as the dominant environmental factor on approving officers.
Yet this policy was not reflected in the level of capital allocations or the status of the operating account. The explanation is simple. Even when capital funding was substantial or operating surpluses healthy, the considerable number and size of the projects that governments required to be undertaken were beyond the financial resources, however great, of the Department of Railways. There was no overt pressure towards frugality in design; engineers chose station architecture themselves as an area of administration where savings could be and were made.
(i) Books


Bowmaker, A.E., A Brief History of Leeton, Leeton, Rotary Club of Leeton, 1968.


Davies, J., West of the River Road, Sydney, Towrang Publication, 1980.


Ward, R., Australia, Sydney, Ure Smith, 1969.

(ii) Journals

Elliott, E.C., "Concrete and Re-inforced Concrete - II", Building, 12th March, 1915.


The Staff, 28th October, 1926.

Town and Country Journal, 5th December, 1917.


(iii) Official


(iv) Annual Reports

New South Wales Department of Public Works, Sydney, Government Printer, various issues.

New South Wales Department of Railways, Sydney, Government Printer, various issues.

(v) Unpublished

Fraser, J., The Development of the New South Wales Rail System, Address to Interstate Gathering, Institute of Civil Engineers, October, 1919, held by State Rail Authority Archives.

(vi) Newspapers

Daily Telegraph, various issues.

Hillston Spectator, 22nd June, 1923.

Sydney Morning Herald, 22nd December, 1931.
N.S.W.G.R.

Portable Type

Station Building

Scale: 16 ft to 1 in.

Elevation

Section

Plan

Figure 283 - Standard Drawing
FIGURE 284 - STANDARD DRAWING
FIGURE 290 - LAKE CARGELLICO

FIGURE 291 - MATAKANA
FIGURE 296 - WILLOW TREE

FIGURE 297 - EUNGAI
FIGURE 297A - TALLIMBA

FIGURE 298 - TALLIMBA
N.S.W.G.R.Ys

Passenger Station Buildings (A Types)
Re-inforced Concrete Construction

Proposed Method of Making Consecutive Additions using Standardised Units

Scale 1 foot - 1 inch

Note - These Designs are in accordance with the latest Approved Sanitary Requirements and supersede Drawing Dated 23/11/17

Ae 1

Ae 2

Ae 3

Ae 4

Ae 5

Notes - Elevations of Above Buildings will be given similar to the Standard Figures.

FIGURE 299 - STANDARD DRAWING
FIGURE 300 - LAKE COWAL

FIGURE 301 - NORTH STAR
LADIES' WAITING ROOM AT
RIGHT END.
FIGURE 304 - CASINO

FIGURE 305 - VILLAWOOD
FIGURE 315 - CARRAMAR

FIGURE 316 - PADSTOW
18. EARLY MODERN PERIOD (1930-1944)

18.1 INTRODUCTION

In contrast to the reasonably well defined pattern of architectural evaluation that occurred in the Transition period, the Early Modern period is one in which there was no perceivable theme of development in railway station designs.

Engineers approved no new designs in the Early Modern period though they tended to increase the impressiveness of station buildings, both in size and ornamentation, as the period progressed. They also employed materials in what appears to be a random pattern. After the cessation of the use of pre-cast concrete units in 1932, engineers used brick, timber and fibro sheeting in rural areas with much the same pattern occurring in metropolitan areas.

The end of rail construction occurred in 1932. After that, the only lines opened until 1978 were those starting in 1939 between Sutherland and Cronulla, Bungendore and Captains Flat, St. Marys and Ropes Creek and Rutherford Racecourse and Rutherford, all within the Early Modern period. Apart from buildings on these new lines, the engineers approved many plans for replacement buildings at existing stations as well as a few new stations on existing lines. The treatment by approving officers for new and replacement structures did not differ. Engineers showed similar inconsistency in all their work.

Not only did engineers use materials in a somewhat random pattern, they also treated floor plans in an inconsistent manner. For example, unlike Wickham's elimination of parcels offices, booking offices and general waiting rooms on his design in 1929 for buildings on the East Hills line, Albert Fewtrell, the Chief Civil Engineer, installed all of these features, plus "out-of" rooms in his plans for structures between 1937 and 1939 for the use on the Cronulla line. Fewtrell used on-platform and overhead booking facilities inconsistently. Even more bizarre was Beaver's inclination, in the absence of Fewtrell on military service, to use island platforms for branch line termini as at Captains Flat, Rutherford and Ropes Creek and his use of an off-platform house-like structure at Captains Flat, as shown in figure 333.
In earlier times, all the design changes would be the reflections of changed environmental circumstances. Yet this was not the case in the Early Modern period. It was a time when there was volatility in railway architecture but not in the environment. There was environmental change, most easily seen in the operation of the Second World War but the change throughout the whole period was not to the same extent as that in the architecture of railway station buildings.

18.2 THE RE-EMERGENCE OF IMPRESSIVE STRUCTURES

The most significant feature for the railway administration in the Early Modern period was the cessation of rural railway construction in 1932. The world wide depression of the early 1930s prevented the New South Wales Government from negotiating overseas loans, as it had done in earlier years, to finance the construction of public works. (1) The number of unemployed workers in Australia rose from 10% in 1929 to 19.3% in 1930, to 27% in 1931 and reached 29% of the workforce at the trough of the depression in 1932. (2)

In 1930, the State Government produced a deficit budget of 5.5 million, of which the railway deficit was 3 million. (3) Lang led the Opposition to victory in October, 1930. One of his platform planks was the expansion of public works. (4) It was three months after the State Governor removed Lang from office, for threatening repudiation of overseas capital debts, that a government of opposite political persuasion stopped railway construction works.

---


The blend of politics and economics reacted violently in the early 1930s. In 1930, a former Minister for Railways, Thomas Henley, moved in Parliament that "in the interests of economy and efficiency the Parliamentary Standing Committee on Public Works should not be re-appointed for at least two years..." (5) The Committee never again met.

In the first two years of the Early Modern period, politicians of both major political groupings made legislative changes to the organisation of Department of Railways. In 1930, Parliament passed the Transport Act which separated the administration of the tramway system from the railways. In the next year, Parliament passed the State Transport (Co-ordination) Act which required the licensing of all motor vehicles operating in competition with the railways in excess of ten miles and the payment of a co-ordination tax. In the same year, Lang amended the Government Railways Act, 1912, and replaced the three man Commission with a sole Commissioner and provided Ministerial control for his actions.

By 1932, Lang considered the Commissioner incompetent and legislated him out of office with the Ministry of Transport Act. This legislation provided for a Board of Commissioners to cover all modes of transport but this format existed for only nine months when a different government introduced into Parliament the Ministry of Transport (Divisions of Functions) Act which again created the single position of Commissioner for Railways.

There were other issues occurring which marked the first three years of the period as most complex for the rail administration. This included Parliamentary inquiries into the administration of the Chief Mechanical Engineer's Branch, into the duties of Commissioner W.J. Cleary and the appointment of a royal commission into the appointment of E.C. Goode to head the 1932 Board of Transport Commissioners. (6)

---


The events between 1930 and 1933 were not unlike those of the 1915-17 period. Both had involved substantial change in the format of overseas borrowing and both had involved legislative amendments to existing railway enactments. In 1917, the outcome was the transfer of the Construction Branch from the Department of Public Works to the Department of Railways. Sixteen years later there was another change: this time it was the amalgamation of the two previously separate branches - the Construction Branch and the Permanent Way Branch - to form the Way and Works Branch.

In 1932, the Government appointed Albert Fewtrell a Commissioner under the Transport Act. He was nominally in charge of engineering in the transport undertakings but Robert Ranken continued to be the Engineer-in-Chief for Existing Lines and Francis Wickham was the Chief Engineer, Railway Construction. After the Government's abandonment of the Board of Commissioners, it appointed Fewtrell to the newly created position of Chief Civil Engineer to head the new Branch, which was known as the Way and Works Branch. Interestingly, Ranken also held a position which was also titled "Chief Civil Engineer" at a salary of £250 in excess of Fewtrell's salary. Ranken retired before 1936 and, so far as Wickham is concerned, no record is known of his association with the Department after 1932. It can only be assumed that Wickham retired at the time of the amalgamation.

From 1930 to 1932, Wickham continued to use Hutchinson's "Pc/Ac" pre-cast concrete designs. Despite a change in the nature of the new lines, architecture remained constant.

In 1930, the Government opened lines from Booyong Junction to Ballina and from Kyogle to the Queensland border to link with the standard gauge from Brisbane. In 1931, the Government opened the line to East Hills and in 1932 the underground line from Central to Wynyard and across the Harbour Bridge to North Sydney. With the provision of a bridge over the Clarence River in 1932, a continuous link existed for the first time between Sydney and Brisbane. In the same year, the new Stevens/Bruxner Government opened a line from near Moree to Boggabilla and from Unanderra to Moss Vale. The only other lines to be opened in the period were a branch from Sutherland to Cronulla in 1939 and a branch from Bungendore to Captains Flat in 1940. A lag of
8 years then occurred before the opening of the State's ext line. In all cases, the new lines between 1930 nd 1932 connected existing lines or connected with other odes.

From the time of the rise to power of the country Party in 1919, investment criteria for rail onstruction had deteriorated to the point where the overnment opened branch lines knowing full well that theyould incur substantial losses each year: Sinclair quotes he "extreme case" in respect of the Guyra-Dorrigo line where he expected annual loss was $117,748. In 1932, the ailway Commissioner recommended the closure of the Glenreagh-orrigo line opened in 1924 and the Richmond-Kurrajong line pened in 1926.

A change in investment criteria appears to have occurred about 1928. In that year, the Railway Commissioner greed to construct the line from Moss Vale to Unanderra to onvey raw and finished products only on the guarantee that oskins Bros. transferred its iron and steel works from ithgow to Port Kembla and spent $750,000 within three years n the construction of a new iron works. Notwithstanding he industrial link between the railway and the iron and steel works, the architecture on the Moss Vale-Unanderra ine remained that of the pre-cast concrete type. It reflected the frugality of previous buildings in rural areas.

The extension in 1932 north of Kyogle to South risbane was the subject of a special Commonwealth/State greement which also provided for the upgrading of the xisting line between Grafton and Kyogle to provide for he anticipated increase in traffic. This was the first ime the Commonwealth had given money to New South specifically or expenditure on rail works, but there was no change in rchitecture from the use of pre-cast concrete.

7) The 14 km coal only line to Mount Thorley in 1979 on which there were no stations.
9) ibid.
11) E.S. Spooner, The History and Development of Port Kembla, Sydney, Government Printer, 1938, p. 13. The only branch line in rural areas constructed after the cessation of construction in 1932 was the line to Captains Flat in 1940 which was also built as a special purpose line for the mineral deposits at the end of the line.
Even the branch line to Ballina in 1930 was intended to link with a deep sea port, yet again the architecture did not reflect any change in policy objective. Preston argues that the line was "doomed from the start" because of competition from other modes, particularly motor vehicles for short trips and air travel for long distance journeys.\(^{13}\) The architecture of the line again featured "Pc" type buildings, shown in figures 317 and 318 of Teven and Tyumba respectively. The presence of the structures in situ in 1980 demonstrates the reluctance of engineers to remove concrete buildings, despite their portability, to other locations upon the decline in traffic. As was the case in previous years at other locations, there was no reference to the station buildings on the Ballina line at the time of opening.\(^{14}\) This typified the apathy of the public towards the design of their local railway station building.

By 1932, the New South Wales railway system was "in a state of bankruptcy".\(^{15}\) Passenger journeys had declined from 151 million in 1928/29 to 128 million in 1931/32 and goods tonnage had deteriorated from 14.5 to 10.2 million over the same period whilst earnings had decreased 25\%.\(^{16}\) With the end of rail construction in 1932, engineers ceased using pre-cast concrete units for station buildings.

Although the Construction Branch had continued to pursue its materials policy from the Transition period until 1932, the Permanent Way Branch changed its policy in 1930 at the start of the Early Modern period. In 1930, Ranken opened a new station at Jannali, as in figure 319 and, neglecting Wickham's new design for the East Hills line a year before, used the 1892 Deane initial island/side platform design. This was the first time since 1905 when timber had been used for a new or replacement structure in the Sydney

---


\(^{14}\) See *The Richmond River Herald*, 23rd September, 1930, p. 2.


\(^{16}\) ibid.
If the use of timber was an economy measure, it is difficult to understand why engineers did not use concrete units. Although the concrete plant producing the units was not far away at Chullora, engineers must have considered that the material was substandard for the Sydney region.

From 1930 to 1938, engineers used a variety of designs for new and replacement buildings at small sized locations. These ranged from the gabled timber structure with the unusual awning at Warren in 1930, shown in figure 320, to the awningless gabled roof design at Mendooran in 1938, shown in figure 159 to the use of the extended rafter type at Billinudgel in the same year. The most dominant design used, usually at small locations, was the skillion roofed type as at Guildford in 1937, shown in figure 321. After 1938, the skillion roof design was the only one to be employed at small locations, as at Corobimilla in 1941.

The most unusual type of station erected was the underground facilities at Town Hall and Wynyard in 1932. Unlike the separate ingress and egress patrons from the underground barriers to the platform at Museum, both Town Hall and Wynyard feature common use of stairs for arrival and departure users. The approving officer for the design was Bradfield, who was in charge of the underground construction. Both stations were of poor designs. In regard to Town Hall, Gregory is most critical of every aspect of the layout, pointing out that congestion was a problem and said that the toilets were "dark, dank and of low standard". Hassock makes similar condemnations for Wynyard. In particular, he is critical of the lighting, signing, furniture and pedestrian flows. There was little good in Bradfield's designs for Town Hall and Wynyard.
Apart from the link between Central and Milson Point, engineers did not erect any large structure until 1935. In that year, Fewtrell approved his first brick buildings. Two of the structures, at Condobolin and Pennant Hills, shown in figures 322 and 323, were examples of Deane's 1892 design and the remaining two, at Dulwich Hill and Griffith, shown in figures 324 and 325 were similar to Wickham's design of 1929 for the East Hills line. As Fewtrell himself approved the use of both designs, the application of two types of architecture is not attributable to the presence of the two Chief Civil Engineers. The structure at Pennant Hills was of timber construction and it is difficult to understand why one of four stations was of that material.

The most significant building approved in 1935 was the one at Griffith. Whilst it featured many of the characteristics of the East Hills line buildings, there were some changes between those and the structure at Griffith. The Griffith building was different in regard to the following aspects:

* the use of two colour brickwork,
* the application of terra cotta tiles to cover the roof (as opposed to the ridging only on the East Hills line buildings),
* the inclusion of a general waiting room,
* the provision of a chimney in the general waiting room, booking office and station master's office, but not in the ladies' waiting room (this was the first time that heating had been provided in the general waiting room but not in the ladies' waiting room),
* the installation of ramps to enter the station (the first use of ramps on the system),
* The existence of a hip and valley roofscape - the first time this had been used since the approval of the third Morpeth structure in 1880,
* the placement of the men's toilet in the centre of the building - the first building on the system to feature this arrangement,
* metal window frames in place of joinery, and
* the use of exposed beams for the awning.
The architectural and functional differences between the structures on the East Hills line and at Griffith are due largely to the differences in surrounding landuse. One was a commuter station and the other a long distance station. Two further features of the Griffith structure are significant. Firstly, it had a parcels office which was subsequently extended as shown in figure 133. The size of this facility demonstrates the importance of the freight orientation which still lingered on from the 1920s. Although there was separate rear public access to the parcels room, the provision of stairs and not a ramp as provided for the passenger access made it difficult to carry large parcels, as evident in figure 133.

The second feature of the Griffith structure was the non erection of a refreshment room although one was provided for in the plan. (23) This was one of the very few occasions from 1855 to that time when planned facilities were not erected. However, from 1935 it became more and more the case. The absence of sufficient funds may have prevented the erection of all the facilities that engineers intended to provide, but there is no evidence to confirm this view.

After the erection of the Griffith structure, Deane's 1892 design was used only once more in the Early Modern period, at Wickham in 1936, after which engineers used Wickham's 1929 design, applying most of the additional features of the Griffith structure. However, in all examples, the men's toilet was located to its former position, at the end of the building. Some city stations continued to have no general waiting rooms and to have no open fire places. However, rural stations possessed both of these features as well as a separate parcels office. It was apparently considered that suburban travellers did not have to wait very long for a train whilst country travellers had to contend with late running mail trains and expresses, requiring patrons at stations to compulsorily wait in often unpleasant climatic conditions.

Engineers planned the station buildings on the Cronulla line between 1937 and the opening in 1939. In both 1938/39 and 1939/40, the Railway Commissioner said that individual designs were used for each of the five intermediate stations, "no two designs being the same". This is a gross overstatement of the position. All the structures on the line are of Early Modern architecture and have the same basic features, viz. the cantilevered awning, feature brickwork and roof parapets at the ends of the buildings. Only two structures have significantly different features. The Caringbah building has a semi-circular shaped end, which forms the entrance to the men's toilet, whilst the Gymea structure has a parapet around all four sides of the roof. However, these are additional to the Early Modern features found on all of the buildings on the Cronulla line. Although Caringbah and Miranda have general waiting rooms, these were originally "out-of" rooms as attested to by the floor plan at Miranda. None of the buildings on the Cronulla line had open fire places.

One of the most striking features of station buildings throughout the Early Modern period was the trend for structures to feature more ornamental brickwork. From the opening of the Cronulla line in 1939 to the end of the Early Modern period in 1944, all buildings were of the same design, altering only in the type of feature brickwork that was used. Buildings became more ornamental throughout the 1930s and the war years. In 1929, the Early Modern architecture on the East Hills line reflected the austerity that had also appeared on buildings of the previous design used in 1928 between Bankstown and Regents Park. In 1935, two colour brickwork had been introduced and by 1940 transitions had been made from full bull nose bricks to semi-circular building ends to full or partial roof parapets as at Mount Druitt in figure 329.

Another feature of buildings in the Early Modern period was the increasing overall size of the structures. In 1937, Fewtrell approved the use of Wickham's design for

(24) New South Wales Department of Railways, Annual Reports to 30th June, 1939 and 30th June, 1940, Sydney, Government Printer, 1939 and 1940, pp. 15 and 8 respectively.
Morissett, shown in figure 326. It was the first structure on the rail system which contained all facilities, including a signal box, in the one structure. Although this feature does account for the increased size of buildings generally in the period, there were other reasons why the structures became longer. In particular, Fewtrell tended to provide booking and parcels facilities as well as both general and ladies' waiting rooms. He used overhead booking offices in a few instances to complement platform located structures. Fewtrell's policy was to combine all functions in the one structure where possible. Singleton refers to the "special treatment in regard to arrangement of access" for the buildings between Westmead and Seven Hills. This was a reference to the placement of the station building on the platform near the steps so that staff could sell tickets without passengers having to actually enter inside the barrier. In this way, patrons purchasing tickets for non-immediate use, such as those for future long distance travel on reserved seat trains and periodical tickets, did not have to be questioned by barrier staff upon leaving the platform. The juxtaposition of building and stairs also made it quicker for staff to leave the building and collect tickets at the platform barrier. The arrangement resulted in considerable operational savings through the reduction in walking time for staff and, by the elimination of overhead booking facilities, manpower savings. Where the stairs and buildings were not juxtaposed, engineers added new booking offices in some instances, as at Roseville in figure 327. Despite the benefits in the sale and collection of tickets from locating the building near the steps, users were often required to enter the platform to despatch or collect parcels, such as at Miranda in figure 328. In some instances, as at Mount Druitt and Seven Hills, in figures 329 and 330, this was not necessary because of the provision of a separate on-platform structure or through the rarer use of an overhead facility as at Denistone in figure 331.

It seems that throughout the Early Modern period the investment criteria for the erection of station buildings changed three times. The first period extended from 1930 to about 1937 and was a time when the traditional attitudes of frugality were strong, but being eroded by a belief that replacement structures should be constructed of brick. The appearance of large timber structures as at Jannali in 1930 and Pennant Hills in 1935 indicates the reticence of engineers to perceive that brick buildings achieved more savings than timber through lower maintenance costs.

The second period, from about 1937 to 1939, largely involves the construction of the line between Sutherland and Cronulla. For this time, the former attitudes of frugality were replaced by a Government policy which emphasised the employment of the large number of unemployed workers. The use of brick buildings with all of Freeland's Early Modern architectural features was not in response to the large size of passenger traffic. Indeed, the absence of passenger traffic is highlighted by Brady. He points out that the Government closed the tram line from Sutherland to Cronulla in 1932 "due to lack of patronage" and in its place authorised a bus service. In 1935, the Parliamentary Opposition noted that the Government intended to construct a rail line "despite the failure of the tram service". The impressive styling of the Cronulla line buildings is not due to the existence of low priced bricks from the State Brickworks as the Government sold this establishment in 1935. It would seem that the objective was to employ as many skilled workers as possible.

Neither the Press nor Parliament referred to the architecture of the buildings on the Cronulla line in the years prior to and in the year of the opening of the railway. The main point that the Parliament debated was the fact that the railway was being constructed not as a revenue producing exercise but merely as a means to occupy the


(28) ibid.
minds and bodies of the many unemployed workers at the
time. Thus, the buildings on the Cronulla line are
monuments to broad political policies than to any local
influences. However, it is significant to note that the
Chief Civil Engineer apparently responded to the political
environment without any direct influence from Government
sources. He did this by ensuring the need to employ many
tradesmen, such as bricklayers rather than the use of less
costly building methods as was the case with pre-cast concrete
units which did not require skilled workers.

The final period in which investment criteria
changed started after Fewtrell approved the plans for the
Cronulla line structures. It was in the period from about
1939 that Beaver, as Acting Chief Civil Engineer, approved
the erection of a number of structures in other than brick.
The first example was in timber at Quakers Hill in early
1939, shown in figure 332. The next was the off-platform
timber building at Captains Flat in 1940, shown in figure 333,
followed by Dunheved, Ropes Creek, Leightonfield, Rutherford
and Menindee in 1941, shown in figures 334 to 337. The
final non brick structure was a Illabo in 1942, shown in
figure 338. Of significance was the structure at Menindee
which was the first station building to be constructed
entirely of other than brick, timber, concrete or corrugated
iron sheeting. Beaver used weatherboards below the window
sills and fibro sheeting above sills.

It could be argued that the change in materials
policy was due solely to Fewtrell's absence and Beaver's
leadership but the evidence refutes this. Fewtrell himself
chose the combination of timber and fibro for a structure
at Blandford in 1949. More importantly was the non
availability of manpower and materials during the Second
World War. The Minister for Transport had referred to this
position in 1943 in reply to a question about the need for
a new structure at Granville. Even before that time the

(29) There is no reference to the buildings in the article
dealing with the opening of the railway in either the
Sydney Morning Herald, 18th December, 1939, p. 1, or
the Sunday Telegraph, 17th December, 1939, p. 7. For
the legislative debates, see New South Wales Parliament,
Parliamentary Debates, Vol. 150, 2nd Series, 1936/37

(30) New South Wales Parliament, Parliamentary Debates,
Vol. 172, 1943/44 Session, Sydney, Government Printer,
1944, p. 91.
Railway Commissioner reported problems arising from materials shortages. In his report for 1941/42, the Commissioner referred to the non-availability of materials, particularly timber. (31) This reference to the shortage of timber is particularly interesting considering Beaver's decision to use it more widely for larger buildings between 1939 and 1942. Whilst the Second World War had caused the materials shortage, it does not explain the use of timber at Quakers Hill in April, 1939, five months before the outbreak of hostilities.

The explanation of the use of timber in April, 1939, at Quakers Hill and brick at Cronulla one month later seems related to the difference in size and nature of the localities served and to the point that it was more economical to use timber where engineers could not purchase bricks locally. However, the fact that Beaver approved six large brick structures in 1940/41, all in rural locations, suggests that the situation was more complex. (32)

In 1939, Fewtrell approved a new station for Orange, based on Wickham's 1929 design, but it was not erected. (33) In 1944 Fewtrell approved a new station at Dungog but only after the plan was altered. (34) The result was that half the structure at Dungog was new and half over 30 years old, as seen in figures 339 and 340. In reply to a question about the new structure at Dungog in Parliament in 1944, the Minister said that the main difficulty was in the procurement of materials, particularly steel, and the shortage of skilled manpower. (35) This would also seem to apply in the case of Orange.

In the building industry generally there was a shortage of timber. Writing in a contemporary journal, Fitzmaurice said that "the main problem can be stated quite briefly: there is a great shortage of timber owing to the fact that the Baltic is now closed to us, and steel is in such demand for actual munitions of war it must be conserved\textsuperscript{a}.

---


(32) These were Cringila, Mullimbimby and Kempsey in 1940 and Coniston, Gerringong and Bomaderry in 1941.

(33) Plan signed by A.C. Fewtrell dated 23rd May, 1939, State Rail Authority Way and Works Plan Room.

(34) Plan No. 47/5 Office of the District Engineer, Newcastle, signed by A.C. Fewtrell, dated 8th August, 1944.

to the utmost for use in building". (36) Notwithstanding the shortage of timber, it has been stated that Beaver chose the material for a number of stations which, had they been approved in an earlier period, would probably have been erected in brick. However, in the same period, Beaver and Fewtrell approved 17 structures in brick between 1940 and 1944. Not only were they brick but they were large and featured ornamental brickwork.

The use of a near flat roof at Rooty Hill, and later at Clyde on the building on No. 5/6 platform, and the use of the skillion roof on the building on No. 2 platform at Leightonfield possibly indicates an attempt to achieve economies through the elimination of additional materials for hips and gables. However, this may have been simply a response to overseas trends in view of the use of the flat and near flat roof by the London, Scottish and Midland Railway from 1937. (37)

The use of timber at some locations and brick at others seems puzzling. There is evidence that refutes the greater use of timber in the early years of World War Two and, as overseas building resources became harder to obtain, the stimulus to use brick to a greater degree towards the end of the War. There does not seem to be any pattern between shortages of materials, manpower and the materials used, the number, size and style of structures erected. This suggests that another environmental factor was impinging on decision makers.

Throughout the 1930s, Parliamentarians continually referred to the congestion at railway stations. In 1931, Byrne requested longer platform at Wentworthville. (38) In 1936, Stanley referred to the "considerable congestion" at Belmore and requested an "up-to-date station that will meet the requirements of the district". (39) Saunders in 1938 wanted another ticket office window at Chatswood because a

"a considerable queue occurs".(40) Engineers did not respond to any of these requests. However, the erection of large structures on the Cronulla line in 1939 had set a precedent, particularly in view of the fact that the structures were not in response to actual patronage. With the outbreak of war in 1939, Beaver correctly foreshadowed great increases in passenger traffic. In an official document after the conclusion of the war, it was stated new buildings between Seven Hills and Westmead were required "to meet the large increase in the local passenger traffic" between local stations and the munitions factory at Ropes Creek.(41) It is significant that many of the wartime structures were either on main trunk railways or situated immediately near large military camps, such as at Leightonfield and Warwick Farm. Beaver and Fewtrell's awareness of the role of anticipated additional traffic was correctly founded. Since 1937/28, patronage fell until 1940/41 when there was an 8.4% increase.(42) In the next three years there were increases of 12.7%, 8.2% and 5.4%.(43) From 1946, the level of passenger traffic remained virtually stagnant until 1950/51.(44) Thus, for the period of the Second World War, anticipated traffic increases became an important decision making criterion. The other major criteria seemed to be the availability of materials. There was an overall preference for brick, but timber was also used, possibly because bricks were not always available. What seems not to be a criteria, was the preparation for post war growth. This is supposed by Beaver's approval of a new structure for Seven Hills in November, 1943.(45) In addition, the re-construction of stations on the main coastal routes and especially at places such as Gerringong and Mullumbimby would not seem to be planned for post war development, especially since Beaver approved them in 1940 and 1941 respectively. In these instances the decision to erect new buildings was made up to five years before the cessation of hostilities.

(40) ibid., Vol. 141, 1938/40 Session, p. 2076.
(41) New South Wales Department of Railways, Railways at War 1939-1945, Sydney, Department of Railways, no date, p. 33.
(42) New South Wales Department of Railways, Annual Report to 30th June, 1956, Sydney, Government Printer, 1956, Appendix 8, p. 84.
(43) ibid.
(44) ibid.
(45) Plan signed by W.R. Beaver, dated 8th November, 1943, State Rail Authority Way and Works Plan Room.
Notwithstanding the impact of war, regional interests continued to desire facilities at least equal to those in other areas. By way of example, W.H. Lamb, M.L.A., protested in Parliament that "the railway station at Merrylands, where the revenue was four or five times that of the lavish stations on the north shore lines, was a disgraceful, white-ant eaten, dilapidated structure". (46)

18.3 THE POSITION IN 1944

In 1944, Fewtrell was evaluating the availability of materials, the impact of war and the role of anticipated traffic increases as the major inputs in his consideration of railway station architecture. The importance of frugality did not seem to matter. There were no references to the need to economise as a justification for the non-erection of more up-to-date replacements or as a grounds for not implementing alterations or additions.

Once the depression years were over, the level of capital investment in the railways grew for most of the period. (47) Over the whole period, there is no obvious link between aggregate capital allocations and station architecture. Neither is there a link between funding and materials policy or floor plan changes.

The absence of a perceivable theme to station architecture throughout the Early Modern period was typified by the events of 1944. Despite official cries extolling the shortage of manpower and materials, engineers erected only one half of the originally approved design at Dungog on the grounds of shortages of materials but they employed on the same structure ornamental brickwork and still retained the curved end to the building which required steel and more expertise to construct than a conventional square building.

Throughout the Early Modern period, the trend was to the erection of longer and more impressive buildings. The last time engineers used ornamentation was in the Late Victorian period. It was a mixture of additional features, such as mouldings around openings, ventilators on the roof


(47) See table 7.5, chapter 7.
and coloured glazing, in-built features including ornamental awning brackets and coloured brickwork. The revival of ornamentation was based strictly on inbuilt features and solely related to brickwork using different colours, sizes, shapes and forms at different locations.

There does not seem to be any environmental stimulant for the provision of ornamentation. However, the increase in building size was linked to a change in macro function which was in turn related to environmental change. The materials and manpower shortages, the need or desire to increase operational efficiency and the role of anticipated traffic increases prompted the necessity to provide a balance between working efficiency and building adequacy. Although these environmental forces did not all combine until the Second World War, some appeared in the late 1930s. With the planning of the building at Morissett in 1937, the concept of "one building for all functions" emerged. The Second World War confirmed the essentiality of this arrangement. For the first time, the duties of the Way and Works Branch and the Signalling and Telegraph Branch were provided in the same structure. The conception of the commuter station, which emerged on the Regents Park–Cabramatta and East Hills lines in the Transition period, ended with the large and ornamental buildings on the Cronulla line.

Of great interest was the partial reversal of the policy in the Transition period to provide buildings in the Sydney metropolitan area with better materials than those in country areas. In the Transition period, brick was the material for Sydney and pre-cast concrete units for the country. In the Early Modern period, structures at Jannali, Pennant Hills, Leightonfield and Warwick Farm were all in timber, whereas rural locations such as Gerringong and Mullumbimby received brick buildings. The materials utilisation policy of the Early Modern period was more complex than this but the reversal of the "brick for Sydney" policy had definitely ended by 1944.

The Second World War forced Beaver and Fewtrell to plan for large numbers of users and the policy to erect larger buildings than had been the case before 1930 would continue into the Austerity period.
BIBLIOGRAPHY

(i) Books


Louis, L.J. & Turner, I., The Depression of the 1930s, Melbourne, Cassell, 1968.

New South Wales Department of Railways, Railways at War 1939-1945, Sydney, Department of Railways, no date.

Preston, R.G., Tender into Tank, Newcastle, Australian Railway Historical Society, 1970.


(ii) Journals

Fitzmaurice, R., "Wartime Building", Architecture, Vol. 29 No. 11, November, 1940.


(iii) **Official**  
New South Wales Parliament  

(iv) **Annual Reports**  
New South Wales Department of Railways, Sydney, Government Printer, various issues.

(v) **Theses**  

(vi) **Newspapers**  
- *Sunday Telegraph*, 17th December, 1939.  
- *Sydney Morning Herald*, 18th December, 1939.
FIGURE 321 - GUILDFORD

FIGURE 322 - CONDOBOLIN
FIGURE 331 - DENISTONE

FIGURE 332 - QUAKERS HILL
CHAPTER NINETEEN

AUSTERITY 1945-1954
19. AUSTERITY PERIOD (1945-1954)

19.1 INTRODUCTION

In this period, the Government opened no new public railway lines. Engineers approved only twelve replacement structures and one new structure in the ten years using existing designs, though with some modification. The period was significant in that it was the start of a 25 year interval of slow but progressive closure of branch lines, commencing with the Ballina line in 1949 and the Kurrajong line in 1954.

19.2 EXTENSION OF THE EARLY MODERN PERIOD (1945-1950)

The impact of World War Two continued to be an environmental factor for decision makers until 1950. The War had prompted massive investment in equipment necessary for the conflagration to the detriment of other sectors of the economy. With the end of the War in 1945, the need for re-equipment to meet the needs of domestic consumers was great. There was not sufficient resources, both capital and manpower, to meet consumer demand and this caused the imposition of Government controls of various kinds on the allocation of resources to organisations and individuals. Slowly, Governments removed the controls and from the early 1950s the economy strengthened in diversity, development and growth.

The War had given greatest stimulus to manufacturing. One industry which emerged strongly from the War was the motor vehicle industry. In late 1948, General Motors-Holden began production of the first all Australian made motor vehicle. Consumer demand for the vehicle was so high that second hand models for many months sold above the price of new cars. In 1946, one in 14 persons owned a motor car and the rate increased from that time until the 1970s when the rate was 1 in 3. Motor vehicle ownership was one indicator of the rising standard of living since the end of World War Two.


Another means by which Australians have traditionally measured their standard of living is home ownership. Because of the return of servicemen from the War, there was a shortage of 400,000 units. (3) There was a post war building boom in which between 100,000 and 120,000 people obtained employment in the construction industry between 1948 and 1951. (4)

The building boom in New South Wales resulted in a shortage of materials and labour with which to carry out improvements to existing stations. This was one factor which contributed to engineers approving only 12 replacement buildings and one structure at a new station (Towradgi) in the period. (5) There was no change in the architecture policy in regard to these structures. Similarly, there was no consideration given to the impact of motor vehicles in relation to the increase in rail travel movements by those who now had access to private road transport. The Austerity period was one in which patronage rose by approximately 12% between 1943/44 and 1954/55. (6) After 1955, patronage decreased until 1976. (7)

The increasing use of rail facilities placed a great strain on existing buildings. In 1945, Enticknap referred to the congestion that was occurring at Narandera. (8) In 1948, Jackett referred to the congestion at the ticket windows at Burwood and Strathfield and in reply the Minister said that the same problem "is experienced at many other suburban stations". (9) The increased usage of stations prompted requests for additional facilities, as in the request in 1949 for toilets for the station at Oak Flats. (10)

---

(5) The Government also opened a number of minor stations in country areas of which nothing is known of the architecture.
(7) A. Reiher, "Opening Address", Symposium on Transporting People, University of New South Wales, November, 1978, Occasional Paper No. 4, 1979, p. 3.
(10) ibid., Vol. 190, 1948/50 Session, p. 3990.
The presence of surplus road trucks of large
capacity and a strong demand for consumer goods prompted
"a large number of individuals" to enter the road freight
haulage business.\(^{(11)}\) Throughout the period, the
Commissioner for Railways complained about the competition
from road vehicles. For the first time, he also complained
about competition from air transport.\(^{(12)}\) Despite pleas
from the Commissioner, the Chief Civil Engineer did not
alter his architecture to take account of the effect of
other modes so far as they impinged on the capacity of
station buildings to provide parcels and "out-ofs" services.

In 1950, the Government re-organised the management
of the Department of Railways. In place of a single
Commissioner, the Government appointed an eight man Transport
Commission but it was found to be unworkable and the
Government abolished the Commission in 1952. There was
no change to station architecture as a result of these
organisational variations.

Station architecture did not respond to trends
generally in architecture outside the rail sector.
Freeland argues that up to 1950 the two main concerns
were with functionalism and economies.\(^{(13)}\) Between 1945
and 1950, station architecture largely continued to be an
extension of the Early Modern period. The "overpowerly
horizontal" style of that time was evident in structures at
Bomaderry in 1945, Cokcle Creek in 1948, Blandford in 1949
and Clyde in 1950, as in figures 341 to 344. These were
mostly large buildings using brickwork to show a degree
of ornamentation. Day labour erected the very last examples
of Deane's 1892 initial island/side platform design in 1945
at Gurley.

The policy existing before the Early Modern
period to use better materials in the Sydney Metropolitan
area became once again apparent. The only timber structures

\(^{(11)}\) S. Joy, "Transport in Australia", in Third Commonwealth
Study Conference, Anatomy of Australia, Melbourne,

\(^{(12)}\) New South Wales Department of Railways, Annual Report
to 30th June, 1948, Sydney, Government Printer, 1948,
P. 8.

\(^{(13)}\) J. M. Freeland, Architecture in Australia, Ringwood,
were Gurley and Blandford, the former of all timber construction and the latter using a combination of timber and fibro sheeting. An unknown engineer approved the use of three corrugated iron and timber sheds for Towradgi in 1948, shown in figures 345 and 346. It was supposedly a temporary arrangement as Fewtrell approved new buildings in 1949 but these were never erected. The use of iron sheds and the non construction of the buildings at Towradgi, Kyogle, Leeton, Merriwa, Narromine, Wingham, Orange and Balldale before the end of 1950 suggested a bias against the country.\(^{(14)}\)

The bias was more easily discernible in Fewtrell's decision to use brick in 1940 for a single room, reverse skillion roofed waiting shed at Waverton as shown in figure 347. This was the first time since 1855 that a skillion roofed structure had been erected in brick. In addition, it was the first time since the approval of a structure at Lindfield in 1888 shown in figure 33 that the pitch of the skillion roofed structure sloped to the rear. Fewtrell used the technique of extending the rafters to form the awning and this feature was the first time that a reverse skillion roofed structure had an integral awning.

Unknown at the time, Fewtrell's design for Waverton would provide the prototype of architecture for a new design of station building implemented in 1965 which would continue in vogue for the next 15 years. Freeland's remarks about economy and functionalism were correct in relation to the Waverton structure but this structure was not representative of the majority of buildings between 1945 and 1950.

The dominance of economy as an input in the decision making process was not as obvious in the Austerity period as it was in the preceding periods. Earlier times had witnessed the use of cheaper materials, such as concrete in the 1920s, and the application of simple designs, such as the skillion roofed building in the 1890s. In the 1930s, approving officers achieved economies by the non-construction of parts of approved designs, such as the elimination of the refreshment room at Griffith and the waiting rooms at

\(^{(14)}\) For details of structures not built see appendix 14, chapter 3.
Dungog in the mid 1940s. In the Austerity period, approving officers achieved economies by the non-construction of entire buildings for which they had been given prior approval. In the Austerity period a total of 11 buildings for which approval had been given were never constructed.\(^{(15)}\) This represented nearly one third of all known instances in which buildings were not erected despite existing approvals of the architecture.\(^{(16)}\)

As well as not erecting entirely new structures, approving officers did not carry out improvements to existing structures, such as the need for an underground booking office at Parramatta in 1946. Neither did the rail administration provide what was regarded by local residents as "necessary conveniences" despite major expenditures in other sectors of railway expenditure, such as the duplication of the double track between Lidcombe and Granville in 1949.\(^{(17)}\)

In 1951, Fewtrell approved the use of an overhead booking office at Granville, as in figure 348. In 1952 and 1953, there was an absence of station planning. Not only was there a disinterest in erecting more up-to-date structures within the Department of Railways, but also outside it. There was only rare public interest in station buildings. One of the few instances occurred in 1953 in respect of Kirrawee station, when the local Parliamentary representative asked the Minister for Transport to provide "at least a minimum of shelter or, preferably, shelter commensurate with that at other locations".\(^{(18)}\) In particular, the Parliamentarian cited the absence of a general waiting room. It is significant that this request followed the theme of many previous occasions when the public, press and parliamentarians demanded a standard of building at least equal to those in other locations of similar size and importance.

\(^{(15)}\) See appendix 14, chapter 3.
\(^{(16)}\) Based on an analysis of structures in appendix 14, chapter 3.
The impact of economy was even more significant in this time interval than in the immediately preceding five years. Not only did approving officers not erect structures from their approved plans, but they went one step further. Between 1951 and 1954, the Chief Civil Engineers did not approve the erection of one station building. For three years there was stagnation, with no funds being allocated to station construction.

The change came in 1954 when the newly appointed Chief Civil Engineer, Norman Vogan, approved the design of two structures for Dora Creek, as in figures 349 and 350. The structures were significant for a number of reasons set out hereunder:

* they were the last timber structures over 12 feet in length to be erected on the system,
* they were the largest buildings since 1855 to have reverse skillion roofs,
* they had the widest awning of all skillion and reverse skillion roofed buildings,
* they were the first skillion or reverse skillion roofed buildings to have soffits,
* they were the first buildings since 1916 of more than one room to have skillion roofs,
* they were the first buildings outside the Sydney area to have no heating of any type,
* they were the first structures to have ceiling height windows; (on the platform side only).

The buildings at Dora Creek at last displayed Freeland's austerity and economy through their timber construction. They were void of any embellishment and reflected the functionalism of the Austerity period through the absence of open fire places and the provision of toilets and a ladies' waiting room on one platform only. Gone was the feature brickwork and the streamlined design of the Early Modern buildings.

The design alteration as seen at Dora Creek initially appears related to architectural change that was occurring outside the rail sector. Freeland cites the importance of a design for a house which he describes as a "flat-roofed machine made box" constructed in 1951 at
M Q

Turramurra. (19) He states that "until 1956, practically every architect designed house had a flat roof and a deep plain fascia". (20)

The buildings at Dora Creek featured to some degree the box concept through the application of the large single pitched roof. However, Fewtrell was using the flat roof as early as 1944, as seen in figure 351 of Rooty Hill. In this way, the Dora Creek structures were a variation of a preceding design. Contrary to Freeland's reference to the use of box-like buildings up to 1956, the features evident on the Dora Creek structures were applied to only one further station - at Broken Hill in 1955. In view of the design of antecedent and subsequent examples, it would seem that the Dora Creek buildings were possibly the result of influences restricted to within the railway administration rather than outside it.

Although there were some significant features of Vogan's Dora Creek buildings, they were not sufficient to classify the design as a new type. For example, the awning arrangement was similar to structures at Waverton in 1948, Newtown in 1863 and at Narara in about 1887. (21) In addition, the floor plan featured the usual association of booking office, general waiting room, ladies' waiting room and "out-of" room. Nevertheless, the structures, together with the building approved by Fewtrell for Waverton in 1948, did provide the basis for the transition to the box-like architecture which emerged in 1965.

Apart from the importance of economy, it is impossible to determine whether Vogan's use of timber was also a response to a reduced level of funding or to the relative unimportance of the location around Dora Creek.

(20) ibid., p. 276.
(21) For Waverton, see plan signed by A.C. Fewtrell dated 14th May, 1948, State Rail Authority Way and Works Plan Room; for Newtown, see plan dated 23rd October, 1863, unsigned, State Rail Authority Archives and for Narara see G. Dundon, The Third Old Gosford and District, privately published, Gosford, 1980, p. 11.
In 1944/45, the Government allocated $3.2 million to the railways for capital works.\(^{22}\) This was the lowest figure since 1933/34. From that point, the allocations increased every year until it peaked at $42.2 million in 1951/52. From that time, the allocations decreased at $26 million in 1953/54 and continued to decrease until 1959/60.\(^{23}\) The fact that engineers approved only one large station building between 1950 and 1954 (at Dora Creek) and that example was in timber demonstrates the importance of economy. Despite the almost non-appearance of new station buildings between 1951 and 1954, it was still possible to see the rivalry between regional areas about their station buildings. For example, 1951, G.R. Crawford, M.L.A., asked the Minister for Transport a question about the installation of electric lighting in the station building at Wee Waa. He alleged that the Minister said that "the installation of electric lighting at Wee Waa could stand over until the more important stations had been equipped with this facility".\(^{24}\) In reply, Crawford enquired "To whom are those stations more important?"\(^{25}\) He went on to say that "they are not more important to the people of Wee Waa who are as much entitled to this service as are the people of any other town".\(^{26}\)

19.4 THE POSITION IN 1954

The position in 1954 was unclear. In the ten years of the Austerity period, engineers as far as is known did not approve any new plans for stations for four of those years (1946, 1947, 1952, 1953). Over the entire period, engineers approved only 13 plans. Such a small sample makes it very difficult to generalise. This is especially applicable to the year 1954 in which engineers approved only one design and that was after a lapse of two years.

---

\(^{22}\) see table 7.5, chapter 7.

\(^{23}\) ibid.


\(^{25}\) ibid.

\(^{26}\) ibid.
The Austerity period was divided into two time intervals. The first was largely an extension of the Early Modern period with structures mainly conforming to the patterns of buildings before 1944. The exception was the structure at Waverton in 1948. The second time interval was between 1951 and 1954 and was different to the first because engineers stopped using Wickham's cantilevered design of 1929 and made a number of significant improvements to the earlier reverse skillion design for the structure at Dora Creek in 1954.

Economy continued to be an important criterion in the decision making process. The symbolic role of station buildings also continued to be a feature of station building history.
BIBLIOGRAPHY

(i) Books

(ii) Journals

(iii) Official

(iv) Annual Reports
New South Wales Department of Railways, Sydney, Government Printer, various issues.
CHAPTER TWENTY

MID 20TH CENTURY 1955-1980

20.1 THE SEARCH FOR ECONOMY 1955-64

The Mid Twentieth Century period was a time in which the New South Wales railways declined in terms of passengers carried and were unable to pay for current expenditures from fare and freight receipts. Moreover, the Department of Railways had to cope with ever decreasing amounts of capital funds. From a sum of $36 million in 1952-53, the capital allocations declined in every year until 1964-65 when it was $16.3 million.\(^1\) In the ten years from 1955 to 1964, the Government did not open any new lines of railway apart from the link between Wynyard and St. James. Engineers approved plans for only ten replacement buildings and two new structures (namely Circular Quay and Lapstone).

In relation to station architecture, the period was a time of design instability, a time when there seemed to be little continuity in the architecture of station structures. This is evident in the use of eight different types of architecture in regard to the 12 buildings which engineers approved between 1955 and 1964. Despite the lack of continuity of designs, most examples reflected two trends - one towards economy and another towards diminution, which was also aimed at economy.

The most significant architectural event involved the reconstruction of the station at Broken Hill in 1955 shown in figure 352.\(^2\) It provides a focus for the ten year period not because Vogan planned it in the first year of the time interval under consideration, but because it was most unlike every other structure which Vogan approved subsequently.

By its large size and high standard of finish, it demonstrates in a negative manner the importance of the two trends which existed between 1955 and 1964. Despite the large size and regional importance of Broken Hill, Hutchinson provided only a pre-cast concrete structure, as in figure 294, for the town at the opening of the isolated section of line.

\(^1\) Table 7.5, chapter 7.
\(^2\) Plan signed by N.C. Vogan dated 3rd November, 1955, State Rail Authority Way and Works Branch Plan Room.
to Menindee in 1919. The Sydney based New South Wales Government always viewed Broken Hill as an antagonistic town and one more closely aligned with South Australia. It was only because the Minister for Public Works was the local Parliamentary representative for Broken Hill that the New South Wales Government supported and passed legislation to provide rail access for Broken Hill.

Although local residents did not raise any objection to the poor presentation of their station building in 1919 or in 1927 when the Government eventually completed the connection with Sydney, by the Second World War local inhabitants were beginning to realise that their station building was on a considerably lower standard than that at other towns in the State with similar populations. In 1944, the local Parliamentary representative said that the building shown in figure 294 was "probably the worst station in any large town in the State". (3) At that time, the Minister for Transport diffused the situation by saying that "I know that after the War a number of railway stations are to be renovated or rebuilt. That is why the Commissioner has refrained from spending money on some of the railway stations". (4)

The New South Wales Government probably never had any intention of providing a more modern, larger and better located structure had it not been for the fact that the first local member since McCann, the Minister who directed construction of the railway to the town in 1919, to be a Minister was Ernest Wetherell in the 1950s who made sure that the largest town in his electorate received a new structure. At the opening in 1957, Wattison, the Member for Parliament for Sturt, said that Wetherell "had been responsible for the new station". (5) Despite references at the time to the station being a link in the trans-continental standard gauge rail proposal, the new station was in no way the result of such planning. Vogan had approved the design in November, 1955, some three months before the Government Parties of the Commonwealth Parliament established a committee

---

(4) ibid.
(5) Barrier Daily Truth, 5th June, 1957, p. '1.'
to examine rail standardisation in Australia. Vogan's approval predated the Committee's report by eleven months and, more importantly, there was no reference in the report to the need for reconstruction of the station building at Broken Hill.\(^6\)

At the opening ceremony in 1957, speakers made reference to a number of points which local residents in other parts of the State had espoused regularly since 1870. For instance, the Mayor said the residents could be proud of the building.\(^7\) This emphasised the symbolic role of the structure. He also stated that the Department "had not stinted to provide all modern facilities".\(^8\) This pointed to the ability of engineers to anticipate local community expectations and to plan a structure which would placate the desires of residents. It also showed the desire to have structures that were architecturally up-to-date with buildings outside the rail sector. The President of the Chamber of Commerce stressed this latter point when he said that "the new station was in keeping with other modern buildings in that section of the City".\(^9\) The often voiced concern that the standard of a station should be at least equal to those in other towns of similar size was again heard. The Barrier Miner newspaper stated that the structure was "one of the most modern provincial railway buildings in the State".\(^10\)

The structure at Broken Hill was regarded as 'imposing'.\(^11\) At a cost of £116,000 it would have been one of the most expensive conventional buildings since the opening of the new Sydney terminal in 1906.\(^12\) In addition, it was the first known station building since 1919 to be erected by contract labour. A local firm, Constructions Ltd., erected the building using locally made concrete bricks.

---

(8) ibid.
(9) ibid.
(11) ibid.
(12) A part of this sum would be allocated to the provision of a new platform. This remark excludes stations on the Sydney underground system.
This was the first time that solid concrete bricks were applied to a station building. Engineers resited the station to a more convenient location. They continued the pattern of earlier years by placing the structure at the end of a street which gave uninterrupted views of the building. In this way, it was both a symbolic and physical gateway to the city.

The use of a parapet on the roof resembled the same feature that had been applied to structures in the Early Modern period, such as at Gymea in figure 353. It contained general and ladies' waiting rooms, station master's office, communications office, signal box and toilets. Some staff amenities were also provided on a lower level. This was the only time when engineers included facilities for train staff in a building. Although of brick construction, the building very closely resembled the design Vogan had a year previously used at Dora Creek. One aspect which Vogan changed for the worse was the use of stairs at Broken Hill in place of a ramp at Dora Creek. Despite a reference that passengers could reach the Broken Hill building by "two flights of easily graded steps", the steps made it unnecessarily difficult for aged or incapacitated patrons to move from the platform to street level.

The approval for the replacement building at Broken Hill was the most blatant case of political interference into the work of engineers so far as the replacement of existing structures is concerned. Apart from the reference to Wetherell's role in the local press the degree of political manipulation is also suggested by the fact that, in the very year in which Vogan approved the £116,000 design (1955), Wetherell, who was the Minister for Transport and local member for Broken Hill at the time, was telling the State Parliament that work on the replacement structure at Granville, which had begun in 1948, had not been completed because of "the acute financial position" and that the Department's construction staff had been "concentrated on more urgent work". The shortage of funds and manpower was such that engineers did not complete the buildings at Granville, as shown in figure 354, until 1959.

(13) Railway Transportation, Vol. 6 No. 7, July, 1957, p. 34.
In 1957, the year of the opening of the Broken Hill structure, the Commissioner for Railways emphasised the need for economy in construction and administration. Addressing officers of the Way and Works Branch, including Vogan, the Chief Civil Engineer, the Commissioner said: "Mr. Vogan does not know it yet but the aim must be to try and progressively reduce the costs of producing our services and I have in mind the figure of 5% per annum - about £600,000. That is until we get a better stage on to bedrock". (16)

The Commissioner went on to say that "I will not approve of anything unless I feel there is a need for it". (17) He indicated that his criteria involved "getting business or improving our operational facilities". (18) He promised that engineers would "find no difficulty in having allocated capital monies for equipment" that were aimed at reducing costs. (19)

Under the guise of a "modernisation programme", the Department of Railways acted to replace the labour intensive and operationally inefficient steam locomotive with diesel traction. Apart from references to "motive power and rollingstock", the Department never stated the contents of the modernisation programme. (20) There was never any reference to station buildings other than one instance in 1962 when a "modern" booking office was opened at Sydney terminal station. Redolent of previous occasions when residents and the press made comparisons about the architecture of station buildings at other similar sized towns, an official publication in 1962 emphasised that the modernisation would make the Sydney station "the equal of similar facilities at any rail terminal in the world". (21)

Other than at Sydney station, the official modernisation programme did not encompass either metropolitan or country stations despite some very real problems at

---

(16) Address by the Commissioner for Railways, Way and Works Officers Conference No. 98, 21st November, 1957, appendix 1, p. 1, State Rail Authority Archives.
(17) ibid.
(18) ibid., p. 2.
(19) ibid.
individual locations. For example, in 1956 Wetherell conceded that facilities at Jannali station were inadequate "to cope with the great number of school children".\(^{(22)}\) Because only minor initiatives were required, the Department of Railways did widen paths, enlarge gateways and remove a bookstall.\(^{(23)}\) At other locations, users were not so fortunate. Connor made a request for a larger building at Port Kembla North. The station building was a simple shed with corrugated iron cladding and Connor said that the existing building, shown in figure 69, could hold only 30 of the 2,000 people who used the platform each day.\(^{(24)}\)

At Pennant Hills Station, the Parliamentary representative in 1962 complained that the waiting rooms had been converted into offices and that passengers had "virtually no protection from beating rain".\(^{(25)}\) A year later, engineers achieved further economies in the erection of new toilets at Pennant Hills. Rather than install a septic system or connect the toilets to the sewer, they simply provided an "absorption trench" 100 feet in length for the human waste.\(^{(26)}\)

Not only did users suffer, but staff also endured hardships under the role of economy. At Croppa Creek in 1962, the Government said the Commissioner had to "provide suitable station buildings" before permanent staff could be stationed there. This turned out to be a two room weatherboard shed, as in figure 355, measuring 24 feet by 11 feet of the skillion roofed design, last in vogue before 1919.

Engineers took every opportunity to save funds. They avoided building new structures by making large scale additions. At Sawtell in 1956, Vogan approved the addition of four rooms to an existing single room, skillion roofed out-of shed.\(^{(27)}\) The poor presentation of the finished product is shown in figure 356. At Trangie in 1959, Vogan approved a four room extension to the existing signal box rather than provide a new structure.\(^{(28)}\) The end result was an unusual looking building, shown in figure 357.


\(^{(23)}\) ibid.

\(^{(24)}\) ibid., Vol. 18, 1956/57 Session, p. 3140.


\(^{(26)}\) Plan signed by N.C. Vogan dated 3rd December, 1963, State Rail Authority Way and Works Plan Room.

\(^{(27)}\) Plan signed by N.C. Vogan dated 8th June, 1956, State Rail Authority Way and Works Plan Room.

\(^{(28)}\) Plan signed by N.C. Vogan dated 23rd October, 1959, State Rail Authority Way and Works Plan Room.
In some instances, it was more economical to build new structures. This view was closely aligned with the emerging policy of the removal of parcels business from structures associated with the operation of passenger trains. At Blacktown in 1960, Vogan simultaneously approved the erection of a new overhead booking office, shown in figure 358, and the conversion of the former station building into an off-platform parcels office as shown in figure 206.\(^{(29)}\)

By approving this arrangement, Vogan had separated the flows of people and goods in relation to parcels and passenger business. Whilst engineers achieved economies by centralising ticket issuing in overhead booking offices, the Department still provided on-platform staff to despatch trains, as shown in figure 359, and for this reason it could not take full financial advantage of the overhead booking office which Vogan had provided. At other suburban locations he achieved the same separation as shown in figures 360 and 137 of Hurstville and Granville. All of these stations were large, serving important regional centres and the high level of parcels traffic dictated full time staff. Nevertheless, at all the locations, engineers had also erected overhead booking offices which centralised ticket issuing and train arrival/departure notices, thereby achieving some economies of manpower.

When engineers thought that local residents may not complain over a low standard structure, they seized the opportunity and provided structures below the standard of those in the Sydney metropolitan area. At Moree in 1962, Vogan approved a combined booking/parcels and goods office in an off-platform building shown in figure 154. Gone was the brick and good presentation of metropolitan off-platform facilities. It used 22 gauge galvanised corrugated iron for the roof and exterior walls.\(^{(30)}\)

Considering the extremes of temperature, the building was not aimed at providing comfort for staff and patrons but saving money.

\(^{(29)}\) Plan signed by N.C. Vogan dated 12th August, 1960, State Rail Authority Way and Works Plan Room.

\(^{(30)}\) Plan signed by N.C. Vogan dated 28th June, 1962, State Rail Authority Way and Works Plan Room.
On a number of occasions, Vogan approved conventional on-platform buildings. However, the designs he used varied almost with each location. In all cases, the structures were small and mostly erected of timber. The object of this was to achieve economies. In 1955, Vogan approved a one room reverse skillion roofed waiting shed at Kooloong, as shown in figure 361. Unlike Fewtrell's 1948 example at Waverton, it was of timber construction and measured only 10 feet by 10 feet.

The diminution concept was again evidence in Vogan's approval of a five room building at Warrimoo in 1956 which measured only 45 feet long, as shown in figure 362. The architecture of this structure was similar to that widely used in the Early Modern period and last employed in 1950 at Granville. It was the last use of the second island/side platform type and the gap of six years suggests that engineers were not really sure what was the most economical design to use. The Warrimoo was the smallest five room building on the system and the smallest manned example of its type of architecture.

The structure at Warrimoo was one of the few buildings to be erected in brick. Another brick structure, though still small in length, was approved by Vogan in 1959 at Mount Colah. Similar to his work at Sawtell and Trangie, Vogan again made the shape of the building to match an existing toilet block. The completed building was of a most peculiar design as shown in figure 365.

The concept of diminution was evidence in the remaining structures erected in the period, namely Beresfield in 1961 as shown in figure 363, which measured 20 feet by 12 feet and Casula in 1963 which was approximately 30 feet long and contained four rooms as shown in figure 364. Vogan's structure at Casula was the smallest four room building ever approved on the system. At Waverton in 1964 Vogan achieved economies by the elimination of waiting room facilities.

(31) Plan signed by N.C. Vogan dated 9th September, 1955, State Rail Authority Way and Works Plan Room.
(32) Plan signed by N.C. Vogan dated 28th December, 1956, State Rail Authority Way and Works Plan Room.
(33) Plan signed by N.C. Vogan per "AUK" dated 16th September, 1959, State Rail Authority Way and Works Plan Room.
He provided an awning and toilets only. Two features were of interest: firstly, it was the first and only time when a partial saw-tooth roof was used for a building and it was the first time when hollow concrete blocks had been applied on a station structure.

The use of many different materials between 1955 and 1964 was an indicator of the desire to achieve economies just as much as was the use of many different designs. In the ten year time interval, Vogan had used solid concrete bricks at Broken Hill, hollow concrete blocks at Waverton, metal decking at Moree, aluminium at Blacktown, a combination of brick, aluminium and laminated plywood at Mount Colah and "cypress pine half rounded (log cabin) weatherboard" at Beresfield.(35) These were in addition to the conventional use of bricks at places like Warrimoo and timber at Sawtell.

One unusual material which engineers used was the use of polished pink granite for the new Circular Quay station which the Government opened in 1956.(36) Like many station buildings before it, the opening ceremony predated completion of the construction work.(37) It was the only station in New South Wales to be the subject of a public report.(38)

The most important features of the design at Circular Quay was the separation of ingress and egress and the use of escalators from road to platform level. This was the first use of escalators on a newly planned station and proved to be a boon for aged and incapacitated users and people with prams and strollers.

With the objective of saving finance, the Department of Railways also considered means by which it did not have to meet any expenditure in the erection of facilities. The Department pursued two different approaches in obtaining other parties to meet the expenditure. The first method was to point out to the parties desiring stations that the Department had no funds for construction but would provide staff and meet operating costs if the party seeking the

---

station would meet the capital costs. The Department used this method for the erection of Cochrane in 1956, as shown in figure 366.\(^{(39)}\) In this instance, the Commonwealth Government paid for the station and, like other examples between 1955 and 1964, it featured several new or rarely used materials, such as asbestos cement sheeting and 'alumply panels'. The design very closely resembled the structure at Broken Hill. Another example of this approach occurred in 1963 when Vogan approved a new station at Lapstone, shown in figure 367.\(^{(40)}\) In this instance, the Department agreed to pay the capital cost of the station building estimated at £30,000 when revenue reached 30% of the construction costs for three successive years.\(^{(41)}\) This building was requested by a real estate company which was promoting the sale of nearby land and the company entered an agreement for the erection of the station.\(^{(42)}\) The design was similar to that at Broken Hill and, like its forebears, featured some material innovations, such as the use of "full height plate glass in front of the waiting room".\(^{(43)}\) This particular design feature was seen to be a considerable improvement over past designs of general waiting rooms which one source referred to as tending to be "dark dismal places".\(^{(44)}\)

The second approach which the Department used to avoid expenditure was the agreement to lease air rights over stations provided that the developer met at his cost the expenditure of new or improved station facilities. The first example was at Hurstville where negotiations commenced in the mid 1950s.\(^{(45)}\) The developer, Hurstville Super Centre Pty. Ltd., acquired a 50 year lease of the air rights and provided a barrier entrance, new booking office and cloak room as integral facilities on a shopping level which contained over 65 retail and other shops.

\(^{(39)}\) Plan No. C14/28B dated 23rd October, 1956, Department of Defence Production.
\(^{(40)}\) Plan signed by N.C. Vogan dated 29th January, 1963, State Rail Authority Way and Works Plan Room.
\(^{(41)}\) Railway Transportation, Vol. 13 No. 8, August, 1964, p. 32.
\(^{(42)}\) Dornan & Henderson, The Electric Railways of New South Wales, p. 72.
\(^{(43)}\) Railway Transportation, Vol. 13 No. 8, August 1964, p. 32.
\(^{(44)}\) ibid.
\(^{(45)}\) Railway Transportation, Vol. 14 No. 12, December, 1965, p. 32 says: "The construction of an air right undertaking at Hurstville has been in hand for almost 10 years...". 
The desire to seek alternative funding arrangements and the general trend in the reduction of station building sizes was in part due to the need for economy. Smaller building sizes were also in part due to the decline in passenger traffic. In 1956, the Government reacted to the decline in patronage by appointing consultants to examine the operation of, inter alia, the Department of Railways. The consultants reported in 1957 that the Department was adjusting services to "accord with the changed role of railways in the field of passenger transportation".\(^{(46)}\)

They recommended against any further extension of suburban rail services and said that funds should be directed to the modernisation and improvement of the rail system.\(^{(47)}\) However, there was no reference to station buildings in their report and there was no "modernisation and improvement" as an accepted policy and the few station buildings approved between 1957 and 1964 showed no improvement in the standard of architecture or facilities for both staff and public.

One important event which occurred in 1961 had long term effects for station buildings. In that year, the Government withdrew the last tram service in the Sydney metropolitan area.\(^{(48)}\) The facilities that the Government provided for tram travel were always far more modest than those for train travel. With the existence of both train and tram services, Governments could (but did not) argue that it was not necessary to provide large railway station buildings, containing toilets, parcels offices and booking facilities because they were not available to tram travellers.\(^{(49)}\) With the trams no longer in operation, the Government was not in a position to make the comparison and engineers had to continue planning station facilities in the context of the traditional concept of a railway station building containing toilets, waiting rooms, booking offices and in some cases parcels services. The New South Wales Government was not like


\(^{(47)}\) ibid., p. 19.


\(^{(49)}\) This argument was the basis of a study by the Victorian Railways in support of the elimination of all but waiting sheds at stations. This was related to S. Sharp by G. Meech, Secretary, Victorian Ministry of Transport on 3rd July, 1980.
its Victorian cousin where transport decision makers considered station rationalisation, involving the elimination of entire stations, as a means of minimising initial and operating costs. (50)

20.2 NOMINAL MODERNISATION 1965-75

The years between 1965 and 1975 are marked by the control of the State Government by a coalition of the Liberal and Country Parties - the first time that the Labor Party had not formed Governments in New South Wales since 1941. More importantly, it was the Liberal/Country Party transport policies, highlighting the importance of public transport, that identified the period as distinct from earlier years.

Despite promises to build the Eastern Suburbs Railway and add two additional lines between Erskineville and Sydenham, the Government opened no new lines in this time interval though it did carry out construction on parts of the Eastern Suburbs line. Railway engineers approved the design of 18 replacement buildings and of one design for a new station, at Orange East Fork in 1971.

The time interval is significant in that the Government re-organised transport services in 1972 by abolishing the Department of Railways and replacing it with a Public Transport Commission which ultimately operated all modes of State owned public transport. This made no difference to station architecture. In the same year as the formation of the Public Transport Commission, the revenue from rail operations was, for the first time since the commencement of the rail system in 1855, unable to cover current costs. This was the start of the rapid increase of the transport deficit which by 1978 was accumulating at the rate of $1 million per day. There were implications of this adverse financial situation for station designs, in particular the movement to operate stations with fewer staff.

Three factors impinged on decision makers in relation to station architecture. These were the need for economy, the high level of vandalism and increased public awareness of the role of public transport. Railway engineers responded to these by the approval of a new design at Guildford in 1965, shown in figure 156 and its subsequent use on almost all occasions until 1980. Engineers achieved economies by simplifying building techniques, changing floor plans, using less expensive materials and by obtaining finance for construction from alternative sources. They met the problem of vandalism by the use of ceiling height windows combined with brick and steel construction. They responded to the greater community awareness of the role of public transport by the adoption of the new design at Guildford and by the use of attractive coloured bricks and paint work. Despite the measures which engineers adopted and the success of their work, they could have achieved much more modernisation if the concepts of overseas rapid transit stations had been applied.

The architecture of the period resembled closely that at the opening of the rail system in 1855 and, more particularly, from 1965 there was a common and consistent design for station structures serving both the smallest locality such as at Orange East Fork, shown in figure 368, and the largest centre such as at Broadmeadow, shown in figure 369.

In the mid 1960s, two factors emerged as new environmental features additional to the ongoing importance of the need for economy that was influential in the design of station buildings until 1980. These were an awareness of the role of public transport as a means of commuting to and from the Sydney Central Business District and a greatly increased level of vandalism thought to be associated partly with a high degree of unemployment. (51)

The interest in public transport was raised in a report in 1963 which supported the construction of a rail line to Sydney's eastern and south eastern suburbs. (52)

(51) Vandalism was not a major problem in earlier times. For example, see A.D. Smeaton, Hurstville - Reminiscences of the 20's, Hurstville Historical Society, 1987, p. 76.

In April, 1965, one month before losing office, the New South Wales Labor Government established the County of Cumberland Passenger Transport Advisory Committee to "make recommendations and report ... on all types of passenger movement, both public and private, in the County of Cumberland and to deal with such matters as land use, staggering of hours and co-ordination of existing and future transport services". (53)

A State general election was held in May, 1965. The Leader of the Parliamentary Opposition said in his policy speech that "in the last 30 years almost everything has moved forward - except the public transport in this State". (54) He went on to say that "instead of the transport system being systematically extended and modernised to meet our expanding needs, it has been allowed to deteriorate so that there is never ending complaint". (55) So far as railways were concerned, the Leader stated: "My Party is convinced that the best way of moving large numbers of people is by rapid transit train." (56) Apart from this intimation of the style of station normally associated with rapid transit services and the concept of modernisation, he made no reference to stations.

Both major political groupings had raised the level of consciousness of the public towards the use of public transport. However, rail officials and users had no thought, nor perhaps expectations, of how ideas about "rapid transit services" and "modernisation" would affect the design of their stations.

At about the same time as the Opposition Leader was informing the public about Liberal Party public transport policies, he was condemning the increase in the anti social behaviour of young people. In 1964, the Opposition Leader, Robin Askin, said that "many thousands of women are mortally afraid of prowlers these days and wolf packs of louts are committing savage and brutal crimes". (57) Askin continued

(55) ibid., p. 8.
(56) ibid., p. 11.
(57) Quoted by P.N. Grabosky, Sydney in Ferment, Canberra, Australian National University Press, 1977, p. 150.
by stating that "many criminals are apprehended by the Police but it is not apprehension and penalty that counts. We need deterrents: and there is no better deterrent than a Policeman in uniform on a beat or in a vehicle". (58) It was also considered that "the absence of sufficient public precaution" contributed to the increase in crime. (59)

Between 1963 and 1970, the rates of larceny and break-and-enter increased over 100%. (60) It has been argued that this trend was associated with the rapid increase in unemployment, particularly of young people, in the manufacturing sector. Windschuttle argues that growth in manufacturing capital expenditure stopped in 1965/66. (61) He also points to the fact that from the mid 1950s to the mid 1960s "youth's proportion of unemployment approximately doubled. In 1964/65, 37.3% of all unemployment fell among the 15-19 years old age group." (62) He says that this subsequently declined, but only slightly, to 32.2% in 1976/77. (63)

Vandals and criminals often chose railway property as the targets of their crimes. In 1972, a committee of Parliamentarians said that vandalism "is one of the Railway Department's biggest problems". (64) The significance of vandalism was fundamental in the use of hollow concrete blocks in 1965 at Kembla Grange and later at Minnamurra, as shown in figures 370 and 155 respectively. (65) The prevention of vandalism was also a consideration in the plan of a new structure at Guildford in 1965. However, on this occasion, the new public awareness of the role of public transport also was a significant input.

In July 1965, Vogan approved a new design, as shown in figures 51, 52 and 156, for Guildford. It was the first metropolitan station to be rebuilt since Eastwood in the mid 1930s. Why did Vogan choose Guildford and why

(58) ibid.
(59) ibid.
(60) ibid., p. 143.
(62) ibid., p. 45.
(63) ibid.
(65) The Minister for Transport and Highways advised the Premier on 5th October, 1976 "that Minnamurra station has been subjected to frequent and severe attention by vandals". Confidential Ministry of Transport file.
in 1965? Before considering further these questions, it is significant to note the features of the structure which was the harbinger of a new design of railway station building. The significant characteristics of the structure were:-

* a near flat roof hidden by a wide fascia;
* a box-like overall appearance;
* the location of all windows at ceiling height;
* the absence of windows on the platform side;
* the reduction in the size of the ladies' waiting room to the degree that it was only possible to place a single chair in it;
* the use of a wide space for the entranceway;
* the integration of a signalling operations console into the station master's office;
* the use of three exterior material finishes;
* the application of the name "Guildford" to the road elevation of the building in large lettering.

The emergence of this new design had a lengthy gestation period. It had commenced in 1948 with Fewtrell's design for Waverton and had seen experimentation in Vogan's designs for Broken Hill in 1955 and Lapstone in 1963. The features of the Guildford structure which enabled its classification as a new design were the combined use of a different floor plan, which increased greatly the amount of office space available to staff, and the large amount of covered platform space for the public. The plan also minimised the use of the ladies' waiting room and integrated signalling and supervisory duties into the station master's office. The application of a near flat roof was another feature which ensured its separate classification.

Vogan placed the windows above head height so that vandals and criminals could not see into the structure. The presence of unsavoury persons was a problem, as in the months preceding the opening of the station, a regional newspaper reported that: "wave of vandalism has hit some of the western suburbs, leaving a trail of broken windows, burgled shops and stolen cars and wrecked telephones."(66)

(66) The Parramatta Advertiser, 18th July, 1968, p. 3.
The importance of the increased public awareness in public transport was evident in the use of different exterior materials and the placement of the name on the outside of the structure. (67) However, the local press was not so much interested in the architecture but in the pursuit of obtaining a "modern" structure and ensuring better facilities to the public, both regular themes in the history of New South Wales station designs. The Merrylands based "Broadcaster" said that "a modern, flat roofed structure is pictured taking shape." (68) It added that "the new building will replace the shanty town type, slanting tin roofed building". (69) It applauded the improved ticket and parcels issuing facilities and the increased protection during wet weather. (70)

Vogan's decision to introduce a new design in 1965 appears related to the official policy of endeavouring to attract business rather than being a part of the modernisation programme which the Department had been pursuing. In his 1964/65 Annual Report, the Commissioner said that "efforts to seek new business have not been relaxed; on the contrary, this drive has intensified." (71) The Department's awareness of the importance of passenger traffic was seen in the introduction in 1964 of the first double-decked suburban rail vehicle and the opening in 1966 of a new booking office at Sydney railway station. Thus, the emergence of a new design at Guildford was in keeping with the policy of implementing initiatives to attract patrons.

Whilst the timing of the new structure at Guildford is understandable, the explanation of the selection of the location is not so easily perceivable. There were many station buildings of similar low standard to that at Guildford and there was nothing in particular about Guildford that made it of special concern. It was not a major bus/rail interchange not a terminal of junction station and had the disadvantage of having a level crossing at the Sydney end of the platform.

(67) The only two other buildings before Guildford that had names on the exterior walls were Stanmore and Blayney, both of which pre-dated Guildford structure by 80 years.

(68) The Broadcaster, 1st August, 1968, p. 5.

(69) For photograph of the original building, see photograph No. 890/2, State Rail Authority Archives.

(70) Broadcaster, p. 5.

The only explanation seems to be related to the importance of the locality in political terms. The local Parliamentary representative was Jack Ferguson who had been prominent in local politics since 1954. Ferguson was a senior member in the executive of the Labor Party, a fact reflected in his promotion to the Deputy Leadership of the Parliamentary Party in 1973 and his appointment as Deputy Premier in 1976.\(^{(72)}\)

Although Vogan did not approve the design at Guildford in 1965 until two months after the removal of Ferguson's Party from office, the informal decision to construct a new building probably pre-dated the election. Even if it did not pre-date the election the fact that Ferguson was a prominent member and had served in a Government which had held office for 24 continuous years, would have been sufficient to ensure that a new station would be erected as a favour by the incoming Liberal Government.\(^{(73)}\)

The Liberal Party's policies of modernisation and rapid urban transit systems were quickly forgotten once the Party assumed office in May, 1965. The elimination of trams in 1961 had taken away the only resemblance of surface rapid transit systems and, thereby, the Government was unable to use tram travel as a yard stick for reduced investment in station facilities. There were considerable developments in the United States of America in the design of stations for rapid transit systems but none of this technology was applied in New South Wales.\(^{(74)}\)

In America, consultants argued that "rapid transit stations are not for sleeping, nor are they galleries for dalliance of whatever purpose. They are simply an "in and out", stationary means of conveyance, and generally not an entirely appropriate vehicle for "great" architectural entertainment, since no one lingers thereabout".\(^{(75)}\) Much the same theme was being implemented in the United Kingdom where in 1969 Haresnape stated that there was "now a reduction


\(^{(73)}\) This point was suggested to S. Sharp by L. McLoughlin, Special Assistant to the Minister for Transport, on 19th February, 1981.

\(^{(74)}\) One example is the work by Parsons, Brinkeroff, Quade and Douglas, Transportation, unpub. promotion manual, no pag.; which states "A station consists of a few elements: entrance and fare collection lobby, vertical or horizontal corridors and platforms."

\(^{(75)}\) ibid.
in toilets, general waiting rooms, booking offices, exits to cut initial and maintenance costs". (76)

In the absence of a Government commitment to rapid transit systems and the elimination of the tram system, engineers continued to view station structures in the same light as they had done for the previous 110 years. There was no stimulus to change from the belief that station buildings were to be solidly built structures providing accommodation for full time staff as well as waiting room and toilet facilities. In addition, they believed that station buildings should provide facilities so that users could make bookings to any other rail station in Australia, thus requiring telephone and ticketing facilities, and so that users could also despatch and receive parcels, thus necessitating the provision of storage and counter space. Engineers did not provide all these facilities at each location but their belief provided a model framework around which each structure was planned.

Whilst in the United Kingdom British Rail saw the railway station as only second to passenger carriages as the "shop window" of the system, (77) this was not the case in New South Wales where "modernisation" was undefined and not clearly applied to fixed capital equipment.

There was considerable opportunity for engineers to improve the standard of station buildings. Not only did engineers not initiate improvements and modernise new buildings in the mid 1960s, but in all years up to 1975 engineers declined to increase the level of many below standard existing structures. For example, in mid 1964 the press called Newcastle station a "dirty, disreputable conglomeration of buildings". (78) Five years later no improvements had been made and the main structure was described as being "riddled with white ants and is in a deplorable state". (79) Since 1855, various people had been exerting pressure for improvements to Werrington. In the


(78) Newcastle Sun, 20th May, 1964, press clipping, Newcastle Public Library.

The centenary year of the railways, one source said about Werrington that the "present limited patronage however does not justify other than the existing timber buildings".\(^{(80)}\)

Fifteen years later, the local Parliamentary representative said that the standard of Werrington and others, was "far below that of stations on other lines".\(^{(81)}\) It is significant that the Member was waving the familiar flag of equality of facilities with other locations. In this way, the symbolic role of station buildings was not overlooked in the period. As in previous periods, the building continued to be a reflection of local prosperity. The Minister for Transport referred to this in 1966 when describing the overhead booking office at Epping. He said: 'It is an eyesore and certainly no credit to the district. The Department of Railways agrees also that it is not a credit to the Department'.\(^{(82)}\)

The force promoting discussion on railway station improvements in the Newcastle region from the second half of the 1960s was the Minister for Transport, Milton Morris, whose electorate was near Newcastle at Maitland. From late 1972 until 1975, he gained added support from Charles Jones, the then Commonwealth Minister for Transport, whose constituency was also based on the Newcastle area. In 1967, the press welcomed the news of a new station building at Broadmeadow.\(^{(83)}\) However, five years later nothing had happened. The press said that the existing station was 'dirty, dowdy and depressing - ugh!'.\(^{(84)}\) It went on to say that "it is a blot on the landscape and easily qualifies as one of the districts worst eyesores".\(^{(85)}\) A spokesman for the Minister was reported as having said that "the Minister realises Broadmeadow railway station is drab and is anxious not to waste anytime having the new station built".\(^{(86)}\) It is of interest that, on yet another occasion, people perceived a relationship between station buildings and other structures in a locality.

\(^{(83)}\) Newcastle Morning Herald, 2nd March, 1967, Press Clipping, Newcastle Public Library.
\(^{(84)}\) Newcastle Sun, 27th March, 1967, press clipping, Newcastle Public Library.
\(^{(85)}\) ibid.
\(^{(86)}\) ibid.
As well as specific criticism, there were some general references to stations which emphasised that the concept of modernisation missed station structures. In 1973, the Commonwealth Bureau of Transport said that "most Sydney railway stations are very old and aesthetically unattractive to railway patrons". The Bureau estimated that it would involve "an average of $250,000 per station." One year later, State Government officials made a similar condemnation of Sydney railway stations, pointing out problems of congestion, access, cleanliness, information systems and lighting. The officials said that "existing stations may display some of these factors, but it is rare that the need for upgrading and improvements at certain suburban stations are not critical because these stations do not often handle large volumes of people and also their location and even their various services is well known to many of the same passengers who use these stations."

Despite the suggestion that there was a need to provide new facilities where there were large numbers of users, this was never done. Station reconstruction was more a factor of whim than any formal consideration. One additional possible influence which could also be dismissed was the significance of the modernisation programme. In 1974, the Public Transport Commission produced a document outlining future capital works proposals. There was no reference in it to modernisation of station buildings.


(90) ibid., Vol. 3, p. 41.

(91) The Public Transport Commission infrequently used this as a basis for Commonwealth assistance but the argument was nominal. See Public Transport Commission, Urban Public Transport Improvement Programme 1978/79, unpub., page entitled "Remodel Metropolitan Railway Stations", no pag.

Notwithstanding criticism of the low standard of many structures, engineers knew that there was limited public interest in station structures. In 1975, when there was discussion about improvements to the Newcastle terminal, the National Trust displayed little interest in the 1876 structure. It described it as "not a bad sort of building with some quite graceful lines". In 1976, engineers carried out improvements to Maitland station building. Although one newspaper said that the changes would "improve appearance and add to customer convenience", another commented that the alterations were merely "a gradual change as a maintenance improvement programme updates its facilities".

When there was any overt public interest, it was usually directed at ensuring that the standard of station structures was commensurate with the level of other buildings in the surrounding region or commensurate with the importance of the locality generally. This was evident in the condemnation of the Broadmeadow structure, in regard to which reference has been made. It was also evident in regard to Newcastle station in 1964 when the press strongly argued that Newcastle was sufficiently important to receive a better standard station.

A similar type of argument for new buildings was made by the people of Mungindi in 1968, Moree in 1969 and Coffs Harbour in 1971. In the latter two cases, the regional press referred to the new buildings as "the most modern in the State". It was only in these two instances that there was any reference to modernisation of station facilities. The use of the term "modernisation" was more a tool used by the Department of Railways to ensure local communities that their new buildings were equal to any other

(93) Newcastle Sun, 26th June, 1975, press clipping, Newcastle Public Library.
(94) Newcastle Morning Herald, 8th November, 1976, press clipping, Newcastle Public Library.
(97) ibid.
in the State. If residents thought the buildings were the most modern, there was the implicit understanding by local people that there were no other more modern and therefore superior structure in other parts of the State. The buildings at Moree, Mungindi and Coffs Harbour were not part of any formal or specific modernisation programme that the Department of Railways was undertaking in other sectors such locomotive and rollingstock acquisitions. In 1966, the Australian National Railways rebuilt the station building at Canberra, as shown in figure 63 and in its annual report for 1966/67, emphasised the standard of the structure "conforms to the general high standards of other buildings in the City".\(^{98}\) Although there was a close resemblance between the awnings of the Canberra structure and that at Waverton in 1964, the stimulus for the improvements to the Canberra structure was not due to any programme of improvements and modernisation being carried out by the New South Wales Department of Railways. It was related to the modernisation programme of the Australian National Railways.\(^{99}\)

The failure by the New South Wales Department of Railways to incorporate station structures in its overall improvement programme was partly the result of engineers' belief that the public was not sufficiently motivated or mobilised to complain about the low standard of structures, notwithstanding increased public awareness of the role of public transport. This increased awareness did not focus on station architecture and, in any case, engineers knew over a long period that users were accustomed to the low standard of facilities and were historically not complainers. This point was made in the report of the Sydney Area Transportation Study previously referred to. Engineers were fortunate in not having to placate the demands of pressure groups for new facilities because there was insufficient funds allocated to the Department of Railways to undertake capital works expenditure in all the areas of


The need for economy was so important that from 1965 until 1980 it was, in addition to vandalism and an increased public awareness of public transport, the major environmental factor which influenced decision makers in approving designs for railway station buildings.

There were added pressures on engineers in addition to finding funds for station construction. Whilst the increased public awareness of public transport did not affect station buildings, it did affect two characteristics involving the function of railway stations. Stations were no longer used by commuters solely as an origin/destination location but were now often employed as modal interchange points. In 1968, the State Planning Authority said that "there will be an increasing need for the co-ordination of and interchange between the different modes of public transport." Despite the County of Cumberland Passenger Transport Advisory Committee recommending in favour of the State Government's first rail/bus interchange at St. Leonards in 1966, the Department of Railways did not proceed with the proposal. The Government was unable to resolve equitable financial arrangements with local government councils and private bus operators. The financial problems were of such great magnitude that the Government had not provided funds for bus/rail interchanges involving private enterprise operations in the 15 years between 1966 and 1980. Nevertheless, local government councils provided interchanges at several suburban stations.

As well as pressure for bus/rail interchanges, engineers had to contend with demands for car parking facilities at suburban stations. By the mid 1960s, there was considerable pressure for the construction of commuter car parks. In 1966, the Australian Railways Union criticised

---

(100) The emergence of commuter associations did not occur until the mid 1970s.


(102) See County of Cumberland Passenger Transport Advisory Committee, Report to the Chairman of the Technical Subcommittee upon certain aspects of a proposal to establish a major bus/train interchange terminal at St. Leonards, Sydney, unpub. document, 1966.
the Commissioner for Railways for the fall off in patronage because "the railways have failed to recognise the need to provide adequate parking areas at suburban stations." (103) From that time, the Commissioner progressively allocated increasing levels of funds for commuter parking.

Notwithstanding the changes to the role of stations brought about by the provision of bus/rail interchanges and car parking facilities, engineers never approved any fundamental change in their concept of the function of station buildings. It was the adherence of engineers that reacted against themselves. In addition, the Commissioner did not implement rapid transit concepts or extend modernisation to station buildings generally. Likewise, engineers failed to take initiatives to eliminate facilities that they had provided since 1855. Although after 1972 engineers mostly eliminated the ladies' waiting room, they nevertheless continued to include all other major facilities. The time was right for the application of less extensive and hence less costly structures but engineers did not take the initiative.

The result for engineers was the need to find high levels of funding to carry out improvements. In 1968, the Minister for Transport said that the lack of funds had hampered the development of Newcastle East, including the redevelopment of Newcastle station. (104) A year later, the Australian Railways Union was also referring to the shortage of funds as the reason why renovations had not taken place and, despite Newcastle's inclusion in a "multi million dollar" station upgrading programme, the only work engineers undertook between 1965 and 1980 was the tar sealing of one platform. (106)

---

(104) Newcastle Sun, 22nd October, 1968, press clipping, Newcastle Public Library.
In 1970, the Minister for Transport changed the nominal reason for the non-construction of a new building at Broadmeadow. He argued that the Way and Works Branch was "operating under extreme difficulty". He was reported as saying that "the Branch was facing more urgent design and planning work, with insufficient staff to tackle all projects at the one time". By this disclosure, the Minister had unintentionally and indirectly stated that station buildings were far less important than other facets of planning as in the two years preceding 1970 engineers had planned only one station building, for Harefield in 1968, and they approved only two in 1970 (at Coffs Harbour and Wauchope) and one in 1971 (for Orange East Fork). Parker did not approve the plan for the first stage of reconstruction of Broadmeadow until 1972 and for stage two until 1974, seven years after the announcement of construction. It was the first conventional above ground station since the third Sydney terminal structure of 1906 for which the cost had exceeded one million dollars. Although the Minister had indicated that the delay at Broadmeadow was caused by a shortage of manpower, the problem was basically financial, as the limit on funding was the reason why more personnel could not be engaged.

The limited amount of funds made available by the Government for new station structures was reflected in the Parliamentary debates of the time. Even the smallest job was subject to the tightest financial constraints. For example, in referring to tiles falling from the walls of St. James station, D.D. Cross, M.L.A., asked the Minister in 1966 to inspect the station "before any work is done so that repairs may be durable, inexpensive and satisfactory to all". In reply, the Minister suggested the use of cement rendering because "it would be a lot less costly".

(108) Ibid.
(109) It cost $1.4 million, see Newcastle Morning Herald, 11th May, 1974, press clipping, Newcastle Public Library.
(111) Ibid.
The importance of economy as an influential factor in decision making was reflected by the frugality of station rebuilding between 1965 and 1978 when engineers reconstructed buildings on only one platform even though there may have been more than one platform.\(^{(112)}\) For example, at Guildford in 1965 Vogan did not replace the 30 year old skillion roofed structure, shown in figure 321, on the opposite platform. Economy was so much in his mind that he did not even include a men's toilet in his new structure, relying on the services of the existing toilet block shown in figure 372. The same approach was used at Epping in 1966, Campbelltown in 1967, Broadmeadow in 1972, Canley Vale and Harris Park in 1976, West Ryde in 1977, Burwood in 1978 and Bargo in 1979.

Railway engineers were fortunate enough to have the benefit of alternative sources of financing for station construction. Although air-rights developments between 1965 and 1975 did not include any redevelopment of stations, other new sources were available. The first source was the Commonwealth Government from 1972 to 1980 when it paid for 50% of capital costs of a number of buildings. These were:

- Macquarie Fields
- Quakers Hill
- Canley Vale
- Lysaghts
- Marayong
- Schofields
- Adamstown
- Woonona.

Although the foregoing stations were the subject of Commonwealth assistance, approval of the designs remained firmly within that of the New South Wales Way and Works Branch which continued to erect structures of the same design as that at Guildford in 1965.

The second source of alternative funding brought with it a new design. In 1973, the State Planning Authority was carrying out "the planning and development of Mount Druitt Town Centre".\(^{(113)}\) One of the public buildings the

\(^{(112)}\) This partially occurred at St. Leonards in 1972 when the down platform was remodelled and an extension was added to the building on the up platform.

Authority funded was the railway station shown in figures 53 and 54. It was a most radical design externally, the main features of the building were the complete absence of all on-platform structures and the erection of a separate off-platform parcels office shown in figure 373.\(^{(114)}\) The structure cost $1,053,845.\(^{(115)}\) It was only because the Public Transport Commission did not fund it that the structure was so radical. Had the Commission funded the station buildings, it would have looked similar to that at Guildford. This was the only structure funded by the Authority and after the building's completion in 1974 the Commission did not again use the design because of the high cost.

Despite the radical external appearance, the internal layout, as shown in figure 54, was poorly laid out. The absence of platform structures and staff accommodation was a clear cost and manpower saving. However, the creation of a separate station master's office prevented that officer from directly supervising clerks issuing tickets. In addition, the layout stimulated the clash of pedestrian flows as people moving from the ticket windows to the platform crossed the path of those non-patrons proceeding from one side of the rail line to the other. The leasing space and the booking office should have been reversed.

Faced with the small amount of money available for station construction, engineers endeavoured to achieve economies by experimenting with materials and building techniques. In 1973, Gordon combined both to provide three structures for the Richmond line in connection with the electrification to Riverstone. Whilst retaining the overall box-like concept, he provided a separate flat roof, as at Marayong in figure 157, and used laminated polyurethane sheeting for exterior walls. Gordon found that the material proved a poor replacement for brick when vandals kicked holes in the walls of the buildings. Vogan had also sought to find a replacement for brick because of its labour intensive mode of application. From 1965, engineers commenced using

\(^{(114)}\) Plan No. 23059/GA/17, Office of Edwards, Madigan, Torzillo and Briggs.

\(^{(115)}\) Cost supplied by A. Lai, Department of Environment and Planning, to S. Sharp on 8th April, 1981.
steel deck sheeting for platform structures, such as at Edgeroi in 1965 and Canley Vale in 1976, shown in figures 374 and 375 respectively. In 1970, Parker achieved economies at Coffs Harbour, shown in figures 376 and 377 by the elimination of slightly increased brickwork on building ends to match the single pitched roof. He stopped all brickwork on the one course and provided the support for the roof pitch as an integral aspect of the roof, rather than of the wall construction. In 1979, engineers continued to experiment with pressed metal decking using different types, such as that at Bargo, shown in figure 378. Despite all the attempts to find better and cheaper materials, engineers had to fall back on brick for its ability to withstand vandalism.\(^{(116)}\)

Engineers were most mindful of the financial benefits arising from modual construction.\(^{(117)}\) Many materials used in construction were pre-fabricated, such as steelwork, windows, and internal fittings. In addition, the "box-like" overall appearance of the buildings comprised a number of distinctly separate "box-like" units each comprising a room. Unlike previous periods in which exterior facades altered in response to room shapes, those in the Mid-Twentieth Century period were constant. The addition or absence of an individual room simply meant the addition or removal of one or so "box-like" units. To this extent, the structures were semi modular. The barrier preventing engineers from using modular panels was the absence of a building material that was as cheap as brick, as vandal proof as brick and at the same time capable of providing a high level of presentation as did brick. By 1980, engineers had not resolved the problem. Whilst savings in materials were limited, Parker implemented two initiatives in his 1970 plan of Coffs Harbour that saved on construction costs.\(^{(118)}\) He eliminated the

\(^{(116)}\) This was confirmed orally with a senior officer of the State Rail Authority to S. Sharp on 14th October, 1978. It was also established that brick was a cheaper material in the consideration of both capital and maintenance costs.

\(^{(117)}\) Known from confidential, internal State Rail Authority document.

\(^{(118)}\) Plan signed by C.T. Parker dated 9th October, 1970, State Rail Authority Way and Works Plan Room.
ladies' waiting room. This action was a logical extension of Vogan's work at Guildford where he had provided only a small ladies' waiting room and provided a large entrance area. At Coffs Harbour, Parker used the entrance to the station as a general waiting area and termed it a "breezeway". (119) The elimination of these two rooms was to feature in most structures built after 1970. (120) In some circumstances, such as in the case of island platforms and where access was limited for some side platforms, as in the case of Canley Vale in 1976, a waiting area, usually open to the platform, was provided. (121)

Although Parker had displayed his understanding of contemporary social values and attitudes regarding the role of women by eliminating the ladies' waiting room, he had forgotten a basic rule of design - the ease of cleaning. Parker used skylights in the roof of the breezeway at Coffs Harbour to make the area brighter but their design was so poor that staff were unable to clean them. The result was an accumulation of sand and dirt, cobwebs and spiders.

The importance of cleanliness was a matter which the Commissioner emphasised to staff. In 1972 he advised staff of "a drive to improve the appearance of suburban stations throughout the metropolitan area". (122) The Commissioner went on to stress that "the concerted effort on cleanliness throughout the system will pave the way for a campaign to gain the co-operation of the travelling public in the new drive to keep suburban trains and stations clean". (123) This jumbled reference to the role of cleanliness "throughout the system" assisting "suburban" stations to be clean, reflected the total absence of careful consideration which senior administrators gave to station architecture in the period between 1965 and 1974.

(119) A good example of a breezeway is that shown in figure 379 of Normanhurst, planned in 1978.
(120) The structure at Broadmeadow is the only exception.
(121) In the case of island platforms, such as at Como, the single pitch roof was replaced by a low double pitched roof.
(123) ibid.
By 1975, the State Government had realised that it was in a difficult political position. Ten years previously, it had won office by its platform of public transport initiatives. However, it had found that the limited allocations of funds which it had made to the transport portfolio had been insufficient to fulfill its 1965 and subsequent promises. The release of the Sydney Area Transportation Study in 1974 had highlighted the magnitude of funds that was necessary to update Sydney's public transport system.

Because it was patently obvious that the Government would not allocate the millions of dollars that the Study had identified as being necessary, the Minister requested in July, 1975, "a review of urban transport policies". In its report in early 1976, the Urban Transport Advisory Committee stated that it had "formulated a programme which is designed to improve what we have got rather than recommend a programme which, while spectacular in concept, would be incapable of achievement in practical terms". This was a rebuttal to the approach of the Sydney Area Transportation Study which had recommended the construction of a number of new rail lines. Although there was no reference to railway stations in the Committee's report, it did mean that, if the philosophy of "improve what we have got" were applied to station buildings, then there would be some redevelopment work undertaken.

The Government in 1965 had not implemented its modernisation programme or rapid transit concept so far as station structures were concerned. Ten years later the Government had a new concept - one which espoused improvement - to use as a political platform in the 1975 State general elections. The Government used the Committee's report as the basis of its transport policy but the public rejected the policy and voted the Liberal/Country Party Coalition out of office. The public chose the transport policies of the Labor Government which assumed office in May, 1976.


(125) ibid.
In May, 1976, a Labor Government assumed office in New South Wales. It had gained the necessary electoral support to win office greatly on the basis of its comprehensive transport policies.

The major construction event in the 1976-80 period was the opening of the Eastern Suburbs Railway in June, 1979. Apart from four new stations on this line, the Government opened no new stations but railway engineers approved the design of 22 replacement buildings, all of which were examples of the type used at Guildford in 1965.

The 1976-80 time interval is thus not one which is important architecturally. It is important because of the changed Government attitudes and policies in relation to public transport which in turn had ramifications for railway engineers. Whereas the interval 1965-75 was a time of nominal modernisation, this turned into reality between 1976 and 1980. This was seen in the increased rate with which engineers approved designs for replacement structures. Between 1976 and 1980, engineers approved plans for 22 replacement structures. In the preceding 11 years of Liberal/Country Party Government, engineers approved only 18 replacement structures and one building for a new station.

Although there was a change in government policies in 1976, the environmental factors involving economy and vandalism in the 1965-75 period continued to be relevant.\(^{126}\)

In 1980 the Government abolished the Public Transport Commission and created in its place a State Rail Authority and an Urban Transit Authority. This change from a functional to a geographic arrangement for the operation of transport services made no difference to the architecture of station buildings.

At the 1976 State general elections, the electorate showed that it had no confidence in the Liberal/Country Party references to "modernisation" and "rapid transit

\(^{126}\) Vandalism was still strongly related to the high level of unemployment. Robinson says that between 200,000 and 300,000 jobs disappeared between 1974 and 1978. See P. Robinson, The Crisis in Australian Capitalism, Melbourne, VICTA Publishing, 1978, p. 10.
systems". Although the Labor Party espoused similar concepts of "modernisation" and promised new lines that it did not build, the Labor Government seldom referred to its policies in relation to station architecture in the context of "modernisation". It was as though the Government perceived the word to have perjorative connotations. Ironically, the concept that the Government used was that of an "improvement programme" which was the idea which the Urban Transport Advisory Committee had recommended to the former Liberal/Country Party Government in early 1976 and on which the same Government was defeated at the 1976 general elections.

The concept of a station improvement programme was not included in the Government's 1976 policy platform. It was a subject which emerged slowly, more in actions than words and more in retrospect than in advance of deeds. The concept of a formal station improvement programme was beginning to emerge a couple of years after the Government took office. For instance, in 1978, a spokesman for the Public Transport Commission announced the rebuilding of six suburban stations and stated:

"These plans to improve stations throughout the metropolitan area are all part of a five year improvement programme by the Public Transport Commission and the New South Wales Government." (128)

The objective of replacing station buildings was for the first time formally stated in 1980. Not surprisingly, it was aimed at the "replacement of older, mainly timber stations, with modest low maintenance buildings." (129) The replacement of timber structures with brick buildings had been policy since the 1920s.

In announcing major transport initiatives for the western suburbs, the Minister in 1980 stated that "the rail track quadruplication and upgrading programme had been accelerated while station improvement and commuter parking were receiving particular emphasis." The station improvement programme was part of the Government's five year "$1,000 million transport programme". Of this sum, engineers expended $19 million on railway stations between 1976/77 and 1980/81. Although this represented only 1.9% of the total capital works allocation of the State Rail Authority, it reflected the high cost of station construction - namely that each reconstruction project averaged about $1 million.

The use of average figures is misleading but the point is that all station buildings were costly to erect. For example, the cost of three small sheds, shown in figures 168 and 169 at Towradgi in 1980 was $129,000. This was a rise of $99,000 on the initial cost of the erection of new buildings, provision for which had first been made in 1974/75, at the sum of $30,000. It cost $15,000 to connect the toilets at nearby Bulli to the sewer. To provide a temporary structure at Aberdeen in 1980 cost over $20,000. The erection of the very modest building at Lewisham, shown in figure 380 cost $118,278 whilst that at Burwood shown in figure 381 cost $153,460. The replacement station building for Cabramatta, planned for 1980, was to cost $1 million. At the time when the Minister announced the repainting of 95 stations costing $1.5 million, he mentioned a $2 million "facelift" for Sydney terminal station and a "new $1 million station for Liverpool".

(133) State Rail Authority, Transport Improvement Programme for Wollongong District, unpub. document, 1981, p. 3.
(135) State Rail Authority, Transport Improvement Programme for Wollongong, p. 2.
(136) Undated minute from State Rail Authority to Ministry of Transport entitled "Premier's Visit to Upper Hunter Electoral District, 25th June, 1981".
(137) Figures from unpub. confidential report by State Rail Authority.
The costs for station buildings at new locations was even higher than those for replacement structures in 1976. The Public Transport Commission estimated that the cost of a new station south of Campbelltown at $0.45 million.\(^{(140)}\) By the end of 1980, the cost for the station had escalated to $2.4 million.\(^{(141)}\) The cost of underground stations was even higher. The State Rail Authority estimated that the cost of a new underground station at Haymarket would be "about $6 million".\(^{(142)}\)

One method used to avoid expenditure was to decide not to build new stations, such as at Woollahra on the Eastern Suburbs Line. This decision, which the Government adopted in 1976, saved $3.8 million.\(^{(143)}\) The high cost of construction necessitated the tightest possible controls on expenditure. With the allocation of $1,000 million to improve transport, it was very difficult for the public to understand that there was insufficient funds to carry out works that it asked the Government to undertake. Despite the public's difficulty, the fact remained that the number of works which necessitated attention was beyond the limit of financial resources of the State Government. In a letter dated 6th March, 1978, the Minister advised the Minnamurra Progress Association, which had requested the provision of toilets at the local station, that "notwithstanding the record sum of money being spent on public transport in this State in the current financial year, I would have great difficulty in obtaining a high priority for this particular project at this stage".\(^{(144)}\) Clearly station facilities were of low priority.

\(^{(140)}\) Public Transport Commission, Submission to the Minister for funds under the Commonwealth Urban Public Transport Improvement Programme, unpub., no pag.  
\(^{(142)}\) Sydney Morning Herald, 11th June, 1981, p. 3.  
\(^{(143)}\) Board of REview Eastern Suburbs Railway, Report to the Government of New South Wales, Sydney, 1976, p. 56. There was in any case considerable public opposition to the erection of the station before the decision was taken in 1976. See Sun-Herald, 26th August, 1973, p. 24.  
In 1977, Alderman Peters of the Maitland City Council complained about the use of a pan service at Telarah. He called it "a distinct health hazard" and "something out of the dark ages". (145) In pressing for funds, Alderman Peters claimed that "the trough is not covered and overflows when it rains". (146) A spokesman was quoted as saying that "staff and passengers were regularly embarrassed by the smell". (147) In reply, the Minister for Transport stressed the role of priorities when he said that "the money necessary could be diverted only at the expense of some other project that had been given a higher priority". (148)

Engineers endeavoured to achieve economies where possible by using cheaper materials. In all instances, they had to be mindful that alternatives to brick had to withstand vandalism. The Minister referred to this aspect in a letter to the Premier in 1976 in regard to Minnamurra railway station. He said that the Public Transport Commission "proposes to erect new shelter accommodation built of concrete blocks, which hopefully may deter vandalism and reduce maintenance". (149)

The relationship between station design and the environmental factors of vandalism and economy was not restricted solely to the instance at Minnamurra. Engineers had used polyurethane foam sandwich panels on the buildings on the Riverstone electrification project in 1973 but they were subject to vandalism to the extent that engineers no longer used them. In 1977, engineers proposed a new station building of ten rooms for Murwillumbah using similar panels.

(146) ibid.
(147) ibid.
(148) ibid.
(149) Letter dated 5th October, 1976, from Minister for Transport to Premier.
but featuring stronger exterior surfaces constructed of "6mm compressed AC cladding" and "exposed aggregate finish". (150) Engineers never built the new Murwillumbah structure but for reasons of economy decided to "remodel" the existing structure, shown in figure 382, which was in very poor condition by providing a new screen wall of "blockwork". (151)

In 1980, one station reconstruction project demonstrated most clearly the close relationship between high capital costs, vandalism and the Government's improvement programme. The press said that "Cabramatta station is not only an eye sore, it can be dangerous". (152) It cited a recent instance when "two commuters fell through a hole in the steps on the eastern side of the station". (153) The same article announced the Government's plan for a new $1 million station building but it reported that "the staff said the vandalism made them dubious about how long the new station would last". (154) The station staff member at Cabramatta was quoted as saying that: "You could build a whole new station here and in the morning most likely it would be back to looking like this". (155) As he spoke these words the newspaper showed a photograph of a staff member pointing to "the cracked cement platform, the names goughed into the wood work and painted on windows". (156)

The existing station buildings at Cabramatta in 1980 were timber. It was these structures that were mostly the victims of fires. In 1978, vandals burnt the buildings at Lewisham and Burwood, in 1979 they similarly destroyed the Carlton, Carlingford station structures and in 1980 they burnt the building at Punchbowl. It was for this reason that the station improvement programme was directed at replacing existing timber structures.

(150) Plan initialled 5th May, 1977, initialled JRM, Public Transport Commission file entitled "Murwillumbah Railway Station".
(153) ibid.
(154) ibid.
(155) ibid.
(156) ibid.
In dealing with the many below-standard station structures, the Government made use of all measures to achieve improvements. At Hornsby, the Parliamentary representative said that "the facilities at Hornsby railway station are a disgrace".\(^{(157)}\) In particular, he stressed the difficulties of old and sick people who had to use the stairs to reach the platforms, the inadequate ticket selling arrangements and the toilets which he classified as a "disgrace".\(^{(158)}\) The Government responded to the plea for assistance by announcing that tenders for the development of air rights at Hornsby would include the provision, at the cost of the developer, of "a new booking office, station manager's office, staff facilities, escalators from street level to platforms, lifts for goods and incapacitated commuters, digital boards and commuter access to platforms to be located as centrally as possible. They must also provide new footbridges over platforms and tracks, new station entrances, free all-day commuter parking, with a proportion of paid spaces and some provision for bus-rail interchange".\(^{(159)}\)

In all the improvement work, engineers displayed a characteristic which their predecessors had traditionally shown. They approved plans and developed ideas only to the extent that they believed would not raise public criticism about inadequate or low quality structures. They perceived that the public was largely ignorant in regard to station architecture and they used this assumption in an endeavour to spend as little as possible on stations. It was only strong Government leadership that ensured that there was a station improvement programme. Because it was up to engineers to decide how to best implement Government policies, they took advantage of the considerable ignorance and apathy of the public.


\(^{(158)}\) ibid.

Engineers displayed their attitudes in a number of instances. In referring to a "multi million dollar" station programme, engineers cited that, in regard to Newcastle, this included the tar sealing of two platforms. For the previous 15 years, Newcastle residents had been waiting for a new station building and all they received was a load of bitumen. However, there was no public reaction. Similarly in an official brochure in 1980 on transport improvements in the western suburbs of Sydney, the State Rail Authority referred to the "modern station buildings at Mount Druitt" in regard to which the Authority had not incurred any expenditure. The brochure also included a photograph of a structure requiring painting with the caption reading "older style buildings repainted at Riverstone". These references demonstrated that decision makers thought that the public would not perceive the deficiencies of the document.

In most cases, engineers perceived correctly the public's apathy and ignorance. However, this was not entirely the case, as evident in the redevelopment of Sydney terminal station in 1980. The plans were condemned on the basis of inappropriate furniture and colour schemes and one correspondent claimed that the designers have not the faintest understanding of incorporating new work into a strong existing architectural framework and in the process revealing and enhancing the beauty of its form.

Although engineers had low regard for the public's knowledge of station structures, they realised that some groups were more vocal if their interests were overlooked. A prominent group to receive engineer's favours were the unionists who manned stations. Although the unionists travelled overseas in 1976 at Government expense and viewed first hand many rapid transit and other passenger transport systems on which labour saving and hence cost saving devices

existed, engineers never modified the design of buildings to utilise overseas concepts, such as those relating to the absence of toilets, waiting rooms and staff facilities.\textsuperscript{(163)} Engineers at the same time very rarely took the trouble to consult operating staff at those locations where they approved new buildings.\textsuperscript{(164)}

Engineers have also been sensitive to the electoral strength of users in those areas responsible for the Government's assumption of office in 1976. One of these electorates was Gosford. The new structure at Gosford in 1980, shown in figure 383, was one of only four new station buildings to be erected in the 1976-80 interval outside the Sydney metropolitan area and the only outside the metropolitan areas of Wollongong, Newcastle and Sydney.\textsuperscript{(165)} Moreover, it was the most costly station, valued "at more than $150,000", outside the metropolitan area.\textsuperscript{(166)} This sum paid for an "attractive quarry-tiled breezeway which separates the booking office from the waiting room".\textsuperscript{(167)} In opening the structure, the Minister for Transport said that "the modern facilities forming the station's main entrance are of high standard, befitting Gosford's newly acquired city status".\textsuperscript{(168)} The Minister was overtly pointing to the symbolic role of the structure and was demonstrating an awareness of the locality it served. This point had been made on many previous occasions since 1855 at many different locations.

\textsuperscript{(163)} Overseas report by Federal Secretary of the Australasian Transport Officers' Federation, the State Secretary, Australian Railways Union et al 12th November, 1976, unpub. pp. 5-13.

\textsuperscript{(164)} A considerable number of operating staff of the State Rail Authority has related to S. Sharp the absence of consultation in relation to the provision of new facilities.

\textsuperscript{(165)} Towradgi is regarded as a suburb of Wollongong.


\textsuperscript{(167)} ibid.

\textsuperscript{(168)} ibid.
A third group whose needs were recognised were criminals, who from time to time injured staff on duty as well as waiting passengers. The State Rail Authority regarded this as "an important consideration". The positioning of ticket office windows and parcels counters facing onto public streets, as at Loftus, shown in figure 131, rather than onto the platform was a move to make it more difficult for thieves to use station buildings for concealment. However, there was nothing engineers could do for staff once they left the safety of their office and for passengers. Many occasions have occurred when criminals have assaulted, stabbed and even killed railway staff.

The most neglected group of station users was the elderly, the sick and incapacitated. Engineers have never designed stations, apart from the use of ramps in place of steps at some locations, to cater for those who do not have 100% use of all facilities. Not only have engineers not amended the design of old station buildings to take into account current community views about handicapped users, but even with the construction of new stations, such as those on the Eastern Suburbs Railway, engineers have denied incapacitated and elderly people the right to use the stations through the omission of surface to platforms escalators/elevators.

(169) State Rail Authority, Rationalisation of Public Transport Real Estate, unpub. report, 1980, p. 29.

(170) For example, see references to assaults on staff at Hornsby in Daily Telegraph, 1st May, 1981, p.7 and for stabbings at Newcastle, see Daily Telegraph, 6th February, 1981, p. 9. The Station Master at Strathfield was killed on 20th August, 1972, by a criminal. A plaque giving details of the incident exists of the exterior wall of the station master's office on platform No. 2/3 at Strathfield.

(171) The New South Wales Government policy is to subsidise the use of taxis by totally incapacitated people rather than alter station facilities. However, this does not aid those who are simply old or partially handicapped. In the 1981 State general elections, the Opposition said that it "would modernise key railway stations to provide better facilities for the disabled and elderly (including escalators or ramps)". See Daily Mirror, 9th September, 1981, p. 38. The Government continued to favour the use of a subsidised taxi scheme. See, Minister for Transport, News Release entitled 'Taxis for Severely Disabled' dated 4th September, 1981.
The Eastern Suburbs line stations have also been criticised for their poor access for able bodied users. Gerofi is critical of the length of time which it takes patrons to get to and from the platforms. (172) Not only did engineers err in respect of the provision of escalators and access generally, they also displayed their traditional concept of the role of station buildings by providing public toilets even when they were warned not to erect them. In 1967, consultants made a report based on overseas observations in relation to stations for the Eastern Suburbs line. They said:

"...many overseas operating authorities are tending to abolish, or at least limit, public toilet facilities in view of costly supervision and difficulties caused by
1) vandalism
2) criminal acts
3) the degree of maintenance required to ensure cleanliness and efficient operation." (173)

The decision to provide toilets on the Eastern Suburbs line was typical of approving officers not adopting the overseas use of "defensive architecture" to minimise destruction of property and costly, labour intensive maintenance. (174)

The stations on the Eastern Suburbs line were mostly well received. One commentator contrasted previous architecture:

"Traditional railway designs could not be tolerated - the underground stations of the past were most often overpowering constructions of steel and concrete - accompanied by exposed paraphenalia of all kinds." (175)


(173) D.C.B. MacLurcan, A Report to the Commissioner for Railways, New South Wales, on a Study Tour Abroad, File No. 8E/E, State Rail Authority Archives.


The commentator went on to praise every aspect of the stations' designs.\(^{(176)}\) The Royal Australian Institute of Architects was so impressed with the building at Martin Place that it issued an award of excellence and argued, quite erroneously, that its design was "the first major advance in railway station design in New South Wales since the suburban system was constructed".\(^{(177)}\) Not all commentators were so overwhelmingly impressed. One critic remarked in relation to the award winning Martin Place station that the design of the structure was undertaken when Martin Place was a city street and that, consequently, "most entrances to the station are in pavement areas or in forecourts of surrounding city buildings".\(^{(178)}\)

The station at Martin Place was estimated to cost $18.5 million in 1976.\(^{(179)}\) This made it the most expensive station on the system. It is difficult to comprehend why engineers could make poor judgments about access and facilities when spending such a vast amount of money. Not only was Martin Place station costly, but all the stations on the Eastern Suburbs line eclipsed previous allocations for station architecture. The costs for each station was:\(^{(180)}\)

<table>
<thead>
<tr>
<th>Station</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redfern</td>
<td>$7.9</td>
</tr>
<tr>
<td>Central</td>
<td>12.7</td>
</tr>
<tr>
<td>Martin Place</td>
<td>18.5</td>
</tr>
<tr>
<td>Kings Cross</td>
<td>10.0</td>
</tr>
<tr>
<td>Edgecliff</td>
<td>6.5</td>
</tr>
<tr>
<td>Woollahra</td>
<td>4.3</td>
</tr>
<tr>
<td>Bondi Junction</td>
<td>17.1</td>
</tr>
</tbody>
</table>

The total sum estimated for stations on the Eastern Suburbs line was $77 million which represented 51% of the total estimated construction costs of the line.\(^{(181)}\) This was the highest proportion of station to total costs on any line in the State and the costs were sufficiently high for the Board to recommend against the construction of the station at Woollahra.

\(^{(176)}\) ibid., pp. 55 and 56.
\(^{(177)}\) Sydney Morning Herald, 12th October, 1979, p. 15.
\(^{(178)}\) Construction Review, Vol. 52 No. 2, May, 1979, p. 35. This supported Gerofi's point referred to earlier.
\(^{(180)}\) ibid., pp. 55 and 56.
\(^{(181)}\) ibid., p. 56.
The Government's decision to continue construction of the Eastern Suburbs line and to open the line as far as Bondi Junction was indicative of its commitment to public transport. However, the inadequacies that existed on the Eastern Suburbs line were not the fault of the Government. They were the responsibility of engineers whose poor judgment had been a feature of most years of the Mid Twentieth Century period. It was only the acceleration of the rate of approval for replacement buildings and new stations that there was a difference between the 1976-80 interval and the preceding ten years — not in the improvement of the standard of station architecture.

20.4 THE POSITION IN 1980

After 125 years of station architecture, the design of station buildings in 1980 was not far removed from that used in 1855. It was only after the adoption of Vogan's 1965 design, with its use of a near flat roof, that engineers utilised a single design for all buildings, no matter what the size of the structure or the importance of the location served.

In 1980, engineers tried hard to find a cheaper but equally vandal-proof material than brick. They were unsuccessful. However, they had not tried a variety of plastic based substances nor had they used designs more favourable to other materials. When overseas systems were moving to greater use of synthetic materials and use of curved partitioning, engineers in New South Wales did not. Neither did they employ modular construction techniques. (182)

Railway engineers proved to be a most conservative group in the design of station buildings. They held onto traditional concepts of the function of station buildings and did endeavour only partially to produce less extensive and thereby less costly structures. They were blind to the benefits of the architecture of stations on rapid transit systems and even blind to the questioning of the

(182) In 1981 and 1982, engineers were experimenting with small pre-cast solid concrete structures. They erected these at Bredbo and Aberdeen but at the same time had not eliminated other materials. Similarly, whilst there was a trend to prefabrication this was not a consistent policy. The confusion is reflected in the tender advertisement for a new building at Curlewis. Tenders were invited "for the provision of a new factory prefabricated station building or site erected steel stud framework or brickwork building". See Sydney Morning Herald, 25th January, 1982, p. 20.
functions of stations and station buildings that was occurring in Victoria.\(^{(183)}\)

Not only were engineers conservative but they were not effective in meeting many of the needs of station staff and users. Engineers did not provide adequate fenestration for staff supervision of patrons nor did they cater for partially incapacitated patrons by their omission of escalators from groundlevel to platform for stations on the Eastern Suburbs Railway.

The macro function of station buildings altered in theory to intermodal transfer points. This was associated with the emergence of bus/rail interchanges and the provision of commuter car parks. In actuality, the design of station buildings did partly respond to the environmental change through the provision of greater amounts of awning covering as at Guildford in 1965 and the use of "breezeways". The elimination of the ladies' waiting room was another indicator of macro functional change but it was at this stage that the transfer stopped. Other long-provided functions, such as toilets and parcels and luggage services, continued to reflect adherence to the traditional view of a station building as an all purpose structure serving the needs of local residents and long distance travellers as well as commuters.

Engineers adopted the box-like design in the Mid Twentieth Century period because of its economy and its ability to withstand vandalism. Although it looked similar to the reverse skillion roofed design of the 1850s, there was a distinct difference from earlier designs in the relationship between railway station architecture and architecture outside the rail sector. Between 1965 and 1980, station buildings looked not to domestic designs as in some previous times but to commercial architecture.\(^{(184)}\)

\(^{(183)}\) See footnotes 49 and 50 of this chapter for details.

\(^{(184)}\) This was probably due to the fact that domestic architecture "had fallen to bits in a heterogenous welter of individualism". See J.M. Freeland, Architecture in Australia, Ringwood, Penguin, 1974, p. 286.
The building at Guildford in 1965 looked like a variety of commercial structures, such as the Condobolin Public Library erected in 1964, Canley Vale High School in 1965, Fairfield Court House in 1966 and the Totalisator Agency Board offices at Randwick and Brighton-le-Sands also in 1966.\(^{(185)}\) The adoption of commercial architecture questions the applicability of box-like design as a means to attract patrons to use rail. However, there was little stimulus for change given the ignorance of officials to use station buildings as important "shop windows" in which to display the level of Government commitment to public transport.

In September, 1981, just prior to a State general election, the Government announced an investment programme for the years 1981 to 1986 totally $1.4 million. As part of the programme, the Government said:

1. reconstruction of two major stations each year is to be undertaken.
2. modernisation of Sydney Terminal Station has already commenced.
3. City circle stations are to receive an upgrading; and
4. 100 stations per year are to be repainted and given minor repairs.\(^{(186)}\)

It was in the foregoing announcement that a station improvement programme had finally emerged in a formal, structured form. The press re-acted favourably and based on the above information interpreted the station programme, which involved $20 million to be spent between 1981 and 1986, as providing "better stations".\(^{(187)}\) Like approving officers, the press seemed to equate new structures with increased benefits for users. The history of station architecture in New South Wales shows this not necessarily to have been the case.


(i) Books


" Western Region Transport Improvement Programme, Sydney, 1980.

" Five Years Ahead, Sydney, 1981.


(ii) Journals


New South Wales Department of Railways The Railwayman, various issues.

" The Staff, 23rd November, 1928

Railway Transportation, various issues.

(iii) Official


(iv) Annual Reports


New South Wales Department of Railways, Annual Report, Sydney, Government Printer, various issues.


(v) Unpublished


Commissioner for Railways, Address to Way and Works Officers Conference No. 98, 21st November, 1957, State Rail Authority Archives.

County of Cumberland Passenger Transport Advisory Committee, Report to the Chairman of the Technical Sub-Committee Upon Certain Aspects of a Proposal to Establish a Major Bus/Train Interchange Terminal at St. Leonards, Sydney, 1966.

Maclurcan, D.C.B., A Report to the Commissioner for Railways, New South Wales, On a Study Tour Abroad, File 8E/E, State Rail Authority Archives, undated.


Overseas report by Federal Secretary of the Australasian Transport Officers Federation, the State Secretary, Australian Railway Union, et al, dated 12th November, 1976.

Parsons, Brinkeroff, Quade and Douglas, Transportation, promotion manual, no date.


Public Transport Commission of New South Wales, " 

State Rail Authority of New South Wales " 

Submission to the Minister for funds under the Commonwealth Urban Public Transport Improvement Programme, no date.
Transport Improvement Programme for Wollongong District, 1981.
Rationalization of Public Transport Real Estate, Sydney, 1980.

(vi) Newspapers

Barrier Daily Truth, 5th June, 1957.
Barrier Miner, 4th June, 1957.
Broadcaster, 1st August, 1968.
Daily Telegraph, various issues.
Newcastle Morning Herald, various issues.
Newcastle Sun, various issues.
Parramatta Advertiser, 18th July, 1968.
Sydney Morning Herald, various issues.
FIGURE 379 - NORMANHURST

FIGURE 380 - LEWISHAM
BUILDING UNDER CONSTRUCTION AT RIGHT
FIGURE 383 - GOSFORD BUILDING UNDER CONSTRUCTION IN CENTRE