



RAILWAYS (and Tramways) in The SUTHERLAND SHIRE

by PETER NEVE

URGENT NEED FOR SOUTH COAST LINE

A rail link between Sydney and the South Coast loomed as an urgent need in the early 1870s.

A South Coast Railway Committee had been formed in 1872, and there was a move to establish a company to build a narrow gauge railway line to serve the burgeoning South Coast.

The district at the time was served by water transport but there was a lack of adequate ports and facilities to handle shipments of coal, iron ore, kerosene shale and farm products.

Despite these considerations, however, the low cost of water transport had mitigated against any plan to build a railway.

After several surveys the final proposed route was to commence from a metropolitan terminal at Cooks River near Tempe. The line was to proceed to Sans Souci where a special ferry was planned to take goods and passengers across the Georges River. Bridging of the river was beyond the means of the proposed company.

The surveyed route south of Georges River skirted the oyster leases of Thomas Holt at Gwawley Bay.

When clear of the head of the bay, the line was to proceed easterly along the ridge of the Goumea (Gynea) Range until the South Coast road was joined.

The plan provided for the main road and the projected railway line to run side by side via Bottle Forest (Heathcote East) to the crest of the Illawarra Range at Maddens Plains. A descent would be made from that point to the coastal settlement of Woonona. Branch lines were planned to serve local collieries.

The main line was to continue through Wollongong, Jamberoo and Kiama to the northern bank of the Shoalhaven River. Differences of opinion arose about the route and termini. Coal interests wanted the line to terminate at Balmain where shipping berths could be built.

These differences, and a Government undertaking to give further consideration to construction of a standard gauge railway, caused the scheme to collapse.

TRIAL SURVEY FOR GOVERNMENT RAIL LINK

A trial survey for a rail link with the South Coast was commissioned late in 1873 by Mr John Whitton, Engineer-in-Chief, New South Wales Railways.

Largely, the survey followed the route of the proposed narrow gauge railway. But the discovery of major coal deposits in the vicinity of the Hacking River dictated a diversion to serve the proposed collieries.

It happened that other interests were lobbying for the area to be dedicated as a National Park. The coal interests lost out when in 1879 the Premier, Sir John Robertson, dedicated 16,000 acres (6,475 hectares) as The National Park.

SURVEY COMPLETED IN 1875

The nature of the terrain delayed completion of the survey until early 1875. The line was to commence at Balmain where a deep water terminal was planned. It would pass under the Southern and Western Railway at Petersham where an appropriate connection would be made, thence to Rocky Point via Dulwich Hill.

Although the road crossing of the Georges River for vehicles was by ferry at Tom Uglys Point, the rail crossing proposed would be at Rocky Point (Sans Souci). The river was shallower at Rocky Point and with embankment approaches, the cost of the bridge would be lower.

It was planned that the line would ascend the 'Goumea' range, then drop down to the Hacking creek which it would follow along the western bank to its head near Otford serving the proposed coal mines en route.

OTFORD TUNNEL

A twenty five chain (505 metres) tunnel through the Bulgo Range at Otford was to bring the railway line back to the coast at the Stanwell Park amphitheatre thence to Coalcliff.

Here another 69 chain tunnel (1,388m) would be needed to take the line to the coastal plain of Bulli-Wollongong to serve many coal mines.

The proposed line would traverse the extensive Holt-Sutherland Estate. Holt held out for too high a price. Dedication of the National Park had brought an end to his coalmining prospects on the Hacking River and he sought as an offset to make profit out of the sale of land for the Railway Right-of-Way.

Thus, when residents of Hurstville offered an alternative route at very low cost, the offer was accepted. This was despite the need for relatively steep grades to allow the crossing of the Georges River at Oatley.

All of this explains the extensive sweep of the Railway from Kogarah through Allawah to Hurstville, thence back to Mortdale and Oatley.

CONTRACT LET FOR FIRST 23 MILES

Construction camps were set up at Tempe and Como when the contract was let for the first 23 miles 13 chains (37.27km) of the South Coast Railway to Waterfall. The contract was awarded to C. and E. Millar on September 12, 1882.

The distance was measured from the Illawarra Junction located 1 mile 5 chains (2.61 km) from the old Sydney Station. At Tempe a short tramway to a deepwater jetty was built.

Millar's contract included the construction of a bridge across the Georges River. Manufacture of the girders was sub-contracted to the American firm of Cochrane and Company. The cast iron cylindrical piers were made by Stockton Forge Company with the final erection on site being undertaken by the contractors.

The Colonial Secretary, The Hon. Alex Stewart, in June 1883, questioned the wisdom of the Bottle Forest route. He contended that the alternative proposal through the Hacking River Valley would be far more suitable.

It would, he said, provide easier grades, would be three miles shorter and would eliminate several tunnels. Although construction costs might be higher, brought about by earthworks and the need to bridge Kangaroo Creek at Audley, operating costs would be considerably lower due to the easier grades, Mr Stewart claimed.

FOREWORD

Could any aspect of the Shire's history have more appeal than the fascinating days of steam? The story as told by Mr Peter Neve is one of absorbing interest.

It is but one part of the history of transport.

The second part has been told by A. and F. Midgley in Shire Studies No.7.

Nor many realized that the south coast line could well have been routed through San Souci and Taren Point. Nor that pressure for a bridge to span Georges River dates back to 1896.

Yet these are just two of the fascinating facts contained in this pamphlet.

From childhood Mr Peter Neve has been interested in 'steam' and the application of steam to transport in general.

He is a very skilful and experienced photographer, combining his hobby with railway historical research. For nearly two decades now, Mr Neve has travelled Australia and New Zealand researching and photographing the almost defunct era of steam transport.

He is a member of the Australian Historical Society (N.S.W. Division), member of the N.S.W. Rail Transport Museum, Administrator N.S.W. School Railways Clubs' Association, and also a member of the unique Victorian 'Puffing Billy' Society.

Mr Peter Neve is to be thanked for the wonderful contribution he has made to knowledge in the Shire.

May, 1997

Moreover, he said the line if routed via the Hacking River would bring the newly dedicated National Park within easy reach of the public.

CONTRACT SUSPENDED FOR INVESTIGATION

Construction ceased at the 15-mile post (24.1 km) on the site of the present Sutherland Station.

An official inquiry resulted in the Bottle Forest route being upheld as less expensive.

In October the contractors were advised to recommence work. Having in the meantime paid off gangs working in the section, C. and E. Millar declined to proceed. Eventually the contractors were granted the sum of twenty thousand pounds (\$40,000) for breach of contract.

Work was abandoned by Millars beyond the 13th mile post (20.92km) now the site of the new Como Railway Station.

A fresh contract for the section south of the 13th mile post was awarded Messrs Rowe and Smith in July, 1884. The firm already held the contract for the section from Waterfall to Clifton and, doubtless, employed men paid off earlier by Millars.

Meanwhile, C. and E. Millar pressed on with construction work to the 13th mile post. The first section of the double track to Hurstville was officially opened for traffic on October 15, 1884. It is noteworthy that the engineer-in-chief (Mr Whitton) had proposed a double track 'high level' crossing of Georges River only to have the government refuse to provide the additional finance. It was Whitton's policy to construct major works on new main lines to take two tracks.

In 1889 duplication beyond Hurstville to meet heavy traffic requirements was approved. Thus occurred the bottleneck at Como which was to last until November, 1972!

EXCURSION TRAINS USED COMO BRIDGE

The bridge was virtually completed in September 1885, but it was planned not to bring it into use until completion of the line as far as Waterfall. But apparently there was a change of thought.

Excursion trains were run from Sydney to Sutherland between December 26, 1885 and January 4, 1886 - before deflection tests had been carried out on the Como Bridge.

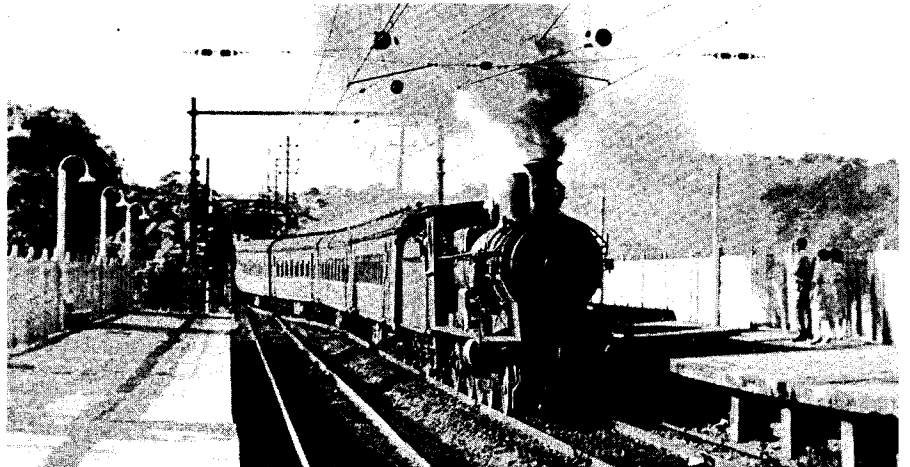
Soon after January 4, the line beyond Hurstville was closed pending the tests. These were carried out on January 19, 1886. Three tender-type locomotives were used, first singly and then coupled and they proceeded over the bridge at 25m.p.h. (40 km/h).

To the considerable satisfaction of the inspecting engineers, the maximum deflection recorded was only three-quarters of an inch (19mm).

Of the lattice girder type, the bridge was 956 feet long (291.4metres). There were four main girders and cross girders carried longitudinal girders to support the single rail track.

On the Sydney side of the bridge there was a sandstone bluff, now partly demolished to cater for placement of the doubletrack bridge. On the Sydney side, the bridge had massive sandstone abutments. Six piers, each of two cast cylindrical columns, supported the bridge 35ft (10.7 metres) above water level.

The base of the column was sunk to the rock floor of the river at depths of between 70 and 114 feet (21.3 to 34.7 metres) below water level. Prior to the erection of the bridge structure, each pier was tested to a maximum of 250 tons (254 tonnes). To place the super-structure of the bridge in position, a timber trestle was constructed.



32 (originally called 'P') class provided the main motive power for passenger services for almost 70 years. Here 3290 curves off the old gauntlet tracked bridge at Como with a Nowra-bound passenger - a full head of steam is evident for the long, steep ascent to Sutherland, July 1962.

Photo: P. Neve

SINGLE TRACK SOUTH OF HURSTVILLE

The railway line beyond Hurstville was single track. There were intermediate stations at Penshurst, Mortdale, Oatley, Como, Sutherland, Loftus Junction and Heathcote. The original site of the Oatley Station was in the park on the eastern side of the present station.

The official opening date of the extension from Hurstville to Sutherland is given as December 26, 1885. As has been seen, however, regular services did not begin then as the bridge over the Georges River at Como had not been tested.

It is possible that regular services did not begin until the completion of the next section, from Sutherland to Waterfall. The extension to Waterfall was officially opened for traffic on March 9, 1886. It included the branch to The National Park, then known as Loftus. The present Loftus was a short platform located adjacent to the junction signal box. Naturally it was known as Loftus Junction.

The original Waterfall terminus was about half a mile south of the present station. Facilities were meagre. Only a simple loop was available to allow of the engine changing ends. Not even a turntable was provided. This meant that locomotives had to return to Sydney tender first and at reduced speed.

The only intermediate station between Hurstville and Waterfall at which two trains could pass was at Sutherland. Here there was a brick platform and building on the eastern side of the line. There was also a loop siding. A tank, to water the locomotives was located immediately before the Bottle Forest overbridge. The tank drew its supply from the nearby Lake Engadine - now a reedy swamp. This water supply went out of use with the provision of improved facilities at Waterfall in 1905.

Tunnelling through difficult terrain delayed extension of the line from Waterfall to Clifton; this section was not opened until October 3 1888. The section from Clifton to Wollongong was opened on June 21, 1887.

EARLY TRAIN SERVICES

With extension of the line to Waterfall, Hurstville had 16 terminating trains daily plus two services to Sutherland and two more to Waterfall. All trains stopped at intermediate stations.

With the commencement of through services to North Kiama in 1888 there were two passenger and one mixed service daily. The trains ran non-stop to Hurstville, stopping at Redfern on the return journey for collection of tickets.

Additional suburban trains to run beyond Hurstville were: Como 3; Sutherland 3; Waterfall 1. There were a few trips to The National Park at weekends. By the year 1907,



Coal and freight trains were hauled, until dieselisation, mainly by "standard goods" type locomotives. In the twilight years of steam, a "double-header" struggles out of Waterfall yard, bound for Enfield, 26/9/1964.

Photo: P Neve

suburban trains plying beyond Hurstville were: Oatley 9; Como 7; Sutherland 7; Waterfall 1.

The Oatley trains terminated at the 'new' station located on the deviation.

It has been seen that the line beyond Hurstville was only single track. Heavy traffic demands in 1899 led to approval being given for duplication of the track and the bottleneck at Como resulted. First sections of the duplication were operational on April 4, 1890. The following year saw completion of duplication to Waterfall. The unusual 'gauntlet' track over Como bridge was brought into use on November 8, 1890. Here two sets of tracks were laid within the width of a single track.

BLOCK SIGNALLING PRECEDED AUTOMATIC

Under the 'block signalling' system a following train could not depart from Como until the preceding train arrived at Sutherland complete.

This was the system which pertained prior to the introduction of automatic signalling where the trains themselves operate the signals.

Traffic requirements gradually necessitated the breaking down of the Como/Sutherland section. A block signal box was built at 'Miranda' (site of the new Como Station) in December 1890. Others to follow were: 'Jubilee' at the foot of the long straight towards Sutherland, c. 1898, and 'Jannali'

located on the sweeping curve out of the present Jannali Station towards Como, May 1910. All the signal boxes closed with the introduction in June 1926 of automatic signalling, preparatory to the commencement of electric services.

WATERFALL MARSHALLING YARDS

Duplication of the line to Waterfall in 1890 brought with it relocation of the Waterfall Station in a position 16 chains (0.32km) north of its original site. A turntable was also installed.

This was not to be the last move, however. A new marshalling yard, island station platform and small locomotive depot came into use in 1905. These works were carried out in conjunction with extensive deviations between Waterfall and Coalcliff to ease grades.

Until the opening of the Thirroul locomotive depot and marshalling yards in 1917, Waterfall was an extremely busy yard.

Round trips were made with Eveleigh based 'T' (D 50) class locomotives. Goods and coal traffic was worked with local '1.17' (Z26) class saddle tank locomotives. These were shedded at the most inadequate Waterfall depot. The latter were short trains. They were either doubleheaded or were pushed up in the rear by a tank engine to the yard where the various loads were sorted and amalgamated into a full 'T' class load for the Eveleigh sidings.

For a number of years the density of traffic at Waterfall required the use of two turntables. During weekends, the '1.17' tank locos were taken to Sydney to work the heavy excursion traffic to The National Park. They were more powerful than the "S" class locos introduced in 1903 for suburban passenger operations. The 1.17's took on water in each direction at Hurstville as there were no other facilities enroute. Today the role played by Waterfall in railway operation is considerably reduced to what it was; its main function is as a stable for passenger trains.

COMO WAS A POPULAR SPOT

Como soon developed as a popular weekend resort for fishermen and picknickers. The Public Works Department built a jetty at the southern end of the Como Bridge in 1899. A path and steps led to the station. Part of the cost was met by the local people.

As holiday traffic to Como increased, it was often impossible for all Como trains to terminate there, due to the 'cramped' situation. Many of these trains had to go on to Sutherland which also acquired additional traffic with the opening of the Cronulla tramway in 1911.

To allow for increased loading to be hauled between Waterfall and Sydney, the grade between Como and Hurstville was eased. This dictated a deviation through Oatley (brought into use in 1905). Part of the old formation at Oatley is now an extensive park. Signs of the former railway are still evident.

ASKED TO PAY FOR OWN STATION

The Railway Commissioners early in 1920 said 'No' to an approach by residents of what is now Engadine, for provision of an intermediate station. The approach was based on the distance between Sutherland and Heathcote. (The 1921 census showed that the population was only 49!)

It was then proposed that the local residents themselves pay for the station and to do this a tax was levied on them.

Mrs. McAlister, widow of Councillor C. McAlister, a member of the first shire council who owned most of the land in the area, was invited to name the new station.

Cutting a ribbon to officially open the station on November 20, 1920, Mrs McAlister named it Engadine, after her estate.

Initially there was no shelter at the station. Commuters noticed a suitable facility about to be demolished at Mortdale and arrangements were made for its transfer to Engadine.

TYPES OF STEAM ENGINES

Early passenger services on the South Coast line were worked with 4-4-0 tendertype locomotives, but tank locos would have been used on some services to Waterfall.

First goods trains would have been hauled by a mixture of freight locomotives (0-6-0; 2-6-0; 2-8-0). Twelve 4-4-0 engines of the 373 class (later Z.17) were built by the Vulcan Foundry of England specially for the Illawarra and Newcastle lines in 1887. They were not completely satisfactory and were replaced in 1892 by the 'P.6' (C.32) class 4-6-0 type. These were to continue in service through to the advent of dieselisation in 1965 (although the engines themselves over the years were improved and modernised). Generally, tank locos were used on the suburban runs. They included the "S" class (C.30) 4-6-4 type introduced in large numbers from the year 1903. The "I" (Z.26) class heavy mineral tank locos used on coal haulage south of Waterfall and on the National Park excursion trains were brought into service in 1896.

From 1896 freight and coal services were hauled by standard goods locos and from 1929 also by the 'mountain' type D-57 class.

DIESELISATION

Limited use of diesel-electric locomotives commenced late in 1951 with the introduction of the 40 class units. As further types of units became available, they were used on South Coast freight services, in between night-turns on long distance intrastate trips. The first regular use of these units on passenger services was on Sundays only, commencing in July 1958.

Full dieselisation of south coast passenger and freight services was made possible by the delivery of increasing numbers of 48 class branch line dieselelectric locomotives, commencing in July 1964 and the last regular operation of a south coast passenger train was from Sydney to Otford on 14.10.1965. During periods of shortages of diesel motive power, steam locomotives were used occasionally until May 1968 to haul staging freight loads to Waterfall, to be taken on to Port Kembla by following diesel-hauled freights, which were able to build up their loads having ascended the ruling grade to Waterfall.

WORONORA CEMETERY BRANCH

Coincident with construction of the first stages of the south coast railway, a portion of Kurnell was considered as a 'site for a noxious trade'. That trade was a cemetery!

There was no road access to the area and it was planned to build a branch railway from Sutherland. But in 1897 some 87 acres (35.2 hectares) west of Sutherland was dedicated as a denominational cemetery. Thus the Woronora Cemetery came into being.

A single track line to serve Woronora Cemetery was opened for traffic on July 13, 1900. The line was built by day labour.

The arrangements at the terminus of the 381½ chain (.77km) line included a single platform 440 feet (134.1 metres) long and an engine run-round loop.

The first burial took place on April 1 of that year. Funeral trains plied from Regent Street Mortuary Station. Caskets were picked up from trestles at the end of each station en route. With the steady inroad of motorised funerals, traffic fell off and for the last few years before closure of the branch line on May 23, 1947, no service was provided. The track was lifted and the platform demolished.

All that now remains is a shallow cutting where the formation leaves the existing railway property in East Parade, Sutherland.

BRANCH LINE INTO THE NATIONAL PARK

By announcement in the Government Gazette of April 26, 1879, some 18,000 acres (7,284 hectares) of Crown Land south of Sutherland had been dedicated as a National Park 'for the enjoyment of the people of New South Wales'.

The park was the second national park to be dedicated in the world. The first was the Yellowstone National Park in the United States (1872).

Need for an isolated area for a training ground for infantry, riflemen and artillery, led to a short branch line being built into The National Park in 1886. This was done in conjunction with the second stage of the South Coast Railway.

At the time each state had its own defence units. The military authorities chose a part of The National Park and easy access to the camp site was needed.

The opening date of the branch is quoted as March 9, 1886, concurrent with the extension of the main line from Sutherland to Waterfall, and the first military camp was held the following month. A special passenger train was to run to the Camp on April 26 for the Easter Monday military display. To handle the heavy military traffic, the terminal had two platform roads together with appropriate storage sidings and a loading bank. However, so great were the crowds wishing to travel to the display that a 2nd division had to be hurriedly arranged, then a 3rd division then a 4th division, but as there were no carriages left, this train comprised of cattle wagons! The government Gazette indicates that a regular passenger service commenced to operate to Loftus (i.e. to the branch terminus) on weekends only, from May 8, 1886. The facilities on the line proved inadequate to handle tourist traffic in peak periods, and in December 1899, a portion of the line from the junction was duplicated, but the second track was used only when necessary.

The Military authorities had vacated the Park by the end of the First World War. By this time the Park had become very popular for picnics. Excursion trains were run at weekends.

The coming of better roads and the growth of motoring, together with the construction of a branch railway to Cronulla in 1939, led to a decline in traffic.

The line had been electrified on December 20, 1926, concurrently with the introduction of automatic signalling.

Originally known as Loftus, the station became Loftus (National Park) in the timetables, but in 1896 the name was changed to National Park. The name Loftus was transferred to the short platform located at the Junction. Not unnaturally, this had become known as Loftus Junction.

At the request of the Park Trust, the station name was changed in 1937 to The National Park; then to The Royal National Park in June 1955, again at the request of the Trustees.

The heavy decline in traffic in recent years placed the terminus facilities in excess of needs. July 1967 saw the arrangements reduced to one platform road and a storage siding.

In the early 1990s, use of the railway line ceased. The Sydney Tramway Museum at Loftus took over the line and runs trams to the old platform.

TRAMWAY LINK WITH SOUTH COAST RAILWAY

The story of the Sutherland to Cronulla Branch railway goes back to 1908. It was then that the Government approved construction of a steam tram route which was opened in 1911. The closure in 1932 followed heavy losses in the latter years of operation. Unrestricted private bus competition and the general effects of the economic depression at the time were factors.

Around the turn of the century the beach areas of Cronulla became popular with tourists. Opening up of the area which came with government subdivisions created a demand for suitable transport to link with the south coast railway at Sutherland. Horse-drawn omnibuses began plying between the two points. But they failed when it came to meeting the needs of the weekend trippers and fishermen.

Hence the clamour for a steam railway which would also make use of equipment rendered surplus with the electrification of the main Sydney tramway system. The Government approved and the branch line became operational on June 12, 1911.

The tramway was constructed as a light railway enabling goods to be conveyed over the line. The line was worked by small steam tram motors with compartment-type trailer cars to a maximum of three, as required

The Sutherland-Cronulla steam tramway commenced from the southern end of Sutherland Railway Station where there was a motor and carriage shed.

There was also a connection to the South Coast railway for the interchange of rolling stock, motors and goods vehicles. The main passenger terminal was located outside the Sutherland Station in what is now Princes Highway. It was then Railway Parade.

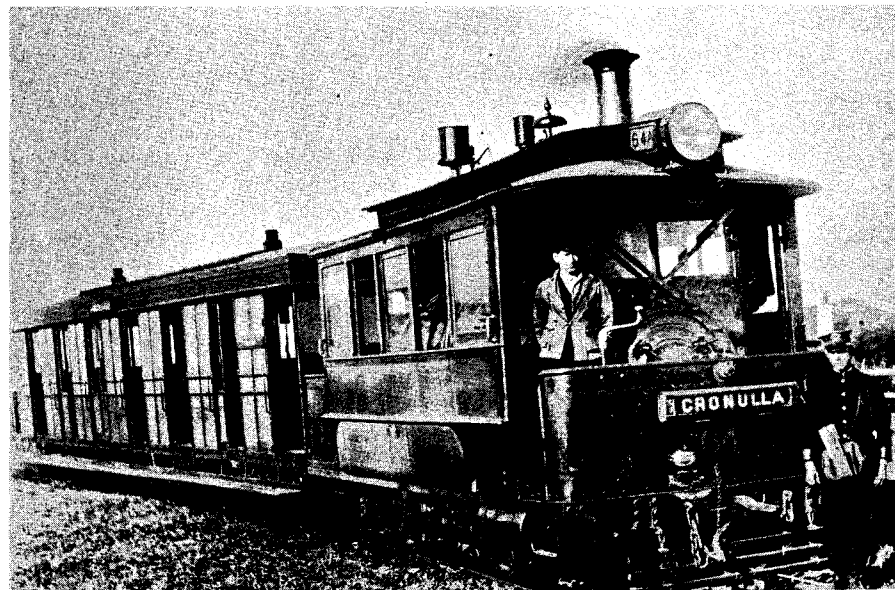
The single track line ran parallel to the South Coast railway along the highway towards Sydney. It swung east around the Council Chambers thence on its own right-of-way on

the southern side of the road. It traversed the Kingsway for its full length, through what are now Gymea, Miranda and Caringbah, to Cronulla.

At Cronulla the line swung by a gradual curve into Cronulla Street (then Curranulla Street), through what is now the main shopping centre, past the future Cronulla Railway Station, thence via Waratah Street and Ewos Parade to a 'balloon loop' terminal at Shelley Park, South Cronulla.



Rail motor services replaced steam-hauled shuttle trains between Helensburgh, Waterfall and Sutherland, connecting with electric trains to and from the City on 3/9/1928. One early morning local steam service from Thirroul to Sutherland, returning to Port Kembla, continued until the early 1960's, and is shown here departing Loftus for Sutherland, and passing a Waterfall-bound motor train on 23/11/1960.
Photo: P. Neve



Crewed by Andrew Harvey (driver) and Edward Howard (conductor), this 1931 photo of engine and tramcar used on the Sutherland-Cronulla steam tramway was made available to Council by Mr E. Howard.

FIVE MINUTE WARNING BLAST

Drivers of Sutherland-bound trams standing at Cronulla terminus gave a warning blast on the whistle five minutes prior to departure. This provided due notice to straggling passengers!

If the tram was running three or four minutes late at Miranda, the conductor telephoned the railway signalman at Sutherland to hold the connecting train. On public holidays and on other days of heavy loading, and due to the Miranda 'hill', trams were often run in two divisions with each motor hauling a maximum of three cars.

On really busy weekends, additional motors and cars were borrowed from the Kogarah-Sans Souci system. Thus, there could be up to eight motors and sixteen cars in traffic at the one time with crossings at every loop of the line!

During the summer season when services were built up to three cars, it was usual for a motor to assist Sutherland bound trams from Woolooware loop to Miranda loop and occasionally to Acacia loop. Indeed, at times the motors had to double right through from Cronulla.

Prior to the provision of the assistant motor, it was not uncommon for a heavily laden tram to stall on the Miranda Hill. This situation necessitated suitable assistance from the male passengers.

INTERMEDIATE CROSSING LOOPS

To allow trams proceeding in opposite directions to pass each other, intermediate crossing loops were provided at:

- 'Acacia Loop' Sutherland between Auburn and Acacia Roads;
- Miranda, on the eastern side of Kiara Road;
- Caringbah, near the junction with President Avenue; and at
- Woolooware, between Dolans Road and Hughes Street.

Goods sidings were laid in at Caringbah, Woolooware and 'Gunnamatta' (in Curranulla Street, near the junctions of Nicholson Parade and Waratah Street). Private sidings subsequently were laid to serve the Miranda Co-operative Society and the Brickworks at Kirrawee.

For fare purposes, sections were at the junction of Sydney Road (Princes Highway) and Kingsway at Kirrawee; Kingsway and Kiara Road at Miranda; at Caringbah; and at Beach Street between Woolooware and Cronulla.

Although in general, earthworks on the line were very light, the gully at Miranda between Kiara Road and Kareena Road posed problems.

A small embankment was necessary at the foot of the gully together with shallow cuttings at the summit to ease the grade. The climb, however, was steep (1 in 20). It was to cause major operating difficulties as the traffic increased.

There was no water reticulation in the Shire at the time to serve the steam tram. A special pipeline was laid from the metropolitan supply across Georges River via Princes Highway to the water column at Miranda Loop. For a fee, the residents whose properties fronted the pipeline were permitted to draw off from this. The water was conveyed from a tank and two standpipes at the Miranda Loop to Sutherland and Cronulla.

With the opening of the tramway, four steam motors and eight trailer cars were based at Sutherland.

The line became known for its fast-running schedules. The regular passenger stops and crossing loops were spaced far apart and as the line was located on its own right-of-way, fast speeds were possible.

In fact, the running time from Sutherland to Shelly Park was only 35 minutes for the seven miles 32 chains (11.9km). This meant after providing for compulsory stops for safe-working and crossing purposes, together with other casual stops to pick up and set down passengers, reasonably speedy running was required to maintain the timetable!

DRIVER KILLED IN DERAILMENT

Steam motor 88A and three cars got out of control one morning in November, 1924, at Miranda Hill.

The motor left the rails at the foot of the hill and turned over, killing the driver. The first passenger car was derailed, the second partially derailed, but the third car remained on the rails.

A small crane loco with a truck of re-railing gear and brake van was rushed to the scene, but the crane proved to be too light. The Eveleigh accident crane, hauled by a 2-6-4 tank loco of the Z20 class, was then sent. The loco propelled the heavy accident crane to the site but only after much lubrication of the sharp tramway curve past the Council Chambers! The steam tram motor was removed to the Randwick Workshops where it was subsequently scrapped.



Fatal steam tram smash at Miranda on November 10, 1924. The driver, Sam Wyatt, was killed.

Photo: E.A.Viles

Extension of the electric railway from Oatley to Sutherland and The National Park in 1926 was accompanied by an hourly tram service with half-hour operation in peak hours. Meanwhile, goods traffic on the line increased dramatically. Annual tonnage was 8,000 tons (8,120 tonnes).

In June 1927 there was a proposal for electrification of the line. Nothing came of the proposal, possibly due to the costs involved in the conversion. It had been planned to use single cars in off-peak hours with coupled sets at peak hours and at weekends. A ten-minute frequency was spoken of for weekend operation.

TRAFFIC DENSITY WAS LINE'S UNDOING

Surprisingly, it was the traffic density which was to be the line's undoing.

With the maximum number of trams running, services ran late and connections were missed. A private bus service commenced in opposition. It did not have to worry about crossing at the loops. Hence the popularity of the trams waned. The motors and cars became neglected and shabby looking.

Introduction of a through bus service from Hurstville to Cronulla was another factor in declining traffic.

The last passenger service ran on August 3, 1931, hauled by Motor 64A.

The goods service lingered on until January 12, 1932, when the line was closed down, motor 5A working the last goods train. The motors and cars were removed to Randwick workshops. The track itself was lifted in 1934 as a depression period job.

It was soon found, however, that the private bus was not able to provide the service given by the steam tram. Lightly patronised runs were promptly cut as they did not pay. In holiday periods the private bus was not able to cope with loadings. The people patronised other beaches better served by public transport. Shopkeepers complained of loss of patronage and a campaign was mounted for an electric railway.

Several relics of the days of steam tram remain. The Miranda waiting shed in July 1965 was donated to the South Pacific Electric Railway Co-operative Society's tramway at Loftus, where it still serves its original purpose. At Sutherland the Tramway's Inspector's Office and waiting room building still exists today.

THE COMING OF ELECTRIC TRAINS

Plans for electrification of the Sydney suburban passenger network were laid in the years following World War I.

Initially it was proposed first to electrify the steeply-graded line from Milson's Point (old site) to Hornsby. However, increasing traffic

on the developing Bankstown and Illawarra lines, coupled with progress in construction of the first section of the Sydney Underground Railway, led to a change in priorities.

Revenue electric services, as distinct from test and experimental runs, commenced between Sydney steam station and Oatley on March, 1926. Minor modifications were needed at Como Bridge to take the 1,500V.d.c. catenary wiring. Electric sets began operating to Sutherland on August 16, 1926 and to The National Park, on December 24, 1926.

Growing residential development between Como and Sutherland led Sutherland Shire Council to approach the railway commissioners to construct an intermediate station. Council undertook to meet part of the cost of building a new station and road overbridge. The new station, Jannall, was officially opened on February 7, 1931.

Loftus Station, originally known as Loftus Junction, was first located adjacent to the signal box controlling the branch line to Loftus. This Loftus later became The National Park and, later still, The Royal National Park. About the time of the World War II, the station was moved off the grade to its present location.

The level crossing joining the village of Loftus with Princes Highway (located at the Sydney end of Loftus Station) closed on August 22, 1971. This closure followed completion of a new pedestrian overpass at the station itself.

LOCAL SERVICES

Until the extension of electrification to Sutherland, the limited population in Loftus, Engadine, Heathcote, Waterfall were served by the extension of some steam-hauled suburban trains through to Waterfall. With the advent of electrification to Sutherland in December 1926, a very limited shuttle service using an engine and one carriage was operated between Sutherland and Waterfall. This proved expensive for the small loading offering, and accordingly, a rail motor service was introduced in lieu, commencing on 3/9/1928. At this stage there were seven return services to Waterfall on weekdays, with two more extended to Helensburgh, eight to Waterfall on Saturdays and four on Sundays.

PARLIAMENT SANCTIONS CRONULLA RAILWAY

Impending closure of the Sutherland-Cronulla tramway caused Sutherland Shire Council to turn its attention to the possibility of construction of a branch electric railway between these two points. The Council already had successfully financed the construction of the Georges River Bridge at Tom Uglys, paid for the construction of a new railway station at Jannall, and promoted the

building of the Woronora Dam to improve the local water supply.

Led by the late Councillor C.O.J. (Joe) Monro, Council met with the Deputy Premier and Minister for Transport, Lieut. Col. The Hon. M.F. Bruxner, in July 1933 to discuss the proposed line.

The Government agreed to guarantee the loan and Councillor Monro went to America where he was successful in arranging the loan. However, objections to the proposal led finally to its being dropped.

Basically, Councillor Monro proposed the provision of satellite suburbs along the route of the new line, built on modern town-planning principles. If the line was run at a loss, a special rate was to be levied.

Meanwhile, the Government improved transport arrangements by introducing a through bus service from York Street, Sydney, to Cronulla via Princes Highway and Sylvania. The service commenced in February 1935.

The Government favoured a rail link with Cronulla but there was some dispute over the actual route. The alternative was a more direct line via Taren Point.

A Bill to sanction the building of a branch railway from Sutherland to Cronulla was introduced into the New South Wales Parliament on June 18, 1936.

The Bill was agreed to by a narrow majority on July 21, 1936 and received Royal Assent two days later.

Estimated cost of construction, including resumptions, was \$828,000 against the 1933 estimate of \$500,000.

The Bill brought down by the Minister (Lieut. Col. Bruxner) provided for a branch railway with a crossing loop at Miranda and goods sidings at Miranda and Cronulla. Construction of the railway was treated as an unemployment relief work.

There was opposition to the branch line proposal, opponents citing the successful conversion of the Parramatta-Rogans Hill railway from a tramway. An electric tramway was considered by these people as more suited to the requirements of the community.

ACKNOWLEDGEMENTS:

Bulletins of the Australian Railway Historical Society, especially Numbers 96, 97, 98, 314 and 352.

Electric Traction (Magazine of the Australian Electric Traction Association). February and March, 1966.

First Stop Central by D.R. Keenan & H.R. Clark, published by the Australian Electric Traction Association.

Railway History of the Illawarra by C.C. Singleton, published by the Illawarra Historical Society.

Information Bureau of the Public Transport Commission of New South Wales.

MONRO SPOKE STRONGLY IN FAVOUR

Speaking strongly in favour of the line's construction, the Member for Georges River, Mr C.O.J. Monro, M.L.A., pointed to the inadequacies of the earlier steam tram service.

He claimed that buses were utterly unable to cope with the growing tourist and business traffic.

Construction of the line began in August, 1936. By the end of the financial year, the route had been fully surveyed and construction had commenced on the first three miles.

There were to be six stations on the line with crossing loops at Gymea and Caringbah. Overbridges or underpasses were provided in lieu of level crossings.

Cronulla Station platform was to be built more than double the length of a platform to provide for rapid exit of the expected heavy beach traffic. There was to be holding space for five trains. The station platform is the second longest passenger platform in the state (1,276 feet - 384 m).

Sutherland Station was to be remodelled to provide three platforms. A new overhead booking office and road bridge were also in the plans. The altered arrangements and a new signal box at Sutherland were operational on October 30, 1939.

Cronulla is the only beach suburb in Sydney presently served by rail and this accounted for the popularity of Gunnamatta Park, particularly for industry type picnics.

THE LINE IS OFFICIALLY OPENED

The State Governor, Lord Wakehurst, cut the traditional ribbon to officially open the new line before a large gathering at Sutherland on December 16, 1939. Earlier it had been expected that the line would be officially opened by April of that year.

The official train of eight steel carriages was specially decorated and carried the Royal coat-of-arms at the front. At Cronulla a commemorative plaque was unveiled at the new station. Regular services commenced the same day.

The new line was also designed to cater for goods traffic, a fact not realised generally. Sidings were built at Miranda and Cronulla as previously stated. When run, goods trains had to be steamhauled. Apart from any works specials, these marked the only use of other than suburban electrics on the line.

As the Shire grew from its early rural face to be essentially a dormitory suburb, goods traffic fell off. The goods service was officially discontinued in May 1949. At Cronulla the goods siding is now used for the storage of electric trains. That at Miranda has long since been removed.

The Sutherland-Cronulla branch is about six miles 30 chains (10.25km) in length. An electrical substation is located near Caringbah.

It contains two 1500kw grid-controlled mercury-arc rectifiers and is worked automatically. (Another substation is located at Sutherland.)

REPLACEMENT FIRST MOOTED IN 1896!

First mooted in 1896, replacement of the single track rail bridge at Como did not occur until 1972. During the decades which were to pass, the bridge became more and more of a hindrance to traffic operations.

Replacement by a new high level bridge was commenced in April 1969 with work on the approaches, including excavation of a cutting 1,000 feet in length. As there were homes in the vicinity, blasting could not be used. Three inch diameter holes one foot apart and between 35 and 55 feet deep were drilled along the rugged hillside.

After this 'batter' had been drilled, rippers and other heavy earthmoving equipment completed the job. By June 1970 approach work on both sides of the Georges River had been completed.

Meanwhile, a contract had been awarded to John Holland Constructions Pty. Ltd., for the building of Australia's longest prestressed concrete bridge.

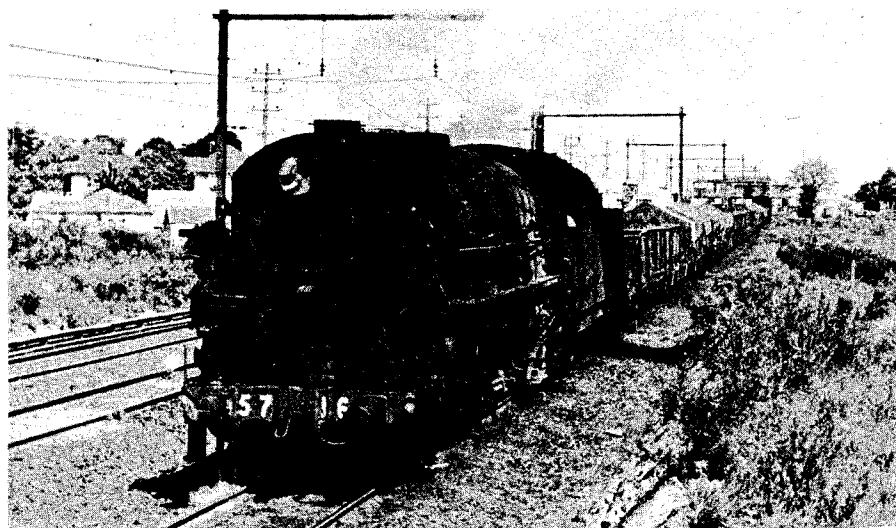
The seven prestressed concrete spans of the new double track bridge have an overall length of 1,113 feet, making it the longest railway bridge of its type in Australia.

Built at a cost of \$3.4m., the bridge was completed in April, 1972. New tracks and electrical equipment had then to be installed. The alignment and elevation of the new bridge necessitated a substantial deviation of the old line.

The old Como Station became redundant and a new Como Station of modern design was built half a mile south.

The Warraba Street level crossing was closed on June 5, 1972, and the replacement road bridge, together with the new station (then incomplete) were brought into operation on November 19, 1972, in conjunction with the transfer of city-bound trains to the new bridge. Southbound trains used the new bridge one week later on November 26.

The old bridge remains to carry the water mains of the Metropolitan Water Sewerage & Drainage Board and is also used as a bicycle and pedestrian pathway.



In order to handle heavier loads, the D57 class "mountain" type freight locomotives were introduced in 1919 - these were able to haul loads 1½ times more than the single standard goods engine. 5716 is pictured refueled at Sutherland en route from Thirroul to Enfield, in August, 1959.

IN THE SAME SERIES

Pamphlets in the Sutherland Shire Studies already published are:

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| No.1: A brief history of the Sutherland Shire. | No.4: The Development of Commerce and Industry. |
| No.2: The Sutherland Shire Council. | No.5: Shire Reserves. |
| No.3: Geography, Geology and Aboriginal Archeology. | No.7: Road and Water Transport. |
| | No.8: Botany Bay Ancient River Systems. |

Founded in 1966, the Sutherland Shire Historical Society, which has worked in close liaison with the Sutherland Council in the production of the Sutherland Shire Studies series, was sponsored by the Council. Correspondence to Hon. Secretary. PO Box 389, Sutherland, 2232.