newsletter

pper Canada Railway Society

July/August 1973 • 1.50

newsletter

Number 330 July/August 1973

Upper Canada Railway Society

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NEWSLETTER is published monthly by the Upper Canada Railway Society Inc., Box 122, Terminal A, Toronto, Ontario M5W 1A2.

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RAILWAY NEWS AND COMMENT

Canadian National has expanded its passenger train service between Toronto and London Ontario, with the introduction of three additional trains. These trains, made up of self-propelled rail diesel cars (RDC), make the 115 mile trip in only two hours, up to thirty minutes faster than previous schedules. The trains make only one stop at Brantford. The first of the new trains left London Ontario at 1250 on July 6, stopping at Brantford at 1343, arriving in Toronto at 1450, and operating daily except Mondays. On Sundays only starting July 8, an additional train leaves London at 1955, stopping in Brantford at 2048 and arriving in Toronto at 2155. The third train leaves Toronto daily at 1710 and arrives in London at 1910 starting July 6, 1973.

Conventional passenger equipment is to be used on CNR's afternoon Toronto-Montreal run until the resumption of Turbo service. United Aircraft Canada Ltd., builder of the Turbotrains, issued a statement June 26 that indicated a lubrication problem could be responsible for the flawed performances of the Turbo since its re-introduction on June 22. The lubrication problem had apparently not been revealed during the extensive testing of the trains. The substitute Toronto-Montreal trains leave daily at 1640 and arrive at Montreal at 2115. This a four hour forty-five minute schedule, not quite as good as the Turbo but better than the Rapido.

CP Rail is now very seriously considering the electrification of the Montreal-Toronto-Windsor corridor and the line between Thunder Bay and Winnipeg as a result of the soaring price of diesel oil. The process would involve the construction of catenary overhead wires above the tracks and the purchase of electric locomotives. CP Rail has been testing electric motive power for several years, with an eye to electrifying its mountain division from Calgary to Vancouver. It has tested locomotives in Scandinavia and in the Alps, using European equipment, and last winter tested a short section of overhead electric line in the Selkirk Mountains east of Revelstoke B.C. A consideration in the mountain lines has been the high cost of operating diesel locomotives, since as many as thirteen locomotives are required to haul the average ore train across the mountains. Electrification would probably halve that number.

Among the events at this summer's Scottish Festival Games at Maxville, Ontario was a special train chartered to bring spectators from Ottawa. Flying the cross of St. Andrew on each side of her pilot beam, 4-6-0 #1057 looks fit for the occasion on the point of the train of four Credit Valley Railway cars--photographed at Vars on CN's Ottawa-Montreal main line. August 6, 1973. (W.R. Linley)

RAILWAY NON-OPS CALL NATIONAL STRIKE

The real value of a national rail service with respect to the Canadian economy was brought home once again this summer as 56,000 members of the Associated Non-operating Unions staged a 7 day national strike at the end of August. Slow progress in contract negotiations had led to utter frustration that finally precipitated the strike action. The main issues with the associated non-op group have been wages and job security. Negotiations failed to produce a settlement and so did mediation. Last March, the federal government created a conciliation board comprising representatives from management and labour and a neutral chairman. In mid-July the board handed down three separate reports, all differing in key respects. On the wage/benefit package, the railways' representative offered 19.66%over two years; the chairman recommended 22.96% over two years; and the union submitted 32.69%. The chairman's plan, if implemented and made effective across the board, would have cost about $278-million over a two-year period. The railways warned that this would require a hefty freight-rate boost even though Prime Minister Pierre Trudeau had promised at the western Provincial summit conference held at Calgary in July there would be no rise in freight rates for at least 18 months. That promise, no doubt, had a strong bearing on the intransigency of the railways' position.

This stand-off set the stage for confrontation. Rather than opting for an immediate national strike that would have certainly brought government intervention, the union's strategy was to stage short-duration rotating strikes. Such strikes, it was felt, could be kept up indefinitely as no worker would lose more than a fraction of a week's pay. The unions had no desire to cause overt public hardship and outcry; the question of strategy really was how long the strikes could be sustained without seriously damaging the economy.

On July 26 all railways in Ontario were struck for 48 hours. On July 28, rail operations in British Columbia and Alberta were paralized during a 66-hour walkout. Quebec was next, for 48 hours starting July 31. And so it went--with no real pressure, at the outset, brought to bear on the government to recall Parliament to deal with the matter.

A temporary halt to the selective strikes was called on August 10, when union wage demands were scaled down to 13.8% per year and both sides went back to the bargaining table. However, no progress was made. The railways indicated that accepting this wage demand would still cost them about $164-million a year.

The impasse continued and workers became more militant. At one point in the third week of August, fully 44,000 of the 56,000 non-ops were out on rotating strikes that had halted all rail service from Thunder Bay to St. John's. The Canadian ecenomy was beginning to feel the pinch. Ontario's auto plants were in limited production due to depletion of the pre-strike stockpiles of raw materials and the construction industry was beginning to slow down for lack of lumber from B.C. It was becoming clear that neither the railways nor the union leaders really were seeking a compromise and that they expected the strike to be settled not by arbitration but by legislation, as happened in 1950 and 1966. Both sides were keenly aware of these precendents. When Parliament ordered strikers back to work in 1950, freight rates were hiked to absorb the cost. In 1967, the National Transportation Act provided for a subsidy of $110-million to cover operating costs. Although that amount has dwindled to $26-million, the railways are actually receiving more federal support than they did in 1967. This year, CN and CP are dividing $112-million in special supplemental subsidies to cover rising costs and wage increases. The railways' position in 1973 is no different--if Parliament were to legislate an end to the strike then it would have to be prepared to pay for it.

As if the strike threat by the non-ops wasn't enough, the possibility of walkouts by the 20,000 shopcraft workers and the 10,000 members of the United Transportation Union (trainmen and enginemen) was close to reality as negotations in their contracts were getting nowhere. The growing impatience among the rank-and-file non-ops finally gave rise to the national rail strike called on August 24. The stage was then set for government intervention.

Parliament convened on August 30 to hear first reading of Bill C-217. While MP's were debating the back-to-work legislation, striking railway workers demonstrated on Parliament Hill and at one point an unruly mob of 200 strikers stormed the main doors and entered the Centre Block. This unfortunate demonstration almost succeeded in undoing two days worth of union lobbying for a generous settlement. The bill in its original form would have given the 56,000 non-operating employees a straight 30¢ per hour wage increase - retroactive to Jan. 1/73, plus another 5% Jan. 1/74 and 3% in July. The bill also prescribed slightly more generous settlements for the shopcraft and operating unions: 8 1/4% retroactive to Jan. 1, another 6½% at New Year's and 1½% more in July. It directed all parties back to the bargaining table and authorized Labour Minister John Munro to appoint a federal mediator. If no progress were made, the railways and unions would then submit to arbitration. The bill's provisions were hardly all that generous, perhaps because the Liberals were still haunted by the scandalously extravagant raise given the Seaway workers in 1966--an action widely blamed for setting off a round of inflation at the time. As expected, the bill was amended.

The NDP proposed a more generous 38% settlement with raises totalling 10.8% in 1974; it was defeated. Finally, the Conservative's amendment was presented. It provided for a compromise of 34¢ per hour for the non-ops, retroactive to Jan. 1 and raises of 6½% and 1½% next year, the same as the trainmen and shopcraft unions would get under the Government's legislation. Just after 3:00 a.m. Saturday, Sept. 1, the House, by a vote of 111 to 100, passed Bill C-217 in this form ordering "the resumption and continuance" of national rail service.

Mr. Justice Emmet Hall, who retired from the Supreme Court of Canada earlier this year, has been appointed to act as arbitrator in the disputes. He will deal with each group separately: 56,000 non-operating employees, 22,000 shopcraft workers, and 14,500 trainmen. Formal arbitration hearings begin on Sept. 19 and will likely carry on well into October.

During the strike, TH&B's roster of motive power was assembled and moved to the Hunter Street station in Hamilton where company officials could keep a watchful eye. August 28, 1973.
(J.B. Lee)

MEET AT THE CONTINENTAL DIVIDE

Eastbound CP Rail hotshot freight with 6 r
SD-40-2's (5615, 5540, 5572,5545,5560 & 55
meets the "varnish" at Stephen's Switch, t
miles west of Lake Louise in the Canad
Rockies. General operating practise in t
region now is for Trains #1 & #2 to take t
siding for similar meets, due chiefly
their ability to get in and out quickly (n
to mention the priority to the real rever
train). In this case, Train #1 is over
hour late. The time is 7:30 p.m. and t
date is July 9, 1973. (3 photos, Ted Wicks

"THE NATIONAL DREAM" ...now a movie

(All photographs courtesy Canadian Broadcasting Corporation)

The recently published (1970, 71) 2-volume history of the building of the transcontinental Canadian Pacific Railway--The National Dream and The Last Spike, by Pierre Berton--has shown this subject to be of great interest to Canadians. For months these works remained in the top ten best sellers of Canadian non-fiction. Recognizing this great interest in such an important part of Canada's history, the Canadian Broadcasting Corporation last year decided to produce a film documentary of the subject.

With authenticity one of the main criteria, CP Rail was consulted and the railway proved to be indispensable. Historian and author, Omer Lavallee, of the company's Public Relations office in Montreal collected much of the necessary reference information and period photographs for the set designers. Although the 'Last Spike' scene had been filmed on the CNR in southern Ontario this past spring (see pg. 68, May-June/73 NL), the success of this production was entirely on the overwhelming help and resources offered by Canadian Pacific.

A committee comprising representatives of various departments of four Regions of CP Rail coordinated all the various activities the railway was involved in. While filming only took place on the Eastern and Pacific Regions, the Atlantic and Prairie Regions arranged prompt despatch of motive power and rolling stock. The Dominion Atlantic Railway contributed two open-platformed boarding cars (formerly 100 series suburban coaches), one of which was modified at Weston Shops, Winnipeg to become "First Class car 141" on the set. The sash and trim of the other car were salvaged to minimize the need to fabricate new woodwork.

The Alberta South Division located and repainted a wooden, ex-boxcar service car. To meet the need for a nonexistant truss-rodded flatcar, Ogden Shop fabricated one out of the remains of several other scrapped cars. The final requirement was for an open-platformed baggage car, a car type that had long disappeared from CP Rail's rolling stock inventory. Such a car was found in Edmonton in the care of the Alberta Pioneer Railway Association and this group gladly offered the car for the occasion. Ironically the car's ancestry is traced back to the Intercolonial Railway which later became Canadian National.

Key "prop" on the set was, of course, a live "period" steam locomotive. The C.B.C. had approached the Greater Winnipeg Water District Railway for the loan of their 4-4-0 #3 (Dubs, 1882; ex-CPR #22) but the locomotive was refused, no doubt because the request came just at the time of the start of summer operations on the Prairie Dog Central. Ex-CPR 4-4-0 #136 (Rogers, 1883) then became the most suitable and only candidate available for the role. Ontario Rail, the locomotive's owner, agreed to lease her for the filming. Given the usual budget and time restrictions that go hand in hand with most film productions, a genuine effort nevertheless was made to restore #136 to an 1880's appearance. She was

Author Pierre Berton and friend

painted flat black, given a wooden cab, long pilot, oil headlight and several different smokestacks. The effects of #136's rebuilding in 1914 made impossible or impractical the correction of such items as automatic couplers and extended smokeboxes; however, an attempt was made to hide the piston valves. Removable cab numbers enabled the locomotive to portray several different engines in the different locales, including locomotive #148 that hauled the company officers and directors to Port Moody after the driving of the Last Spike at what is now Craigellachie.

Filming of the National Dream required two completely different locales in Western Canada. One was flat, uncultivated, treeless prairie, in order to portray the progress of tracklaying across what is now Saskatchewan and Alberta during the summers of 1882 and 1883. The other was a coastal mountain setting replete with cuttings, fills, tunnels and wooden trestles.

The first requirement was met by the Cassils Subdivision of the Alberta South Division which extends southward across an arid grazing land from Cassils, on the main line a few miles west of Brooks, to Scandia. Filming was confined to a few hundred yards

Action on the set at Mile 6, Cassils Sub. LEFT: Work train with 4-4-0 #144 brings in supplies for tracklaying. UPPER & LOWER: Track is laid on virgin prairie. Note rail is carried by bare hands as insisted by CP consultants.

on either side of Mile 6. Enough rail and ties were removed to allow the re-creation of the original track construction.

The mountain area chosen was the Carmi Subdivision in the hills east of Okanagan Lake near McCulloch, B.C. This location was really a number of different sets along 20 miles of this branch, particularly the twisting and scenic track through the Myra Canyon.

The prairie and mountain lines chosen both experience very little traffic and allowed the C.B.C. crews to have total occupation of each line for days at a stretch.

Locomotive #136 and its "period" consist were assembled at Calgary and the train was recorded in CP Rail records simply as 'Work Extra 136'. The train operated under its own steam to Cassils where servicing facilities had been set up. Filming commenced on June 10th and took a week to complete. The set was a constant behive of activity. At times there were up to 100 actors and extras on camera, all playing their necessary roles. The C.B.C. crew itself numbered 35. CP Rail Maintenance of Way men from Southern Alberta were used as extras to portray tracklayers and to lend expertise to the segments showing the construction of track. Their ranks were enlarged by students from the nearby Brooks Composite School. In addition to becoming extras, local Albertans responded to the call for authentic implements and machinery needed on the set. The ties used were supplied by a sawmill in B.C. to the specifications of the day--mixed spruce and poplar, flattened 2 sides, and of course, untreated. The rail shown being laid was 60 lb. On completion of the filming on the Cassils branch, Work Extra 136 was dispatched west, under its own steam, to Penticton, B.C.

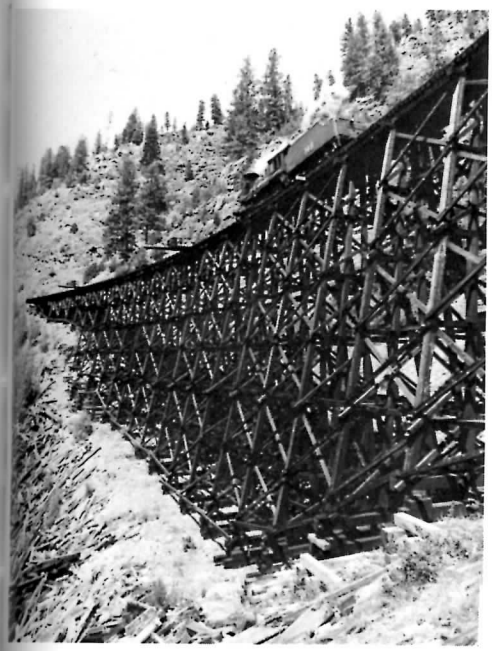
Filming on the Carmi Subdivision was completed in the remarkable time of just four days, due entirely to that modern convenience --the 2-way radio. The constant curvature of the Myra Canyon area put #136 and its train out of sight frequently. When in sight, it was often inaccessible, such as half-a-mile away across a canyon. Virtually all operating instructions relating to camera requirements were given and acknowledged by this means. At the conclusion of the Penticton area filming, the train was deadheaded back to Calgary where it formed the centrepiece in the Canadian Pacific exhibit at the 10-day Calgary Stampede.

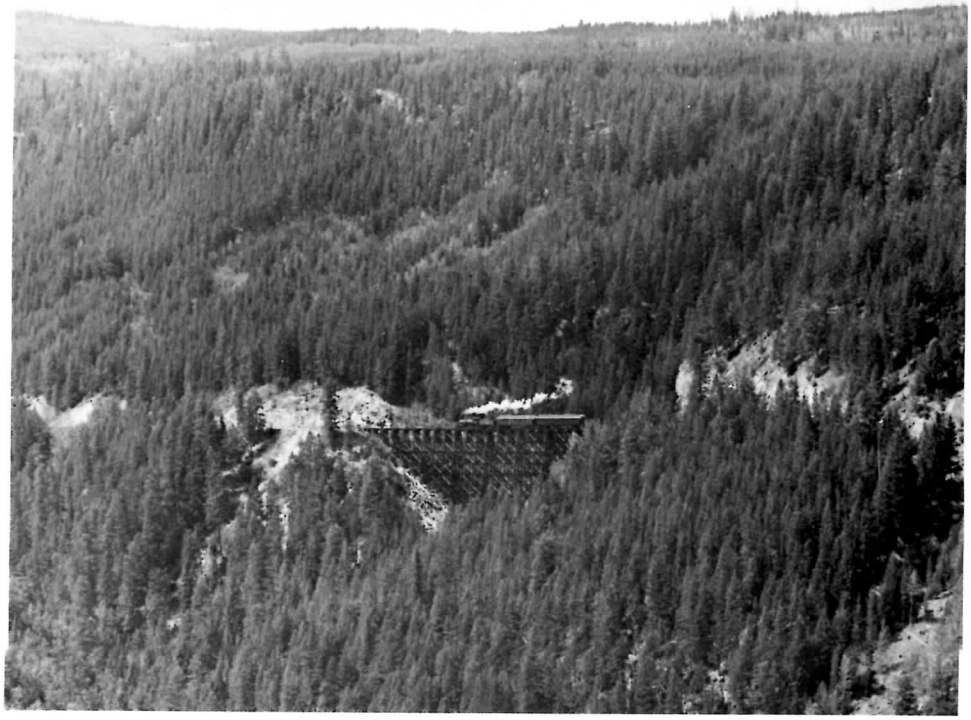
While #136 was off to Calgary, C.B.C. camera crews moved to the Coquihalla Gorge area of the CPR's former Kettle Valley Line, east of Hope, B.C., to wrap up their western filming. This line had been abandoned in the early 1960's and the track removed. The cleared right-of-way, unlined tunnels, and partially dismantled trestles presented an excellent opportunity to re-enact railway construction scenes in mountain terrain.

#136 and consist arrived back in Toronto at the end of July and they will remain here until called upon to perform on camera one last time, near Havelock, Ontario. This final shooting will be done in mid-December, subject to good 'snow conditions'. Thus ends the short but glamorous career that will soon be shared by millions of television viewers across Canada.

The C.B.C. has scheduled The National Dream as an 8-part series commencing Sunday, March 3, 1974 at 9:00 p.m. and continuing on successive Sundays. From all reports, this film is destined to become as much a classic as the two volumes by Pierre Berton. Don't miss it!

Ex-CPR colonist car (boarding car 2658) at Heritage Park, Calgary was used to film settlers travelling to the west.





UPPER LEFT & RIGHT: Myra Canyon area of the Carmi Sub in southern B.C. with numerous trestles provides the 'coastal mountain' setting. LEFT: 4-4-0 #148 in rock cut near Myra. ABOVE: Actor Sandy Webster plays Marcus Smith, the famous CPR surveyor. BELOW LEFT: Militiamen from Toronto play the troops sent west to put down the second Riel Rebellion. BELOW: Coquihalla Gorge area of the abandoned Kettle Valley Line was resurrected to re-create trestle and tunnel construction.

6060 is back!

LEFT & BELOW: CNR 4-8-2 #6060 at Richmond, Quebec, September 15, 1973 on her inaugural fantrip. (Ted Wickson)

BY JOHN THOMPSON

Three years ago the idea that one of CN's distinctive U1-F Mountain type steam locomotives would once again be thundering down the track would have seemed the remotest flight of railfan fancy. Yet, as rail enthusiasts world over are now aware, the impossible dream has become reality.

For most rail enthusiasts their first sight of 6060 came at Montreal's Central Station on Sept. 15, 1973 as she waited to depart with her first excursion train, for Victoriaville, Quebec. The early morning sun glinted off the shining black boiler and the raised gold numbers on the running board skirt. The fresh green paint on the cab, tender, and running board skirt, the white driver tires, the square CNR herald, had all been painstakingly applied to make 6060 a fitting monument of the rails.

One could be forgiven for blinking momentarily in disbelief, but 6060 was there and alive, posing proudly for her admirers, a soft haze of oil smoke drifting lazily from the flanged stack, exhaust steam from the turbo-generator dissipating in the clear September air.

How and why did such a magnificent sight come to pass--a full 13 years after 4-8-2 6043 pulled the last regularly scheduled steam-hauled CNR passenger train into Winnipeg. The answer lies in the realization by CNR management that the appeal of the steam locomotive is timeless, and greater than ever before. Not only railfans, but other people of all ages and from all walks of life had ridden behind and watched Northern 6167 and her successor, 6218, during their excursion careers spanning the years 1960-1971. A whole new generation of youngsters, born too late to see steam in regular service, discovered the mystic appeal of the steam locomotive as their fathers had.

6060's overhaul is nearing completion at Point St. Charles Shops, Montreal as this early June photo shows. (J. Norman Lowe)

When it became apparent by 1970 that 6218 could not continue in excursion service much longer without extensive repairs, it appeared that the end was in sight for main line Canadian steam. As this fact became known, letters poured in to CNR Montreal headquarters, urging that 6218 either be overhauled or else replaced by another locomotive. These communications, coupled with the visual evidence of the throngs who turned out to see the locomotives, convinced CNR management that it was desirable to continue the excursions if at all possible. That this would come to pass was hinted at by Keith Hunt, CNR's Vice-President of Operations and Maintenance, when he spoke at the retirement ceremonies for 6218 at Belleville on July 7, 1971. At this time Mr. Hunt told of how amazed and gratified the railway had been at the tremendous interest shown in their steam excursions.

6060 gets her footing as she departs Ste. Basile Le Grand after the first runpast of the day. (Ted Wickson)

This writer would speculate that much of the steam locomotive's appeal lies in nostalgia, in its role as a living, breathing reminder of a happier era and way of life. At any rate, suffice to say that of the CNR it can once again be said "not all passenger train movements in 1973 were by diesel or electric power".

Some thought had been given to overhauling 6218, but it was felt that a change from 13 years of almost identical Northerns was in order. In order to haul a fair-sized train at a good turn of speed, either a Mountain or a Northern would be required. As well, to minimize complications, it was desirable that the locomotive be one still owned by Canadian National.

Fortunately, 6060 fitted all of the criteria, in a near-miraculous stroke of good fortune. The sleek Mountain had been placed on display beside the CNR station at Jasper, Alberta in 1962. The CNR had wisely retained ownership of the locomotive and had taken excellent care of it during its sojourn there. The 6060 was not only an oil burner, which eliminated the problems of coaling arrangements on a dieselized railroad, but was a member of CNR's newest class of steam locomotive. In fact, 6060 was from the last group of steam locomotives ordered by Canadian National and delivered in 1944. Unfortunately the newest engine of the class, 6079, was not preserved.

Thus on July 27, 1972, a yard switcher hauled 6060 away from its resting place over a temporary track connection back onto system rails. The locomotive, after being thoroughly checked, lubricated and having its rods removed, left for Montreal on July 29. Its place on display had been taken on July 27 by 4-8-2 6015 which had been at the Canadian Railway Museum at Delson, Quebec.

On August 3, 1972 the 6060 arrived at Pt. St. Charles Shops, Montreal, CN's largest repair facility. Work on the locomotive was fitted in whenever personnel could be spared from diesels. A complete set of new flues was installed, and all other necessary repairs were performed. By June 26, 1973 the 6060's overhaul was completed and she was released from the shops.

July 5, 1973 was a red letter day in CN's history. For the first time in 13 years 6060 was being fired up. Still in primer paint, but mechanically sound, the Mountain sat proudly outside Point St. Charles Shops, watched fondly by CN employees, as the needle on the steam gauge climbed upward to operating pressure. After the locomotive had been carefully inspected and minor adjustments made, she was operated light to Dorval Station, some 10 miles away on the main line to Toronto.

After this operation, the 6060, together with rebuilt business car "Pacific" were stored in the diesel shop at CN's Montreal Yard, near suburban Lachine. Over the weekend of Sept. 8-9 the Mountain, by this time immaculate in her green and gold livery, was exhibited dead at Dorval Station together with "Pacific".

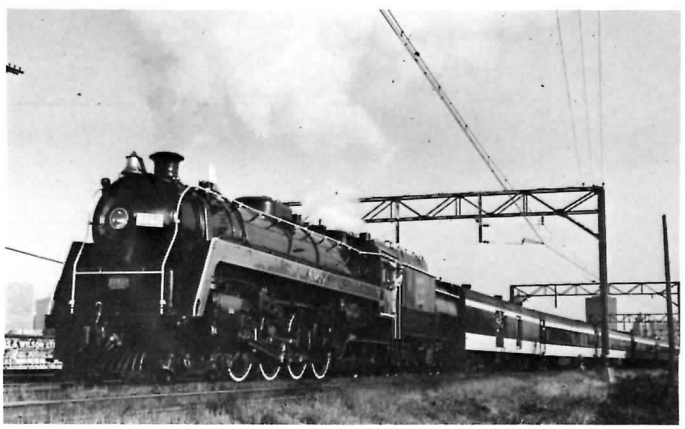
One more workout was deemed advisable, and on September 11, the 6060 thundered through Dorval hauling a test train of two dead diesels and 60 loaded boxcars, bound for Couteau, Quebec, some 50 miles westward. Perhaps some of the astounded motorists on the parallel Lakeshore Highway thought that CN was experiencing a motive power shortage as a result of the recent railway strike! In any event, the 6060 performed flawlessly like the thoroughbred she was, and the following weekend was ready to depart Central Station for Victoriaville with a trainload of admirers. Railfans had journeyed from as far away as Texas to ride behind the 6060, or to watch her at trackside.

The weather for the debut trip was fairly good--alternately sunny and cloudy. Three runpasts were held: at St. Bruno, Otterburn Pk. (Richelieu River bridge) and at Upton.

6060 will come to Ontario in October, hauling an excursion train from Montreal to Toronto (via Ottawa) on October 26 and the following day heading a special train from Toronto to Fort Erie and return. More details and photos of these events will appear in the next issue of the Newsletter.

Although no definite plans for 1974 trips have as yet been announced, it is known that the locomotive will be free to explore the U.S. lines of the system. Thus, such outposts as Portland, Maine, New London, Conn., as well as the railroad capital of the U.S., Chicago, will be visited by the flange stacked Mountain before long.

The engine is assigned to Toronto, although operation of it comes under the jurisdiction of Montreal Headquarters.



Inaugural steam special with 6060 pauses briefly south of Central Station, awaiting clearance to proceed across the Victoria Bridge. (R.J. Sandusky)

SOME FACTS ABOUT 6060

Locomotive 6060 was the first of 20 semi-streamlined 4-8-2 Mountain type locomotives, Class U-1-f, designed by the CN Mechanical Dept. She emerged from Montreal Locomotive Works in October 1944, in time to make a vital contribution to the tremendous wartime job of moving unprecedented loads of passengers and materials which confronted the CNR.

The highlight of the U-1-f class was, of course, the famous bullet nose, a maintenance expedient that incorporated the headlight and illuminated engine numbers. In the final days of the 6060, in Western service, the bullet nose was discarded. In a commendable quest for authenticity, CN decreed that 6060 would be restored to its 1944 appearance, which included fabricating a completely new cone nose. The U-1-f class, although 4-8-2, shared many features with the U-2-h class 4-8-4's constructed shortly before, such as a combination steam and sand dome, Walschaerts valve gear, Franklin power reverse, Boxpok drivers, Elesco exhaust steam injector, and outside bearing leading truck design. But the deep running board skirt along the whole length of the engine back to the cab, the flared stack, and the aftercooler housing mounted on the pilot gave 6060 and her sister engines a look of their own.

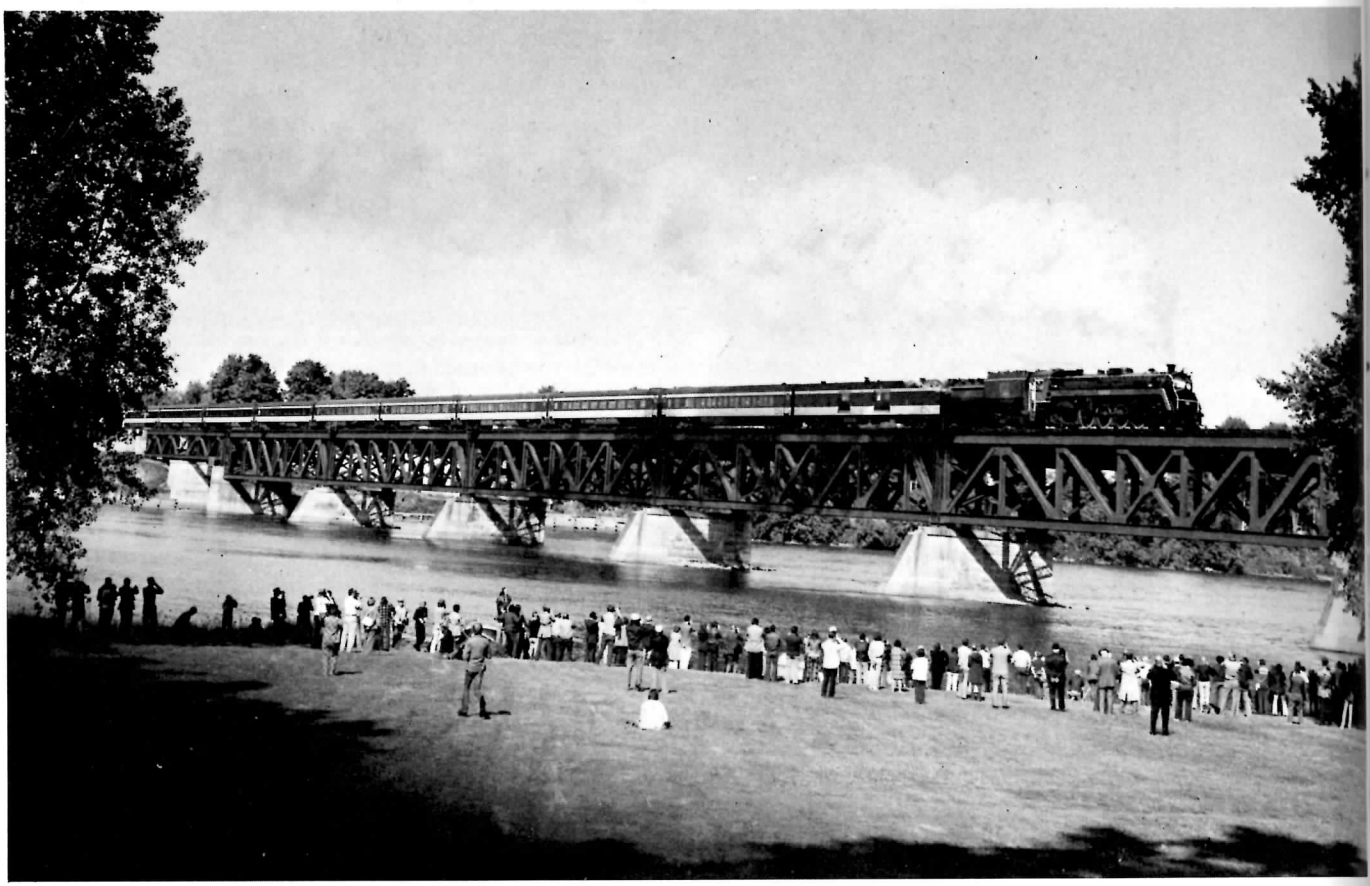
The length of the locomotive and tender overall was 93 ft. and their total weight, in working order, was 637,540 lbs. The cylinders were 24 in. in diameter with 30 in. stroke. The firebox was 120 1/8" x 84 1/4" with a grate area of 70.2 sq. ft. The heating surface of the firebox was 386 sq. ft. Normal operating pressure was 260 lbs. The U-1-f class tenders were of the "Vanderbilt" type with six-wheel trucks. They had a capacity of 11,700 Imperial gallons of water and 18 tons of coal. When this class was converted to oil-firing, the tender's capacity was changed to 11,000 gallons of water and 5,000 gallons of oil.

The switch to oil burning in the mid-fifties was relatively simple with a prefabricated oil tank being lowered into the coal bunker on the original tender, or by using the square tenders from scrapped 4300 series 2-10-2's whose services had been split almost evenly between the Western and Atlantic Regions.

The 6060-6079 series of engines was designed for fast passenger service, and until the late 1950's their primary task was hauling such trains in Ontario and Quebec. Towards the end of the steam era, the Prairie Region beckoned for these relatively youthful engines and 13 of them, including 6060, wound up their service west of the Lakehead.

In view of Jasper's importance as a division point, it was decided in 1962 to place 6060 on permanent display there. Thus did the green and black Mountain type cheat the scrap dealer, and, 11 years later, come out of retirement to thrill thousands of people who would otherwise have never seen one of the famous "Bullet-Nosed Betties" in steam.

In closing, it is obvious that railfans who watch, ride behind, and photograph the 6060 over the coming years have been presented with an extremely rare opportunity, given the circumstances. It is virtually unprecedented for a mainline railway to incur such outlays of manpower and expense in this day and age, and for this we all owe CNR a heartfelt vote of thanks.



ABOVE & BELOW RIGHT: Double runpast performed at Otterburn Park on the bridge over the Richelieu River. (Both photos, Ted Wickson)

BELOW: View of the same runpast looking east from the west bank of the Richelieu. Mont St. Hilaire is in the background. (R.J. Sandusky)

6060 and special train storm through Danville, Quebec en route to Victoriaville. Sept. 15, 1973. (Ted Wickson)

CAR "PACIFIC"

Many people viewing the inaugural fantrip were undoubtedly impressed by the handsome open platform heavyweight observation car bringing up the markers. This 6-compartment/lounge car, built in 1924, was used on Royal Trains, directors' specials, and campaign trains. The "Pacific", which was saved from scrap two years ago, has been repainted in its original CNR green, with gold letters and rectangular "Canadian National" heralds at the end. This colour scheme gave way to the two-tone, black and green livery 20 years ago, which in turn was supplanted by the present black and white appearance in 1961.

In addition to providing a proper tail end for excursion trains, "Pacific" will have four other functions: as a retail sales outlet branch of the Montreal CNR artifacts sales store; a small museum for artifacts from the permanent CNR collection; a VIP reception area; and as sleeping accommodation, available on a reservation basis, during some of the cross-country trips the 6060 will be making.

"Pacific" is the first car earmarked for the special excursion consist, which will be known as the "International Ltd.". As steam excursion and retail sales revenue permits, and as period equipment becomes available, other cars will be added to the train, providing a permanent consist. Because of this fixed consist, the train's passenger-carrying capacity, once established, cannot be changed--making advance reservations a virtual necessity.

All of the "International Ltd" cars will be repainted to match "Pacific". In addition, plans have been made to name each car in the fixed consist after some of the people who played key roles in CN's early history.

Car Pacific restored to its original livery. (J.N. Lowe)

MLW Cousins. M420 #2525, class of '73 on the left and our celebrity, 6060, on the right (class of '44). (J.N. Lowe)

11,000 KILOMETRES BY TRAIN AROUND SOUTH AMERICA

BY JOE SCOTT

(Photos - the author, unless otherwise credited)

Joe Scott is well-known to many enthusiasts in the Toronto area, having given a number of excellent talks at Society meetings on such subject matter as the steam and electric railways of Australia, Asia and Eastern Europe. He is Australian and has also lived in England and recently in Toronto for four years. Having decided to return 'home', an elaborate itinerary was planned for the trip back to Sydney; his South American adventure presented here was only part of the journey. Joe has worked for the New South Wales Railway and, as will be evident from this narrative, he possesses a general interest in all forms of railroading---steam, electric, operating practises, transit systems; however, it is the antiquitarian aspect that particularly fascinates him. His wife, Jenny, shares his enthusiasm.

South America still has much to offer the railfan and for those not familiar with the rail and transit operations on this continent, we offer this article as some insight into the vast subject.

The Scotts' travels in South America were in February and March of 1972. /Editor

It had needed a great deal of organization. Little was known by travel agents about visiting South America and even less about the railway situation in that continent. However, we had discovered the existence of the 'Amerailpass' or 'Pase Americano', issued by the Asociacion Latino-Americana de Ferrocarriles which was a real travel bargain. It offered unlimited first class travel on the railway systems of Brazil, Paraguay, Uruguay, Argentina, Chile, and Bolivia for only $50 (U.S.) for one month, $75 for two, or $90 for three months. After some problems, we had picked up our two month passes in New York and were now in Miami, Florida ready for our first air hop to the Republic of Haiti.

From the airport bus, we saw a freight movement on the Florida East Coast Railroad and speculated on the fall of this railway from a 650 km double line, carrying elegant passenger trains, through a bitter strike, to its present single-line freight-only status as the only American Class I non-union railway.

After the usual Pan-American rubber chicken dinner, we arrived in the Negro Republic of Haiti, now governed by the hopelessly corrupt administration of 'Baby Doc', following the death of his father, 'Papa Doc'. It was a hot and sticky town, with the public transport in the hands of gaily-coloured small, mostly Japanese 'camionettes', or small pick-up trucks converted to carry about 12 passengers in the rear tray. Of the one-time mule-trams that had once operated in the capital, Port au Prince, there was no trace. After settling into our crude but cheap hotel, we wandered to the waterfront area, after admiring the famous but smelly Iron Market, designed by Eiffel, of the Eiffel Tower.

Until 1954, Haiti had sported a common carrier railway north and south of Port au Prince to St. Marc and other provincial towns, about 100 km. and steam-operated. This had been long abandoned and uprooted; however, we were fortunate enough to see and film a diesel-hauled cane train running along a track in the middle of the boulevard paralleling the dockfront. Apparently there is still an extensive mileage of such sugar oriented rail operation, together with lines operating upon the long wharves in Port au Prince harbour. Armed soldiers with whom the country is well supplied, prevented us from photographing this function. We then found the old main railway station, now in use as an appallingly filthy and muddy fruit and vegetable market. The main building is still recognizable as an old station, but no other traces remain, such as rails or signs. We lacked the time to carry out any further investigation, but it is rumoured that the old locomotives and coaches can be found at the former workshops out of the city.

A late evening flight took us to Santo Domingo, capital of the Dominican Republic, its airport being a long and expensive 40 Km. from the city. Again there appeared to be no bus or cheap alternative to a taxi to the city. Santo Domingo has a population of about 350,000 and it seems inconceivable that such a large and old established (oldest city in the Western World) never operated any type of tramway system, nor ever had railway communication with the hinterland, when such specks in the ocean as Bermuda, Barbados and Trinidad had such facilities. Nevertheless, although my command of the Spanish language is only fair, enquiries of older people and the officer of the 'Direccion General de Turismo' led me to believe that the assumption is correct, that Santo Domingo has never had any form of railroad transport. However, one or two of its unique open-topped doubledeck diesel buses were still operating, and, at some personal risk, we enjoyed a ride on the upper deck, and followed the nonchalant example of the local people, in ducking our heads when passing under low-hanging wires and branches to avoid

decapitation. Apparently the Latin laws and philosophies differ from those in our countries. One is expected there to look out for oneself and not to expect others or public utilities to accept responsibility for one's safety. In a park in Santo Domingo were, on a concrete block, the sad and neglected remains of an old 2-8-0, said to be the first locomotive in the Republic. Railways do operate still in the country, mainly from the second city of the country, Santiago, but distance, 300 Km by bus, and lack of time prevented us from visiting them, but they were diesel-operated lines and not really worth the trouble.

However, a greater surprise was in store for us. After a late arrival and another long taxi ride, we reached Caracas, the booming capital of Venezuela. A city totally dominated by the internal combustion engine. A scenic city, reaching many kilometres along narrow valleys and liberally supplied with U.S. style expressways and concrete-jungle interchanges, including a really elaborate one called 'La Arana' (the Spider) by the locals. Caracas is where old American cars go to die, slowly, mostly as taxis, or 'por puestos' a uniquely Latin concept of a large car operating on a fixed route at a fixed tariff regardless of distance, in this case of 1 Bolivar, about 14¢. Caracas had at one time enjoyed the advantages of an electric tram and trolleybus system, but these were long gone and no traces remained. They had been abandoned in the early 1950's when the city had begun its rapid expansion from an old colonial centre of about 500,000 population. A slide exhibition at the small but interesting Museum of Transport showed old street scenes with vintage tramcars operating. Also at the museum was a 1951 G.E. B-B diesel from the recently abandoned Gran Ferrocarril de Venezuela, which used to run from Caracas to Valencia, a city which also had a tramway system. The narrow-gauge Caracas - La Guaira mountain railway, with a rack section, leading to the seaport of Caracas had also been replaced in earlier years by a wide and tremendously expensive highway as befitting a city where the price of gasoline was among the cheapest in the world.

One of the stations, a complete train, and other items from this narrow gauge operation were on show at the museum, leaving Caracas as the largest city on the globe having no rail transport at all, not even for freight. Rail operations continue in the western and southern parts of the country, but they appear marginal, and their futures uncertain. A long cable-car operates in two sections from Caracas to the coast at Macuto. We rode the first section to the mountain top, but dense fog made a continuation to the coast unattractive. There is talk of building a new subway in Caracas which seems urgently needed---as usual, the expressways are choked in rush hours and their widening in the narrow valley floors impractical.

A quick hop by VIASA and we were in Port of Spain, the capital of Trinidad. We were fortunate enough here to have a guide who kindly drove us to the city and showed us around the sights of interest, including the abandoned railway system. Until December 31 of 1968, Trinidad had had an extensive, standard gauge railway, operated on British lines, with elaborate signals, a 4 track terminal, and even double track for the first 10 Km or so. However, the government, in a burst of newly independent fervour, had handed the entire transportation picture over to private enterprise, with the result that the railway is almost entirely intact, yet entirely defunct. Fairly modern coaches are rusting to the rails in the main station, under a large canopied roof. Diesel and steam engines stand forlornly in the large yard, tracks and stations are rapidly disappearing under tropical growth, quite a melancholy sight. Being a Sunday, everything was closed, and we were unhappily unable to wander the yard and photograph the relics. The railways had had a main line about 60 Km to San Fernando, and several branches. The roads are narrow and totally unsuited to heavy freight and passenger traffic. Nevertheless, the railway is dead. Also long gone since 1948 is the electric tramway and trolley-bus operation in Port of Spain. Our guide showed us where the car house used to be behind the main powerhouse in the city: a few span poles remained and some tar-strips.

We were fortunate enough to arrive in Georgetown, Guyana a few months before the commission of a similar crime. Another wild 40 Km drive from the airport. I am sure that such airports are situated great distances from their cities to provide a livelihood for taxi drivers, there is no valid reason, there being nothing but flat country between the airport and Georgetown.

The railway situation is interesting here, being in two unconnected sections, and of different gauge! Georgetown is on the low-lying Eastern bank of the wide and muddy Demerara River and has a standard gauge line running further eastwards to New Amsterdam,

West Coast Railway locomotive at Vreed-en-Hoop station, Georgetown, Guyana. Well ventilated; note the side rods.

about 40 Km, having recently been cut back from Rosignol. This railway was the first in South America, having been opened when a British colony in 1848, and the original station building is still in use and little changed. The livery of engines and coaches was a mid-green. Most locomotives were a small British-built 6-wheeled type of diesel-hydraulic with side rods. However, "Sir Wilfred", an elderly but active 4-6-4 tank locomotive still steamed bravely, sometimes accompanied by "Donkey", a long-funnelled 0-6-0T. "Sir Wilfred" was filmed at the head of a long schoolchildrens' train and it was interesting to speculate on how the children would be moved after the imminent total abandonment of the railways in June of 1972. No freight movements were observed, other than a couple of open 4-wheeled wagons behind a passenger train on the West coast line. It lay a short ferry boat trip away on the opposite side of the river at Vreed-en-hoop and ran about 40 Km to Parika. The gauge appeared an odd one, wider than metre, or colonial 1067 mm (3 ft. 6 in.) and was probably of the occasional British 4 foot gauge. It is said that the entire West coast line was brought lock, stock and locomotives from the island of Bermuda when that operation closed in 1948. No steam had operated on the West coast line for at least 8 years, according to one of the railway workers, and the same type of small diesel-hydraulic locomotives were in use there. The passenger services were operated about every $1\frac{1}{2}$ hours and the trains were well used, despite the availability of parallel buses.

Georgetown was a large enough city, with about 250,000 people, to have operated a tram system at one time, but no confirmation could be obtained. The traffic in Guyana drives on the left, British style, but it is said to be totally impractical to drive across the borders, due to the total absence of roads.

A short early-morning flight on a Japanese-built turbo-prop aircraft of Cruzeiro do Sul Brazilian airlines, and we were in the old and remote city of Manaus, almost 2000 Km up the Amazon River, and inaccessible from the remainder of Brazil except by riverboat or air.

The city had changed little in the past 80 years since the rubber boom, and hotel space was of poor quality and at a premium price. The vast wealth in the city in the 1890's had led to the construction of the first electric tramway system on the continent, remarkable in such a remote location. It had been closed in 1961, but tracks remained in many streets and were of metre gauge. A search was made for old postcards and other traces, but, except for finding the old car house, with obvious traces, such as poles and inspection pit sighted from the streets (as armed guards prevented us from entering, a common business in military-dominated and gun-obsessed Brazil) there was no other evidence, such as old cars in use as dwellings.

A longer flight by Varig and we arrived in Brasilia, the new capital of Brazil, situated in the middle of a wilderness of the unique red Brazilian earth, which stains everything it touches. A golden opportunity to provide the city with a good local transport system from the beginning had never been taken, and the city was served by the usual Brazilian operation of gruesome noisy, smoky, rattling Mercedes-Benz diesel buses of an obsolete design, fitted with

crude Brazilian-built bodies. The service centred, again in what we found to be quite a feature of Brazilian life, upon a large and elaborate, modern-looking bus station, or 'estacion rodoviario'. The ultra-modern buildings were not as numerous as we had been led to believe but were interesting and impressive nevertheless. I had earlier established contact with an authentic Brazilian railfan, an elderly gentleman in Sao Paulo, and he had been kind enough to send to me in Canada, a copy of the 'Guia Levi', which incorporated a complete time table and map of the Brazilian railway system. This system is centred upon the cities of Rio de Janeiro and Sao Paulo and was mainly British or European-built and operated until about 1955. It is now broken into regions and it operates as the R.F.F.S.A. or Brazilian Federal Railways, with some regions, such as the Estrada de Ferro Paulista, being operated by the government of the state of Sao Paulo.

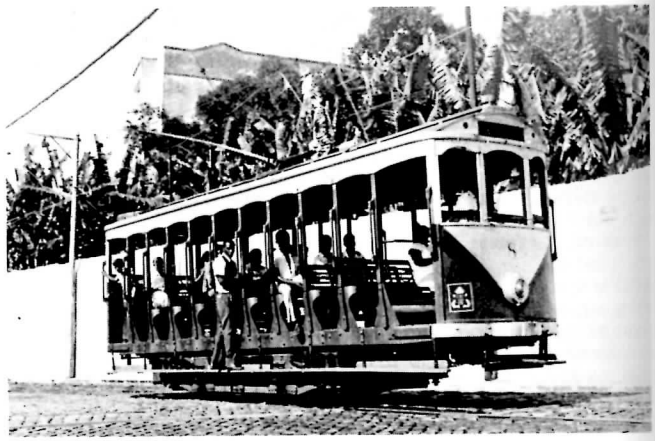
A metre gauge line, the V.F.C.O. or Central Western Railway had recently been extended to the outskirts of Brasilia to a temporary terminal, pending the completion of an elaborate station befitting the capital. We rode a bus to the station to arrange a booking by sleeping car to the city of Belo Horizonte, about 1000 Km away, on the tri-weekly train. Our 'Pase Americano' was the subject of some curiosity, but its validity was not questioned and the sleepers were incredibly cheap, about $2.50 for two nights for both of us! We inspected some of the coaches at the station and found them to be quite modern, some constructed in the railway shops in 1971, but not especially luxurious. It was difficult to elicit much information regarding railway operations. Although able to converse fairly readily in Spanish, communication in Portuguese was much harder and 'one-way' communication was the general situation, being able to state my wishes and ask questions, but being unable to comprehend any replies.

A General Electric Co-Co diesel-electric locomotive of recent construction drew our train out of the station on time at 2200 and south-east across the red-earth plains of central Brazil. We had a reasonably good sleep in our May of 1970 built 'dormitorio' sleeping car, despite the bumpy track. However, it wasn't long before the delays began, culminating in an arrival in Belo Horizonte 13 hours behind schedule. We were first delayed en route about 5 hours by a derailment ahead and progressively became later until the dining car, in which we had eaten fairly well and economically, exhausted its food supply and could offer only beefsteak with nothing else at all, not even a slice of bread!

We had learned before that the Brazilian railways were now about 90 per cent operated by diesel and electric motive power. We stopped long enough close to a locomotive depot that I was able to get some quick shots of a group of steam locomotives set aside and unlikely to run again. Mostly 2-8-0's and 2-8-2 freight units standing rusting by the locomotive facilities. They were black engines with the large V.F.C.C. initials on the tenders. Almost all diesel locomotives were red with yellow lining, with R.F.F.S.A. in large letters and the smaller divisional V.F.C.O. beneath, but some sported the new emblem of the Brazilian Federal, somewhat similar to the 'uncertain arrow' of British Rail.

At length, we arrived in the large and recently established (1892) city of Belo Horizonte, the end of the V.F.C.C. and the beginning of one section of the broad-gauge (1.6 metres) and electrically operated Central do Brasil. As in almost all the major and some minor cities of Brazil, electric tramcars had operated in Belo Horizonte, there until 1962, but no traces could be seen, except for a few ominous tar strips in the roadways. The language barrier prevented the finding of any ex-carhouses. We intended to visit the preserved colonial-period city of Ouro Preto which can be reached by rail, but at the cost of a 0400 departure, so swallowed our pride and embarked upon the 100 Km bus ride. The old city was fascinating, buried in the mountains with its cobble streets and incredible number of churches, odd in a one-religion country. We glimpsed some mixed-gauge rail tracks en route, but no movement.

As was to haunt us along the way, we found that there was no sleeper available on the night train to Rio, the 'Santa Cruz'. It seemed that where there was a nightly train service, to our intended destination, sleeping cars would be available only on alternate nights, and ours was always the off night. Nevertheless, the train was clean, large, stainless-steel, air-conditioned and comfortable with reclining seats and an excellent diner. A big C-C G.M. diesel electric locomotive swept us on the broad-gauge tracks through rugged tropical country to the outskirts of Rio de Janeiro where, about 40 Km from the city, we encountered an interchange with the metre-gauge and non-electric Leopoldina Railway, and the blue and white multiple-unit suburban cars of the Central do Brasil. The



Open cross-bench trolley on the Teresina route in Rio de Janeiro, Brazil.

Central operates an intensive electric suburban electric service out of Rio with trains of 10 cars in length. We arrived late again in Rio during the madness of Carnival time and it was interesting to see people riding the m.u. cars while dressed in outlandish Carnival costumes.

Carnival turned out to be generally a tourist trap and swindle, we being unable to locate or buy tickets to the parade, despite lengthy enquiries, and being prevented from getting a peep at the parade by hordes of gorilla-type ugly cops.

Rio may have been a delightful place in recent years, but now sticks in our memory as one of the ugliest cities we've yet seen. How sad that the large fleet of open-cross-bench tramcars has disappeared, except for the two unique lines which operate from Santa Teresa, across the old and famous aqueduct and up into the hills and twisting streets of the old sector of the city. Even there, for some totally irrational reason, the tram lines are paralleled by a competing bus of the same administration as the tramcars!

The remainder of the city, including the long trip out to the famous beaches of Copacabana and Ipanema, is in the hands of the same vile fleets of crude buses in vast numbers, driven in a completely reckless manner so much so that every ride reluctantly taken on a Rio bus led to bruised thighs as one was hurled against poles and seat backs within the bus. In rush hours, the buses were spread across the wide Avenida Presidente Vargas in lanes 20 buses across. The trolley buses had recently departed, a few span wires being still extant. The city was shrill with horns, exhausts, music and shouting, and the air rank with sewer smells and rotting fruit. Lots of abandoned tram tracks could be seen. The climate was hot and sticky enough to require us to shower 4 times daily and the famous beaches too polluted to swim, as well as air pollution so bad from the swarms of buses and Volkswagens as to preclude the sight of the famous statue of 'O Cristo Redentor' from the city and only 700 metres above on Corcovado mountain.

The ride on the recently reopened and Swiss-built (1908) electric rack railway to Corcovado was cool and interesting, including the manner of crossing trains, involving the movement of elaborate rack switches. A pity that the tram connection to Santa Teresa at Silvestre station had been closed and cut back a year or so earlier. Tramcars in Brazil are called 'bondes' after the financial bonds which were sold to finance their original construction.

Also a pity was that, following the abandonment of the rack branch of the Leopoldina railway to the old summer capital of Petropolis, it was now necessary to ride another loathsome bus of one of the three competing bus lines up a winding mountain route about 100 Km to arrive at this highland city. The rack line was closed in 1964 but one of the locomotives remains on display in the grounds of the Emperor's palace. The terminal station remains in Petropolis, now recognizable only by the large stone letters 'L.R.' on the ex-signalbox opposite the station now used as a fruit market.

The Leopoldina operates a restricted suburban service and a more complete long-distance passenger operation northward from Rio along the coastline to Vitoria and other cities. It uses the same type of locomotive as the V.F.C.O. but with many remarkable types of wooden passenger coaches, some of them highly varnished. It operates from a station separate from the Central and

notable by the large number of mechanical signal gantries nearby, in contrast to the more modern Central with its colour-light system. The Leopoldina Railway is said to have been built by Belgian capital and named after the King of Belgium at that time.

We took a ferry ride across the Bay to Niteroi where once two tramlines had operated. These had been replaced by trolley buses which in their turn had been replaced by diesels only a few months before, the span wires being still in place in the terminal area. All of South America appeared to be obsessed with and committed to the internal-combustion engine.

The cable car to the famous Pao da Acucar or Sugarloaf Mountain was under reconstruction and only half of the cars were operating. This meant a long wait in the 40^{o} sun, so we abandoned the attempt and rode a Central m.u. train to a suburban station to get some movies. We were told, when spotted by station staff that railway photography was 'proibido'. Nevertheless, we stood at the trackside and filmed some Central and Leopoldina action and to hell with them. This officialdom reared its ugly head again when we attempted to meet a contact in the Public Relations section at Don Pedro station, headquarters of the Central do Brasil. Even the elevator monitor wore a pistol and prevented us from communication with our contact. By this time we'd had enough of Rio and were glad to leave next morning on the morning express to Sao Paulo.

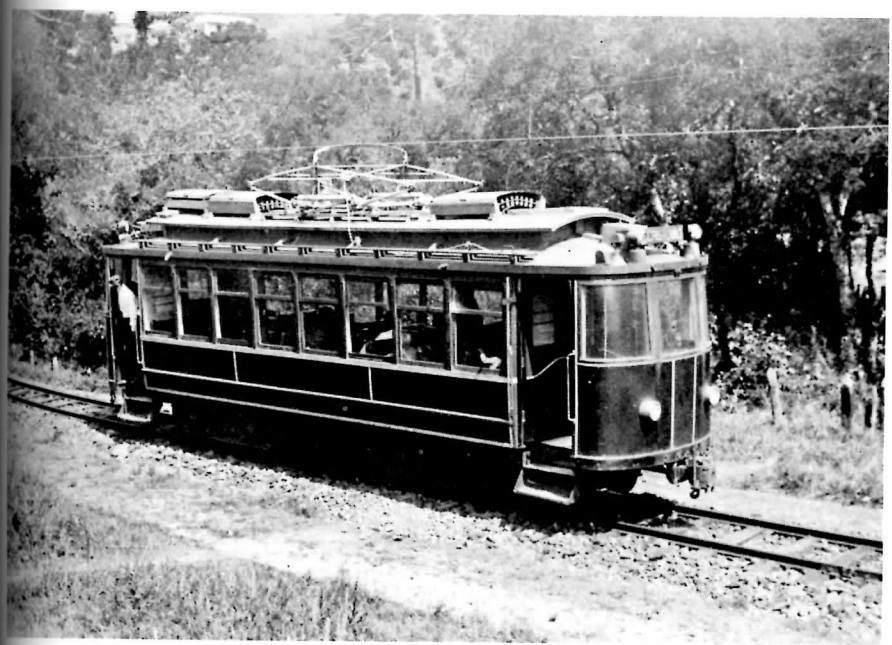
The electric locomotive, G.E. built in 1950, hauling stainless-steel Budd cars, was replaced by a diesel at the end of the electric section at Barra do Pirai. The train was quite full, but we enjoyed an elegant breakfast in the diner. At Barra Mansa, an interchange with the V.F.C.O., we spotted live steam locos, but had no opportunity to film them. The countryside was green and very fertile, at the base of a high plateau which parallels the coastline and forms the famous Brazilian escarpment. Midway between Rio and Sao Paulo, on top of this escarpment and about 1600 metres above sea level, is the 'Switzerland of Brazil', the highest area in the country and a relief from the stifling heat of the coast. It is impractical to reach this area by road from Rio, thus a metre gauge electric interurban line was built from Pindamonhangaba to a small town on the highlands called Emilio Equibas. The general vacation area at the top of the mountain, a hotel and guest house retreat area, is called Campos do Jordao, and the interurban, operated as an independent entity by the government of the state of Sao Paulo is the Estrada da Ferro Campos do Jordao, or E.F.C.J.

We detrained at Pinda and walked about $\frac{1}{2}$ Km to the E.F.C.J. station. At one time there had been direct connection at the C do B station and the track was still in existance. We had about an hour's wait, so were gladly given permission to photograph the depot and shops. The E.F.C.J. does a thriving trade in transporting cars to the mountain top and has built several units exclusively for this service, being a flat car with a driving compartment and small passenger section at one end only. Cars are driven up a ramp and onto the car at each terminus, and each unit can carry 3 small cars.

We left Pinda on time, but the train was struck by lightning during a violent storm not far from the departure point and we waited over an hour before proceeding. The electric car hauled two old wooden coaches to the foot of the steep grade and interchanged them with a descending car. The steep grade continued for another 30 Km around very sharp curves and up 10 per cent grades, but with no rack assistance until reaching the top of the plateau at Sao Cristovao. Between Sao Cristovao and the terminus at Emilio Ribas, a distance of 16 Km an interesting local service was provided by immaculate double-truck, tramcar-type units in red and yellow, in contrast to the stainless-steel of the interurbans that are used to operate down to Pinda. The local service operated every 45 minutes throughout the day and were well patronized, using the standard Brazilian turnstile system of fare collection.

It was noticeably cooler on the plateau, a great relief from the stifling heat of the coast and it was easy to see why the area was so popular but remote from foreign tourists, so remote that local banks could not change a travellers cheque, some of the staff never having seen one! The E.F.C.J. was quite a power in the area, operating hotels, amusement parks and a ski-type chair lift, although snow never falls in the locality.

After this cool diversion it was an effort of will to return to the heat and humidity of the coastal littoral. I would liked to have ridden the 'luxo' service of the E.F.C.J., but it didn't mesh with the Sao Paulo-bound trains. Back at Pinda, we filmed a Rio express and later joined the train for Sao Paulo where we arrived a little late at Roosevelt Station.



ABOVE: Automobile-carrying electric car of the Estrado de Ferro, Campos do Jordao, Brazil.

LEFT: Local car on the highland shuttle service of the E.F.C.J.

Sao Paulo is said to be the fastest-growing city in the world and is huge and dynamic, cleaner and better organized than Rio. The public transport is marginally better than in Rio, but there is a great need for a subway, still in the talking stage in Sao Paulo (Editor's Note: A subway has indeed been planned and construction will begin this year), but actually under construction in Rio. Many trains operate from Sao Paulo from 3 large terminal stations. The Central do Brasil from Roosevelt Station, and the Broad gauge Santos a Jundiai and Paulista from Luz, and the metre gauge Sorocabana from Julio Prestes. All of these lines operate suburban services, and long distance trains of the Mogiana and Araraquara railways also operate to and from the vast hinterland of this huge country. The suburban trains of the E.F.S.J. are very modern stainless-steel units with pantograph collection, very similar to the interurban trains of the New South Wales Railways in Australia. The suburban trains of the Central do Brasil are identical to those in use in Rio.

The trams of Sao Paulo came to their overcrowded end in 1967, even the quasi rapid transit operation to Santo Amaro, and the service is now in the hands of the seeming thousands of buses, no two of which apparently of the same colour scheme. A few trolley buses of the Servicios Transportes Colectivos Municipal still struggle on, but they are few in number and submerged in the maelstrom of the diesels. We made contact with Senhor Ambrosio, the Brazilian railfan who made us very welcome and led us to an ex-tram carhouse, now in use for trolley buses, but which has Tram #1 of Sao Paulo on exhibition. He has a remarkable collection of steam photographs of most of the railway regions of his country and feels that he is alone in his hobby in his country, not having been able to make contact with anyone else in Brazil similarly interested. There have been many branch line closures and abandonments of steam in recent years in Brazil, and Senhor Ambrosio has been present at most of them.

We could not countenance leaving Brazil without a visit to the port of Sao Paulo, Santos, at the foot of the remarkable, unique and famous Sierra incline. Despite the driving rain which continued all day, we rode early from Sao Paulo on an ordinary train of the E.F. Santos a Jundiai. A conventional enough ride to the edge of the plateau through dense industry and habitation. Clouds of steam mixed with the mist at the top of the incline spoiled photography. The train was split into two sections at the top station and one of the small steam-tram-like 0-4-2 locomotives attached and connected to the heavy cable of the first incline section, of which there are five each with its own winding station. The whole operation is pure British 19th century Age of Steam civil engineering. The line has three rails between each winding station/crossing loop, the middle rail being a common one. At each crossing loop was a steam-operated cable winding station, with a tall black chimney belching smoke, and at each loop we crossed an ascending section of a train, up to about six freight wagons pushed in the rear by one of the small steam locos. I stood on the rear platform of the train and filmed some of the movement despite the pouring rain.

The line descended from the plateau at a grade of about 10 per cent through tunnels and across viaducts, passing many railwaymens cottages and employees' station platforms. It must cost a fortune to run, considering the maintenance and staffing of the 5 winding stations, together with the constant passage of trains and the small locomotives. The cable is guided by a series of large pulleys, many of them being required on curves, the lubrication of them alone must require many man-hours each week. Rounding a curve was an experience for the ears as well as the eyes, the ringing sound of the cable against the spinning pulleys being quite unforgettable. The whole experience was certainly one of the world's great railway journeys.

At the foot of the incline, we waited for the second section of our train to rejoin us before setting off across the marshy industrial country to Santos. There was much activity in the yard, switching between diesel locomotives and the small, tram-like units on the incline. Sr. Ambrosio later told us that a new line is being built up the escarpment, a new rack line to augment but not to replace the cable incline which will still be used for freight as the traffic is great enough to require both lines.

Santos is also reached from Sao Paulo by a lengthier metre gauge line of the Sorocabana. We intended to return on it to Sao Paulo, but the rain was so heavy that we decided not to search for the Sorocabana station, which was some distance from the E.F.S.J. station. Santos now has the largest trolley bus system in Brazil, many routes being operated by Fiat and locally-built units. Until 1970 Santos also operated the last real tramway system in the country and the last system of any size on the continent. I set off in the rain to find the carhouse, and did so, but was prevented from entering it by the usual armed guard. The tramcars are still rusting in the carhouse and were easily photographed through a wire fence. It was a sad sight, the tracks cut off at the entrance to the carhouse and the rain falling steadily.

The return journey from Santos was on the 'tren luxo' of the E.F.S.J., the 'Cometa', a small and neat-looking articulated diesel unit of about 4 cars. It had comfortable seats and was light enough to be raised on the incline in one operation.

We spent the last day in Sao Paulo wandering the city, inspecting the large and impressive British-style stations at Luz and Julio Prestes and filming operations of the Paulista and Sorocabana lines. At the Luz station were long-distance trains of the Mogiana and Araraquara Railways, very clean and modern, and I regretted that we lacked time to ride deeper into the south of Brazil. A pity that all the interesting electric city tramways were gone from Campinas, Piracicaba and Porto Alegre.

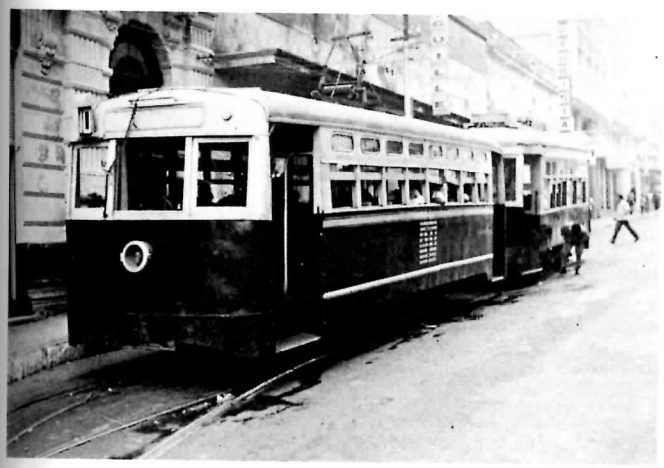
I was glad that our flight to Iguacu Falls did not start from the second airport of Sao Paulo, Viracopos, which is 100 Km from the city. Instead we flew from Congonhas aboard a Varig Electra, a two hour trip at the end of which the pilot thoughtfully circled the incredible Iguacu Falls, one of the natural wonders of the world.

We stayed a day at Foz do Iguacu and visited the Falls, which are really a whole series of great waterfalls in the jungle, quite unspoiled and uncommercialized.

The next day we flew to Asuncion, the capital of the Republic of Paraguay, hoping that the city tramway and wood-burning steam railway were both still operating. Paraguay is a remote, landlocked country in the centre of the continent, its outlet to the sea being by a river difficult to navigate. The country has a history of remarkable wars against great odds and is presently governed by General Stroessner, the last of the old-time Latin American 'Caudillos' or dictators. However, his rule is fairly benign; it is said that the trams in Asuncion still run due to his order--he feels that they give the city character. It is a quiet old city of about 300,000, with few modern buildings, and many public buildings, such as the railway station and the National Pantheon being physically small, but built on a grand scale.

We met a gentleman in Asuncion, Sr. Werther Halarewicz, secretary of the Asociacion Uruguaya Amigos del Riel, from Montevideo, Uruguay, and the only organized railfan group on the continent. Also, we had joined forces with a young American lawyer travelling alone, and we became firm friends. I had written previously to Sr. Halarewicz and he had kindly travelled the 1500 Km north to Asuncion to join us in our discovery of Paraguay, and to guide us back to his home city of Montevideo to meet members of his group.

Asuncion until recent years had had an extensive tramway system for a city of its size, as could be seen from the amount of abandoned tracks. However, at the time of our visit, only two routes remained: route #5 which operated on a 15 minute headway for 6 Km into the western suburbs, and the unique and fascinating route #10 which ran hourly over 16 Km right into the countryside to the village of Fernanda de Mora. Route #10 and route #5 both operate along the same tracks downtown, running right outside the classic-styled railway station, and then looping in the city-centre. After sharing the single outbound track, route #10 runs along double track, with each track against the curb, Spanish-style, past elegant homes and the residences of foreign ambassadors. Near a traffic circle, there is a connection to the carhouse and workshops. About 2 Km further on, there is the huge 'panteones' or city cemetary which has an extra loop, no longer used; however, it was learned that special funeral trams used to terminate there. From the panteones there is an interesting 1 Km stretch of centre-of-the-road double track, using classic curved centrally-located span poles. The double track ends and the line turns abruptly to the right to plunge into a grassed reservation and change its character to a rural tram, probably one of the last rural tramway operations in the world and similar to the Hanamaki tram in northern Japan. It passes by the rear of homes and proceeds on roadside reservation, paralleling a potholed unsealed road of bright red earth. Pigs and dogs appear on both sides, the lights dim due to the weakness of the electric current, and our tram slowed and the operator struck the gong to remove a fat cow straddling the track! After 3 Km of this pleasant bucolic operation, the line joins a busy highway and terminates on the roadside in the village of Fernando de Mora. A bus also operates from the city to this place; however, the tram is well patronized despite the hourly service.



Trams in Asuncion, Paraguay.

The trams run only from Mondays through Fridays, and then from 0600 to 1200, with a break until 1430 for the Latin siesta, and cease operations at 1830. Thus only one group of tram crews are required and it appears that each crew is permanently assigned to the same car. Fifteen cars are available for duty, being, I believe ex-Buenos Aires units, 4-wheelers with hand brakes. They are painted a bright red and white and are well maintained in the small shops. The administration is proud of them, as are the crews. The whole country is small but proud and quite militaristic, even the tram crews wearing a military-styled uniform with fore-and-aft type forage caps. Each tram has a crew of 3 men: driver, conductor, and that unique to South America and untranslatable into English, the 'hombre fiscal', a type of revenue inspector. We were made welcome when we visited the carhouse and workshops. Some of the original cars were on hand, but in very decrepit condition. The cars are stored in the open, the only covered area being the single-tracked repair and maintenance shed, where miracles are performed on the ancient cars with a minimum of crude equipment. In this regard, the Administration de Transportes Electricos was similar to the Co-operativa de Transportes Urbanos y Suburbanos in Vera Cruz, Mexico.

Tne track is generally in poor condition but the overhead wire, using bow collectors, appears O.K. It is difficult to estimate for how long this old-world operation will continue but when it quits, the closure will mark the practical end of electric tramways operation in the entire continent of South America. In this connection, it was established that every capital city of the 10 republics on the continent at one time operated electric streetcars and Asuncion is the last.

We were delighted to find that the Ferrocarril Carlos Antonio Lopez was still operating vigorously and with all steam power. The railway was British-owned, built in the 1860's as the Central Railway of Paraguay to standard gauge and operated with 4-2-2 locomotives, one of which still stands on display at the ornate station in Asuncion. Right opposite the station is the small locomotive shed and servicing area, surrounded with huge piles of hardwood, exclusively used as locomotive fuel on the F.C.C.A. Lopez. It seemed that there was not a diesel locomotive in the entire country. Until recent years, several short lines had operated further up the Paraguay River from small riverports into the densely-timbered forests and used for the transport of the unique quebracho wood. However, enquiries revealed that only the main-line operation from Asuncion almost 400 Km to the city of Encarnacion still functioned. From Encarnacion trains and cars are ferried across the river to the city of Posadas in Argentina and continue south to Argentinian points and the city of Buenos Aires on the standard-gauge F.C. General Urquiza.

At the engine shed we found one of the 1910-built North British Locomotive 2-6-0 tender engines being serviced. No objection was made to our wandering around and photographing the operation, however, at the depot we met a young railfan from Germany, himself a locomotive fitter, who had just been released from 3 weeks in jail in Asuncion. He told us that he had been arrested when he entered the country at Encarnacion and had not been charged with any specific offence. He had even suffered the added insult to injury of being required to pay the railway fare of his guard to Asuncion where he was finally released without explanation. He was a little untidy and bearded, so it was possible that this was the only cause of his detention, the rather puritanical and militaristic administration of the country not approving of 'hippie'-type visitors.

The tenders of the engines have extended side rails to contain the hardwood logs, and behind each engine also is hauled one or two open cars loaded with wood fuel. In addition to a driver and fireman, each locomotive carries two crewmen called the 'passa linha', whose job it is to transfer the logs from the tender or open cars to the fireman. The 2-6-2 tank locomotives also in use have had a gangway cut through the rear bunker to allow access to the fuel supply in the open cars.

The passenger train service, at the time of our visit, consisted of a thrice-weekly through service to Encarnacion with through Argentinian Railways coach and sleepers. Each train also carried a 'Furgon' or Baggage & Mail car and a Paraguayan 'Comedor' or Diner. Werther and I walked a couple of kilometres out of the city to find a suitable photogenic spot. It was difficult to do so, as the line runs in a narrow area between houses and other buildings, so we settled on a spot near a small bridge and were rewarded by the passage of a 2-6-0 running light and also the arrival of the passenger train from Encarnacion, also hauled by a 2-6-0.

The sleeping car accommodation was booked out, so we had to spend the night journey sitting up in the First Class car, an old wooden coach built in Britain in 1905. The station was full of people, as was the train at departure time and we rolled off into a warm and humid night. It was not a fast journey, the old 2-6-0 pulling the long train across the flat 'pampa' at no more than 40 Km/hour. There was little available in the diner other than chicken, bread and Pepsi-Cola. Although the train services are not extensive, each station appeared to be staffed with the 'jefe' or station-master supervising each stop in a dignified manner. The entire operation is steam-operated, with steam pumps, operated by wood-burning boilers, at strategic points to supply water for the locomotive. We finally arrived at Encarnacion, where the train scattered the pigs and chickens and Jenny, my wife, and Werther

Woodburning 2-6-0 of the Ferrocarril Carlos Antonio Lopez in Paraguay.

took a horse-drawn taxi (there were no motor taxis on hand) to the wharf in order to gain an early booking from Posadas. I remained on the train until it leisurely puffed off down the main street, an unsealed gravel road, past a military post, where a barefoot officer wearing a sword stood guard, to the riverbank and the end of the F.C. Lopez.

Here the train was divided and the through cars lowered by a steam-powered cable onto the deck of the steam, side-wheel ferry 'Pacu-Cua'. The ferry briskly moved across the muddy 2 Km expanse of the river where another cable hauled the coaches up to the Posadas yard. Entry formalities into Argentina were simple and the cars were hauled into the terminal station. Although only 2:00 p.m., we were upset to find that the train for Concordia, our destination, and Buenos Aires was not due to depart until 9:30 p.m. Despite this, a dense crowd was on the platform, many people lying stretched out, sleeping.

Luckily, Werther convinced the ticket office staff that we were 'very important people' and managed to get us a cabin in the 'dormitorio', usually held for politicians or the inevitable 'militars'. To kill a little time, we walked the streets of Posadas and looked around the railway yard. Finally the train was shunted into the station and a hysterical rush for seats followed. We were glad that our accommodation was reserved. The train was generally made up of very clean and modern coaches, our sleeper having been built in Cordoba, Argentina, to Fiat patterns in 1971. Although there are 4 track gauges in Argentina, new coaches on the 3 widest gauges are built to a similar pattern. The cars are painted a red-brown and are rather plain on the outside, with the yellow 'Ferrocarriles Argentinos' emblem.

It would be opportune to digress a moment on the composition of the Argentinian Railways. Slow to become established in the 19th Century, a tremendous expansion took place in the 1880-1910 period as competing British companies laced the rich 'pampas' beef and sheep-growing areas with a remarkable network of tracks. Argentina at one time had the largest population of British people outside of any British colony and many Argentines still have English surnames, although they may speak only Spanish. The bulk of the lines were built to the broad 5 foot 6 inch gauge (1.56 metres); however, many are of metre gauge, especially in the northern areas, having been built by the French or the Government of Argentina itself. Isolated by the twin Parana and Paraguay rivers from the remainder of the country are the provinces of Entre Rios (between the rivers), Corrientes and Misiones. Here operates the standard gauge tracks of the ex-F.C. Entre Rios, North East Argentine, and other smaller companies. The lines, with branches to the cities of Parana and Corrientes, run down to the riverbank at Zarate from whence trains are ferried across the broad 80 Km stretch of the Parana to Ibicuy where a single standard gauge line operates right into the Federico Lacroze station in Buenos Aires.

Many other railways with exotic names, such as the Buenos Aires & Pacific or the Central of Argentine, ran under private ownership until nationalized in 1948. Six regions were then set up, each named, in the Latin manner, after a famous general as follows:

F.C. General Roca	-	Broad gauge to the South and South-west
F.C. General Mitre	-	Buenos Aires suburbs and north
F.C. General San Martin	-	West to Mendoza
F.C. General Sarmiento	-	West and South-west
F.C. General Urquiza	-	The standard gauge operation in the Entre Rios region and to Paraguay; also an interesting electric suburban service in Buenos Aires
F.C. General Belgrano	-	Almost entirely metre gauge to the North and West and to Bolivia. Also a couple of 75 Centimetre gauge branches

The vast variety in locomotives and equipment may be imagined. However, in early 1972, steam was fast fading, the Mitre being entirely diesel, as was the Sarmiento; the Roca using steam only for shunting; none was seen on the San Martin. However, there was still a great deal of interesting equipment in use on the Belgrano and Urquiza lines.

Our train from Posadas was hauled by one of the ubiquitous General Electric C-C diesel electrics. After a well-served meal in the diner, we slept in our modern, elegant cabin. By morning we had arrived at the large town of Paso de los Libres, an important junction, and I photographed an old 0-6-0 shunter nearby. I had learned that the photography of railway objects was prohibited in this military-dominated country, as it had been in Brazil, so I used my camera with discretion. The railway operation was to the British system, with staff or tablet in use on single lines, with elaborate signalling and high-level platforms, and ornamented station buildings.

In the mid-afternoon we arrived in the large city of Concordia, which had sported a metre-gauge electric tramway until 1961.. The tracks were in position on each side of a level crossing at the station. We left the train there with Werther as we intended to make the short river crossing to Salto, a large town in Uruguay, and from there to take the train to Montevideo, the capital of that country. The river traffic had vanished over the years. Down by the ferry wharf was an overgrown branch line and an elaborate dock with transfer facilities between riverboat and train, however unused and neglected for years.

The Uruguayan side could be clearly seen, less than $\frac{1}{2}$ Km distant. There was some brief problem regarding stamps on passports, the Latin countries being quite obsessed with records, rubber stamps, visas and entry formalities. We had already chased our Uruguayan visas in several cities and had finally been informed that we did not need visas. The Argentinian ferryboat arrived and we boarded it. Half-way across we met the Uruguayan ferry heading in the opposite direction. It was a ludicrous situation. Two boats used for two daily journeys; each left its respective country loaded and returned empty due to some preposterous demarcation dispute.

Salto was an old, decayed and quiet town, also with abandoned rail facilities at the wharfside. There was no entry problem and we boarded an ancient taxi to the hotel. Salto is the third city of the small Republic and until about 1935 had had a horse tramway.

The long-abandoned tracks were still in the streets, matched by the neglected buildings. There appeared to be no buildings newer than 40 years old. It was like stepping back 30 years in time. No new automobiles were visible but there were dozens of well-maintained and forgotten makes in the streets: Ford A's, even an occasional T; Essex Super Sixes of 1929; Hudsons, Nashes and Packards. All the old cars were right-hand steering, a legacy of the drive-on-the-left rule which prevailed in Uruguay and Argentina until 1946-47. It was interesting to speculate upon the effect of the changeover on the Latin temperament and the many tramway systems which were operating at that time.

The Hotel Bristo cost us all of $2 for the half night we spent there. As soon as we unpacked, we took a bus to the railway station It was dusk and we had just enough time for a quick look at the station and steam depot.

In the 1940-50's, Uruguay rode a giant wave of prosperity due to the great demand for its meat and leather in Europe. That prosperity led to almost complete dieselization of the Administracion de Ferrocarriles del Estado (A.F.E.), mostly with unusual Alstholm diesel locomotives. Fortunately, many modern steam locomotives were kept in reserve as the country drifted into virtual bankruptcy, unable in recent years even to afford spare parts for the diesels. So, from being the first country on the continent to go diesel in a big way, the A.F.E. was forced to return its stock of steam to regular use, mostly on the north-western region from Artigas through Salto, Paysandu and the large steam depot at Paso de los Toros to Montevideo. Some N and X class 2-6-0's could be seen in the depot at Salto. We were rather shocked to find that our train to Montevideo was due to depart at 0230, rather an inconvenient hour. So we retired early for a few hours rest.

The train was made up of really vintage wooden coaches, most in appalling condition, with loose panels, flaking paint and many rattles and squeaks. We had come to recognize the Spanish phrase 'no funciona' (not working/operating) having heard it in Mexico. In our car the lights 'no funcionan' as the generator belt, in fact the entire generator was missing! However, it was all part of the adventure, and having our train draw out on time by a 2-8-0 oil burner was part of the pleasure.

It was not a particularly scenic journey, across the flat 'pampa' but the activity in the 'loco' in Paysandu and the first of several engine changes added variety. The railways of Uruguay also had been built principally by the British, attested to by the builders' plates and wrought-iron monograms on the coach bodies.

We waited at Algorta for the steam-drawn 'mixed' connection from Fray Bentos, and the weather was perfect for filming its arrival. However, trouble struck at a small village named 'Tres Arboles' (Three trees). That was in fact all we had to admire for the next 4 hours - three trees. We had come to recognize another ominous Spanish phrase: 'es un problema' (There is a problem).

LEFT: Trolley bus in Montevideo, Uruguay. BELOW: German-built 2-10-0 of the Administracion Ferrocarriles del Estado at Montevideo engine terminal. Wisely kept in reserve after the railway's early dieselization 20 years ago, many of these locomotives have returned to service in recent years as the country was gripped by depression and parts for the aging diesels became scarce and costly to replace.

In this case, 'un problema con la maquina'. An engine failure. Our 2-8-0 had broken a spring, so we waited in the pleasant sunshine patiently for the arrival of an Alstholm diesel to haul us 4 hours late into Montevideo's large and impressive Central station.

Now we were on Werther's home ground and he was invaluable. He has an executive engineering position with A.M.D.E.T., the municipal transport authority on Montevideo. This city of $1\frac{1}{2}$ million operates the largest fleet of trolley-buses on the continent, including some Italian articulated units. In addition my be seen some 1931 Leyland diesel buses with right-hand steering, still running by some miracles of maintenance. Abandoned tram tracks could be seen in almost every street in the city area; it was an extensive system, abandoned in the mid-1950's.

However, a unique situation prevails in Montevideo. The world's only tram museum operating in the street on original tracks. (Editor's note: Bendigo and Ballarat, Australia now have this distinction) The Asociacion Uruguaya Amigos del Riel, with the willing assistance of A.M.D.E.T. have restored an old 4-wheel tram to immaculate condition and have restored the overhead on almost 2 Km of single track and each Saturday and Sunday the 'tranvia' operates again and is even used by some as a normal means of public transport. It operates in an old quarter of the city; its terminus is within sight of the wide Rio de la Plata, an estuary of the Atlantic Ocean, and it runs around several bends to terminate in the yard of an abandoned electric power station.

Werther, although only 26, had an encyclopaedic knowledge of the tramway system, which had been British-owned. He knew the opening and closing dates of each of the many routes, the types of cars, everything, and had a large collection of photographs and slides. He took us on a visit to the carhouse which had been the last to be abandoned. It was in use as a storehouse for damaged trolley-buses.

We had hoped to ride a 'coche-motor' (rail-motor train) the 200 Km to a favourite resort of Uruguay, Panta del Este. However, a sudden strike by railway workers the day following our arrival regrettably prevented this. We consoled ourselves with a visit to the large locomotive depot and shops near the city where Werther, who seemed to know everyone in authority, arranged to have some steam locomotives moved into daylight for photography. Also on hand were some rare and unusual Alco diesels with a 'noseless' cab, of an identical pattern to those in use on the Alaska Railroad. There were several Henschel 2-10-0's built in 1950 on hand, together with several dead and dilapidated tank engines of the rare 4-4-4 wheel arrangement. These had been used on the defunct Montevideo suburban rail service. Double track was in use with colour-light signals for the first 15 Km out of Montevideo. We visited a signal box, power-operated, controlling the entry to the locomotive depot.

The rail system of Uruguay is entirely standard-gauge, a few narrow-gauge branches having long been closed. It contacts metre-gauge lines in Brazil at 3 border points but has no direct connection with neighbouring Argentina. There is talk of building a rail bridge across the river to join with the standard gauge F.C. Urquiza. Much of the passenger train mileage in Uruguay is operated with coche-motors, mostly old Brill units, and we were shown around the maintenance and repair shops by the director of railmotor services. One could only admire the perseverance shown in some of these countries in keeping such old units still running when even the original manufacturer was long out of business. The A.F.E. is in a bad way, mechanically and economically.

Breakdowns and strikes were commonplace and the equipment in use was the oldest we saw on the continent. Freight cars were about 90 per cent ancient 4-wheeled units and we did not see any passenger equipment apparently any newer than 30 years old. Werther told us that there is a strong move by the government to abandon the entire railway system of the whole country. Although passenger service is maintained on almost the entire railway system and a reasonable frequency is provided, the government also operates a competing system of fairly modern buses named O.N.D.A., and there is of course an internal airline named P.L.U.N.A.

We spent our last day in Uruguay admiring the impressive Jose Artigas Central Station and the trolley bus depot and that evening showed movies of Australian railways to the members of the A.U.A.R. and in return saw Werther's slides of the Porto Alegre system in Brazil.

As the strike was still in progress, we reluctantly rode an O.N.D.A. bus the 170 Km to Colonia where we boarded a large ferry boat for the 150 Km voyage across the Rio de la Plata to Buenos Aires. It was a slow but pleasant interlude and we were accompanied on the journey by our American friend, Bing.

It comes as a shock to encounter the enormous city that is Buenos Aires. One does not expect such a huge metropolis in South America. It is laid out on a strict grid system with narrow streets and broad avenues and its size is accentuated as it has no skyscraper buildings, being rather a homogenous city with endless blocks of similarly-sized structures, some very elegant indeed. The only operating underground railway in South America is in Buenos Aires, and it is rather an extensive system of four more or less parallel lines running north and south and a crosstown line, east and west, joining the other four at interchanges. Four lines use an overhead catenary, with small pantographs; however, line #8, which is the longest, running to the terminus of the F.C. Urquiza at Federico LaCroze station, uses the third rail. This is probably because an interchange exists between the subway and the F.C. Urquiza at this station. The interchange appears rarely used with the 3rd rail electrification of the Urquiza. It is in fact the only place where the subway comes to the surface, the storage tracks and shops are entirely subterranean, making photography difficult.

The Subterraneo de Buenos Aires, called the 'subte' locally, is a clean and well-run operation with cars apparently of 1930 vintage. No modern looking cars were seen, some indeed having wooden coachwork and semi-automatic doors. It is of standard gauge and the livery is blue and white and trains are generally of 6 cars. Tokens are used and placed in automatic turnstiles. The tokens carry an advertising slogan for YPF, or 'Yacimientos Petroleos Fiscales', the government-owned petroleum corporation, and pronounced 'eepay-efay'. The services are frequent and efficient and even in rush-hours are not hopelessly overcrowded. The crosstown line is interesting inasmuch as its respective termini are the huge surface railway station complex of Retiro, actually 3 stations together: the terminals of the Mitre, San Martin and Belgrano Railways, and Constitucion, the giant terminal of the F.C. Roca. A good map of the 'subte' is available, colour-coded, and was a great help. The tokens were 5 for 1 New Peso, or about 2¢ U.S. per

Ex-Key System m.u. cars at Federico La Croze Terminal of the Ferrocarriles Urquiza, Buenos Aires, Argentina.

ride. The S.B.A. was privately owned, but is now operated by the City of Buenos Aires.

The tramways of Buenos Aires, abruptly abandoned at the end of 1962, surely must have been one of the great tramway operations of the world, judging by the remarkable amount of abandoned track still visible. In almost every street of the city there used to be a curb-running tram route. Werther told us that it was entirely run with 4-wheeled cars, but with some unique features, such as a branch line to the big Quilmes brewery and the delivery of beer to retail outlets by special 'beer tram'. Trolley buses also were in use, according to a map I saw in Retiro station, but no traces remained. Instead, local transportation is in the hands of the 'subte', taxis, and 12,000 gaily coloured and decorated, privately-owned 'colectivos' or 'micros', being small, mostly Mercedes-Benz buses of an old design. This is a typical Latin situation where the local government or transit authority bows out and hands over the city transport to ultimate private enterprise. Each bus is owned and operated by one man, or a small group, called a 'sindicato' whereby running expenses are shared and revenues pooled. The buses do run on a fixed route, but the colour scheme and decoration of each bus is an individual thing, giving great opportunity for Latin 'machismo' or flair. Most buses have fancy hub-caps, exotic gear-shift knobs, and all kinds of chrome work and decorative fringework internally.

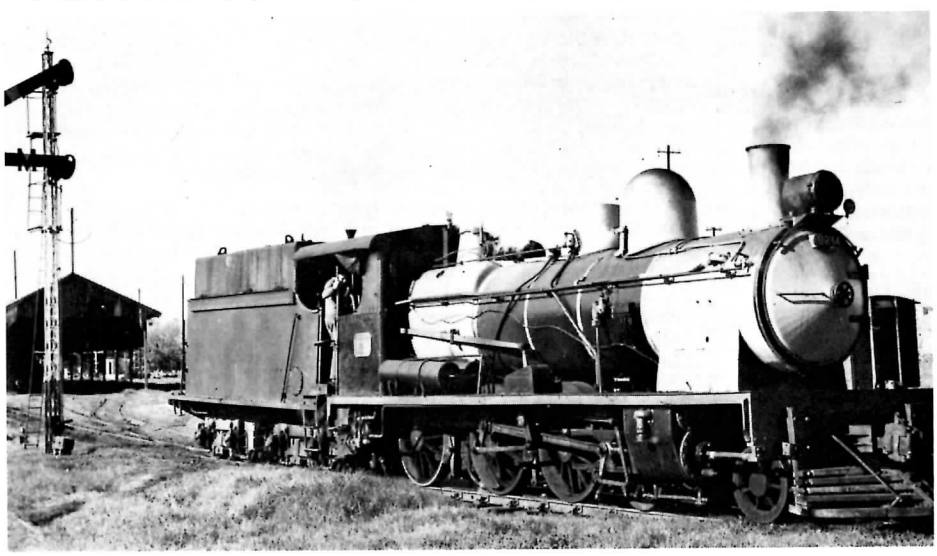
Nevertheless, like most bus operations, the service is sporadic, jerky and uncomfortable, and 12,000 buses do little to alleviate air pollution and traffic congestion. However, this type of bus operation exists in most South American cities. Fortunately an extensive suburban train service operates from all the city rail terminals. The most interesting of these was that operated on the standard gauge F.C. Urquiza from Federico La Croze station.

From a 5-track station, also used by the long-distance trains, interurban electric multiple unit trains run northward on a main line about 45 Km to a huge military complex at Campo de Mayo, and also a short branch leading off the main. The system is 3rd-rail with overhead used in sidings and yards. The equipment is all ex-North America with articulated trains from the San Francisco Key System, some cars still in their original livery; and the balance being classic interurban cars from the Pacific Electric Railway in Southern California. There are also a few small Westinghouse steeple-cab locomotives in use for switching and freight transfer. All the cars are well maintained in the electric car shops at Villa Lynch. On the other side of the track at Villa Lynch is the steam depot of the F.C. Urquiza. At the time of our visit there was a great deal of activity in the steam shops and quite a variety of locomotives, including an ancient 4-4-0, built by Kerr, Stuart in 1914, and even an old 2-6-0 from Dubs in 1886! We visited this depot twice. On the first occasion, we were spotted by a signalman in his cabin who shouted when he saw my cameras. On our return to Villa Lynch station 200 metres away, we were immediately approached and questioned by two sinister-looking members of the 'Policia de Buenos Aires', who demanded our 'documentos'. I had nothing official, but managed to convince them of our harmless intent by showing them photographs of trains in other countries and our Pases Americanos. Next day we visited the office of 'Relaciones Publicos' and a colonel there (all executive positions throughout Argentina are filled by military men) gave us the necessary 'autorizacion'. Tremendous strategic value in 80-year old locomotives and 40-year old commuter trains!

On our next visit to Villa Lynch, we had as escort, a traffic inspector of the F.C. Urquiza who took us on a detailed inspection of the electric and steam shops and proved that at the railway worker level one almost always receives a friendly and interested reception We spent some time in the modern electric signal box at Federico LaCroze filming movements of commuter and express trains and even spotted the tail-end of a train of the 'subte' just peeking out into daylight on the steep exchange track. Steam on the F.C. Urquiza in the Buenos Aires area was restricted to freight and transfer movements; long distance trains, made up of new coaching stock, are hauled by new G.E. diesels.

The Federico LaCroze station appeared a modern structure, in contrast to the Retiro terminal of the F.C. Mitre and the Constitucion station of the F.C. Roca. These were gigantic British-style stations, built in the grand manner with domed roofs, bookstores, ornate wrought-iron grillework and huge, tiled washrooms and elegant restaurants. Passenger travel by train is still big business in Argentina in contrast to Brazil. The Ferrocarriles Argentinos pursues passengers; in a sophisticated shopping arcade in the most fashionable section of Buenos Aires, the F.C. Argentinos have recently opened a modern office catering to passengers with seated berth reservation services and colourful pamphlets describing such long distance trains as 'Lagos del Sul' (Southern Lakes) which runs 1700 Km to Bariloche in the southern Andes and 'El Gran Capitan' which heads north-east on the F.C. Urquiza to the Mesopatamia region of the country.

These trains have new coaches and elegant dining cars. The extra-fare 'Los Arreyanes' even has a special car in which movies are shown on the long journey. The extremely popular coastal resort city of Mar del Plata, 400 Km south of B.A. is well served by passenger trains, including the crack 'El Mar del Platense',



French-built 4-6-0 #8214 of the metre gauge F.C. General Belgrano switching at Estacion Buenos Aires in July, 1972. (Doug Sheldrick)

which also hauls a flat car for passengers' automobiles.

We rode on a diesel-hauled ordinary train from Constitucion station to the city of La Plata, the capital of Buenos Aires province. The trip took us through the heavily settled and industrialized suburbs of Buenos Aires and by the vast yards, shops and locomotive depot of the F.C. Roca at Remedios de Escalada. There no longer appeared to be any main-line steam operation on the F.C. Roca, or any of the lines out of B.A. for that matter. Many steam locomotives were noted in the depot, out of service, probably forever. Coach switching in Constitucion station was still handled principally however, by a modern-looking and well maintained 2-6-2T and 2-6-4T engines.

The main line was 4-track to Temperley, a station name emphasizing the great British influence on Argentinian railways. The signals were elaborate, on gantries at junction, and the stations well roofed with Victorian-type 'gingerbread' decorations and ornamental woodwork and wrought iron.

La Plata was the last city in Argentina to operate street cars, and many tracks remained in place. The last tram ran in 1967 according to the station master in La Plata. On the return to Buenos Aires, we rode a Fiat 'coche-motor' (rail motor) via an alternative route. The following day, we rode to the popular resort of 'El Tigre' boarding a multiple-unit, third-rail electric train of the broad gauge Mitre Railway from Retire station. This is the only electric railway in Argentina, other than the quasi-interurban operation of the Urquiza and the 'subte', and it runs northwards from Retiro to the old-world type atmosphere of rowing and tennis clubs in Tigre. Tram tracks were evident outside the Tigre station, but no information relevant to any operation there was forthcoming. There is a busy commuter operation out of the three stations at Retiro.

We stood by the tracks 2 Km north of Retiro and the passing trains on the 3 separated and elevated multiple tracks were of great frequency and variety. The yellow and red m.u. trains of the Mitre contrasted with the old russet wooden cars of the metre gauge Belgrano and the brown coaches on the F.C. San Martin, together with an occasional freight or long distance passenger train. The locomotive depot of the Belgrano was nearby with considerable steam-powered switching. A pair of extremely rare 0-6-4T's, coupled together, stood at a signal awaiting release onto the main line. They were Kitson-built in 1911, but inspection revealed that they had been converted from 2-6-4 wheel arrangement.

Close to Retiro station, on a broad avenue, is the newly-opened Railway Museum, operated by F.C. Argentinos. The curator was very enthusiastic, but he had really little to show, despite the great deal of old relics and equipment which must be scattered around the country. Many of the exhibits, such as telephones and ship models seemed rather irrelevant to such a museum. However, it was good to see that an effort is being made to preserve some of the remarkable history of railways in that vast country.

As usual, the night we had chosen to travel to Bariloche was the night that the sleeping car was not operating. So, we decided to pay a supplementary fare and travel in the 'Pullman' with air conditioning and reclining seats. We felt a little apprehensive as soon as we boarded the car in Constitucion station and took our seats. A pungent and pervasive odour of dust was very noticeable, and when one struck the plush upholstery, a puff of dust erupted.

Departure was on time in the early evening and the train was a named one: 'El Tronador' (The Thunderer), after a high mountain in the Andes near Bariloche. Our coach was about two thirds full, mostly with people travelling the whole distance, or to Bahia Blanca, a large port city about half way to Bariloche.

The dining car was modern and elegant, but the disappointing aspect was the poor menu, limited to one fixed dish, plastic chicken, it being meatless-week. Nevertheless, the service was excellent and the smooth ride and half a litre of red wine helped to overcome the lack of a sleeping berth.

The Argentinian 'pampa' (prairie) is flat, featureless and limitless, being puctuated occasionally by a small town, and appears green and fertile with herds of cattle and even a few Argentinian ostriches running quickly from the train. Although the track was flat and the locomotive a new G.E. diesel, speeds were not high; we rattled across the pampa at an average of 75-80 k.p.h. Probably the reason is that the track, although broad gauge, is laid directly on the surface of the pampa, without ballast, as there is no rock or gravel at all in the pampa, it being prohibitively expensive to bring ballast hundreds of kilometres from the north.

We reversed into the large station in windswept Bahia Blanca where a beautiful old wooden car was attached to the train. As we inspected the exterior of the coach, we were asked by its escorting conductor whether we would like to examine the inside. It was the Superintendent's inspection car and was being taken to Ing. F. Jacobacci station, the junction for the 75 Cm branch to Esquel in the foothills of the Andes. The car had been built by the F.C. Roca shops to an old design and was fully equipped with kitchen, showers, heaters and large armchairs. Although limited on both sides by the language barrier, we communicated well with the friendly railway worker who called in the ticket inspector and guard to the conversation. They paid us the supreme compliment of inviting us to share a gourd of fresh-brewed 'mate', an extremely popular drink amongst the people of Paraguay, Uruguay and Argentina. Having previously experienced this concoction I accepted only to appear friendly, as mate is very much an acquired taste, resembling boiled lucerne and tasting like swamp water.

The agony began after leaving the bleak and barren town of Carmen de Patagones. The fertile grasslands of the pampa had given way to the sandy wastelands of Patagonia, a sparsely inhabited area which continues for another 2000 Km to Cape Horn. We turned west, away from the sea and across a virtual desert. The interior of our coach filled with clouds of choking white dust and the remainder of the journey was an ordeal. Although the car was equipped with Hitachi heating and air-conditioning machinery, apparently it was malfunctioning, or the crew was unaware of the operation as a vent somewhere beneath the car remained open and scooped in so much dust that we were covered with a grey-white film and at times one could not clearly see one end of the car from the other. This unpleasant travelling continued until almost our arrival in Bariloche when someone seemingly closed the vent.

Unfortunately we did not linger long enough at Ing. Jacobacci to see any action, or indeed any locomotives of the 75 Cm Esquel line. Although this station is the commencement of the 75 Cm line, the physical junction is about 30 Km west and the line is mixed gauge to the junction and quite odd to view, the tiny 75 Cm tracks between the wide 165 Cm broad gauge rails. There are Henschel and Baldwin locomotives on the entirely steam operated branch. Other 75 Cm lines run in the far north of the country, engaged in the timber traffic in the forests of the Gran Chaco.

Bariloche was a pleasant mountain resort in a rather Swiss atmosphere set in the foothills of the Andes. It is very popular in winter for winter and snow sports. It is also the home of many ex-Nazis who own stores and restaurants and are quite evident in speaking Spanish with heavy German accents.

After a day or two there riding on ski lifts and eating giant beefsteaks, we boarded a bus for the elaborate and highly scenic journey by mountains and lakes to Puerto Montt in southern Chile. Three lakes are traversed on this trip, the intervening sections through dense forests being by bus.

TO BE CONTINUED NEXT ISSUE.....

(The Scotts' experiences on the railways of Chile, their trip by rail back across the Andes, a look at the railways of northern Argentina, Bolivia, Peru and Ecuador)

Toronto's P.C.C. Rebuilding Program

(All photos, Ted Wickson)

In 1971, the Equipment Department of the Toronto Transit Commission was beginning to have serious doubts about the life expectancy of its fleet of 394 active P.C.C. cars that ranged in age from 19 - 24 years. Although Commission policy at that time called for a gradual closing of street car lines through the 1970's with the last surviving routes to be the heavy KING and QUEEN lines (scheduled to be replaced by a Queen Street subway about 1980), the TTC was concerned with being able to keep a large number of these cars in good running condition for at least another 10 years. The date for a Queen subway was still very much an unknown and it appeared that street cars would be required on the heavy downtown corridors for many more years than previously anticipated. Given the present level of maintenance, high by anyone's standards, TTC's Hillcrest Shop still could not guarantee that cars in the shop for general overhaul would continue to experience that many more years of trouble-free operation.

In October of 1971, it was decided to undertake a study to determine the feasibility and cost of extending the life of the Commission's street car fleet. P.C.C. 4362, already in the shop for general overhaul, was selected to be the subject of this study, and as things turned out, the prototype for the massive rebuilding program that would follow. After 4 months in the shop, 4362 was released from Hillcrest on January 7, 1972. This prototype car proved the feasibility and cost-effectiveness of a major rehabilitation program and accordingly the Commission approved a program of similar heavy overhaul for 50 P.C.C.'s in 1972.

With only one production line set up, it was decided to carry out the overhaul work, one class at a time. Therefore, 20 class A6 cars would be first, followed by 20 class A7 (MU) cars, and finally 10 class A8 cars. The P.C.C.'s would be selected from each class at random; the usual criteria for deciding to rebuild a car was body condition or if the car had been rendered unservicable due to collision damage or an electrical burnout. Cost of the 1972 rehabilitation work was put at $16,000 a car. Initially, there was some delay in 'tooling up' for this work but once the assembly line had been set up, the program called for a P.C.C. to come off the line every fourth working day.

Hillcrest Shop was indeed a busy place for the first 6 months of 1972 as the street car rebuilding operation was set up adjacent to the trolley coach rebuilding work that was still in full swing. Every last square inch of shop space was taken up. As the trolley coach rehabilitation work wound up (the last coach, 9299, came off the line Aug. 16/72) some of these shop forces were transferred to the P.C.C. program. By the end of 1972 a total of 44 cars had been outshopped, including the protype.

Following its historic decision on November 7, 1972, to retain street cars, the Commission approved an accelerated P.C.C. rebuilding program. Plans called for the completion of 75 cars in 1973 at a revised unit cost of $18,000.

The 1973 program involves two production lines--one line turning out 50 single units (classes A6 & A8) and the other line handling 25 MU cars (class A7). Class A8 P.C.C.'s were the first group of single units to be rebuilt this year because the same class was already on the line as last year's program came to a close. In full production there are 8 cars on each line in various stages of rehabilitation. This year's schedule calls for three cars to come out of Hillcrest every 8 working days: 2 single units and 1 MU car.

There are twice as many men assigned to the single units as to the MU cars. This stepped-up program has required additional manpower. Good bodymen seemed to be the most difficult to recruit, no doubt because the automotive industry was also hiring and paid more. A record number of men, 101 in all, are required for all phases of this work. Work on the single units totals 2350 man hours and on the MU cars, 2500 man hours. All work is performed in the day shift, Monday to Friday; however, some work has been done on Saturdays.

UPPER: After the car is stripped, the frame is exposed and can be strengthened where needed by welding new members into place.
LOWER: Welding a new body sill.

A summary of the work done to each car, including the many innovations, is as follows:

* Each body is stripped to the frame and new structural body beams and supporting members are welded into place, where needed.
* Extensive body work; replacement of even the smallest of rusted sections with complete new metal panels (use of body filler is kept to an absolute minimum)
* Replacement of 70% of all electrical wiring
* A new one-piece wooden underfloor and a new floor covering made of a rubber derivative containing additives to increase its 'non-slip' nature
* Fibreglass step wells (front and centre)
* Fibreglass rear roof section and trolley base
* Relocation of electrical conduit to the heating ducts and its enclosure in plastic pipes to mimimize exposure to the elements
* Complete overhaul of all electrical units--motors, accelerator, etc.
* Complete overhaul of trucks
* A wax-base undercoating replaces the former asphalt-base undercoating.
* Galvanized steel drawbar boxes, modified for easier access
* New cab heaters for the motorman
* Reduction in the overall seating of 52 to 46 by the removal of 3 double seats on the closed side, opposite the centre doors; this action is to improve traffic circulation at the exit doors.
* Installation of front water bumpers (filled with a brine solution in winter); application of these bumpers started in mid-1972 (first applied to 4380, Aug./72) and cars previously outshopped are being recalled to be so equipped.
* Use of nylon slides for the accelerator rods instead of steel pullies which tended to rust
*New interior decor changed to match that of the H-2 subway cars--"Tampa Tan" (ivory) ceiling, "FM 41 Brown" (dark) enamel seat backs and arm rests, "Bittersweat" (brown) side walls (where there is no use of wood grain paneling), the use of wood grain arborite in the side walls, modesty panel, and at front of the car, and finally, new orange and tan upholstery.
* Complete repainting; exterior paint distribution is unchanged (subway red enamel and cream with grey trucks). However, the insignia decal has been moved forward to allow the installation of a large advertising frame. Two small number decals (subway type) now appear under the dash lights as opposed to the former single, large number centred below the headlight.
* Large steel dash lighting shrouds (often a source of corrosion from winter salt) replaced by small plastic hoods with amber lenses to act as marker lights

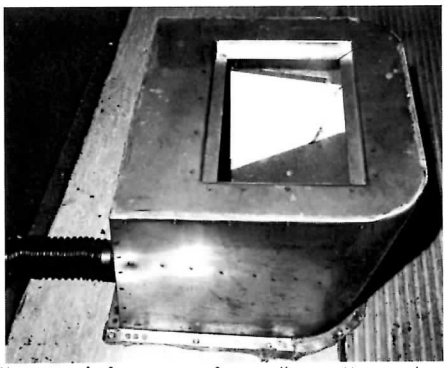
LEFT: Work on the battery box during early stage of rehabilitation. Accelerator (shown at bottom) has been removed and will be overhauled on the bench.

UPPER: Rewiring is a major operation. Here, underneath the car, the voltage regulator gets attention.

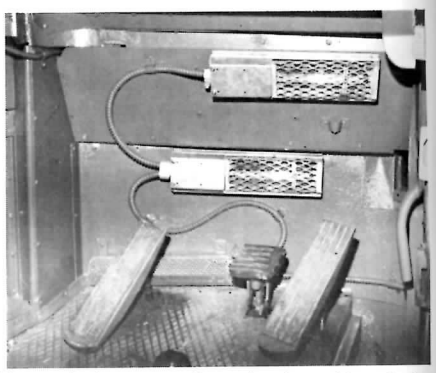
MIDDLE: Much of the electrical conduit is relocated to plastic pipes in the heating ducts.

LOWER: Moulded fibreglass rear roof section and trolley base replaces the former metal units which were always subject to corrosion.

Adjusting the fingers on a PCC accelerator.

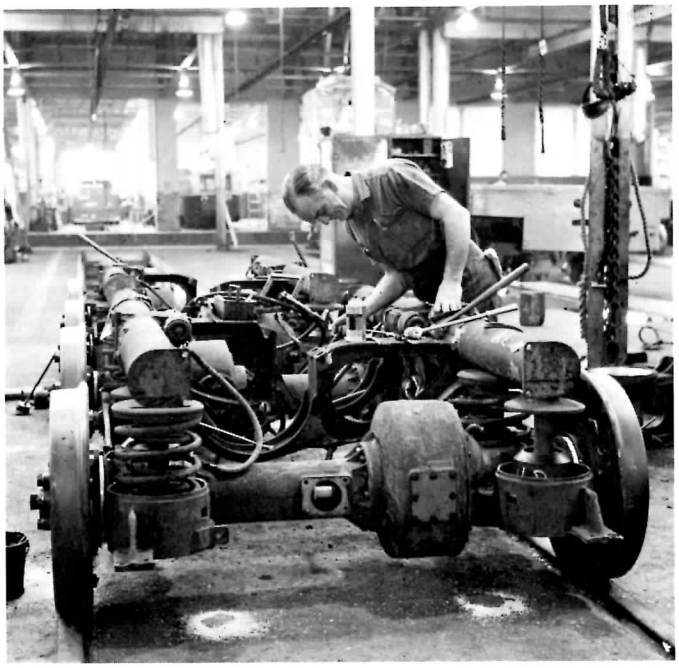


New stainless-steel sandbox. Note the rubber hose from the heating duct.



New cab heaters for the benefit of the benefit of the motorman. Installation of such heaters actually commenced in 1970 before the rebuilding program had been set up.

A pair of PCC trucks being overhauled. Motors have been removed for repair elsewhere in the shop. Although easily remedied by arc welding, the increasing occurance of hair-line cracks in the truck frame in recent years has caused some concern among shop personnel.



Armature that has been turned on the bench is dipped in varnish before motor is re-assembled.

Nearing completion, MU car 4485 awaits installation of seats. Note the new sandboxes at front of car and the new flooring. July 20, 1972.

It is quite obvious that many of the innovations described represent a big improvement over 1948 era technology, particularly in rendering the cars immune from the elements; however, TTC's estimate of a 10-year life expectancy seems quite conservative. In many respects, these P.C.C.'s are virtually brand new cars and it would be reasonable to expect 15-20 years of useful service from them.

The street car rebuilding program has been progressing well this year. By year's end a grand total of 121 units will have been turned out of Hillcrest. 1974 will see this program wind up, slowly, with only 29 P.C.C.'s (single units only) to be completed, bringing the final total to 150 rebuilt cars. Costs have continued to creep upwards; next year's cars will have a unit cost of $20,000. Some of the work force will be reduced by attrition and others will be transfered to work on buses.

TTC's 150 rebuilt cars will be joined by 200 completely new light rail surface cars whose design specifications are expected to be known before the year's end. It is possible that the remainder of the A6, A7, and A8 P.C.C.'s may still get rebuilt but the balance of the fleet--all the groups of second-hand cars--will most certainly be retired when the new surface cars arrive in 2-3 years time.

The P.C.C. today is the real workhorse of surface transit in Toronto and it is destined to become (if it is not already so) as much an institution to Torontians as the Peter Witt car had become a generation ago.

UPPER LEFT: Preparing a PCC for the application of 'standard TTC red' paint. The Paint Shop is a busy place and is often the scene of many a bottleneck when many vehicles in for repair all vie for their new livery at the same time.

UPPER RIGHT: Frontal detail of rebuilt PCC 4525. Brackets for mounting water bumpers are welded to anticlimber. Collision experience with these bumpers has led to their being shifted higher.

LEFT: Profiles of the two generations of "Red Rocket". Freshly outshopped A8 class PCC 4536 poses next to small Peter Witt 2766 at St. Clair carhouse, Feb. 11, 1973. 2766 would enter Hillcrest the following week for its rebuilding in connection with its Tour Tram career.

BELOW: A fine sight indeed. Rebuilt PCC 4539 on 2 run BATHURST, waits its time at Exhibition Loop on a quiet Sunday morning, June 10, 1973.

TRACTION TOPICS

BY MIKE ROSCHLAU

* Bad news is imminent for the eastward extension of the Bloor-Danforth subway line. An 18-month study is currently underway to determine the best route for the provincial government's GO-Urban elevated transit system and the best way to connect it to the subway, whether at Warden or Kennedy Avenues. Therefore, the 1.6 mile, $37-million subway extension will most probably be delayed for a while. As a result, construction may very well be speeded up on the westerly extension of the subway to Kipling Ave., and Metro Chairman Paul Godfrey even predictsthat it will reach Mississauga soon, after a regional transport authority has been established.

As for the Spadina subway line, Metro Council has authorized the acquisition of 235 properties, including ravine lands along the five mile right-of-way required for the construction of the line. Bids for the first construction contracts will most likely be called next spring.

The TTC has determined that it is essential to build a Queen subway line into Toronto's central core to serve large redevelopment projects. Priority should therefore be given to this line, rather than to an Eglinton Ave. line. Recent passenger counts taken by the TTC along King and Queen Streets, and along Eglinton Ave. showed that the need for a Queen subway is greater. Furthermore, considering all of the downtown projects currently planned and under construction such as the Royal Bank complex, Eaton's Fairview, Bank of Montreal and Metro Centre, it is clearly necessary that an additional rapid transit line be constructed through the core. The only way out of the busiest downtown area bounded by Yonge, Front, Bay and Queen Streets at present is via the Yonge subway line (the University line is too awkward for most people working in this area) and therefore it is most crowded. This is extremely more evident south of the Bloor interchange than to the north. Therefore, if the Queen line is somehow built to connect with the Bloor-Danforth line on one or both sides of Yonge St., it would greatly reduce the pressure presently on the Yonge and Bloor-Danforth lines. The Spadina line is said to be able to accomplish this, but all it would do is overcrowd the lines south of Bloor St. even more than they are now. The Queen subway line is the only answer.

* Construction of a 10-mile, $400-million subway along Queen St. has been approved in principle by the TTC. The line would run from the Humber River or Roncesvalles Ave. in the west to Greenwood Ave., then swing north to terminate near the Don Mills Rd. and Eglinton Ave. intersection. The location of stations and construction schedule have not yet been worked out. The feasibility of operating the LONG BRANCH, KINGSTON RD., DOWNTOWNER, and the eastern portion of the QUEEN streetcar lines through the subway in addition to heavy rapid transit is currently being studied. This would enable the streetcars to pick up passengers along the routes outside the subway and then bring them directly underground to downtown stations without any change of vehicle required, such as in Philadelphia, Boston and many European cities.

* Edmonton City Council has committed itself to a rapid transit system which it to be in operation by 1978. The line will run from 128th Ave. in the northeast section to Jasper Ave. in the heart of the city. In approving the $28-million system, the council placed itself on a program of restricting freeways from developed urban areas. The rapid transit line is a key link of a general transportation plan for Edmonton which operates on the movement of vehicles, rather than their storage. The plan says that the system will shorten travel, minimize parking, limit auto congestion and bring huge financial savings. It is being built with expansion north in mind, and will be part of a plan calling for a ring-road around the city with a green belt buffer between the freeways and the development. Immediate spending of $150,000 for design and $350,000 for property acquisition for the rapid transit system has been allocated, and contracts could be awarded by January 1974, depending on winter works funds being available. Although the operating plans for the rapid transit line are still somewhat up in the air, it appears that this will be an example of intermediate capacity "Light-Rail", with provision for upgrading to heavy rapid transit at a future date. A commitment on car design must be made soon, probably by mid-1974.

* It has certainly been a while since there has been a streetcar wedding in Canada, let alone in North America. It was a great event for Brian and Diana Moonie on Sept. 29, 1973 in one of the TTC's restored Peter Witt streetcars, #2894. The action began at 2:30 p.m. at the Canadian National Exhibition grounds where the car picked up the 50 wedding guests. The car then proceeded north on Bathurst St. to Wolseley Loop where the groom and best man boarded the car in their white-tie-and-tails dress suits with top hats tucked under their arms. On Queen St., the bride and two attendants stood waiting to board the streetcar. After returning to the exhibition by way of a round about route, the Rev. Kenneth Oates had formally married the couple. TTC operator Charles Price, later complained to himself about quick stops, the minister leaning on the buzzer cord and the two times the trolley pole slipped off the overhead wire.

* The TTC has suggested that there should be stiffer penalties handed out to people convicted of committing violence on the transit system; especially assaults against TTC personnel such as drivers. Violence on Toronto's subway system has lately risen a little, but at no alarming rate. Toronto is still by far the safest city in North America.

* The TTC is presently trying to solve its most frustrating problem in the 25 years since it began building subways--how to remove the noise and vibration caused by trains operating on the new North Yonge Subway Extension. Meanwhile, many residents who live close to Yonge St. between Eglinton Ave. and York Mills Rd. claim to be driven slowly out of their minds by the rumbling trains. The TTC has hired an acoustical consultant from Oakland, California who made five recommendations to the TTC on how to reduce the disturbances. Four of the five were tried, but they all actually made things worse. The fifth suggestion is now being tried. This involves the installation of thick rubber pads between the rails and the concrete roadbed. The TTC has even gone so far as to purchase two houses on Ivor Rd. (between the City Limits and York Mills Rd.) to be used as field laboratories to study the vibrations with sophisticated sound measuring equipment.

* The Royal Ontario Museum (ROM) won quick approval from the TTC for its plans to instal glass-enclosed exhibits in the Museum subway station mezzanine and platform levels. The ROM displays, placed in special security cases and changed every four or six months, would make the subway station more interesting for passengers and also encourage visits to the museum. This idea originally came from the Louvre in Paris, which has similar displays in the Paris metro station adjacent to its building. The Metro Toronto Library Board is currently negotiating with the TTC to put a public library branch in a subway station.

* The TTC at its meeting of March 14, 1973 authorized the sale of two work-cars (W-4 and W-8) and one crane car (C-2). Bids were invited from four scrap dealers and from the Ontario Electric Railway Historical Association (OERHA). The high bid was received from Messrs. Rotblott & Sons Ltd., scrap dealers, in the amount of $516.50, while the OERHA's bid of $511 was received one day late. In view of the historical value ot these cars and in spite of the lateness of the bid, the TTC did the railfans a favour and accepted the OERHA's offer. Car W-4 will be preserved as an historical vehicle built in 1904 and parts will be used from W-8 and C-2 to restore radial car 416 (see pg. 62, March/April 1973 NL) and crane car C-1, both of which are now on the association's property.

Looking south on Mt. Pleasant Road at Heath. Crane C-2 lends a hand with track construction during the ST. CLAIR route extension to Eglinton. August 24, 1925. (TTC)

Artist's impression of the Boeing-Vertol Light Rail Vehicle in the San Francisco Municipal Ry. configuration.

* The Massachusetts Bay Transportation Authority (MBTA), in Boston, has announced that the long-awaited revitalization of the Green Line is underway in preparation for the arrival of the new, faster, more comfortable subway-surface cars from the Boeing-Vertol Co. in 1975-76. Two federally aided programs--one, to upgrade the system, and the other to purchase new equipment--are designed to improve the performance, efficiency and amenities of Green Line service that about 150,000 passengers use each working day. The System Improvements Program includes re-construction of the roadbed and installation of new continuous welded rail on the Highlands Branch (Riverside Line - D) that serves the western and southwestern suburbs; improvements to the raodbed, track and clearances in the central subway that is also the downtown Boston and Back Bay distributor for the Red, Orange and Blue lines; modernized power distribution facilities; improved signalling and communications systems; new and renovated maintenance and repair facilities, and improvements to surface stations. During the Highlands branch reconstruction, to be done in three phases, there will be, of necessity, disruptions in the streetcar service. Under Phase One, reconstruction between Riverside and Newton Highlands, buses are temporarily being substituted for streetcars and operate to or as close as possible to the intermediate stations for about 3 months starting Sept. 8, 1973. Under Phase Two, reconstruction between Newton Highlands and Reservoir, single track streetcar service will operate, starting in March 1974. Under Phase Three, reconstruction between Reservoir and Fenway Park, Highlands Branch service, starting next June, will be rerouted via the Beacon St. line by means of a connecting track to be built at Reservoir. The Highlands Branch reconstruction is scheduled to be completed in late 1974. Other planned improvements are expected to be under contract by next spring, and the entire System Improvements Program should be completed in 1976. Meanwhile, 150 new Light Rail Vehicles (streetcars) have been ordered. When riding the new LRV's, significant improvements will be evident. They will be faster and more comfortable--air conditioned in the summer and heated in the winter; starting and stopping will be extremely smooth; continuous fluorescent lighting will be installed over the seats; windows will be tinted; getting on and off will be easier; two-way radios and a public address system will be installed; and noise and vibration will be reduced. Three prototype cars will arrive for testing in the spring of 1975. The others will come in at a rate of 20 per month starting in the fall of 1975 with the entire order delivered by mid-summer 1976.

* Hopefully the streetcar will soon make a comeback in Philadelphia. The Southeastern Pennsylvania Transportation Authority (SEPTA) has placed two rehabilitated cars into service and plans to order 140 new cars from Boeing-Vertol Co. in late 1974. These cars will be similar to the ones ordered by the MBTA in Boston and the MUNI in San Francisco. Many of SEPTA's 12 present routes may be altered to gain private right-of-way for operation at higher speeds.

* Franklin Inglee Young, who stepped down as Chairman of the TTC last June after a lifetime career in aviation, died on October 11 in St. Michael's Hospital in Toronto after a brief illness. Mr. Young, 64, began his aviation career during the heyday of the bush pilot in 1927, ending 43 years later when he retired as general manager of Air Canada's central region based in Toronto. In 1970 he was appointed to the TTC, where he had worked as a water boy during his summer vacations 50 years before. He was known as the quiet member of the commission led by former Chairman Ralph Day, whom he succeeded last year.

* The Ontario governments's plan to set up a Metro Toronto based regional transportation authority stretching from Hamilton to Oshawa and north was endorsed strongly by the TTC's general manager in Halifax on October 10. J.H. Kearns told 1,600 delegates to the annual conference of the Roads and Transportation Association of Canada that as cities grow and adjoining urban areas expand, municipal transit systems cannot be restricted by political boundaries.

* In an interview at the annual meeting of the American Transit Association in Miami Beach Florida, TTC Chairman Karl Mallette said that the entire taxicab industry in Metro Toronto should be taken over by Metro Council and operated as an extension of the TTC. He said that all cabs should be owner-driven and the owners should receive a guaranteed minimum wage comparable to that paid TTC operators. However, the taxicab people were not nearly as enthusiastic about this idea as Mr. Mallette was; it would cost Metropolitan Toronto taxpayers millions of dollars a year and is utterly ridiculous, was the opinion of Lou Freedman, former president of the Greater Toronto Taxicab Conference.

* When city planners in Houston Texas proposed a county-wide transit authority with broad taxing powers to solve the city's growing traffic problems, most observers thought it would get wide support even though only 3 per cent of the people ride the city's small private bus line. They were wrong. A referendum on October 6 that would have established the Houston Area Rapid Transit Authority (HART) was defeated by a three to one margin. Among the factors that affected the outcome were the failure of HART supporters to translate public irritation with the traffic snarl into favourable votes and the effectiveness of a new campaign-contribution reform law in drying up pro-transit campaign funds. But probably the single most important element in the proposal's defeat was that the tax to pay for the transit would have been an "emission tax" on all vehicles ranging from $4 to $15 depending on the size of its engine. According to W.C. Williams, HART Chairman, Houston was the guinea pig testing the effects of the new law, and it hurt something awful.

TTC car card introduced this summer.

* On October 2, Metro Council finally approved the $13.5-million electric monorail type ride for the new Metro Toronto Zoo. It will be built by Bendix Systems of Canada and will operate on a 3.5 mile route within the 700-acre zoo. It is estimated that the ride will not be finished until early 1975, approximately eight months after the official opening of the zoo next summer. The ride will be purchased outright by Metro but leasing proposals from private forms for parts of the ride over a term of 15 or 20 years will be considered. The Bendix system requires construction of a concrete trough about eight feet wide through the valley area of the zoo and visitors will sit in enclosed, rubber-tired electric trains travelling at about four miles per hour. The trains will each hold 40 passengers and be heated in winter and air-conditioned in the summer.

* The last remnant of the Third Avenue Elevated line in New York, which in its prime sped passengers by blighted neighbourhoods from South Ferry to Westchester County joined the past last April. The final train on the $5\frac{1}{2}$-mile stretch between 149th street and Gun Hill Rd. in the Bronx made its last run at midnight on April 29, 1973, ending 85 years of convenience and fresh air to riders and an equal period of gloom and squealing wheels for residents along the right-of-way. The service along the line was taken over by a fleet of air conditioned buses which stop near the old stations.

* The conversion of TTC's ROGERS RD. streetcar route to trolley coach operation has been tentatively set for July 21st, 1974, subject to delivery, in good time, of some new overhead fittings now on order. Trolley coach operation between Bicknell and Jane will probably never come to pass as a study of the potential traffic from this section has shown that patronage would be far below that which is usually associated with the operation of such vehicles. However, a diesel shuttle bus service will be set up over this section, with a route designation, HUMBER BLVD. If this shuttle service grows in popularity, consideration will then be given to extending the trolley coach operation from Bicknell to Jane.

TROLLEY COACH NOTES:

Two new Flyer trolley coaches are in operation in San Francisco. By the end of 1973, final specifications should be completed and the first step in the modernization of the trolley coach fleet should begin. In the first phase, 208 of the existing coaches will be rebuilt. These vehicles plus the two prototypes will bring the new fleet to a total of 210. In the second phase, the remaining 135 coaches will be refitted, having the new fleet of 345 trolley coaches in service by the end of 1975, if all goes according to schedule.

Toronto Alderman William Archer said that he will resign as co-ordinator of future Yonge Street Malls if the City's Committee on Public Works approves the changeover from diesel buses to trolley coaches on the BAY route at a cost of $510,000. Mr. Archer reasons that the change is too expensive and could not easily be adapted for later route changes, possibly being affected by excess traffic being diverted from the Yonge Street mall. The TTC is anxious to proceed with the trolley coach conversion and is studying the legality of proceeding with the work without works committee approval.

The TTC has placed 20 surplus trolley coaches in storage at St. Clair Carhouse. These coaches are being rotated with ones at Eglinton Garage similarly to the seven coaches in storage at Parkdale Garage which are being rotated with trolleys from Lansdowne Division.

Rare example of catenary overhead for trolley coach operation is found in Vancouver. GVTS coaches 2324 and 2125, on 9-BROADWAY, pass one another on the bridge over the Burlington Northern. Lack of proper span poles on bridge necessitated the use of messenger wires. July 4, 1973 (Ted Wickson)

Readers' Exchange

For Sale: 1 Airequipt Autostack 500 slide projector. 6 years old, excellent condition. 500 Watt bulb, 72 slide stack loading system eliminates need for costly magazines. $60.00

Trains Magazine binders, Kalmbach rod type. Excellent condition. $2.00 each.

Railroad Magazine, assorted issues, late 1950's to early 1960's. Excellent condition. 75¢ each.

Phone 483-4678 or write: John Thompson, 20 Preston Place, Toronto 12, Ont.

Wanted: CNR employee will buy or trade 616, 620 B&W negs. of Canadian lines on approval. Contact Wendell Lemon, 45 Wright Dr., Moncton, N.B.

Wanted: Photographs of Desire car line in New Orleans to furnish background for proposed "Streetcar Named Desire" painting. Contemporary street scenes in black and white or colour, with or without streetcars, welcome. Would appreciate details of any changes in appearance of New Orleans cars between then and now. Contact M.J. Berridge, 14 McKenzie Ave., Toronto 5, Ont.

Coming Events

Regular meetings of the Society are held on the third Friday of each month (except July and August) at 589 Mt. Pleasant Road, Toronto, Ontario. 8.00 p.m.

Jan. 18: (Fri.) Regular Meeting. "South African Steam". A slide and movie presentation with synchronized sound, by Mr. Norman Lower.

Feb. 15: (Fri.) Annual Meeting. Election of officers, presentation of reports from the Secretarys and Committee Chairmen.

Mar. 9: (Sat.) RDC circle trip. Lv. Toronto Union 1010 hrs., return at 1830 hrs., E.S.T. CN's Oshawa, York, Halton, Oakville and Beach Subs will be covered. $7.00. Limited seating.

Mar. 10: (Sun.) $6\frac{1}{2}$ hour streetcar ramble with Peter Witt 2894 (yes, heaters have been installed!). Many photostops. Leave St. Clair carhouse - 1000 hrs., E.S.T. Space is limited to 45 people--reserve now! Fares $5.00 ($5.50 on the car).

Tickets for both excursions available from: Trip Committee, U.C.R.S., Box 242, Station M, Toronto 21, Ontario.

The Cover

Under the wires of CN's Central Station in Montreal, 4-8-2 #6060 eases into the curve near the southern extremety of the station's electrification. Resplendent in black and green livery following her recent overhaul, 6060 is the sight everyone had waited for as she returns to revenue service--shown here on the inaugural excursion to Victoriaville, September 15. See story page 104. (Ted Wickson)

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