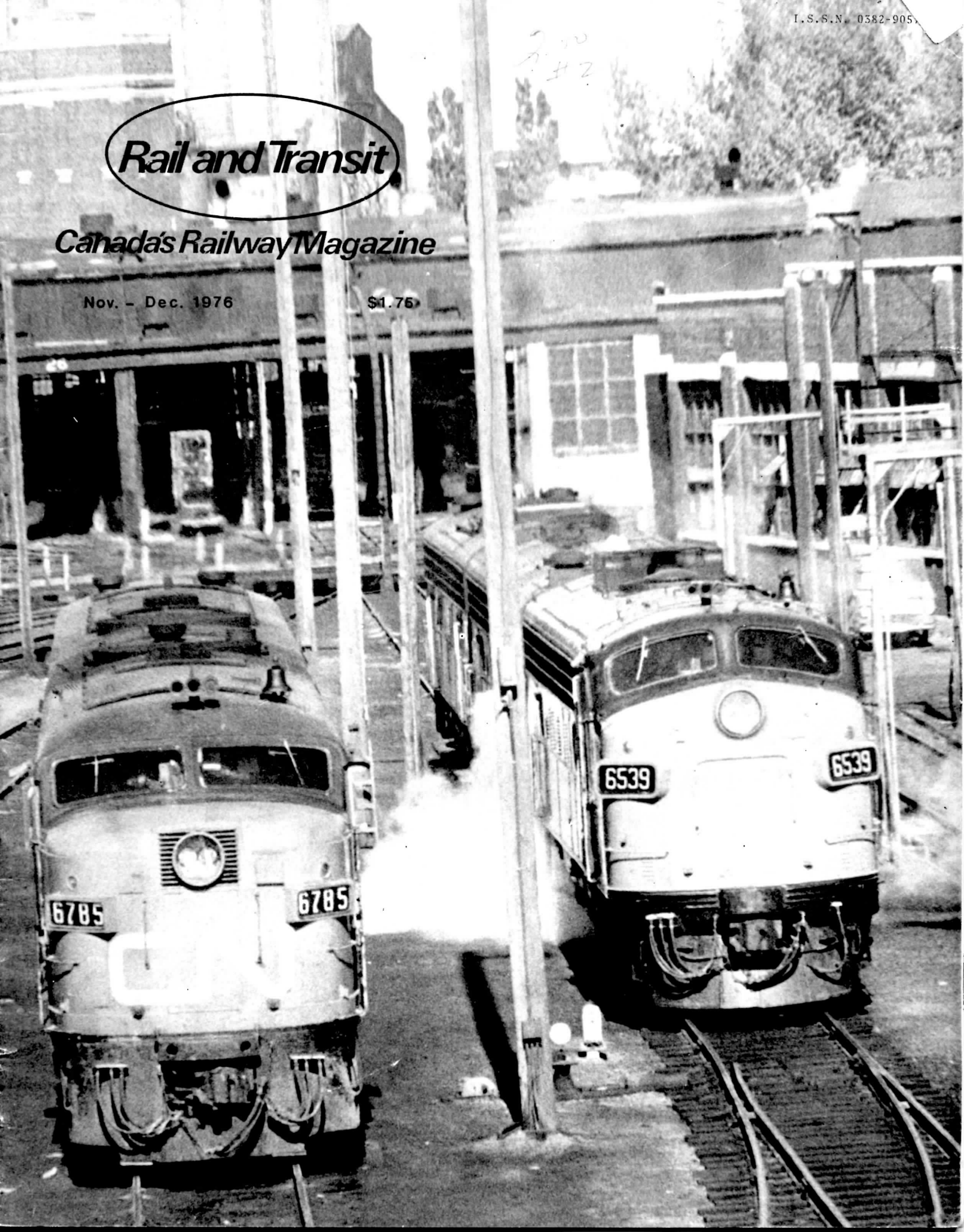


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Nov. - Dec. 1976

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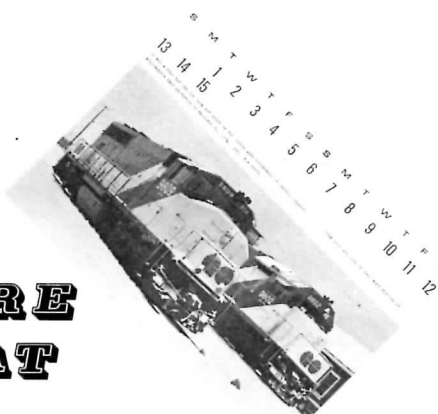
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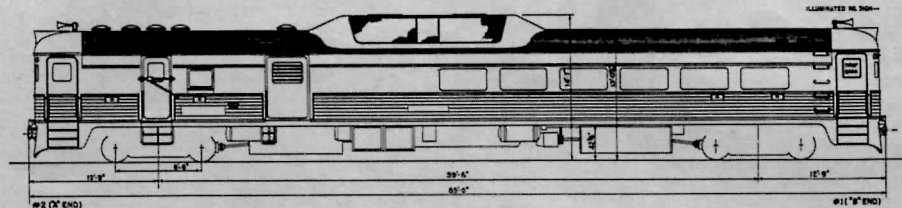


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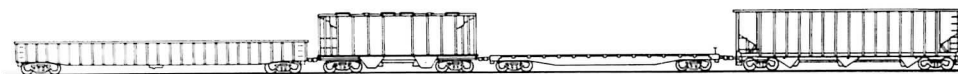
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## CONTENTS

RAILWAY NEWS	Canadian and Foreign railway news and comment.....	4
Edited by David W. Smith		
THE EMERSON CONNECTION	What happens when five railways interchange at the.....	7
U.S. border. By Kenneth A. Gansel		
GARTH CAMPBELL	CN's Vice-President's address to the UCRS.....	8
DIESEL NOTES	Compiled by Pierre Patenaude.....	11
RAILFOTOS	.....	14
FORT ERIE MUSEUM OPENS	A Photo feature by David Stalford.....	13
5060	Season wrap-up.....	20
BOOKS IN REVIEW	A look at London Transport Posters by Michael Levey.....	22
TRACTION TOPICS	Electric urban transit news.....	23
Edited by Mike Roschlau		



## BACK COVER

A brand new H-5 subway car poses for the photographer at the TTC's Greenwood Yard after arrival from the Hawker - Siddeley plant in Thunder Bay on 12 October 1976. Note the redesigned front end and the lack of louvres on the roof. The order consists of 138 air-conditioned cars (#6570 - 5807). (Ted Wickson photo)

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## FRONT COVER

F-Units in camera. On the left CN FPA-4 6785 (MLW Manf.) and FP9 6539 (GMD Manf.) wait for their respective trains in Spadina Yard, Toronto. Photo taken August 18th, 1976. (D.W. Smith)

# Railway News

## NEW TIMETABLE

For the first time in Canadian railway history, CN and CP Rail have combined their national passenger timetables under one cover, listing the passenger services of both railways.

The new joint timetable was made possible by the adoption of the VIA logo and colour scheme by CP Rail. The blue and yellow paint scheme was introduced by CN earlier in the year.

The intent of the combined timetable is to enable the rail traveller to plan rail travel easier and faster.

The timetable includes schedules, system maps and sample fares for each railway. Distinction between the two railways is simplified by showing the CN services in blue and CP services in red.

The timetable also has a full two pages devoted to the Amtrak Canadian connections to both CN and CP as well as the Detroit-Buffalo service that goes through Southern Ontario.

In the timetable itself, there are a few notable changes. The afternoon Turbo and Rapido departures have been reversed with the Turbo departing at 15.50 and the Rapido departing at 17.50. The "Muskoka Special" operating between Toronto and North Bay Fridays and return on Sundays for the summer only has been retained in the schedule. It proved popular with the summer cottage traffic and CN Passenger Sales and Service hope that it will prove as popular with the winter ski enthusiasts. Making a return after an absence of a year is the Advance Tempo running non-stop between Toronto and London on Friday and Sunday. Departure from Toronto is at 15.35 with an arrival at London at 17.30. Departure from London is at 18.45 with a Toronto arrival at 20.40.

## NEW TRAINS FOR ONR

The Ontario Government, through the Urban Transportation Development Corporation has acquired four ex Swiss Federal Railways train sets that were previously used in Trans European Express service. The four car sets (power car, coach, diner, lounge) were rendered surplus by the electrification of the Amsterdam-Zurich-Milan route that they had been used on. They are diesel powered and have a seating capacity of 146.

They were purchased for a total of \$3,800,000 and will be leased to Ontario Northland for \$1,000,000 a year for 5 years. The train sets are currently being refurbished in Switzerland and will arrive by the end of April 1977.

Minister of Transportation, James Snow said that the province would have had to wait 3 to 5 years to buy new Canadian trains that would have cost a lot more than \$20,000,000. He said it was still possible that the Province will buy new Canadian trains.

Two of the trains will enter service on 1 May as a day train between Toronto and Timmins, while the other two will replace the CN/ONR "Northland" running between Toronto and Kapuskasing.

Canadian National has applied to drop the overnight Toronto-Kapuskasing service that it operates in conjunction with the provincially owned Ontario Northland Railway. In its application to the Canadian Transport Commission, the railway cited the losses that the service has run up and the low passenger loading. At the same time, it was pointed out that the only way that the railway would qualify for the 80% subsidy under the terms of the National Transportation Act was to apply for abandonment of the service. In a question and answer period after his address to the UCRS, Garth Campbell, CN's Vice President of Passenger Marketing pointed out that the application for abandonment was made at the request of the provincial government and was prior to the expiration of the last 5 year CTC order for the continuation of service. He indicated that the Province was buying new equipment for the "Northland" and was leasing it to ONR for five years and that the normal CTC service orders are five year orders with the accompanying subsidy.

## FULL GO SERVICE TO BURLINGTON TO COMMENCE BY RAIL

In an address to the Hamilton Traffic Club on 11 November, the Chairman of the Toronto Area Transit Operating Authority, A.T.C. McNab said that full GO Train service to Burlington was under active development.

GO Trains now operate full service only as far as Oakville with connecting GO Buses completing the link between Hamilton and Oakville. Mr. McNab explained that the cost of establishing full rail service to Hamilton was too prohibitive--approximately \$40 million. He pointed out that the line from Burlington through Bayview into Hamilton was very heavily travelled now with both freight and passenger service and would require laying of another track between Burlington and at least Bayview and would mean a great deal of land fill from Highway 6 through to Hamilton Junction. On top of that, every bridge from Burlington to Hamilton would have to be rebuilt.

Instead, the new Burlington GO Station will provide for convenient across the platform train-bus transfer, insuring minimal time loss for Hamilton passengers. He also said that negotiations were still underway for the use of the T.H. & B. station for the Hamilton terminal for GO Train operations.

In a strongly worded statement, Mr. McNab urged land use planners and all levels of government to give top priority to development of improved public transit. "Surely", he said, "our Federal Government must recognize that the support and encouragement of urban public transit is the only real option which will give significant and immediate results in energy savings."

## UNIT TRAINS FOR ONTARIO HYDRO

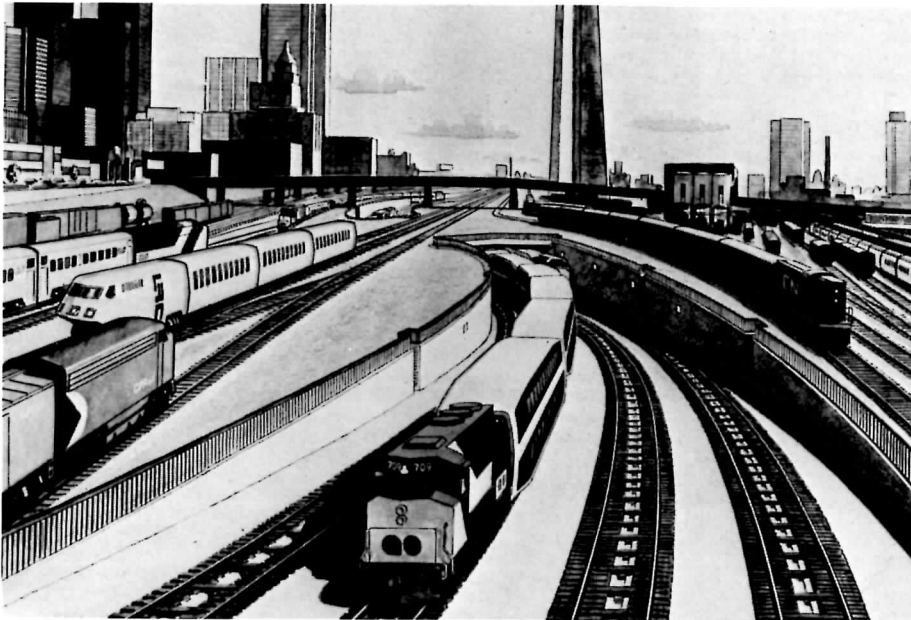
Ontario Hydro has reached agreement with both CN and CP for the operation of unit trains to move western coal to the Lakehead for transshipment to thermal generating stations of the publicly owned utility. The plan offers CN movement of coal from Coal Valley Alberta and CP Rail movement of coal from Corbin B.C. to a new terminal being built on McKellar Island at Thunder Bay.

Ontario Hydro will supply the equipment which will be operated and maintained by the railways. Initially, the railways will require 5 locos (one spare), 94 cars (9 spare) and a caboose. The cars will be 100 ton rotary gondolas and this is based on the movement of 416,000 tons annually with a 7 day cycle of 48 trips a year.

Ultimately, the requirements, per train will be 5 locos (1 spare), 108 cars (10 spares) and a caboose, based on a movement of 480,000 tons per year with the same cycle time. The proposal to Hydro does not cover terminal charges or capital costs to the railways in servicing the mines. It calls for a 4 hour loading time and 6 hour unloading time with penalties for noncompliance and does not cover switching at the loading site.

The guaranteed minimum volume for both CN and CP is 22.5 million tons over 15 years. The CP volume includes movement of bituminous coal from B.C. and lignite from Saskatchewan. Maximum volumes provided for by the rates and conditions in the proposal are 6 million tons annually--3 million for each railway.





This artist's conception depicts the four-track rail underpass to be constructed west of Spadina Avenue. The view, looking east, shows how GO Trains in the Oakville corridor will pass under the routes of other rail traffic to gain access to the GO facilities on the north side of Union Station's train shed. GO Trains from the Georgetown and Streetsville routes will be routed on the north side of the corridor directly into Union Station.

The future of the Union Station Project is in jeopardy due to the reluctance of the Federal Government to provide funds for its share of the project. The \$58 million project includes the rebuilding of the Station building and platforms, as well as the approach tracks, including a four track underpass west of Spadina Ave, to give GO Trains unimpeded access to Union Station. The Ministry of Transportation (Ontario) has stated that without the promised Federal funds, the cost would be too much for the Province and Metro to bear alone.

CP Rail has a new Vice President. He is W.W. Stinson and has responsibility for overall operation and maintenance. His responsibilities cover the 16,000 mile rail network, 75,000 freight cars, 1,300 locomotives, and 30,000 man workforce.



The youngest of CP's Vice Presidents, the 42 year old Mr. Stinson is a fourth generation rail-roader and started with CP as a car cleaner at Toronto Yard in 1950. He graduated from the U. of T. with a B.A., and then attended U. of W.O. School of Business Ad-

ministration, after which he worked in the company's research and piggyback service groups. In 1966, he became the Toronto Terminals Division as operating superintendent.

#### CP RAIL INTRODUCES NEW AUTO TRAIN

CP Rail has started the running of Canada's first train devoted to the exclusive transport of automobiles between Toronto and Vancouver on a single schedule. Dubbed the "Pacific Auto Train", it picks up loaded tri-levels from Toronto Parkdale and drops off cars in Winnipeg, Regina, Calgary and arrives in Vancouver 88 hours after leaving Toronto. The run is 36 hours shorter than by regular freight train.

The advantages of the train are that with the faster transit time, inventory costs to the manufacturer are lower, the schedule allows shippers to know when their shipment leaves and when it will arrive. The faster travelling time and shorter turning time effectively increases the size of the car fleet without purchasing new auto carriers. As a side benefit, the carriers are more effectively used and easily managed.

#### CP BOWS OUT OF ST. JOHN TO DIGBY RUN

After 60 years of service, CP Rail has given up the St. John - Digby Ferry Service. A new ferry, the Princess of Acadia, was placed in service on the run in 1971. Sold in 1974 to the Federal Government, CP had operated it under contract until 1 September of 1976, when operation was turned over to CN Marine in order to consolidate the East Coast Marine Services under one management.

In the sixty years that CP ran the service, the Princess of Acadia was the 7th vessel to operate on the run. The other vessels were the Yarmouth, Prince Rupert, Empress, St. George, Princess Helene and the Princess of Nanaimo.

#### PALAIS STATION CLOSES

CP Rail's historic Palais Station was closed to traffic on 31 August. The station was opened on 10 August 1916. It rests on 430 concrete piles and contains 400 Tons of structural steel, two thousand yards of reinforced concrete, 400,000 common bricks, 125,000 glazed interior bricks and 10,000 cubic feet of exterior cut stone.

CP vacated the station as the result of an agreement with the city to relocate the station and rail facilities to allow redevelopment of railway land as well as completion of the Dufferin-Montgomery Autoroute.

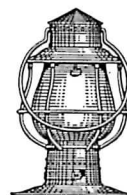
CP Rail moved its freight and passenger facilities 3 miles west of the Palais Station site, while the former tenant, CN, is running in and out of suburban Stn. Foy, with a bus connection to downtown.

City officials have not yet decided on the fate of the station building itself.

Canadian National has several track improvements underway. On the prairies, the second stage of the 3½ year project to double track the main line between Winnipeg and Portage La Prairie was placed into service. This means that the 55.7 miles from Winnipeg west is doubled, with the exception of the Assiniboine River bridge at Mile 50.5 of the Rivers Sub. Both tracks are bi-directional with CTC.

On the Albreda Subdivision, further west, 4.5 miles of concrete ties have been installed, along with new continuous welded rail. The 1977 program has as a target, 56 miles of new ties between Spences Bridge and Boston Bar on the Ashcroft Sub. Ties are being manufactured at a new tie plant in the Edmonton area.

In the east, track crews are laying a new line to connect the old National Transcontinental at Pelletier with the main passenger line along the St. Lawrence at St. Andre. The new line will cut 2½ hours off the scheduled time for freight trains running between Montreal and the Maritimes. The 18.5 mile project used 1,170 foot thermit welded rail sections and required the construction of 3 railway bridges, 3 highway bridges and 2 passing tracks. The line runs through very rugged country and required the use of a 50' deep rock cut in one location.



The grade separation project at the intersection of Midland and St. Clair Ave. in Toronto commenced on 13 August. The three track diversion which will cost approximately \$7,000,000 will require the moving of the Scarborough GO Station along with the CN Car Load Center, the former CN Scarborough Jct. Station. The level crossing was the site of a GO Train - TTC bus collision that resulted in the loss of several lives.

Canadian National has decided to hold until July a proposed 25% fare increase and cut back in service on the electric line running through Mount Royal Tunnel in Montreal. Canadian National has warned repeatedly that the line was losing money and the Canadian Transport Commission ruled that as a commuter line, it was a Provincial responsibility and did not qualify for the 80% federal subsidy. CN has no objection to operating the line as a GO Transit type line as long as there is someone other than the railway to pick up the bill.



#### LRC TO AMTRAK

The United States National Railroad Passenger Corporation (Amtrak) has agreed to purchase two L(ight) R(apid) C(omfortable) Trains from the 3 company consortium building the train. Each set will comprise a locomotive and five cars. Total cost of each set will be \$10,000,000. They will be on lease to Amtrak for 15 years, although if they do not work out according to expectations, Amtrak has the right to return them to the builder after two years, when they will become the property of the Canadian Government. This is due to a guaranteed commitment on behalf of the Government. They will be delivered to Amtrak in approximately two years and will tentatively be used on the Vancouver-Seattle-Portland run.

The 235 car order for bilevel passenger cars that Amtrak has with Pullman Standard has been increased by 14 cars to a total of 249. The order has also been restructured. Amtrak originally ordered 120 coaches, 26 cafe/coaches, 55 economy sleepers and 34 lounges. The order now stands as 102 coaches, 42 combination baggage/coaches, 34 economy sleepers, 36 economy/deluxe sleepers and 35 lounges. Amtrak's present baggage cars will be rebuilt to be compatible with the bilevels and used for mail service. The cars will be used on the Transcontinental services west of Chicago.

Amtrak has ambitious expansion plans. The Corporation is looking for approximately \$1.1 BILLION for new equipment and upgrading of facilities. New equipment would include 153 more bilevels, 365 new single level cars, compatible but not necessarily identical to the Amfleet cars, 120 cars that would be second generation Metroliners, 107 new diesels, 31 new electrics, and 6 dual power locomotives to replace the ex New Haven FL9's that work out of Grand Central Terminal. In addition to the new equipment, Amtrak wants to rebuild and upgrade the present Metroliners. If all goes according to this plan, their entire roster of passenger carrying equipment would be less than 10 years old. Outside of new equipment, some of the funds would go to track and station rehabilitation and construction. Amtrak expects that new equipment plus service improvements will bring patronage up from 18.2 million in 1976 to 23 million passengers in 1978.

Amtrak's Floridian and the Autotrain Corporation's Louisville-Sanford service were pooled on 31 October. Amtrak switched from their downtown Louisville station to the Autotrain's suburban station. The 6 month experiment means that 6 of Autotrains cars and 3 trilevels will be run on the rear of the Floridian daily. Autotrain will pay Amtrak \$100,000 a month plus a carrying charge. The pool arrangement was reached after Amtrak prolonged negotiations and the schedule change of the Floridian to a two day one night schedule.

Amtrak's newest train is a day train between Washington and Cincinnati. Numbered 32 and 33 and named as the "Shenandoah" in both directions, it follows the route of the Baltimore and Ohio's pre Amtrak "Metropolitan". Out of Washington at 09.25, arrival is at 23.59 in Cincinnati. Eastbound, the train leaves Cincinnati at 06.45 and arrives Washington at 21.40.

Amtrak has added another train to the Los Angeles-San Diego Service. The new train 774 and 777 is being underwritten by the California Dept. of Transportation, under section 403b of the NRPC Act. This brings to four, the number of trains each way daily on the 128 mile run.

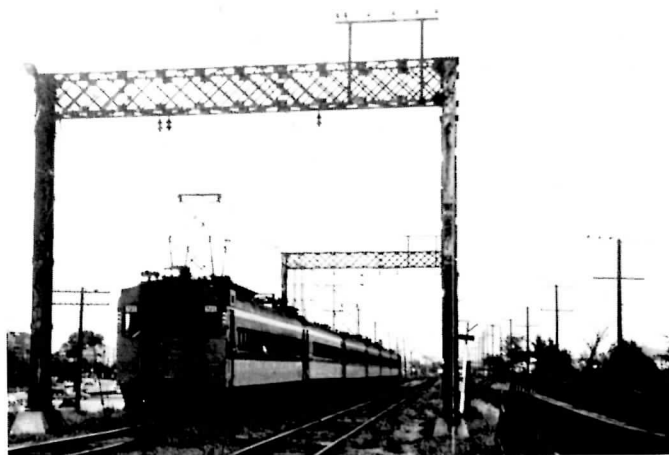
The train owned by the County of Los Angeles and to be operated by Amtrak between San Diego and Los Angeles is still stalled by a disagreement between Santa Fe and Amtrak. The Santa Fe claims that the train was purchased by the County as a commuter train and as such, is outside Amtrak's area of operations. Amtrak claims that as it will be covering the entire San Diego-Los Angeles route, it is an intercity train. The issue is to be decided by an outside arbitrator. Meanwhile the cars sit in the yard beside Los Angeles Station unused.

Amtrak's Swedish built Rc4a #X995 has entered service on the Northeast Corridor. It arrived August 1976 and was placed into service on a Metroliner schedule between New York and Washington using Amfleet equipment. Purpose of the tests are to demonstrate the light passenger unit compared to the GE E60. Nearly 100 tons lighter than the E60, it is rated at 5,500 hp compared to 6,000 for the E60. After the tests are completed, the loco will be returned to the Swedish State Railways. Amtrak has also contracted to test a French-built C-C electric on the same line. It will be a standard SNCF 7,100 hp double-end locomotive and is due in January 1977.

CN Train 904 derailed 4 miles east of Perth on the Belleville Sub. on 5th. July 1976. 30 cars were derailed. The line was reopened at 12.00 the next day. (K.A. Gansel)



CN electric commuter car 6733 leads a train in the Montreal suburbs.



# THE EMERSON CONNECTION



The Emerson Connection is a four hour happening that takes place at Emerson Manitoba. The raison d'être for the activity here is the connection of the Burlington Northern Manitoba Limited Railway with its American parent, the Burlington Northern. It is here that power of the BNML is exchanged with that of the BN. Canadian National runs a day train out of Winnipeg to connect with the BN at Noyes Minn., some 100' south of the U.S. border. Also, CP Rail runs a train from Winnipeg to connect with its subsidiary S00 Line, also at Noyes.

To reach Emerson, follow CN's Letellier Sub., out of Winnipeg, through Morris, Letellier and you arrive at Emerson Junction.

The BNML train leaves its yard in Winnipeg and arrives in Emerson at 08.00 to connect with the BN train up from the states. The CN train is usually out of Symington and into Emerson at 08.00 and 11.00 respectively. When the CN train crosses into

BY K.A. Gansel

the U.S., it leaves its cars for the BN on the west side yard tracks of Noyes Station. The BN, if it's on time will usually be waiting with cars going to Canada. Once this operation is completed, the CN returns to Emerson, goes east about 3/4 of a mile, backs down to Noyes, this time to the east yard and picks up cars for Canada from the S00 Line. It then returns to Emerson, assembles its train and is back in Winnipeg by 14.00.

The CP, in the form of Train #950, usually arrives mid afternoon. The CP pulls down into Noyes yard and cuts off its train. Around 14.30, the S00, in the form of Train #941, arrives at Noyes after its trip up from Thief River Falls. The S00 and CP exchange trains and are both out of Emerson-Noyes by 16.00. If the BN train is on time, (12.00), there will be four rail-ways on hand.

The little town of Noyes then settles down after the arrival of the CN, CP, BN and S00, as there is no scheduled train through there until the next day, when the place again comes alive with activity.

A point to note: the CN Ridgeville Sub, is just 10 feet inside Canada and it is very easy to cross into the U.S. However, U.S. Customs and Immigration does not take kindly to this and rail-fans to Noyes should take note and enter via Customs.

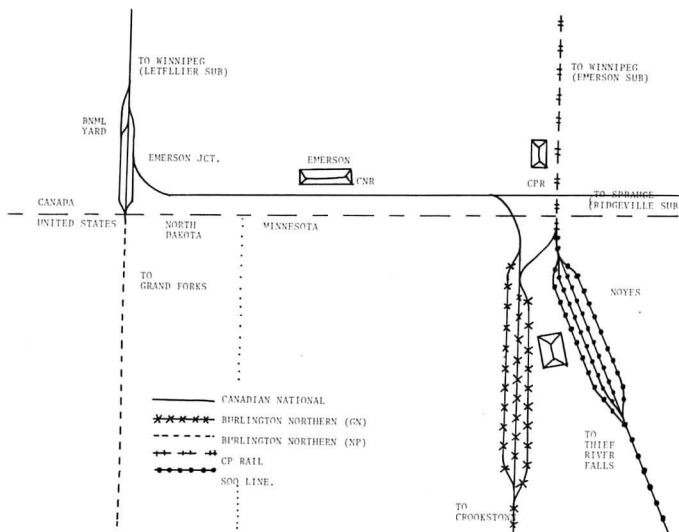


TOP  
S00 Line 740 heads up train #941, standing alongside CN 5729 on the head of CP #941. Both are waiting for the CN interchange at Noyes, Minn.

LEFT  
CN train at Noyes on S00 Line tracks with the CP train's van in the background, also on S00 tracks.

BOTTOM LEFT  
Sketch map of the area.

BOTTOM RIGHT  
CN #4110 meets the northbound BNML #2 at Emerson Jct.





# GARTH CAMPBELL

## ADDRESS TO THE U.C.R.S.

October 15th. 1976

If you believe that as a railway passenger man, I might have pertinent comments to make regarding the airport crisis in Toronto, you will doubtless find it easier to believe that airport policy in Montreal directly affects the commercial heartland of Ontario. In all discussions of this kind, we must remember that while a crisis can build up in a relatively short time, the lead time for planning, development and implementation of major facilities projects such as Mirabel-Pickering is probably not less than 10-12 years. Consequently, the risk always exists that events such as a fuel crisis, or a developing controversy over land use, or even a change of government at one of three levels involved could each separately or collectively turn the best conceived long run airport plan into chaos.

Consider the present situation. In the palmy days of the middle 60's, it was accepted as an article of faith that airline travel would continue its exponential growth as far as one could project a statistical curve. As with highway travel, ever increasing expenditures by Governments on facilities and infrastructure, coupled with a social and economic environment assuring ever increasing demand, produced the real millennium for air travel. As examples of the bigger is better philosophy, and the growth for growth sake which infected every level of society, just recall the kinds of things which the Mayor of Toronto was saying to visiting firemen in those years. Comments referred to the volume of building permits issued, the number of apartments constructed, miles of street paved, and acres of land consumed for new development. However municipal politicians in the 70's now shudder visibly at such talk. Now they emphasize the quality of life, integrity of neighbourhoods, limitations to growth, preservation of the environment and so on. Times have indeed changed; the priorities of the 60's have also changed but unfortunately, the confluence of events that gave Mirabel to Montreal, seem determined to bestow a comparable if not greater blessing on Toronto. How did it happen? And even more important, what can we do about it?

My own recollection of the events goes something like this. Away back in the sixties, it was decided that the growth of international air travel in particular, would eventually outgrow facilities at Dorval and Malton, even with interim additions, designed to meet demand until new airports could be brought on stream. For a brief time, consideration was given to the construction of one new airport in the vicinity of Kingston to serve both Montreal and Toronto. This would have

required construction of an ultra high speed rail line to link Montreal Ottawa and Toronto with the new airport. This could have placed each city not more than 60-80 minutes from the airport passenger loading gates. This plan was rejected partly because the rail link would have cost almost as much as the airport itself. But possibly even more critical, it would have removed all international air traffic and its presumed economic benefits from Dorval and Toronto to Kingston. I can only assume that these or similar arguments eventually made the planners choose the route of building two airports adjacent to Montreal and Toronto respectively. Even at this date it is interesting to conjecture what might have happened had the original idea been carried out. For one thing, development of a high speed rail line could have virtually eliminated local air travel in the Golden Triangle Montreal-Ottawa-Toronto. This currently accounts for 40-50% of all air travel at Malton, Uplands and Dorval. Removal of international flights from these three cities plus diversion of intercity travel to rail would have left Dorval and Malton particularly, with an embarrassment of unused capacity. Onward connections to all points in the Windsor-Quebec corridor would also have been by rail. Onward connections to western Canada would probably have been accommodated by connecting flights to or from the new airport. With all overseas travel concentrated at one airport, I doubt there would have been any problem in justifying the necessary number of connecting services. Need I add also that all overseas airlines would have been delirious not to have to use two airports and not to have to split traffic between Montreal and Toronto. Alas it was not to be. Mirabel was decided on as the first project with elaborate schemes drawn up for rapid transit links with both the City of Montreal as well as the existing airport at Dorval. Possibly Dorval might close, eventually, but this talk was never heard out loud until fairly recently. This was probably so as not to alarm those who had large investments at the existing airport. If traffic continued to grow, both might have been required in any case.

Unfortunately, fate began to take a hand in this situation almost as soon as work on Mirabel got underway. Pressure from Ontario and Toronto particularly, for direct service by overseas foreign airlines, resulted in a considerable reduction in the relative importance of Montreal as a Canadian port of entry. Connecting domestic services to serve overseas travellers also began concentrating at Toronto, along with an increase in overseas landing rights. Next, plans for the rapid transit line to serve Mirabel went up in smoke amid confusion and



Garth Campbell during his speech to the U.C.R.S., 16th. October 1976. (Rail & Transit photo)

conflict between transport planners and the various government bodies and agencies. Possibly a consensus had meantime developed on the need for improved roads as an interim measure, partly because of the failure of traffic volumes to evidence themselves. Then the fuel crisis of 1974 and subsequent inflation dealt all aviation a body blow, and for a couple of years at least, capped overall traffic growth and certainly threw long range volume projections into doubt.

All in all, the opening of Mirabel has been something less than an overwhelming success. On top of everything else, reluctance of many people to now use Mirabel has contributed to further congestion at Malton. Horror stories associated with the operation of two airports at Montreal have also tended to harden local resistance here to construction of Pickering by all except those who are unfortunate or foolish enough to have bought homes under the Malton flightpathways.

So what do we do now? Well it seems the kinds of solutions we might pick could include all or part of the following options;

1. Close either Dorval or Mirabel immediately
2. Gradually shift flights from Dorval to Mirabel.
3. Build the Mirabel Rapid Transit Line
4. Build a STOL network to relieve the pressure at Malton
5. Develop a high speed rail network to eliminate as much intercity traffic as possible from existing airports.

Lets have a quick look at each of these alternatives.

The closing one Montreal airport would eliminate the problem and expense of operating two airports in Montreal. It would also encourage many overseas travellers to once again connect through Montreal rather than through Toronto. However you can appreciate the dilemma which this option presents. To close Mirabel might lead some critics to claim that it wasn't needed in the first place, while to close Dorval would, at this stage at least, deal air travel to and from Montreal a real body blow.



The additional cost, time and inconvenience of using Mirabel would rule out air travel for a significant number of passengers. Not a very satisfactory solution I am afraid. Besides, Mirabel is scarcely capable of handling domestic as well as overseas flights at present and requires further extensive and expensive additions. Closing Dorval of course, would eventually release much valuable land which is possibly worth more than the present investment in buildings and facilities which would be made redundant. The problem of course, is what to do now.

If the closing, even on a temporary basis, of one or other airport presents serious problems, they are nothing compared to the rumoured intention to gradually shift domestic flights from Dorval to Mirabel. Although this would effectively relieve pressure on Malton, it would present Montrealers with an impossible situation. Once the shift began, I fear that the resulting confusion and inconvenience would be such that pressure to complete the change in the shortest possible time would be irresistible. Then we would be back to option one, but we would have suffered during the period of the changeover, a fate which I think no city should suffer.

The third option, namely to build the Mirabel Rapid Transit Line makes sense only if it is intended to concentrate all airport traffic at that point. In fact, that to my mind, is the only way in which Montrealers could be induced to forgo the convenience of the present Dorval site. Mind you, even with a rapid transit line, Mirabel will still be a much less convenient location for many people, particularly those living on what we call the Lakeshore, roughly Dorval to Dorion, where 750,000 people containing the bulk of business travellers in Greater Montreal live. Unfortunately, a rapid transit line may take even longer than another airport to build and to get into operation. The first requirements are agreement on the exact routing, no easy matter in itself: followed by firm financial commitments on the part of all those most interested in its operation. These could include two railroads (probably), at least three levels of government and God knows how many other private interests. Physical problems of construction are enormous, including possible construction of yet another tunnel through Mount Royal, along with a rumoured new downtown terminus. I would personally be very surprised if such a line could be placed in operation before 1985.



The fourth option which affects Toronto more than Montreal is one which I believe is favoured by many planners and citizens. Unfortunately, it is being as vigorously opposed by many local interests. This involves the use of Toronto Island as a STOL Terminus

to link communities throughout Southern and Eastern Ontario with Downtown Toronto. While this would provide some use for the DASH 7 aircraft being built by DeHavilland Aircraft Co., of Toronto and could be of value in relieving Malton of some intercity traffic, the STOL concept has some things against it as well. First of all, while it could be of value to the lucky 1 or 2% who could afford to use it, STOL service would take away or limit use of an extremely valuable piece of park land downtown in Toronto. Balancing the interests of a business or government elite with those of general citizenry who cherish every tract of open green space, is a job for Solomon. Without arguing the social merits one way or the other, it seems to me that the mere suggestion of more intensive use of Toronto Island for STOL will succeed only in calling into question the virtue of continuing to allow even the present of the Island Airport for private aviation. Unless the volume of traffic is substantial, the usefulness of the project in relieving Malton would be negligible. On the other hand, the great fear is that a greatly increased volume of air travel would inhibit and encroach upon the free use of the remaining park areas.

We might also question the STOL concept in terms of economics. If STOL is to do its job of relieving Malton, (and using some of those DASH 7's), it is in all likelihood going to require enormous amounts of direct as well as indirect subsidy. This leads one to ponder whether there isn't a better and cheaper alternative. This question is especially pertinent if by developing a STOL network, we succeed in drawing funds and impetus to undertake other transport projects. The latter could have considerably broader social and economic impact, especially on the airport problem which is central to my remarks today.

This, not surprisingly, brings me to the last option on my list: the development of a high speed rail network to bleed off local or intercity passengers from Malton (and Dorval) and so leave room for those who must or prefer to fly. The two arguments most often used to discredit rail service options are first of all cost and secondly, travellers' prejudices. Those who oppose development of high speed rail generally try to leave the impression that the expenditures, apart from being enormous, would be in addition to those required for new highways and airports. The reason for this is really that since no appreciable volume of travellers would change over to the rail mode, growth in air and highway travel would continue unabated.

The reasoning seems to be that since no one uses trains now (!) there is no good reason to think they will use them in the future. Besides to make trains really competitive would be prohibitively expensive.

Assuming this reasoning to be sound, I for one could hardly dispute the conclusion. Unfortunately, it goes against all experience and even against the facts as we know them now. Let us look quickly at the present situation.

Within a radius of 500 miles of Malton Airport are critically important destinations as New York, Chicago, Cleveland, Buffalo, Detroit, Montreal, Ottawa, and many more. Over 60% of all aircraft movements at Malton involve such destinations and particularly at the most congested times of the day. By contrast, overseas flights account for only 5% of present aircraft movements and generally take place at the least critical times. Now if we rule out improved rail service as being a major factor in the near future to cities such as Chicago, Buffalo, or Cleveland, we nevertheless find that in terms of aircraft movements and numbers of passengers as well, traffic between Malton and London Ont., Windsor/Detroit, North Bay, Sudbury, Ottawa and Montreal probably represents at least 40% of all traffic at Malton. How subject is this traffic to diversion to rail and at what price? Well to start with, the percentage of commercial carrier travel using rail at present ranges from only 5% between Toronto-Ottawa to 25% Montreal-Toronto, 60% Toronto-Windsor and up to 80% Toronto-London. These percentages are almost directly related to the quality of rail service viz-a-viz that offered by all other carriers. Furthermore changes over the years reflect to a very remarkable degree the relative qualitative service changes. This is particularly the case in S.W. Ontario where steady improvement in the rail service has produced a steady increase in the proportion of rail passengers. In other words, it is no accident that as between air and rail, the percentage of passengers using each service are almost reversed as between Toronto-Montreal and Toronto-London: 75-25 and 20-80 respectively. By analysing these and other data and by carefully examining results achieved under comparable conditions in other parts of the world, we have come to the conclusion that: (assuming comparability of service quality) rail becomes fully competitive with air (as well as with auto and bus) when rail schedules are equal to 2/3 of the driving time between two points and where the time interval between services does not exceed the scheduled running time. Frankly, this criteria has not been met on any of our intercity trains as yet, but where we have come closest, we have had proportionate success.

Now since we are looking at the possibility of diverting some significant portion of traffic away from Malton, let us look at the key link in the intercity network to see what would be required. Between Montreal and Toronto, rail service would be fully competitive with all other carriers (and with autos needless to say) if point to point schedules were reduced from the present 4.10 H to about 3.45 H or better. To be on the safe side, say 3.30 H. In addition scheduled frequency would have to increase from two 4.10 H services a day to five or six. In other words, we would have to reduce overall running time by 40 minutes and multiply schedule frequency by three.

Short of building a whole new railroad line, what would we have to do? Remember when we talked of the King-

ston Airport, the dreamers envisioned hourly trains with elapsed times of under 2.30 H end to end, definitely requiring a whole new right of way? By my reckoning, we need something much less elaborate, at least to achieve our immediate objective.

Looking at the present Turbo schedule, this train covers about 200 miles of the 335 miles at the top line speed of 95 mph. The rest of the trip is covered at various speeds below this maximum. The top speed is governed by track quality as well as by problems of unprotected crossings. However, there are some sections of line where, with some upgrading and by closing or eliminating open crossings speeds in excess of 95 mph might be achieved. If for example, we could upgrade as much as 110 miles, (about 1/3 the distance), to permit 120 mph, as much as 15 minutes could be saved. Perhaps another 15 minutes or more might be saved by eliminating present very slow running between Toronto and Guildwood and Montreal and Dorval. Lastly, let us assume that some spot upgrading of the 135 miles presently operated below 95 mph were to

save us another 10 or 15 minutes. The end result would be a total saving of 40-45 minutes. Now this would not come cheap: nor could it be done all at once. I submit to you however, that the cost would be very much less than the cost of building an entire new line or even a new airport. Furthermore, with improvements programmed over a number of years, benefits would become available progressively.

Now let us talk of frequency. With trains departing every two hours or so, on the kinds of schedules talked of, some very substantial additions to track capacity would be necessary to keep other traffic moving with something like the present dispatch. Probably stretches of triple track, plus improved signalling at various points en route. Once again, the costs would be significant, but must be balanced against the alternatives we are facing. If the entire project to upgrade tracks and capacity were to cost as much as \$500 million at today's prices, just remember that this is the probable price range for the new Mirabel Rapid Transit Line alone whenever they get around to building

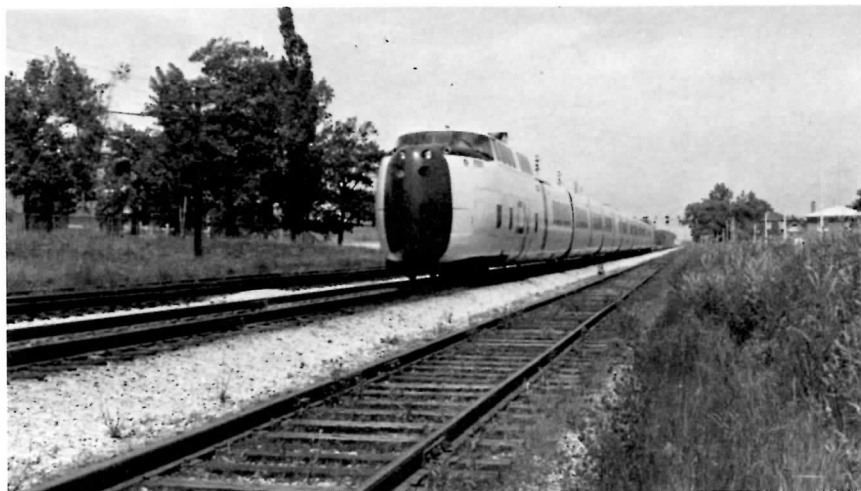
it. Perhaps the money could be better spent upgrading our mainline, permitting concentration of remaining airline traffic at Dorval. Mirabel could then be written off to experience.

The message I am trying to leave with you is that unless we look realistically at all the alternatives open to us, and compare the cost:benefit ratios of each alternative in a truly objective way, we are not likely to arrive at the optimum solution. My personal belief is that in terms of first time capital cost, intercity rail can offer a very attractive alternative to the horrors of operating two airports at both Montreal and Toronto. Furthermore, once rail service is in place, it produces transportation on a day-in day-out basis at less than half the seat-mile cost of airline service for distances of up to 300-500 miles. On this basis alone, it might be even worth paying out considerably more in terms of first cost, to enjoy the on-going benefits.

In conclusion, please note that in my remarks today, I have not made any particular reference to ecology, efficiency of land use or to the impending energy crisis. These I will save for another day.

The above was the context of a speech given by Garth Campbell to the Upper Canada Railway Society on the 15th of October 1976.

Mr. Campbell is the Vice President, Passenger Marketing, Canadian National Railways. He has held the position since 1974 and his responsibilities include Systems Planning and Operational Responsibility for Rail Passenger Services.



Westbound Turbotrain behind Monarch Park, Toronto. July 1968. (D.W. Smith photo)



Garth Campbell with a colour print of CN 6060. The photograph was presented to Mr. Campbell by George Meek, chairman of the Entertainment Committee and Art Eyres, President of the U.C.R.S. on behalf of the club. (Rail & Transit photo.)



# Diesel Notes

COMPILED BY PIERRE PATEWAUDE



GO Transit is operated by CN  
for the Government of Ontario.

GOVERNMENT OF ONTARIO TRANSIT

## "GO" TRANSIT ROSTER

### LOCOMOTIVES GP-40-TC

Date	1st #	2nd #	New #
10/3/67	600	9800	500
10/3/67	601	9801	501
10/3/67	602	9802	502
10/3/67	603	9803	503
10/3/67	604	9804	504
10/3/67	605	9805	505
10/3/67	606	9806	506
10/3/67	607	9807	507

### LOCOMOTIVES GP-40-2

24/1/74	9808	700
24/1/74	9809	701
24/1/74	9810	702
24/1/74	9811	703
6/12/74	9812	704
6/12/74	9813	705
6/12/74	9814	706
17/10/75	707	
27/10/75	708	
7/11/75	709	
27/10/75	710	

### AUXILIARY POWER CONTROL UNITS

16/1/74	9858	900
13/4/74	9859	901
20/10/74	9860	902
22/2/74	9861	903
18/8/74	9862	904
	9863	905
	9864	906
	9865	907
	9866	908

## SELF PROPELLED CARS

26/10/67	D700	9825	300
11/9/67	D701	9826	301
26/10/67	D702	9827	302
21/11/67	D703	9828	303
14/9/67	D704	9829	304
5/9/67	D705	9830	305
11/9/67	D706	9831	306
26/9/67	D707	9832	307
26/10/67	D708	9833	308

## CAB CARS

Date	1st #	2nd #	New #
15/4/67	C750	9850	100
4/4/67	C751	9851	101
7/5/67	C752	9852	102
27/4/67	C753	9853	103
7/5/67	C754	9854	104
15/5/67	C755	9855	105
15/5/67	C756	9856	106
22/5/67	C757	9857	107

## COACHES

4/4/67	4700	9900	1000
4/4/67	4701	9901	1001
4/4/67	4702	9902	1002
4/4/67	4703	9903	1003
4/4/67	4704	9904	1004
4/4/67	4705	9905	1005
4/4/67	4706	9906	1006
4/4/67	4707	9907	1007
4/4/67	4708	9908	1008
15/4/67	4709	9909	1009
15/4/67	4710	9910	1010
15/4/67	4711	9911	1011
15/4/67	4712	9912	1012

15/4/67	4713	9913	1013
27/4/67	4714	9914	1014
27/4/67	4715	9915	1015
27/4/67	4716	9916	1016
27/4/67	4717	9917	1017
27/4/67	4718	9918	1018
7/5/67	4719	9919	1019
7/5/67	4720	9920	1020
7/5/67	4721	9921	1021
7/5/67	4722	9922	1022
15/5/67	4723	9923	1023
15/5/67	4724	9924	1024
15/5/67	4725	9925	1025
15/5/67	4726	9926	1026
22/5/67	4727	9927	1027
22/5/67	4728	9928	1028
22/5/67	4729	9929	1029
22/5/67	4730	9930	1030
22/5/67	4731	9931	1031
23/12/68	4740	9932	1032
23/12/68	4741	9933	1033

## NEXT PAGE

TOP - GO Transit Control Car 9852 was delivered as C752 in May 1967 and will be renumbered 102. Seen here at Willowbrook Depot. (D.W. Smith)

BOTTOM - GO Transit GP40-TC units 9805 and 9807 (now 505 & 507) wait in the snow at Willowbrook during December 1975. 9807 is in part undercoat after returning from Montreal for repairs needed when it collided with a TTC bus in Scarborough 3 weeks earlier. (D.W. Smith)



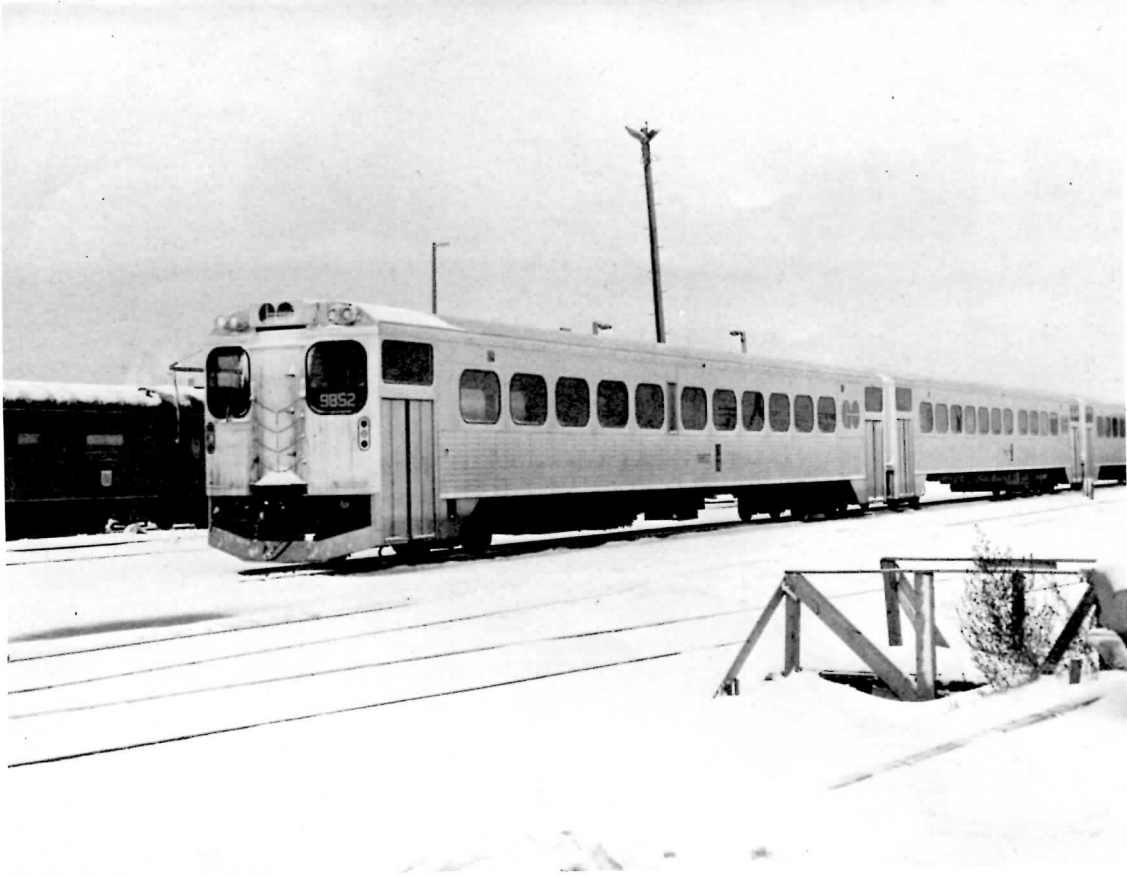
GOVERNMENT OF ONTARIO TRANSIT



A study in paint schemes with GO Transit GP40-2W 9811 (now 703) and CNR GP40-2W 9400. Both are seen here waiting for freight assignments at MacMillan Yard. (R. Eastman)



GO Transit APCU 9861 (now 903) waits at Pickering during train reversal at the east end of the GO Lakeshore route. These units were rebuilt from Ontario Northland FP-7's. (R. Eastman)





"GO" TRANSIT ROSTER cont.

Coaches New

COACHES

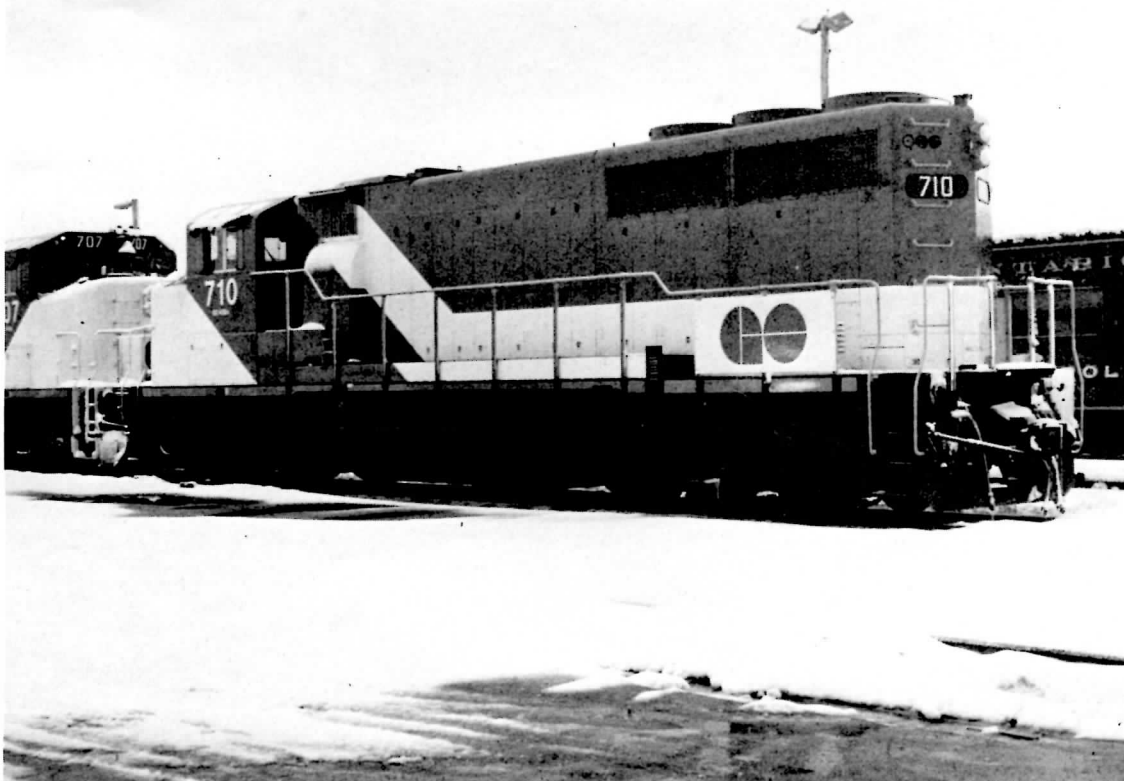
Date	1st #	2nd #	New #
23/12/68	4742	9934	1034
23/12/68	4743	9935	1035
23/12/68	4744	9936	1036
23/12/68	4745	9937	1037
21/10/68	4746	9938	1038
23/12/68	4747	9939	1039
23/12/68	4748	9940	1040
7/10/68	4749	9941	1041
7/10/67	4750	9942	1042
7/10/68	4751	9943	1043
24/10/68	4752	9944	1044
24/10/68	4753	9945	1045
10/12/73		9946	1046
10/12/73		9947	1047
10/12/73		9948	1048
28/12/73		9949	1049
28/12/73		9950	1050
28/12/73		9951	1051
28/12/73		9952	1052
28/12/73		9953	1053
18/1/74		9954	1054
28/1/74		9955	1055
18/1/74		9956	1056
18/1/74		9957	1057
22/1/74		9958	1058
22/1/74		9959	1059
28/1/74		9960	1060
6/2/74		9961	1061
6/2/74		9962	1062
12/2/74		9963	1063
12/2/74		9964	1064
12/2/74		9965	1065
19/2/74		9966	1066
19/2/74		9967	1067
26/2/74		9968	1068
26/2/74		9969	1069
5/3/74		9970	1070
5/3/74		9971	1071
12/2/74		9972	1072
18/2/74		9973	1073
26/2/74		9974	1074
26/2/74		9975	1075

Order As Changed To

9700	1076
9701	1077
9702	1078
9703	1079
9704	1080
9705	1081
9706	1082
9707	1083
9708	1084
9709	1085
9710	1086
9711	1087
9712	1088
9713	1089
9714	1090
9715	1091
9716	1092
9717	1093
9718	1094
9719	1095
9720	1096
9721	1097
9722	1098
9723	1099
9724	1100
9725	1101
9726	1102
9727	1103
9728	1104
9729	1105

RIGHT: Here we see coach #1021 (formerly 9921) sporting its new orange interior paint scheme, carpeting and advertising.

BELOW: GP40-2W number 710 (delivered in the new numbers) poses next to 707 at Willowbrook. (Both photos - D.W. Smith)

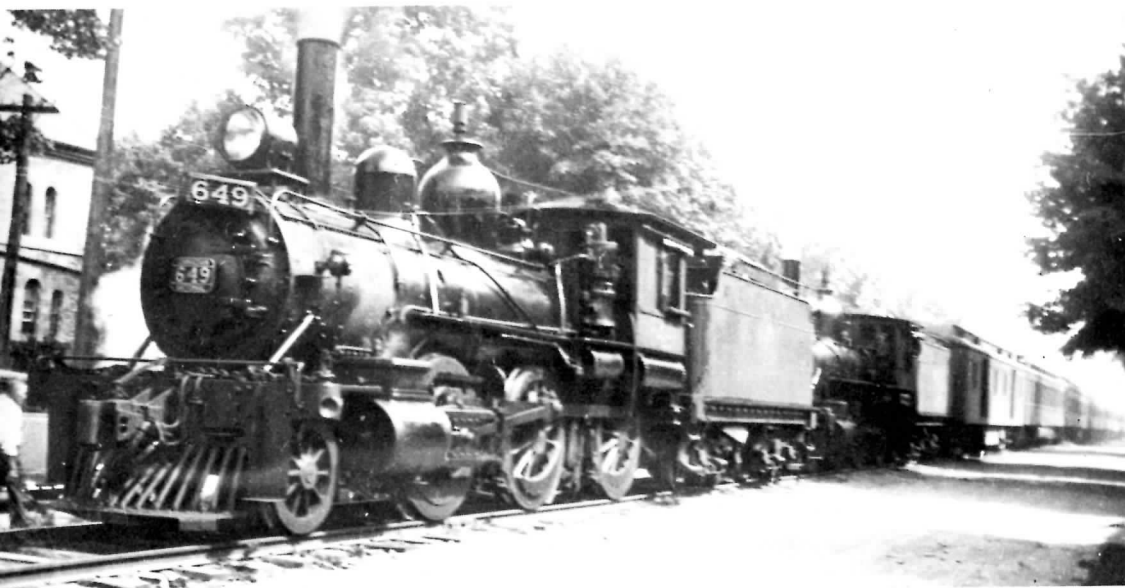
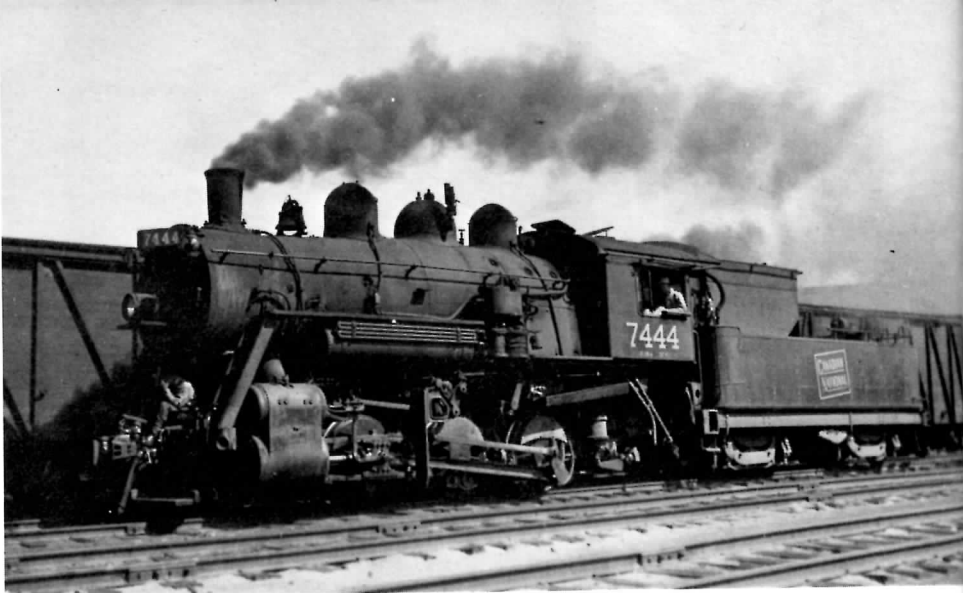


RIGHT

On the top of these pages are examples of CNR/GTW light yard switchers. CNR 7444 was one of class O-18-a, was built by the GTR in 1919 as #1769. The O-6-0 is seen here working in Montreal during May 1947. The onslaught of the diesel led to the scrapping of 7444 in March 1960. (UCRS Coll.)

BELOW

A popular weekend train in the 1920's was the CNR passenger from Toronto to Haliburton, serving the cottage country. Its popularity was so great and the bridges on the line so light that double-heading with small engines was common. Here #649 leads a long train down Victoria Ave. in Lindsay on a warm Sunday morning. 2-6-0 #649 was built by the GTR in 1896 as #1262. Classed E-6-a by the CNR it was renumbered 2515 and finally scrapped in September 1940. (R. Hope)



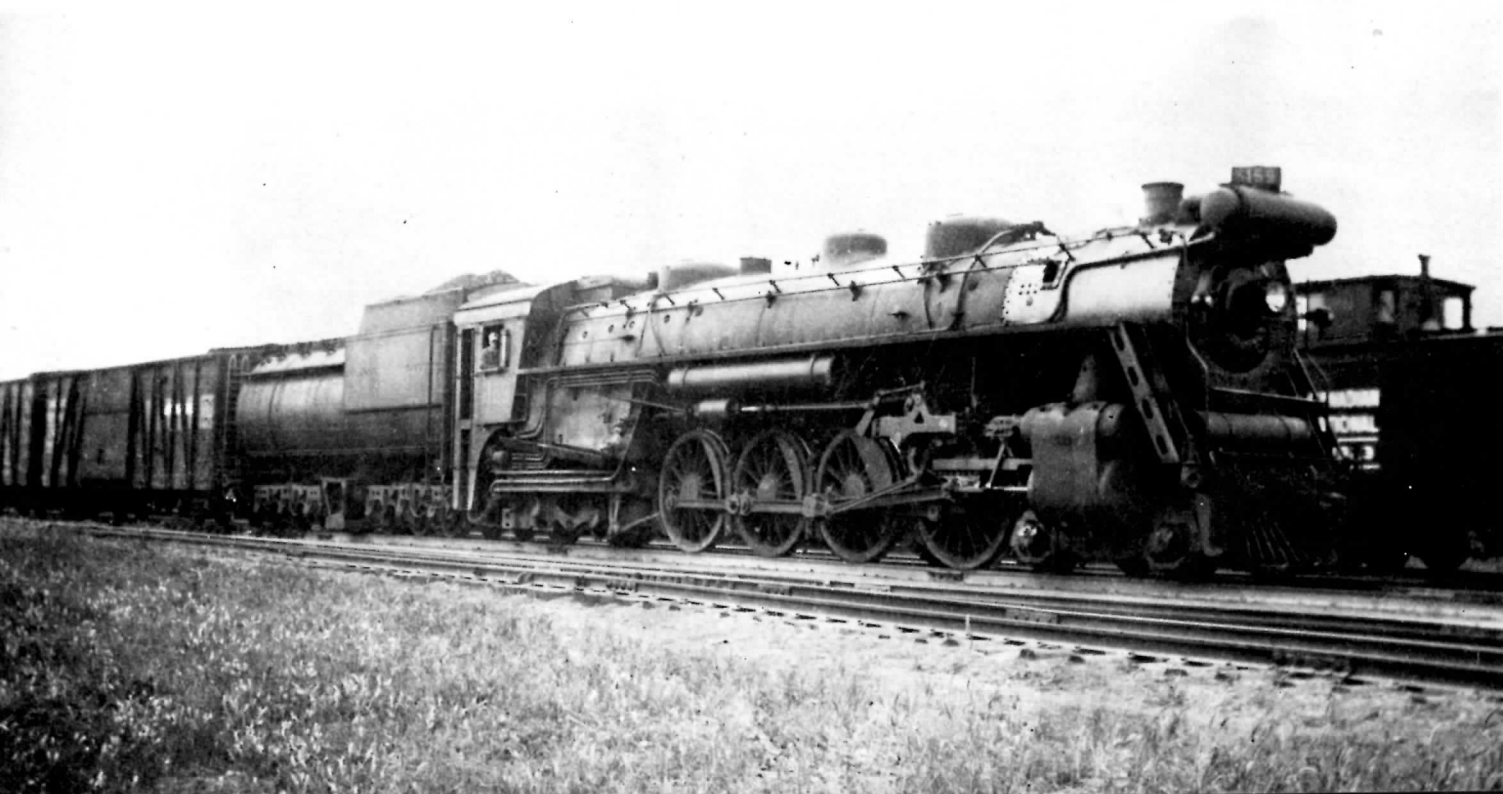
CENTRE PAGES

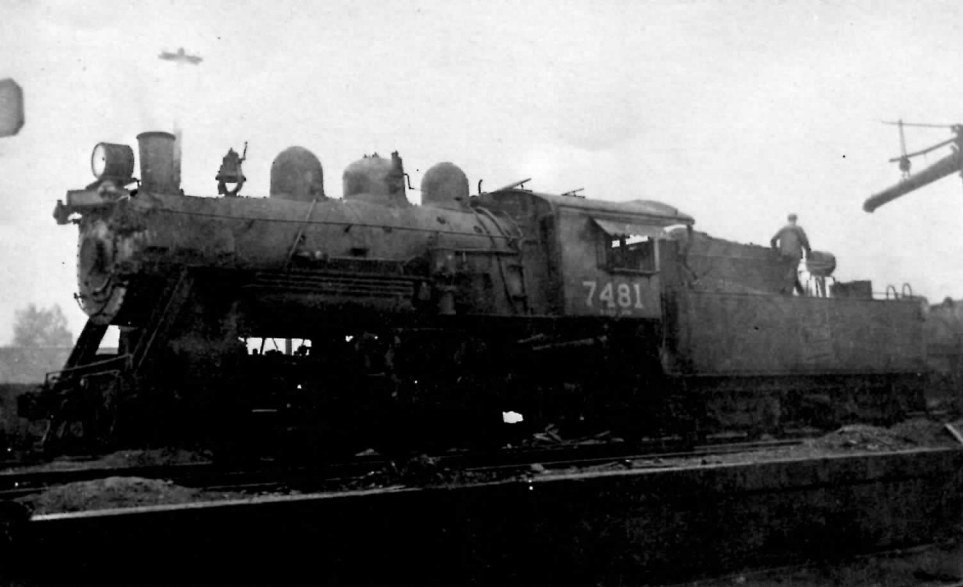
PNC Geep leads a pair of CP F-units on train 984 eastbound at McGillivray, BC on its way to Crowsnest Pass. (K.A. Gansel)



BELOW

CNR Northern #6159 eases a freight into Belleville Yard. The class U-2-e engine was built by MLW in 1929 and scrapped in October 1961. (R. Hope)



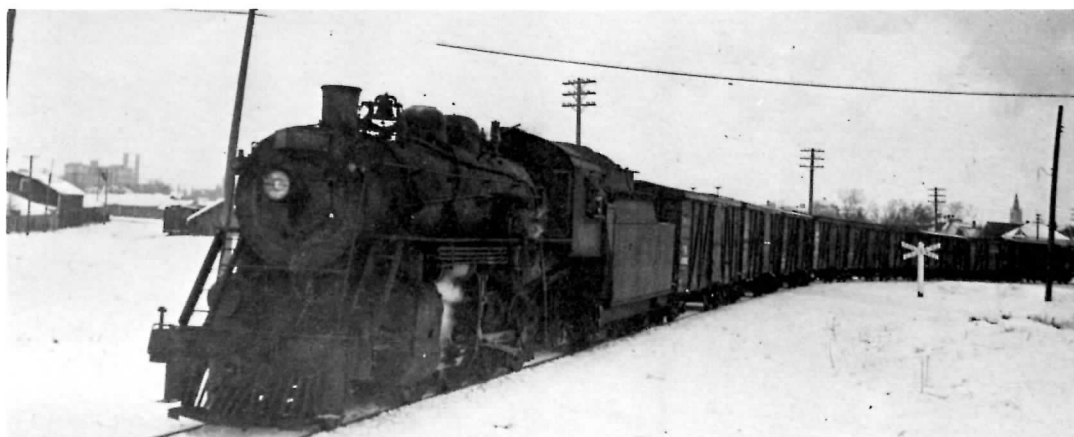


**GRAND  
TRUNK  
WESTERN**

A GTW 0-6-0 yard switcher was 7481. Classed as O-18-b, she was built by Lima in 1920 as GTR 1806. It worked for 37 years being retired in October 1957. (UCRS Coll.)

RIGHT

Handed down from the Canadian Northern, CNR 2-8-0 #2417 was built by Canada Foundry in 1912 as CNoR #950. 2417 was classed as W-1-a and was scrapped in 1960. (UCRS Coll.)



BELOW

For heavy international transfers, the CNR used a series of 0-8-0 switchers, #8215 being a typical example. Class P-4-c was built by CLC in Kingston in 1923 as GTR 1878 but delivered to the CNR. Numbered 8441 in the 1923 re-numbering she was re-numbered to 8215 later. Seen here working at Niagara Falls, Ont. in September 1947. Their work now requires two geeps. (UCRS Coll.)

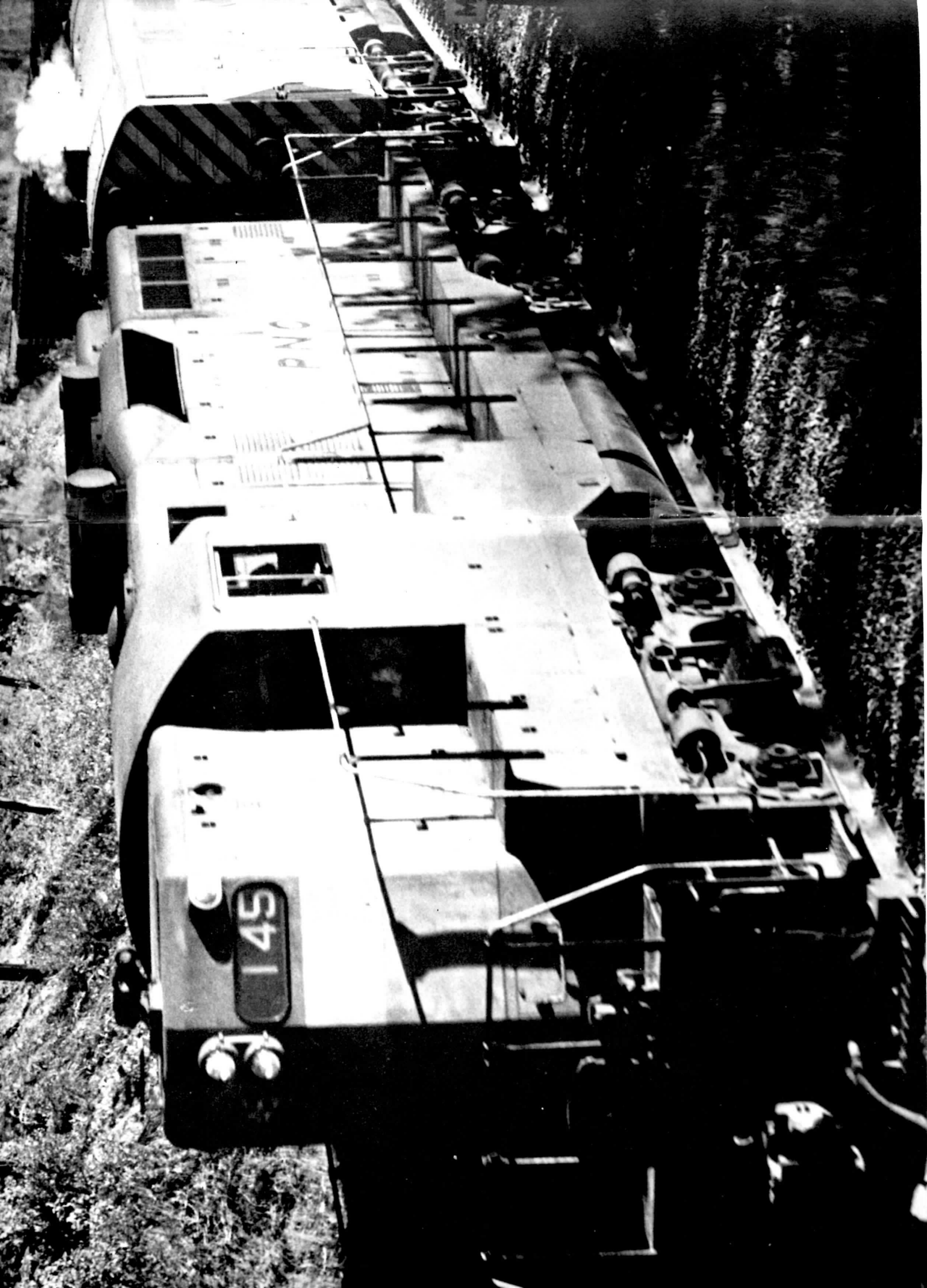
# railfotos











# FORT ERIE MUSEUM OPENS

## A PHOTO FEATURE

BY David Stalford

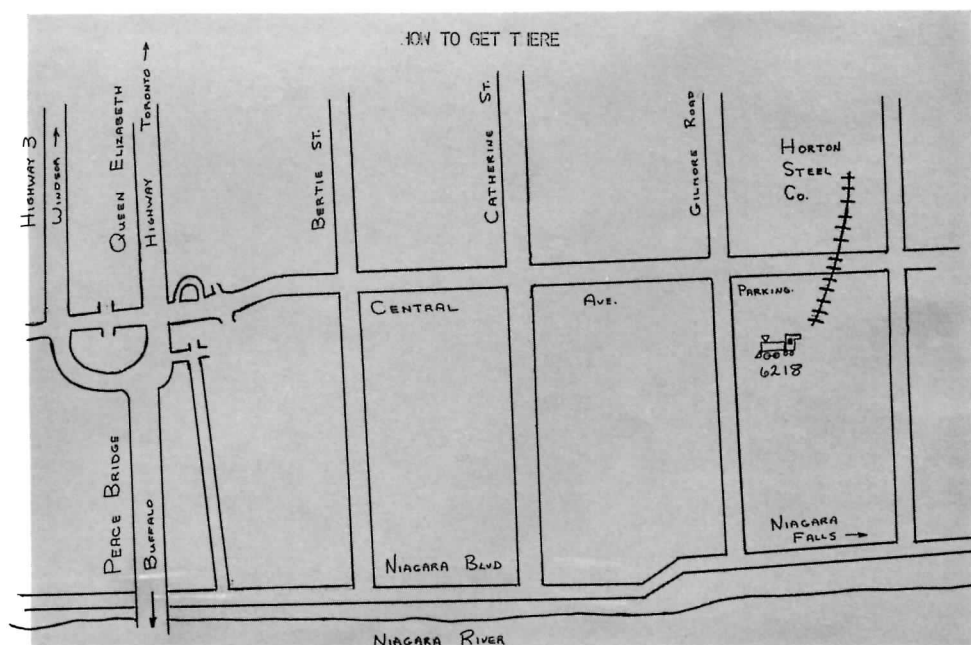
The Fort Erie Historical Railroad Museum was officially opened to the public with a dedication ceremony on Sunday 27 June 1976. The Museum consists of the former station from Ridgeway Ontario, a wood CN van, and the center of Attraction, Canadian National U-2-g 4-8-4 #6218.

Officially retired from excursion service in 1971, she was presented to the Town of Fort Erie in 1973 and moved to her present site in 1974.

The station is typical of those built by the mid Victorians, combining local materials, function and aesthetics. At one time, it had been served by six passenger trains a day, but by the time that it was closed, the line was down to service as required.

The van is typical of the many that were operated by Canadian National until the design was superceded by the steel vans now in general service.

The program, with John Jones acting as Master of Ceremonies, was led off by the Invocation by the Rev. Canon W.R. Anthony. The Address of Welcome was given by His Worship, John Teal, the Mayor of Fort Erie. Following the Mayor were remarks by area M.P. Roger Young and area M.P.P. Ray Haggerty. Next on the program were remarks by representatives of the Canadian National, Lorne Brisbin and Richard Carey. Ken Rayner, president of the Railroad Museum, addressed the crowd and then came the Benediction which was given by Rev. Father J.J. Cartwright. The Museum was then declared opened with a ribbon cutting by Mayor Teal, Mr. Brisbin and Mr. Rayner.







THIS PAGE

LEFT - Sitting in a well-earned retirement, 6218 is shown here contemplating her former glories.

BELOW - Ridgeway Station restored to its former well kept condition.

BOTTOM - The telegraph is silent now, as is the telephone and typewriter. The operator's bay has been restored to its former glory at the museum.

OPPOSITE PAGE

TOP - A general view of the museum with the former Ridgeway Station and 6218 alongside.

FAR LEFT - Giving the address of welcome, His Worship, the Mayor of Fort Erie, John Teal.

LEFT - President of the Fort Erie Historical Railroad Museum, Ken Raynor, addressed the throng prior to the ribbon cutting.

BOTTOM - A sketch map of Fort Erie showing the location of the museum.





# 6060



## ABOVE

The cake that was presented to Fred Rowell. It was big enough to provide a piece for each of the CN crew on the train as well as each member of the safety crew, and the people manning each of the publication sales booths. (D.W. Smith)

## LEFT

Betty Ball and Fred Rowell at the initial presentation in Union Station to the 10,000th. passenger. (J.D. Morgan)



## LEFT

Betty Hurlheie of CN Passenger Sales and Service with Art Eyres, President of the UCRS, with Betty Ball, the 10,000th. passenger to travel on the Niagara Falls trip. (J.D. Morgan)

## RIGHT

Betty Hurlheie making a presentation to Joe Cook, who hasn't missed a 6060 excursion to date. (J.D. Morgan)



Canadian National's last operating steam locomotive finished a successful excursion season this year and the prospects for next year appear to be even better.

During the summer, from June to September, the big "Green Machine" was run from Toronto to Niagara Falls and return on Saturdays as a regular feature. The runs were even mentioned in the regular CN timetable and marked "Steam Special".

Leaving Toronto, the train stopped in Hamilton for servicing and to pick up passengers in Hamilton. On arrival at Niagara Falls, patrons had the choice of spending time in the Falls or taking the side trip from Niagara Falls to Yager and return. On the side trip, there were 2 runpasts held for the benefit of the photographers.

Just prior to departure for Toronto, the entire train was backed out onto the Whirlpool Railroad Bridge in order to give the patrons a view of the Niagara River that not too many people get to see.



# SEASON WRAP UP

The trips were run by the Canadian National Railways, but safety crews were provided by the area railfan clubs, (C.R.H.A., O.R.A., and U.C.R.S.) Ticket sales were also handled in a co-operative effort by the CN, C.R.H.A., O.R.A., U.C.R.S. and the Buffalo chapter of the N.R.H.S.

After the first one or two trips, it was a sellout each Saturday, which saw 6060 hauling an average of 11 cars.

The 10,000th passenger was Mrs. Betty Ball who was presented with souvenirs of the trip by Canadian National, the City of Niagara Falls as well as the participating rail clubs. At the same time a presentation was made to Joe Cook, who has yet to miss a 6060 trip.

Following the end of the Niagara Falls trips, there were two other excursions held with the loco before the end of the season.

The first trip was to Peterborough and it had a side trip to Anson Junction for people from Peterborough. The second trip was run to Gravenhurst in what turned out to be a glorious fall day. That trip also featured a side trip, this time to Washago, when she did what could be called her "Continental Act", running tender first from Gravenhurst to Washago. At Washago, she was run around the train for the run back to Gravenhurst. Although it is quite common in Europe, it is rare in North America for a locomotive of the size of 6060 to run a train any appreciable distance especially a passenger train, that way.

After the excursion season was over, Fred Rowell of CN Passenger Sales and Service, who was in charge of the 6060 excursions, was presented with a "Misty Award" by the Region of Niagara Falls. The award is presented to someone outside of the Niagara Region who has worked diligently to promote tourism to the Niagara Region. It was an award that was well-earned.

RIGHT  
6060 during the service stop at James Street Station in Hamilton, Ontario. (J.D. Morgan)



ABOVE

Mary Layton of the Upper Canada Railway Society with Bruce Kearny, CN Master Mechanic and engineer on the Gravenhurst trip and Fred Rowell of CN Passenger Sales and Service. Fred's T-shirt, presented to him earlier that day by Mary, reads "6060 Loves Me" (D.W. Smith)

RIGHT

Fred Rowell during the presentation - a cake was presented to Fred on the Gravenhurst trip for his efforts in running the trips over the past year. (D.W. Smith)



# BOOKS

IN  
REVIEW

LONDON TRANSPORT POSTERS

BY MICHAEL F. LEVEY

P.B., BURNS & MACEACHERN \$10.50

This is the second book of London Transport posters to be published. The first was issued by London Transport in the 1960's it tended to centre on the 1930's to the present day and concentrated more on the art than the poster.

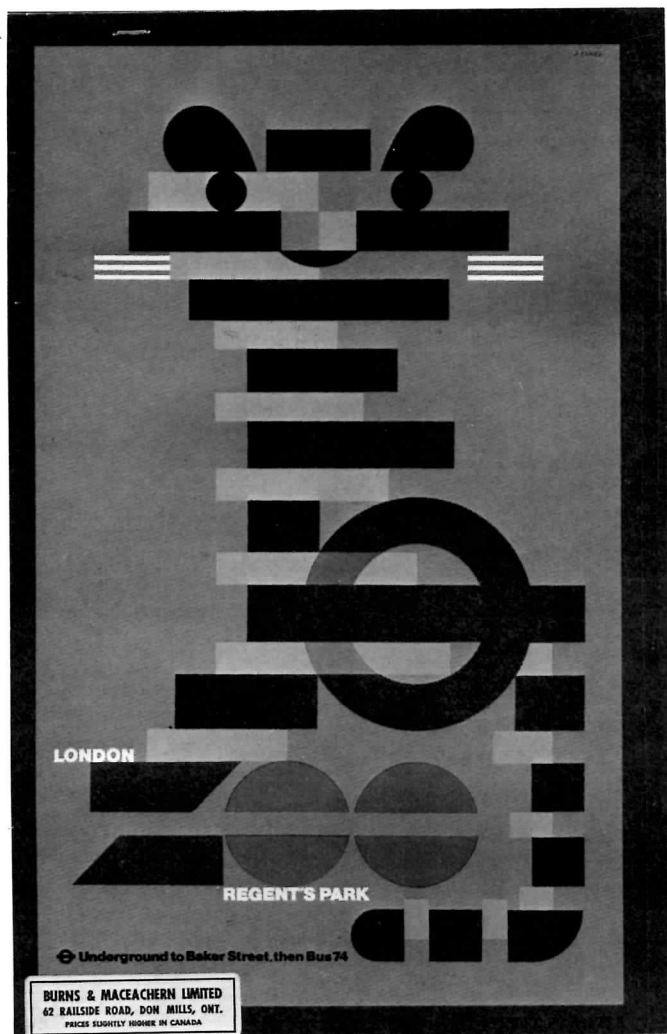
In this book Michael F. Levey, who is London Transport's publicity officer, shows us the development of the poster and its art work as well as the development of the LT system that they reflect.

London Transport Posters follows the entire historical mosaic of the London Transport system. There are examples of the District Railway material as well as London United Tramways and London County Council Tramways posters along with the 'Underground' group of railways. For the bus fan, the book contains material from the London General Omnibus Company and their Country Bus subsidiary. Inevitably the posters contain numerous drawings of vintage road and rail equipment.

The subject material is not restricted to service advertising, it covers patriotic endeavours from both World Wars and could act as a useful 'where to go' book for the visitor to London. There is one thing that London Transport material is famous for and that is the calibre of the artists. This book contains the work of E. McKnight Kauffer, Mabel Lucie Attwell, Rex Whistler, Graham Sutherland and many others, the work dating from 1908 to 1976.

London Transport Posters is a soft bound volume 8"x11" and contains 80 posters, reduced from their original 40"x25" format, of which 64 are colour. There is also an informative chapter giving a full background to the posters and London Transport's poster policy as well as a plate by plate descriptive index.

This book is a must for the transit fan with an artistic lean and would make an excellent addition to any railfans library, as it is a definite improvement on the first poster book. RL



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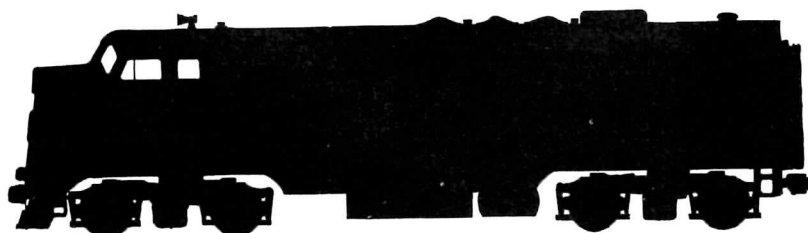
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Restored Peter Witt car 2424 turns west at Dundas and Victoria Streets on open track caused by a repaving job. The car was on a U.C.R.S. charter in May 1976. (R.W. Layton)



# TRACTION TOPICS

EDITED BY Mike Roschlau

## TORONTO LRV DEVELOPMENTS

At its meeting on 9 November 1976, the TTC approved a proposal from the Urban Transportation Development Corporation (UTDC) that the present order for ten standard 4-axle LRVs with the Schweizerische Industrie Gesellschaft (SIG) be changed so that the TTC receives six 4-axle cars and two 6-axle articulated cars. The UTDC is anxious to include an articulated LRV in its "family of vehicles" on the market and feel that now is the opportune time to get underway with the production of such a prototype. Although these two 23-metre long vehicles will be UTDC-owned and may present some operating, storage and maintenance difficulties, they will be considered an active part of the TTC roster. The UTDC hopes that this six-axle car will be the one chosen for the proposed Scarborough light rail line. In the meantime, it should be interesting to see over which TTC routes the vehicles will operate in revenue service.

The six-axle cars will have a different operating characteristic, namely a slower acceleration rate (because the centre truck is not powered), but will have a higher top speed. In designing the LRV, UTDC staff are making use of the technology in the four-axle version to cut development cost and, ultimately, the market price.

A model of the six - axle articulated 23 metre vehicles, two of which are being built for the UTDC by SIG in Switzerland. These two vehicles will become part of the TTC roster and are expected to be delivered in early 1978. (TTC)

Delivery of the first six single cars from SIG will be as scheduled - between September and December 1977. It is expected that the two articulated vehicles will follow about six months later.

The contract for the 190 Canadian-built 4-axle LRVs is expected to be awarded in March. Although several firms are involved in the bidding, the likely winner is General Motors Diesel Ltd. of London Ont. GMD is presently in a slump, is an Ontario company located close to Toronto and has the capacity, if not the expertise, to build the LRVs. Hawker Siddeley, the other prime contender, is presently too busy with orders for TTC subway cars, GO Transit double-deck cars, export rapid transit cars and other export railway passenger cars.

## HAWKER GETS BOSTON CONTRACT

The Massachusetts Bay Transportation Authority (MBTA) has awarded a \$90.4 million contract to Hawker Siddeley Canada Ltd. for the construction and delivery of 190 rapid transit cars. The order is comprised of 120 cars for the Orange Line and 70 cars for the Blue Line. The unit price for the cars is \$459,453 and \$446,900 respectively.

Both types of the cars will be air conditioned and have identical heating and ventilation systems, fluorescent lighting, a two-way train inter-communications system, public address system, 6.25mm thick gray-tinted safety glass windows, 3mm thick rubber tile flooring as well as longitudinal and transverse seats. The upholstered seat backs and cushions (as a contrast to the bare fibreglass seats in cars presently in use on these lines) will be of self-extinguishing neoprene foam.

## RIGHT

An artists conception of the UTDC's Advanced Technology Train powered by linear induction. This is another type of intermediate capacity rapid transit operating with steel wheels on steel rails. (UTDC)

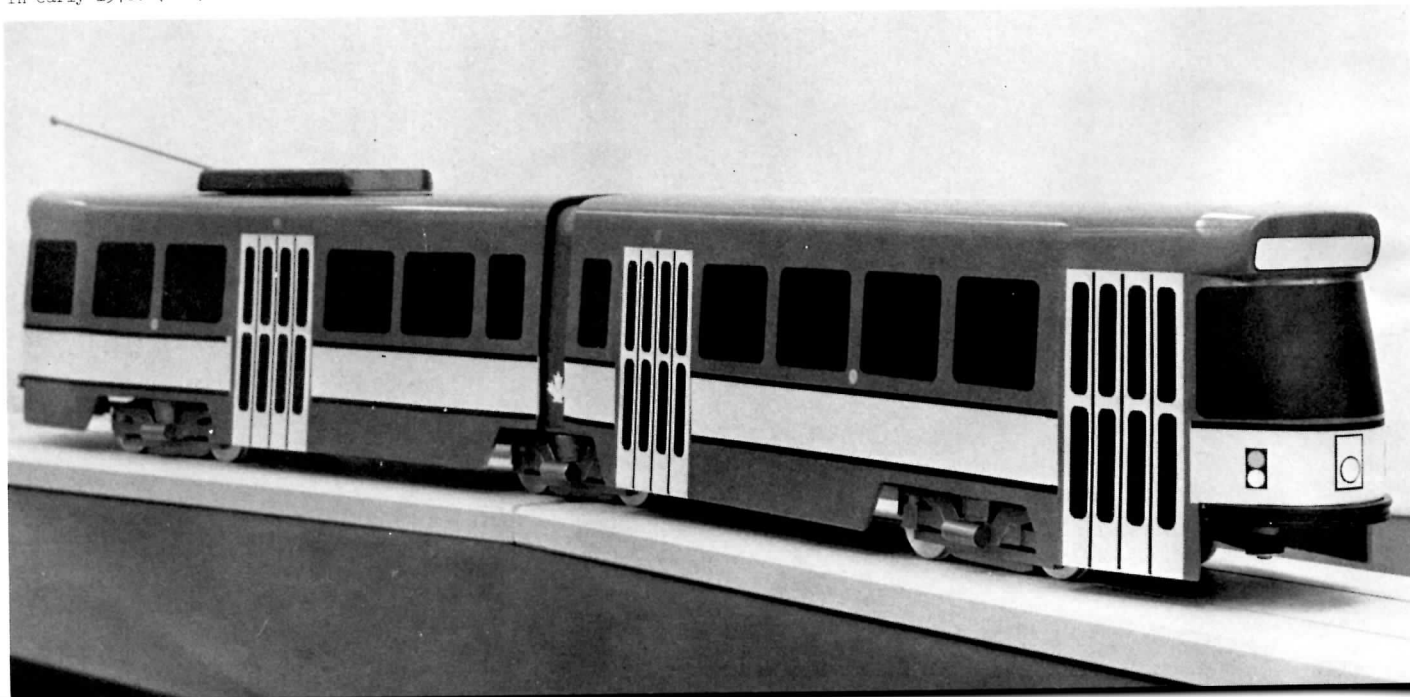
The cars will be single-ended with a full-width transverse cab at one end for the motorman or guard. They will have a maximum speed of 105 km/h. Their acceleration rate will be 4 km/h per second and the braking rate, 4.4 km/h per second. The car bodies will be made of Cor-Ten steel and painted the colour of the line on which they will operate.

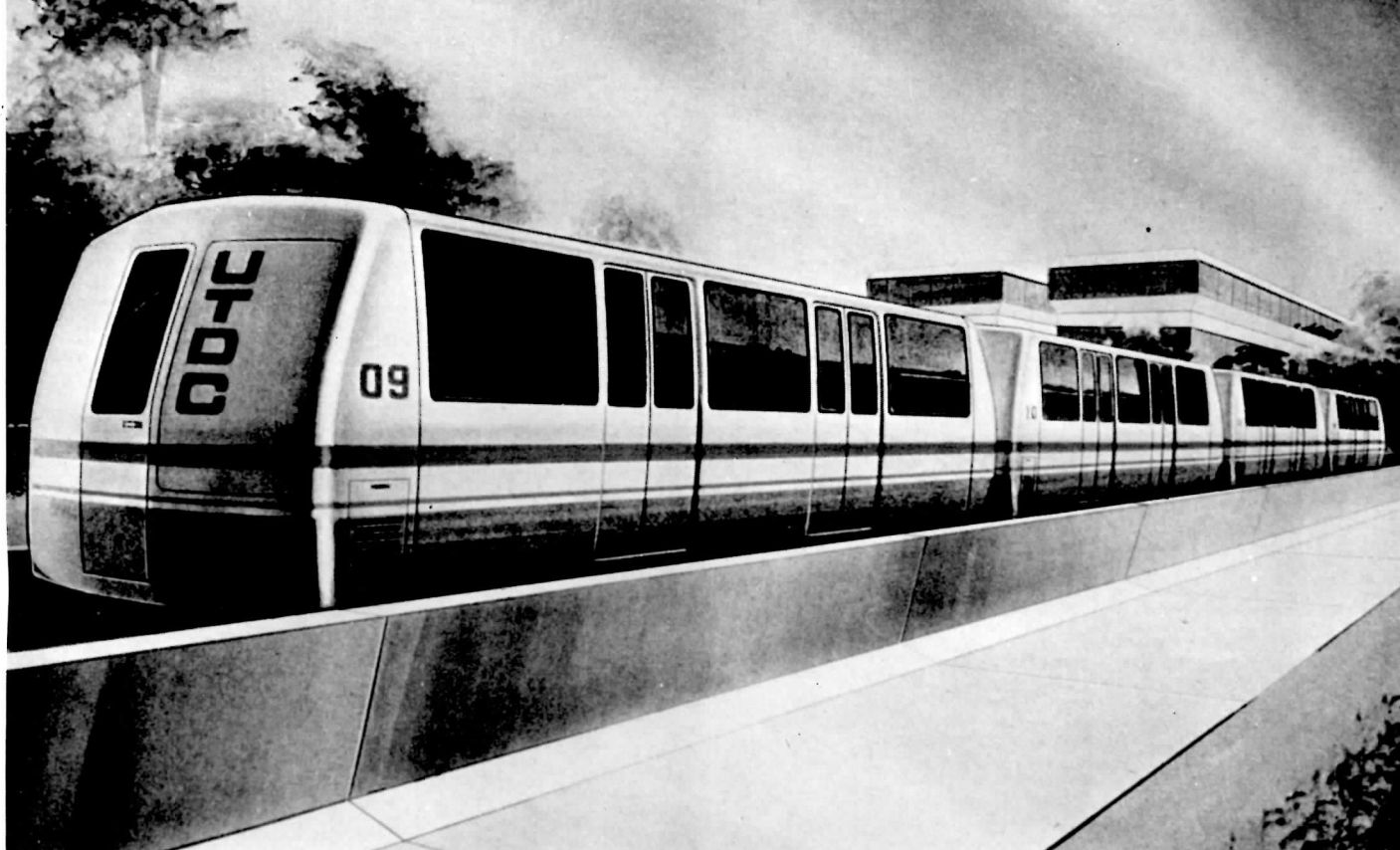
The delivery schedule calls for the 70 Blue Line cars to be in Boston by October 1978, at least four Orange Line cars by the end of October 1978 and the remaining Orange Line cars by the end of July 1979. The Blue Line cars will be 19.6 metres long and weigh 30 tonnes. They will have three 1.2 metre wide doors per side and will carry 58 seated passengers and 155 standees for a total of 213 crush load passengers. The Blue Line cars will be 14.6 metres long and weigh 27 tonnes. They will have two 1.2 metre wide doors and carry 40 seated passengers and 107 standees.

The cars will be manufactured in Thunder Bay Ontario.

## RIGHT

This is a view of the preliminary construction of the underframe of one of the six 4-axle single - unit LRV's being built in SIG's plant near Schaffhausen, Switzerland. (SIG)





#### UTDC TRANSIT TEST FACILITY

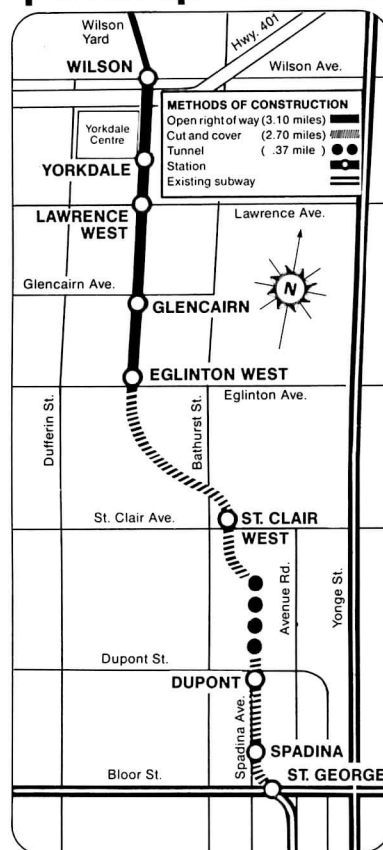
In a move anticipated for some time, the UTDC on 23 November 1976 announced plans for the construction of a major rail transit test facility to be located 16 km west of Kingston Ontario in Ernestown Township. To be known as the UTDC Transit Test and Development Centre, this \$17.2 million 190 hectare (2376 x 787 metres) site is to be completed in 18 months time. The centre is to test the two rail technologies presently being developed and marketed by the UTDC. These are light rail transit and the advanced technology rail system. The latter system has evolved from the recent misadventure with the Krauss Maffei magnetic levitation concept. The advanced concept technology is another intermediate capacity transit system that basically envisages trains of small vehicles operating on steel rails and powered by linear induction. An automated train control will be another feature of this concept.

The LRV test track will be a 4.8 km closed loop with all track constructed at grade. There will be two 2 km tangent sections in the loop.

The Advanced Technology test track will be a 2.5 km closed loop including a 410 metre elevated section and station. This track will demonstrate station, switch and line headways; entraining and decoupling; precision stopping, failure simulation; noise levels; ride comfort, curve negotiation, grade climbing and track stability. The contract for the development of this system, complete with vehicles, has been awarded to Canadair Ltd. of Montreal.

A large, two-storey building (48m x 48m) will provide storage and maintenance for both types of rail vehicles and ultimately provide employment for up to 200 people. Both test tracks should be operational by the summer of 1978. This will permit the two six-axle LRVs from SIG and the first production models of the Canadian-built 4-axle LRV to be tested at the Kingston facility.

#### Alignment of the Spadina Rapid Transit Line





ABOVE - The interior of Dupont Station as it looked on 29 September 1976. Note the side platforms and the overhead mezzanine level with the 3 - storey high centre pillar in the foreground. (Ted Wickson)

BELOW - To facilitate construction of St. Clair West Station, the streetcars on St. Clair Ave. had to be diverted. Here overhead wire is installed for the diversion. New tracks swing to the left, the view looking west. 16 Oct. 1976 (EAW)



An interior view of Glencairn Station with its curved walls, centre platform and glass covered centre skylight. Taken on 13 October 1976. (TTC)



ABOVE - A view of Yorkdale Station looking north. The station will complete open with a roof covering the centre platform. At left centre is the Yorkdale Eaton's store. (Ted Wickson)

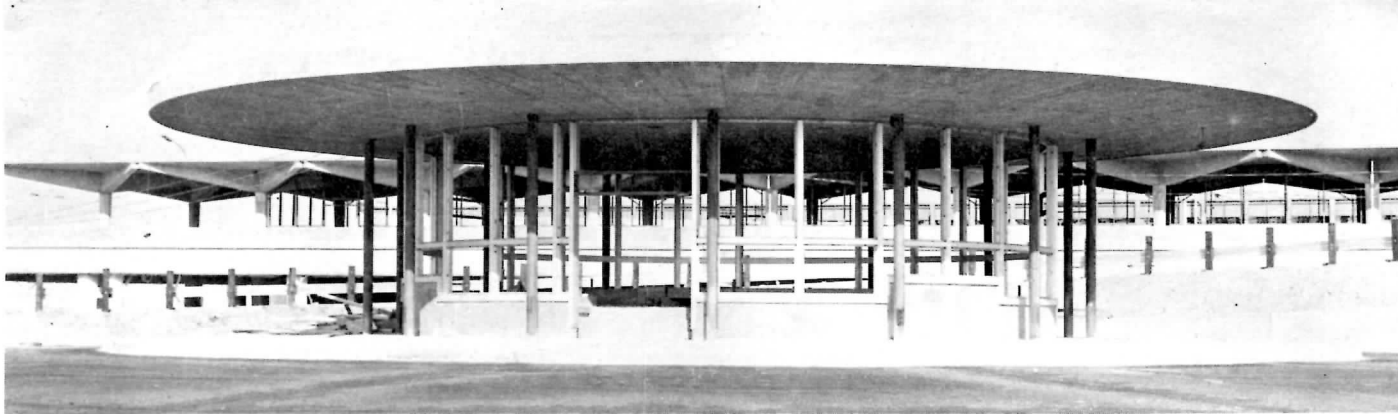
BELOW - This view shows track laying on the south side of St. Clair Ave. looking east. At left a service car passes on the regular trackage. This shot was taken 29 September 1976. (Ted Wickson)



The crossover to the south of Wilson Station looking north. On either side of the right of way are the lanes of the Spadina Expressway and at the left is the bus terminal. (Ted Wickson)



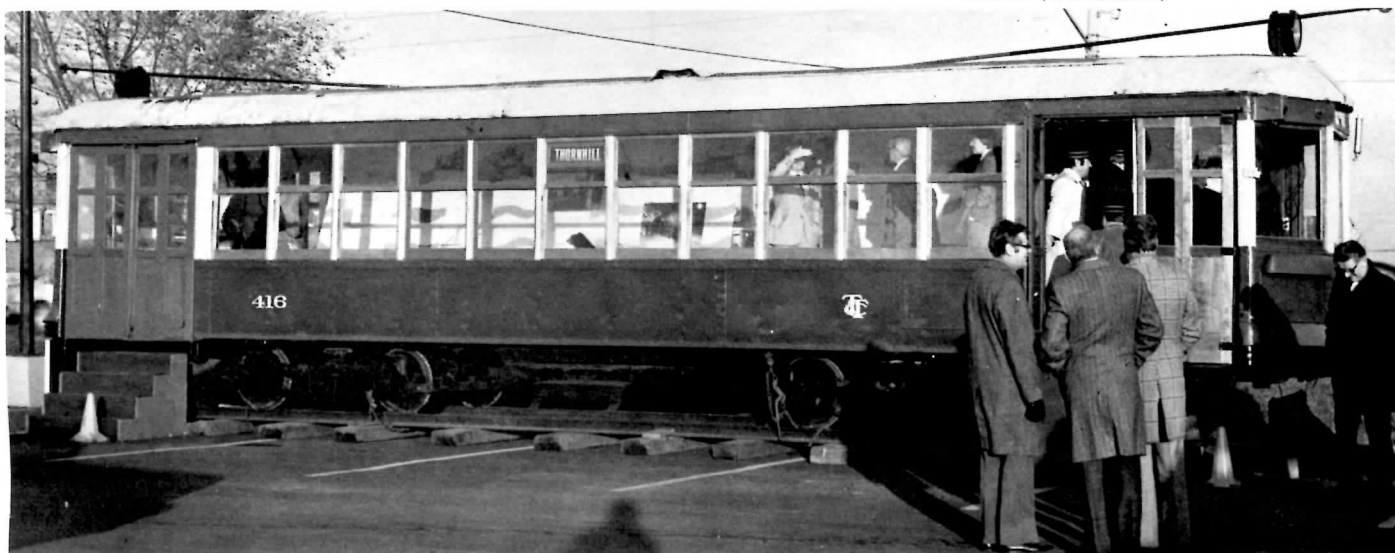




ABOVE - The kiss-and-ride carousel at Wilson Station is almost identical to the existing one at Finch Station (Ted Wickson)  
LEFT - 17 Oct. 1976 sees #4509 eastbound on the temporary trackage on St. Clair Ave. On the right is construction of the St. Clair west subway Station. (Ted Wickson)

.....Effective 7 February 1977, all multiple unit streetcar service of the QUEEN line was discontinued and headways improved by the operation of single cars during rush hours. Every second car now turns short at Sunnyside Loop during peak periods with the others continuing west to Humber.....The TTC's 1977 budget has revealed the following streetcar track jobs planned for this year: Carlton Street from Parliament to Ontario; Dundas Street East from Parliament to River St.; Gerrard Street East from Woodbine to Norwood; Queen Street West from Claremont to Shaw; and St. Clair Ave. West from Bathurst to Winona.....Also included in the budget over the next two years are plans to build a combined streetcar and trolley coach loop in the new Eaton Centre with access from Bay Street. Both St. Clair and Queen subway stations are to be completely refinished to the same extent that was undertaken at St. Andrew and Osgoode and, finally, an additional bus platform will be constructed at Islington Station for use by Mississauga Transit.

BELOW - An historic occasion took place in Richmond Hill on November 28. This date ended an era of TTC transit service to the town north of Toronto. GO Transit has taken over the service north of Finch Station. The service was originally operated by the North Yonge Railways and then TTC radial trams. To mark the occasion, a display adorned Hillcrest Mall including car #416, belonging to the O.E.R.H.A. The view was taken on 19 November. (Ted Wickson)





The Edmonton Transit System (ETS)'s new \$65-million rail transit system is on schedule for a 1978 opening. Construction of the 1.6-kilometre downtown subway is nearly completed and the shell of the Central Transit Station, one of the two underground stations, is ready for finishing. Construction started on the second, Churchill, late in 1976.

Inflation has raised the project cost from \$55 million to \$65 million, but the city has made a wise move in building the rail transit system at this time, rather than holding back a few years, which will save the city millions of dollars.

Track grading has been completed for the 5.6-km surface portion which extends northeast. The new double-tracked rapid transit line will lie within the Canadian National Railways' right-of-way. This is quite wide at this point and leaves ample room for a service track north of the transit line. This right-of-way is a branch of the CNR line that loops south from the main line, runs through the city and then swings back to join the main line on the west side.

Continuously welded 100-lb. rail is being installed, which was welded by CNR at its Winnipeg rail plant and will be laid on wooden ties except in the subway and under the CN overpass where concrete slabs will be used.

Electrification of the line will be completed in 1977 so that test runs of the new cars and operator training can be carried out before the opening. Edmonton Power, a city department, is the consultant regarding power.

It's difficult to describe the new system as it could be called light rail or heavy rapid transit. Since the cars load from high-level platforms and not from the street, it should be called intermediate transit.

Edmonton's northeast area has been mushrooming and experiencing some growing pains in the process. Traffic congestion and slow, overcrowded buses and trolley coaches have produced demands for improvement. While expressways had been considered, two objections have arisen: residents of the areas involved strongly oppose any disruption of their community environment by the addition of further automobile traffic. Secondly, it is felt that any advantage offered by an expressway would be lost in a relatively few years as further growth in traffic from the northeast takes place. Furthermore, rail transit solves transportation problems and is an efficient energy user while expressways create traffic problems and use energy very inefficiently.

Actually, the rapid transit system will complement the present bus and trolley coach system. Operating entirely on a private right-of-way, it will remove traffic from the road system and save the heavy costs of expressway construction. In addition, 1.6 kilometres of the line will be under the bustling commercial core of downtown Edmonton. Consequently, a substantial amount of traffic will also be removed from central business streets. Studies have shown that a somewhat equivalent bus service would have required major improvements to the central streets. These improvements would end up costing as much as the vastly superior rail transit system.

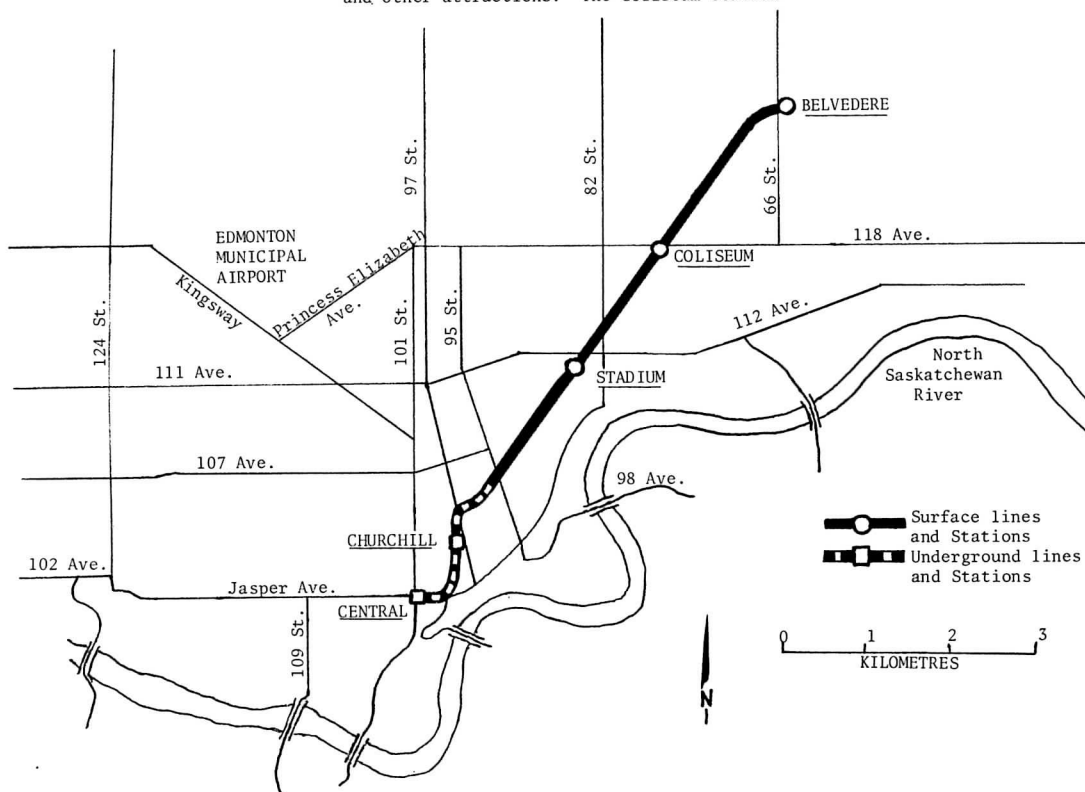
The Central Transit Station will be more than the downtown terminus of the line. It will include a small mall with shops and exits will lead directly to a number of downtown buildings. The second underground station, Churchill, gives access to the public library, art gallery, the new Citadel Theatre and Churchill Square.

The remaining three stations are above ground. Two of them are planned to handle the crowds visiting major public complexes. Thus the Stadium Station serves the sports enthusiasts who will be able to avoid traffic jams when going to Eskimo football games and other attractions. The Coliseum Station

Trains will be operated by one motor-man only. Operational safety is provided by a block signal system with wayside signals and automatic track trips. The eight grade crossings on the surface line will be protected by gates and flashing lights. The 14 Düwag cars will essentially be identical to Frankfurt's U-2 cars except for high-level loading, causing car floors to be level. However, certain modifications will be made to cope better with Edmonton's severe weather conditions (temperatures often reach -35°C during winter months).

The ETS is city-owned and operated with a 25¢ fare. Monthly passes cost \$10., are transferable and are used by about half the riders. Transit ridership is very high - about 100 riders per capita per year. Despite the low fare, ETS has come close to breaking even in recent years. In fact, the system gets about 80% of its operating costs from the farebox. On the capital side, it receives annual grants from the federal government.

The rail system has been designed for a peak hourly flow of 5000 to 6000 people per hour in each direction. This level of traffic is expected to be obtained within two years of operation. On an annual basis, the rail transit system is expected to carry about 9.5 million riders. The grand total of the entire transit system is expected to reach 84 million by 1978. The bus patronage is continuing to grow at a rate of 11% annually. Calculations of increased transit ridership are not based on population growth alone, but rather they include an allowance for increased per capita riding. This type of increase follows logically as traffic congestion builds up on the streets and as costs of driving continue to rise. is expected to handle the largest crowds of any. It serves both the Coliseum (home of the WHA's Edmonton Oilers hockey team) and the Exhibition Grounds at Northlands Park. This is where the Klondike Days festival is celebrated every year.



Free transfers will be in effect between the LRT line and the bus system, the latter being re-oriented and integrated with the rapid transit line. Some routes will become crosstown rather than downtown oriented, providing better service to secondary centres while, at the same time, connecting with fast downtown trains.

Belvedere, the fifth station, will be the northern terminus of the present line. Plans for a continuation along the CN line are subject to further consideration. Belvedere will be an especially important station as an interchange point between the rail system and buses, although all stations serve as transfer points. To make this work efficiently, ETS people are planning carefully co-ordinated schedules in order to make the service as convenient as possible. The total daily ridership is expected to reach 20,000 to 30,000 within two years.

A number of factors have contributed to the relatively low cost of the new transit system. One of these is the purchase of a standard off-the-shelf car design from Düwag. This same type of car, the U-2, is in use on rapid transit lines in Frankfurt Germany. Another favourable factor is the choice of the no-frills light rail mode. This is especially suitable for medium-sized cities like Edmonton, Calgary, Hamilton, Ottawa and Quebec. These are cities with growing traffic problems and needs for mobility. The citizens of such medium-sized cities want to preserve their environment and maintain their quality mobility for all groups and ages. Cognisance of the energy shortage also plays a role in such decisions.

Operation of the initial rapid transit line will be by 14 articulated LRVs. Components for the first units are now under construction in West Germany by Düwag and will be shipped in time for a May 1977 arrival. Siemens Canada Ltd. is a prime contractor on the cars and Northwest Industries Ltd. of Edmonton will do the final assembly of the cars.

Each six-axle articulated unit is 22 metres long with four doors on each side. The two monomotor end trucks are each powered by a single 150 kW electric motor which drives both axles. The cars will be 2.6 metres wide and may be used in multiple unit trains of up to five pairs. Each unit seats 70 passengers and has a normal capacity of 160. Crush load is 220 persons.

The outer rapid transit stations will have some parking facilities but Edmonton is counting more heavily on buses and trolley coaches for shuttle service to the trains than autos. Though the city has an extensive 600-volt d.c. power network for its trolley coaches, the two will not be tied together for fear of ground current problems. The electrical contracts have been split three ways: Siemens Canada, Brown Boveri and Markham Electric, a Canadian company which will use some British components, will supply the electrical equipment.

Fortunately for Edmonton, it does not have to build a new transit car maintenance shop. It can renovate an old streetcar shop which has been used for bus maintenance since World War II. The cost is \$480,000 plus \$50,000 for built-in fixtures.

The colours of the interior of the H-5 Subway cars are identical to those of H-2, 3 and 4 class cars, but the seats are rather different in that they are now individually molded with other padding. Note also the smooth ceiling as there are no fans. (Ted Wickson)



ABOVE - The second of the new H-5 subway cars #5671 was delivered to the TTC's Greenwood Yard on 12 October. Since the cars are air-conditioned, there are no ventilation fans and hence a smooth roof appearance, the usual louvres being eliminated. The ends of the cars have been simplified structurally, and the extensive application of black paint has caused a different appearance from the cars previously built by Hawker-Siddeley. (Ted Wickson)

#### ARRIVAL OF NEW TTC SUBWAY CARS

On Tuesday 12 October 1976, H-5 subway cars 5670 and 5671 arrived on flat cars at Greenwood Yard. They are the first two cars of a \$65.7 million, 134-car (recently changed to a \$67.7 million, 138-car) order being

built for the TTC by Hawker Siddeley Canada Ltd. in Thunder Bay. They will be used on the Spadina Subway and to meet additional demands for service on the existing subway system. The design of the new cars is somewhat different from previous models built by this manufacturer. Exterior restyling on the car ends has given them a simpler appearance and a new look with the extensive application of black paint. Other changes include, for the first time on a TTC vehicle, air conditioning, cantilevered seats and engineering improvements in truck design and sound dampening. The first few H-5 cars will not enter service until extensive tests have been completed, especially on the Garrett chopper controls and on the new trucks.



# TTC SUBWAY FIRE

On Friday 15 October 1976 at 1:47 a.m., TTC Transit Control Centre received a radio call from the motorman in charge of run #57, a westbound subway train, at Dufferin Station. He reported to the Control Centre that he had seen a fire in the rear car of eastbound subway train run #77 as it departed Dufferin Station.

The train crew on Run #77 was contacted and at Christie Station, the motorman and guard evacuated the passengers from the train to street level. The train crew and passengers suffered smoke inhalation, as did the crew of the following eastbound train, which was operating out of service and carrying no passengers. They were all treated at hospital and subsequently released.

The subway train involved in the fire was the last scheduled passenger train travelling eastbound from Islington to Warden Stations. It consisted of subway cars 5493, 5492, 5391, 5390, 5389, and 5388, the last three of which were totally destroyed and 5391 severely damaged. There was also some damage to the other two cars. These six cars were manufactured in 1965 by Hawker Siddeley Canada Ltd. and their replacement value at today's costs was estimated to be approximately \$500,000 each. In addition to the train damage, there was also extensive fire damage to Christie subway station.

During the morning rush hour period, shuttle buses provided service east and westbound on Bloor Street between Ossington and St. George Stations and other feeder routes were diverted to provide better connections. The heavy surface shuttle bus service was augmented by limited, single track subway operation.

TTC work crews were on the scene all day at Christie Station and removal of the demolished subway cars from the track area involved cutting the car bodies with blow torches. This was a difficult and time-consuming job which was carried out on an around-the-clock basis on Friday and Saturday. Complete subway service was restored on Sunday morning 17 October.

The cause has been attributed to arson and the fire was incendiary in origin and not electrical.

The four cars lost (5388, 5389, 5390 and 5391) were insured at a value of \$464,000 each and the other two cars, 5492 and 5493 have since returned to service. The lost cars will be replaced since the TTC has added an additional four cars to the 134-car order presently being filled by Hawker Siddeley. These cars (#5804-5807) will be priced at \$492,000 and be delivered as the last four cars of the now 138-car order of H-5 cars (5670-5807). The difference between the insurance payments and the cost of the four new cars (mainly due to inflation) will be borne by the TTC.

The result of the devastating fire at the Christie Subway Station is seen here, looking east along the eastbound platform. Note how the entire upper half of the cars has disintegrated, but the undercarriage visible behind the coupler seems unaffected. The entire station lighting had to be renewed and the grease and grime on the ceiling, walls and terrazzo tile floorings had to be removed. (TTC)



BELOW LEFT & RIGHT - These two views show the inside of subway car 5388. Note the remaining seat frames and the fact that the car floors are still solid. Although it is not evident in these views, there is no roof on the car and only portions of the walls remain. (Both photos TTC)





# PHILADELPHIA SHIPMENTS COMPLETED

The 30th and last car in the sale of second-hand PCC cars to Philadelphia was recently shipped from Toronto. This car, class A-14 (ex Kansas City) number 4779, made its last revenue run on Monday 25 October 1976 on 38 run Earlscourt: out at 6:44 a.m. and in at 9:42 a.m. The car was then operated to Hillcrest Shops for re-gauging. Number 4779 was loaded onto a flat car on 19 November and picked up by CP Rail on 22 November. This class is now extinct in Toronto with the exception of two derelict cars, numbers 4766 and 4774, which are about to be scrapped.

BELOW - A pair of shop trucks is rolled off the flatcar after returning light from Philadelphia. These trucks were used under the cars during loading in Toronto and during transit since they are TTC gauge and the actual trucks had already been converted to standard gauge for use in Philadelphia. (EAW)



BELOW - A TTC front end loader prepares to push #4779 backwards up the loading ramp and on to the waiting flat car at Hillcrest Shops on 19 November. Note the CN tower in the background above the cars advance warning light. (Ted Wickson)



BOTTOM - Ex- Kansas City PCC car #4779 is the last of its class (A-14) to ride the transfer table inside TTC's Hillcrest Shops on 19 November 1976. Railfans may wonder whether any sentimental feelings existed in the hearts of the shop crews or operators who used to work with these cars. (Ted Wickson)







*Rail and Transit*