

Canadian Rail

October
1966

Number 181



couverture

DIFFERENT AND UNUSUAL, perhaps even quaint, are words which can be used appropriately to describe Canada's second municipal underground rapid transit system, which was opened ceremonially on Friday, October 14th, 1966, in Montreal. Canada's first such system, opened in Toronto twelve years ago, was influenced in many ways in its decor by the transit system of London, England. By way of contrast, the new Montreal system has distinct European overtones, imparted by the technical advice of the Paris transport authorities and the use of their rubber-tired system, and by the "avant-garde" treatment of visual, architectural aspects.

Typical of the system is the view which forms the subject of our cover this month. Taken by Omer Lavallee, it illustrates the middle level at the hub of the Montreal Metro network, Berri-deMontigny Station, with trains on east-west Line No. 1. The vantage point utilized by the photographer is a "balcony" at the Line No. 2 level. Line No. 4, still to be opened, is one level lower than the trains shown in the photograph.



THE SHAPE OF THINGS TO COME: The characteristic profile of the diesel-electric locomotive of the mid-Nineteen Sixties is exemplified by this pair of low-nosed GMDL SD40 road freight locomotives shortly after their delivery to Canadian Pacific Railway. Nos. 5503 and 5500 were captured by the camera of Bill Linley of Ottawa, as they left Smiths Falls, Ont., westbound with train No. 903 on August 25th, 1966. Sixty-five SD40s have been ordered by the CPR, and delivery of them all is expected to be completed by the first quarter of 1967.



et maintenant.....



Ed McNally -- The Montreal Star

...MÉTRO!







fēlicitations!

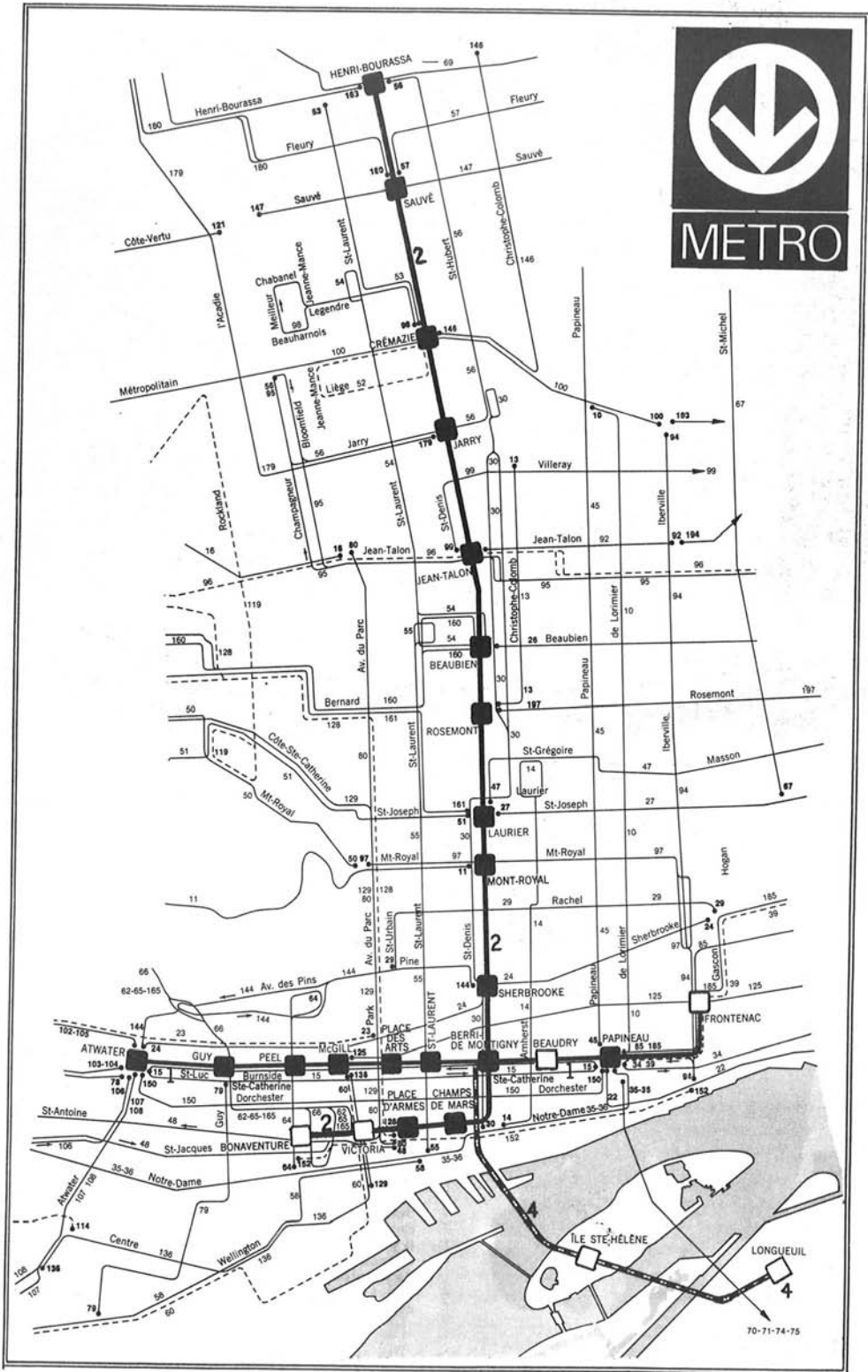
MONTREAL'S RUBBER-TIRED METRO SYSTEM was officially opened on Friday, October 14th, 1966 when, in extensive ceremonies at Berri-deMontigny Station, Mayor Jean Drapeau of Montreal and French minister of state Louis Joxe unveiled a medallion commemorating the event. Seven thousand invited guests, which included a cross section of the political and educational community as well as ordinary citizens who lived in the vicinity of construction and put up with its inconveniences, were carried from each of the other nineteen open stations to the system centre at Berri-deMontigny after M. Joxe blew a whistle starting all trains. It took 44 seconds for those closest to Berri to arrive; those farthest from the scene of the ceremony took 14 minutes to get there.

Upon arrival, they were greeted by a brass band and were witnesses to the opening ceremonies which lasted more than an hour and included a religious blessing of the network by His Eminence Paul-Emile Cardinal Leger, Roman Catholic Archbishop of Montreal. Small difficulties intervened, such as a complete failure of the public-address system, but these hardly marred the enjoyment by the participants of an event which must stand as one of the major ones in the history of Montreal. Metro was opened to the public officially at 4:30 PM and weathered its first "rush hour" creditably, despite lack of familiarity with the system by passengers with station layouts and the inevitable myriads of questions -- all difficulties which had been anticipated.

In order to do a "reportage" for CANADIAN RAIL, Jim Sandilands, Denis Peters and myself deferred an appearance until Sunday, October 16th when, after an unsuccessful attempt to enter the Metro station at Henri-Bourassa owing to the fact that a couple of thousand lined-up Montrealers had the same idea, we managed to "make the scene" at Place d'Armes Station, under Craig Terminus and sample what must surely be one of the world's "different" transit systems, with a unique character and decor all its own.

The photo essay which occupies this issue of our magazine will attempt to convey some of our first impressions of Metro, both factual as well as humorous, and in spite of some personal reservations as to the technical aspects of the rubber-tired system, we think that it is, on the whole, well and tastefully done. In concept, it is a credit to Montreal and to its mayor, Jean Drapeau, who did what other mayors and administrations have only talked about for more than half a century.

OMER LAVALLEE





27 NOVEMBRE 1861
INAUGURATION DU TRANSPORT PUBLIC
À MONTRÉAL

INAUGURATION DU MÉTRO
DE MONTRÉAL
14 OCTOBRE 1966

A large medallion with an outline of a horse car and bearing the above inscription stands on the mezzanine level of the Berri-deMontigny station of the Montreal Metro underground system. It commemorates the official opening of the first rapid transit system serving the City of Montreal proper, and the commencement of operation of trains over the 12.6 miles of Lines 1 and 2 of the Metro which was built by the City of Montreal, but is administered by the Montreal Transportation Commission. The medallion was unveiled by M. Louis Joxe, Minister of State of the Republic of France, in the presence of Jean Drapeau, Mayor of Montreal and Lucien l'Allier, Chairman of the Montreal Transportation Commission. M. Joxe's part in the ceremony was an acknowledgment of the technical advice afforded by French engineers in the construction of the system, whose principal feature is the use, for the first time, of rubber-tired rolling stock for a complete transit system.



THE INTERNATIONAL SIGN for "Information", a large capital "I", prominently identifies the information booth in a Metro station. Information man doubles as ticket seller and money changer. (Photo MTC)



A LOT OF THINGS ABOUT METRO are different, but the smell ? -- its unique ! It reminds you of the distinctive odour of a dry-cleaning establishment, where steam clothes-pressing machines are constantly in use. Its cause, not immediately apparent, is a mixture composed partly of the friction of the rubber tires on the concrete runways, and partly of the wooden brakeshoes rubbing against the steel flanged wheels of the cars.

Then there is the architecture -- commendably bold, imaginative and quite unlike any transit architecture elsewhere. Not as elaborate and extravagantly rococo as its namesake in Moscow, neither is it, as someone has said, a system of tunnels connecting a series of lavatories without plumbing. Each station has its distinctive treatment in patterns of brick, concrete or coloured glazed tile, or combinations of these media. All have been designed with an eye for the train-watcher, nearly all, for example, having balconies overlooking the trains and platforms.

Arming yourself with one of the new magnetically-encoded tickets, you approach the turnstiles. Offering the ticket to the machine, it literally grabs it out of your hand and digests it silently. Simultaneously, the turnstile releases and permits you entrance to the station mezzanine where other machines, at the press of a button, offer an unpretentious blue slip imprinted with hieroglyphic notations, which is really a transfer. As you descend the wide steps or escalators to the track level, you comment to yourself -- "This isn't North America; Stockholm, Madrid, Vienna, maybe; but not North America". The illusion is heightened as you walk out upon the platform of the distinctively-styled station and notice the complicated track, and the fact that the platform slopes ever so gently away from the edge closest to the train.

The impression of international urbanity is heightened as you look up at the twenty-four hour numerical clocks, whose installation is sponsored by one of the chartered banks. This one says " 19 53 ". You listen to the explanation which a wordly-wise French-speaking citizen offers to his wife: " That, ma chère ? --It is a device for counting the trains ! ". You hope that his theory won't hold water as madame looks at it with wary curiosity but, beginners luck, it changes to " 19 54 " just as the train comes alongside the platform. " You see ? " says monsieur; " I see, " retorts madame, " but I think it is ridiculous that the Banque Canadienne Nationale would sponsor such a useless thing. Why didn't they put in something else, like a clock ! "

All good things come to an end; the illusion of Europe is shattered abruptly as you suddenly spot the inevitable MTC inspector in his familiar, baggy, blue uniform. You wonder why, after all this architectural and engineering initiative to produce a transit system that is different, someone forgot such an obvious thing as the uniforms.

(to page 209)

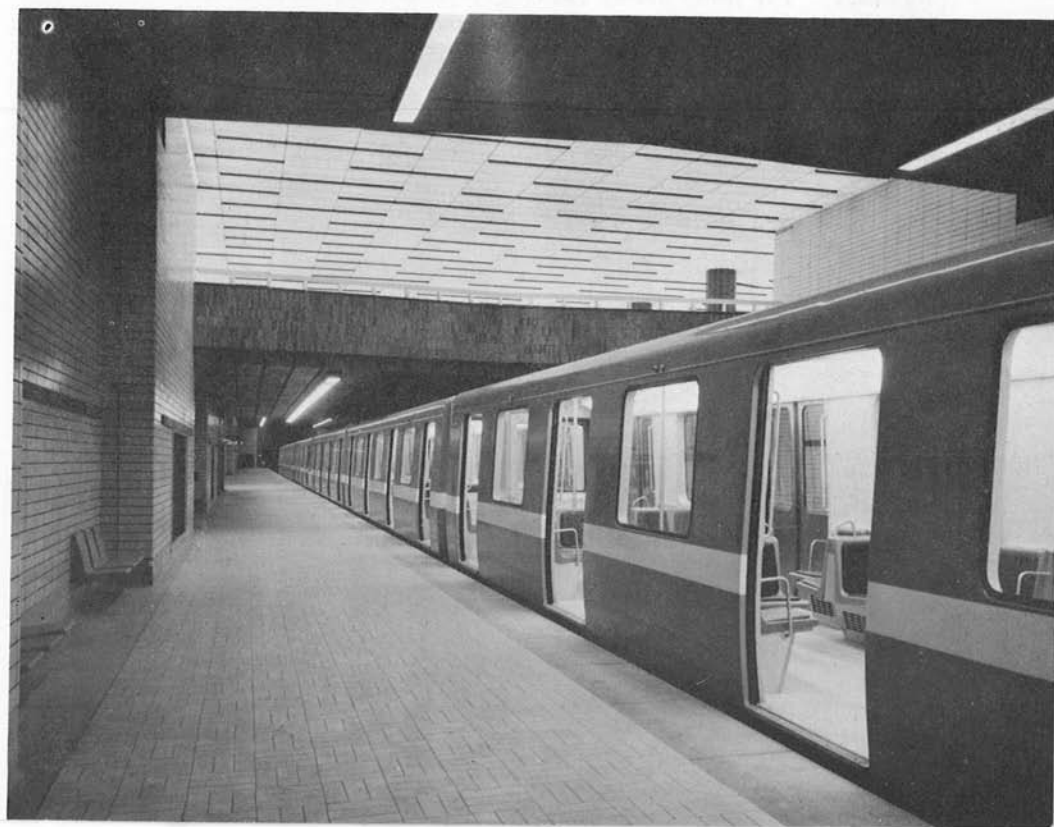
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- TOP, LEFT: This is the first Metro train that your reporters saw, just after they descended into the station at Place d'Armes, on October 16th. Passengers on the opposite platform have arrived from Henri-Bourassa and are about to board the returning train. (OSAL)
- BOTTOM, LEFT: One of the 24 hour numerical clocks indicates "22 00" as passengers board a train at Saint Laurent Station on Line No.1. (JS)



ABOVE: The interior of motor car 81-1615, showing emergency gangway door into the 80 series trailer car. Note vertical grabirons for standees, route diagram over door, and ceiling exhaust fans. Air intakes are under seat at left. (OSAL)

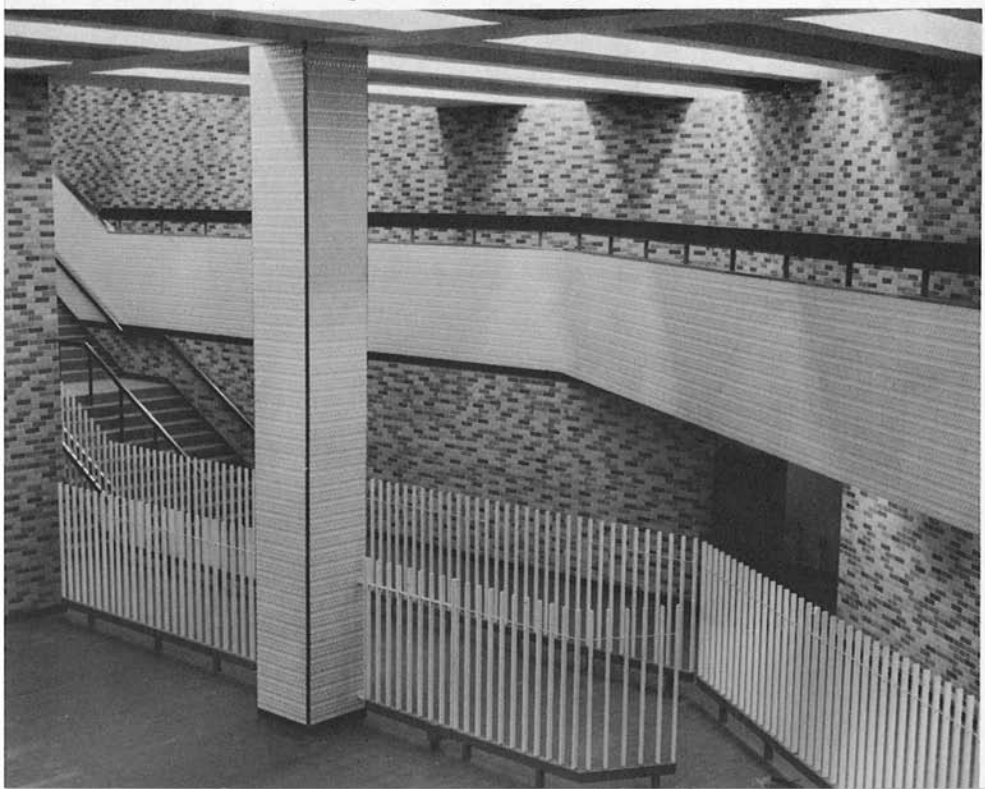
TOP, RIGHT: Saint Laurent Station on Line No. 1 is typical of the spacious treatment given Metro passenger facilities. The railed overpass is an excellent spot for trainwatching, and forms part of the mezzanine. (MTC)

BOTTOM, RIGHT: Slope of platform floor away from train for safety reasons is clearly apparent in this picture of an empty train at Sherbrooke Station, prior to opening. (MTC)



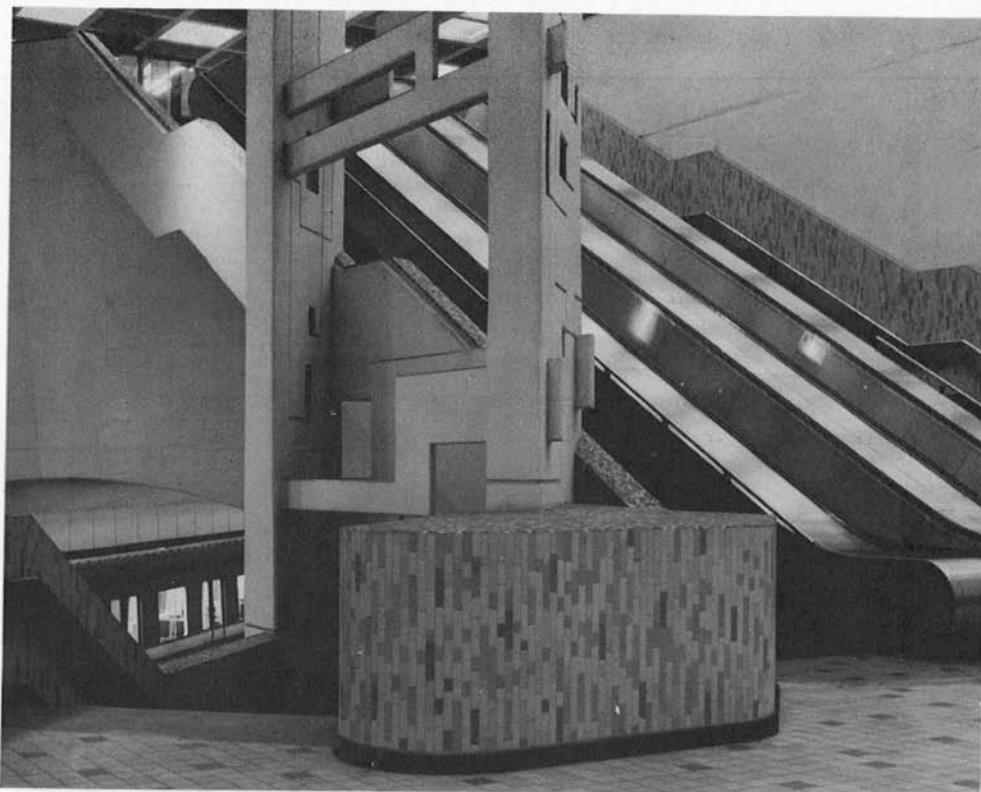


PLACE DES ARTS STATION is one of the showpieces of the system, with its angled walls and suffused, though adequate lighting. Top photo shows passenger platforms, while lower illustrates passenger entry and exit passages. (MTC)





CREMAZIE CATHEDRAL isn't called that for nothing. Structural supports between a bank of stairs and escalators and the passenger platforms is treated imaginatively. Hardly less elaborate are stairways at Jean Talon, below. (MTC)





(from page 203)

Some curious children lurk too close to the edge of the platforms, peering into the murky depths of the tunnel for the first sight of a Henri-Bourassa-bound train. "Hey, là, les enfants" shouts the inspector, and chases the kiddies up the stairs to the mezzanine. "They have sneaked through the exit turnstiles" he says to noone in particular as he watches them go back up the stairs.

More passengers come in and a high-pitched whine loudens to a roar in announcement of a train approaching for our confreres on the opposite platform. All eyes turn to the direction of the sound; two lights seem to drop out of the ceiling of the tunnel as the train descends a four percent grade into the station, at perhaps forty miles per hour. Still apparently running full speed as the front car passes the center of the 500-foot-long platform, it decelerates rapidly as the wooden brake shoes take hold of the steel flanged wheels which are there, suspended an inch or so above the steel rails, just in case a rubber tire decides to "let go".

The train is painted in a medium blue overall paint scheme with a wide white stripe. Most conspicuous of all is the motorman, who looks for all the world like a jellybean in a jar, with eight feet of wide-screen wrap-around windshield in front of him. If you have had any thoughts, up to now, of talking a friendly motorman into a cab ride, you forget about it as you reflect that if there was so much as an ant in there with him, it would be seen by everyone.

There is a loud hiss as the doors are closed, and the train picks up speed at an almost incredible rate, doing full track speed by the time that the rear car is halfway through the platform. This train, like most of those on both lines, is made up of nine cars, or three "elements" of three cars each in a motor/trailer/motor combination. There is emergency car-to-car communication by means of gangway doors between the three cars of each "element" but not from one "element" to another. There are two men on each train, one of whom acts as motorman and one as a sort of guard. At the end of the run, the train reverses direction and the two employees reverse functions.

Your ruminations on this state of things are interrupted by the whine and roar and immediately, the now-familiar pair of headlights appear in the tunnel on your side and another nine-car train pulls smartly into the platform at full speed. The passengers poise themselves for the doors, ready to pounce the instant that the doors open. The train glides to a quick stop, the doors open, you rush inside without so much as a glance of sympathy at some people who want to get out -- and nearly imprint your full profile on the door on the opposite side of the car; "Prenez garde" you advise yourself, as you realize that with these bus-sized transit cars, the opposite side is much closer.

TOP, LEFT: View of the turnstiles on the mezzanine at Berri-deMontigny Station shows the spacious concept and provision for additional turnstiles when traffic increases. Turnstiles can be set to accept passengers entering or leaving, depending upon volume. (JS)

BOTTOM, LEFT: Westbound train on Line No. 1 enters Saint Laurent Station from the east. (JS)

The train starts quickly, with a constant acceleration that makes you reach up to grasp the handrail that isn't there. Stoodees are supposed to hold on to the grab irons inside doors, or on seat back handles, or on vertical posts in the center-floor area between doors. Steadied, you examine your fellow passengers who, like you, are along "for the ride" and aren't going any place in particular.

At one end of the car, three or four of the adolescent element in pea jackets, pink pants and beetle boots have already found out that Metro is a good place for girl-watching. (Indeed it is!) A pair of senior citizens just sit and enjoy themselves, the lady exclaiming to her husband whenever another train bound in the opposite direction passes us in the single tunnel which carries both tracks. Several children elbow their way to the door to get ready for the next stop so as to continue a game of "leap-frog" from car to car which they started at the beginning of the run. Four nuns congregate around a center post, beaming widely at the newness and novelty of it all, drinking in impressions which will form the topic of conversation after vespers tonight.

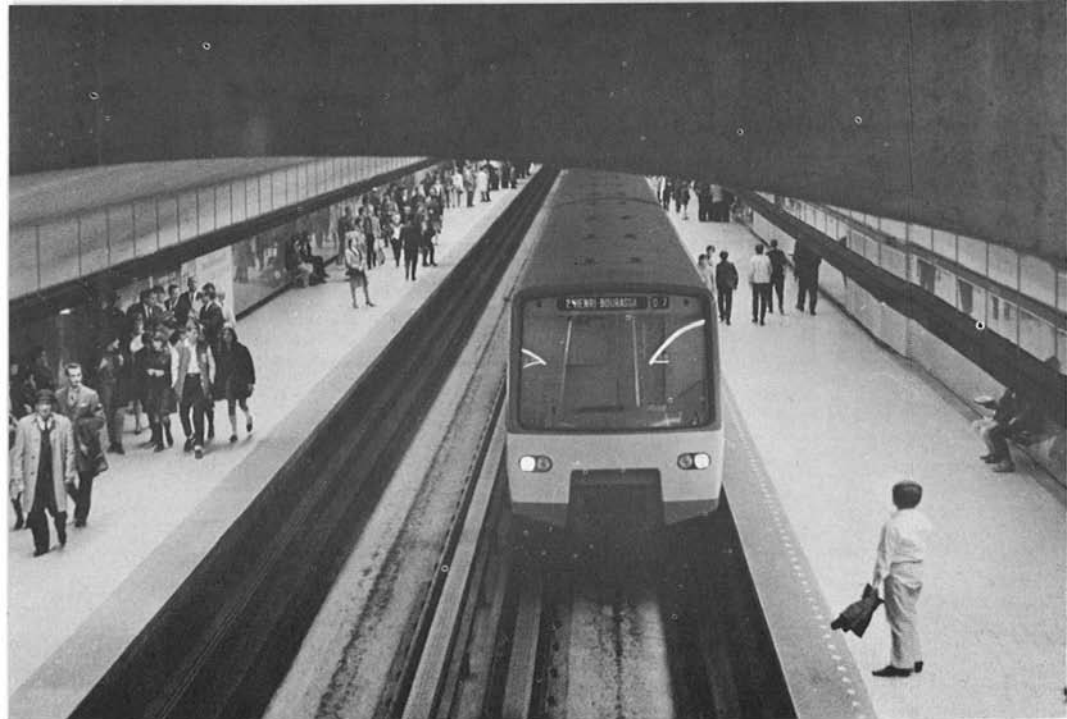
The car is hot inside, in spite of forced air ventilation. Apparently, someone miscalculated on the heat generated by the motors and the braking and this is being forced into the car by floor vents: one of the operational "bugs" which are inevitable when new concepts are introduced. The air is being drawn out of the car by circular fans in the ceiling. You notice that there are no light fixtures as such. The adequate lighting in the cars is coming entirely from behind the translucent advertisements at each side of the car. The spaces in this strip located above each door are reserved for a stylized diagram of the Metro network. There are only forty seats in each car, but room for more than double that number standing. The seats are in groups surrounding each door, no passenger being more than five or six steps from an exit.

We are inside 81-1615, a motor car and notice that while it is not too apparent, there is a considerable amount of rolling from side to side as the tires cope with the concrete runways. This roll is emphasized as we watch the counter reaction in the series 80 trailer car coupled next to us. The train stops a couple of times, then a high female voice exclaims: "Mon Dieu, we are at Mont-Royal!". It is one of the nuns, her voice and enthusiasm unwittingly paying tribute to mammon rather than to Almighty God. There is hope for Jean Drapeau yet, Sister; pray for him!

We get to Laurier Station and decide that we should disembark and go back. We proceed to the exit sign and find to our satisfaction that only one fare is required for a round-trip, as we do not have to pass through a barrier to gain the southbound platform. Two trains pass as we walk over the overpass; slots in the roof above the exhaust fans confirm that these cars will never operate in open air.

TOP, RIGHT: The entrance turnstiles and information kiosk at Cremazie Station which, because of its elaborateness, is nicknamed "Cathedrale Cremazie".
BOTTOM, RIGHT: Downstairs at Cremazie Station, a train waits at the opposite platform as another one enters in the distance. Photograph was taken during several-week trial operation period preceding opening, when trains fulfilled regular operating schedule, but without passengers. (Both MTC)





ABOVE: The rear of a southbound train disappears along the platform of Laurier Station on Line No. 2, as curious Montrealers watch the Metro weather its first Sunday afternoon. (OSAL)

BELOW: Looking north into the tunnels from Cremazie station, a stretch of three-track tunnel can be seen. Two lines on right are the running lines; track on left is the lead to Youville Shops and is fitted with an inspection pit for emergencies. (OSAL)



Because of the risk of ice on concrete runways, the rubber-tired system will always remain underground. Even the above-ground installations at Youville shops are enclosed in all areas where passenger cars are normally operated.

As we return to our point of embarkation, we discuss the fact that Montreal's Metro cost \$213 million, of which \$45 million was spent on the 369 units of rolling stock alone, or an average cost of \$123 thousand per unit. Though it was widely insisted that the fact of the official opening one week before municipal elections was purely a coincidence, four stations, -- Beaudry and Frontenac on Line No. 1, and Victoria Square and Bonaventure on Line No. 2 -- were still far from complete and will not handle traffic until early in the New Year. Drapeau and his Civic Action Party need not have been concerned; the opposition was insignificant and they scored a landslide victory. In his victory speech, the Mayor promised extensions to the east, the southwest and the northwest.

Line No. 4, connecting Berri-de Montigny with the south shore at Longueuil and with the mid-river Expo 67 site, will not be opened until shortly before Expo opens on April 28th, 1967. There is no Line No. 3; this digit is reserved hopefully for the future, if problematical, conversion of the Mount Royal Tunnel electrification of the CNR to rapid transit operation. Since this line's underground section is limited to the 3.3-mile tunnel itself, conventional steel-wheels-on-steel-rails equipment, of railway width, is indicated. Protagonists of the cause of Line No. 3 have not forgotten that ideal equipment for this service will run at the Expo site for 1967, and will then become available for purchase, at attractive prices. Possibly, long after 1967, passengers will continue to ride the erstwhile "Expo-Express" from Montreal to Cartierville and Deux-Montagnes !

Several weeks' experience with Metro, in which Montrealers took to it far more than most confident forecasts indicated, resulted in the restitution of certain surface autobus routes parallel to the two existing lines. As we put the finishing touches to our story and listened to the comments of those who use Metro every day for commuting, we wondered whether the present equipment of 41 nine-car trains will be adequate after Line No. 4 opens six months hence. Time alone will tell, but in the interim

...voie libre! ("green board" or "highball")

ACKNOWLEDGMENTS: We are indebted to Mr. R.M. Binns for supplying certain technical details and for preparing the track diagram at page 215. Thanks are also due to M. Alphonse Saumier of MTC public relations for supplying us with photographs as credited to MTC and supplementary information. Photo credits: (JS) Jim Sandilands; (OSAL) the author.

chronologie

SIGNIFICANT DATES IN THE
CONSTRUCTION OF METRO.

- November 3, 1961 : Montreal City Council authorizes \$132 million for the construction of Lines 1 and 2 and for the purchase of rolling stock.
- April 24, 1962 : Calling of tenders for the construction of the first section of tunnel -- on Line No. 2 under Berri St., near Jarry St.
- May 23, 1962 : Start of work on Berri St., south of Jarry St.,
- August 6, 1963 : City Council approves extensions of both ends of Line No. 2 and the construction of Line No. 4 to serve St. Helen's Island and the South Shore -- and also Expo 67.
- August 9, 1963 : Awarding of contract to Canadian Vickers for construction of the rolling stock.
- September 6, 1963 : First contract awarded for a station, Berri-deMontigny Station, the largest and most important one on the network, the intersection of all three lines.
- March 19, 1964 : Awarding of the contract for the manufacture and installation of the escalators in the Metro.
- August 24, 1965 : First Metro cars are delivered to the City of Montreal.
- November 11, 1965 : Awarding of contract for the fares and transfers automatic control equipment.
- April 19, 1966 : First tour of Metro by Montreal municipal officials.
- October 14, 1966 : Metro officially opened in ceremonies at Berri-deMontigny Station.
- October 17, 1966 : Integrated autobus routes inaugurated for Metro's first full operating weekday.

matériel roulant

ROLLING STOCK

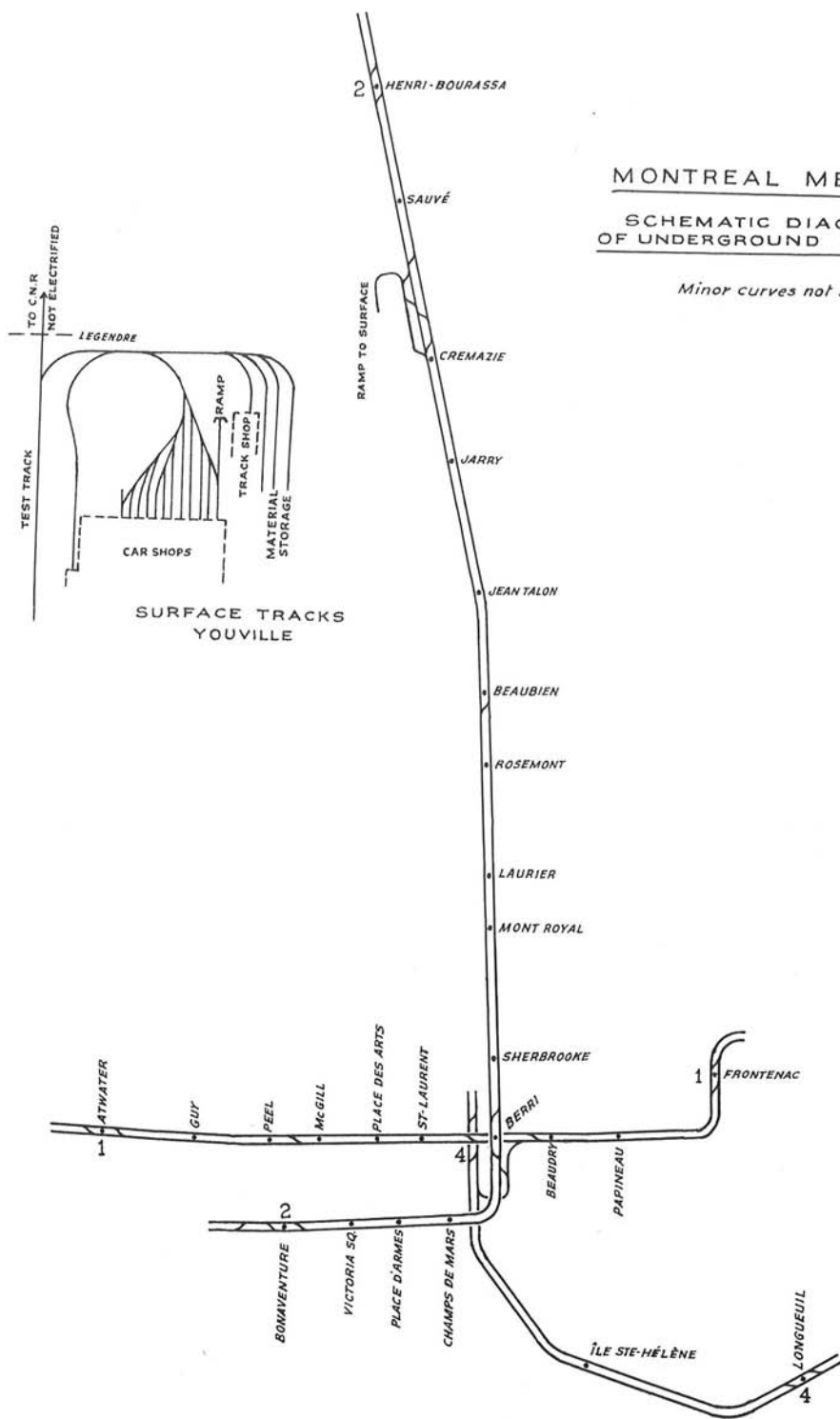
80-0001 to 80-0123	P SG	Passenger trailer cars.	Can. Vickers	1965-67
81-1501 to 81-1746	P SG	Passenger motor cars.	SE " "	" "
82-4501 to 82-4513	S	Trailer flat cars, archbar trucks.		
		Nos. 82-4509 and 82-4510 converted for use in vacuum cleaner train, 1966.		
83-4601 to 83-4605	P SG	Motor flat cars, DE	Cab at each end.	
84-4701 to 84-4704	P SG	Diesel-mechanical locomotives.		
(numbers not yet assigned))	Three-car vacuum cleaner train. Centre car with suction apparatus. Two end cars with refuse containers are ex trailer flat cars 82-4509 and 82-4510.		

- NOTES: P- Indicates car equipped with pneumatic traction and running wheels.
SG- Indicates car equipped with steel flanged guide wheels.
S- Indicates car equipped with conventional steel running wheels only.

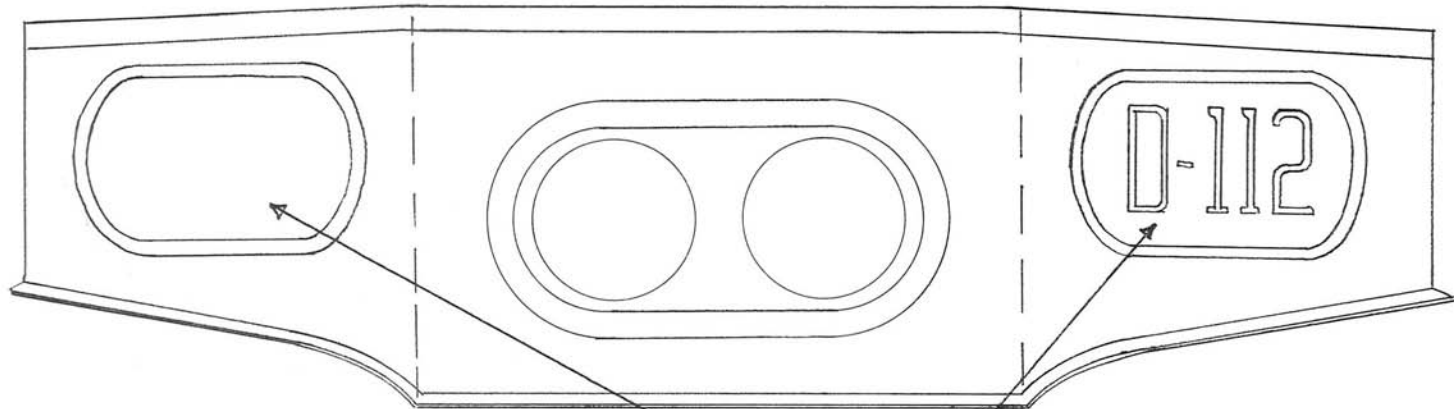
MONTREAL MÉTRO

SCHEMATIC DIAGRAM OF UNDERGROUND TRACKS

Minor curves not shown

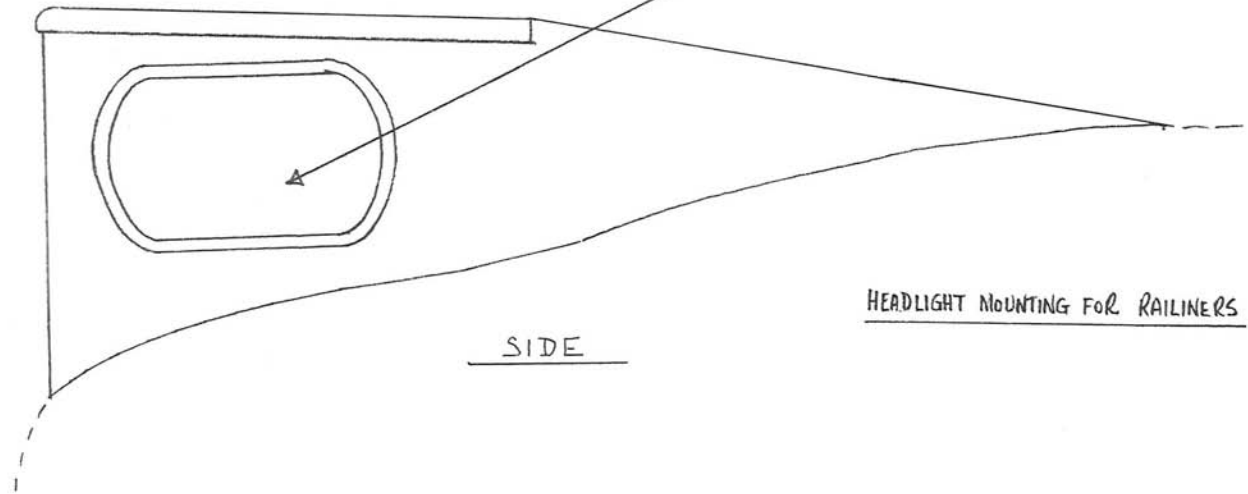


FRONT



4" NUMERALS

SIDE



HEADLIGHT MOUNTING FOR RAILINERS

POWER



CANADIAN NATIONAL RAILWAYS

Purchases - up to November 11, 1966.

MLW C424s are to be delivered between January and April 1967, while the C630s will be received in April and May. GMDL will start delivery in September 1967 and finish in October 1967.

Retirements - up to November 9, 1966.

<u>Road Number</u>	<u>Retired</u>	<u>Builder Built</u>	<u>Builder's Number</u>
9301	30/9/66	29/5/52	2669
9305	"	"	2671
9328	"	30/1/5	2707

Rebuildings - up to November 9, 1966.

B-14 outshopped September 23, 1966, is to be assigned to Symington Yard at Winnipeg. Units 3001 and 9429 are candidates for MLW trade-ins.

Rentals - up to November 9, 1966

This year, thirteen DMIs will be operated out of Winnipeg; the joint inspection will be held at Duluth during November 1966. As well, ONRs are again occasionally seen in Montreal when they get out of cycle in their pool operation in Toronto.

Miscellaneous - up to November 9, 1966.

- 1) CN RDCs are being fitted with diaphragms so that passengers can walk safely between units. This need arose with installation of snack bars in the A end of some cars. In addition, all Railiners are to be fitted with new headlights and number boards as shown elsewhere in this issue.

CANADIAN PACIFIC RAILWAY

Purchases - up to November 4, 1966.

<u>Road Number</u>	<u>Builder's Number</u>	<u>Delivery date</u>
5514	A2147	28/9/66
5515	A 2148	28/9/66
5516	A2149	30/9/66
5517	A 2150	30/9/66
5518	A 2151	8/10/66
5519	A 2152	27/10/66
5520	A 2153	27/10/66

The second order is also comprised of SD40s making road numbers extend from 5500 to 5564 inclusive. The entire order will be completed by March 1967.

Scrappings - Up to November 4, 1966.

4-6-4 No. 2827 was dismantled at Angus during June 1966. Data about this unit is in No. 175.

Miscellaneous - Up to November 11, 1966.

- 1) From Peter Cox comes this information: "First arrival of the SD40s on the West Coast occurred on September 28th, when CP 5502:5508:5509 brought 1/901 into Coquitlam with dynamometer 62, BC Mount Stephen and sleeping car Glengarnock.

GOVERNMENT OF ONTARIO

Purchases - up to November 9, 1966

GO 601 and 602 were outshopped from GMDL on October 31, 1966 and were delivered to CN on November 1st. They carried builder's numbers A2166 and A2167. The units are to run on lease to CN until required for the GO Transit and are initialled CN, not GO. The locomotives will be returned to GMDL in the spring to have their steam generators installed and to be reinitialled. A total of eight GP40s are on order to be delivered by February 1967.

GO self-propelled units are numbered D700 to D708; the cab units are C750 to C757 and the coaches 4700 to 4731. All these are being built by Hawker-Siddeley.

push/pull
for
CP?

It is reported, but not officially confirmed, that Canadian Pacific will purchase a ten-car push-pull commuter train similar to the GO equipment, for use on its Montreal lake-shore suburban service. This train, to be acquired at a cost in excess of \$1.7 million, will presumably enable CP to replace an aging group of standard heavyweight steel passenger cars which are nearing the end of their useful life and are used to supplement the 800 series suburban cars introduced about fifteen years ago.

TOP, RIGHT: The September issue carried a note about motive power deliveries to Kidd Creek Mine of Texas Gulf Sulphur Company. Here is TGS No. 052, a DL811 model built by MLW, at Canadian Pacific's Saint Luc yard in Montreal on September 22, 1966. (Photo Murray W. Dean)

BOTTOM, RIGHT: A "stray" Ontario Northland Railway A unit, ably seconded by a Canadian National road switcher, pulls CN's Toronto-Montreal train No. 61, "Premier" past Baie d'Urfe on the last lap of its run into Montreal. No. 1502, displaying ONR's new corporate symbol prominently, was photographed on October 23rd, 1966. (Photo Bill Blevins)





"Good morning! This is your captain—er, your engineer speaking. We are cruising at a speed of 66 miles per hour, altitude normal, visibility fair, wind velocity . . ."

CANADIAN RAIL: Published monthly (except July/August combined) by the Publications Committee, Canadian Railroad Historical Association, P.O. Box 22, Station B, Montreal 2, Canada. Subscription includes Associate Membership: \$4.00 annually.

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