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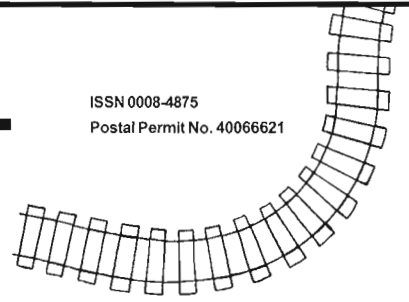


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FRONT COVER: Heading west on Montreal's St. Catherine Street on April 28 1956, Montreal street car 1275 is making a rare (for that time) Saturday afternoon run. Behind 1275 is the former Montreal Tramways Hochelaga office, and behind that is the place where the 1898 Hochelaga car barn had stood until the previous January. Car 1275 was built by the Canadian Car & Foundry Co. and placed in service in May 1913. Less than two months later, June 23 1956, the last of the series was retired. Photo by Fred Angus

BELOW: Former Essex Terminal Railway No. 9 being made ready for operation at Railway Days at St. Thomas, Ontario on August 24, 2003. The next month No. 9 made several excursions, including the one to Goderich covered on page 76. Photo by Fred Angus

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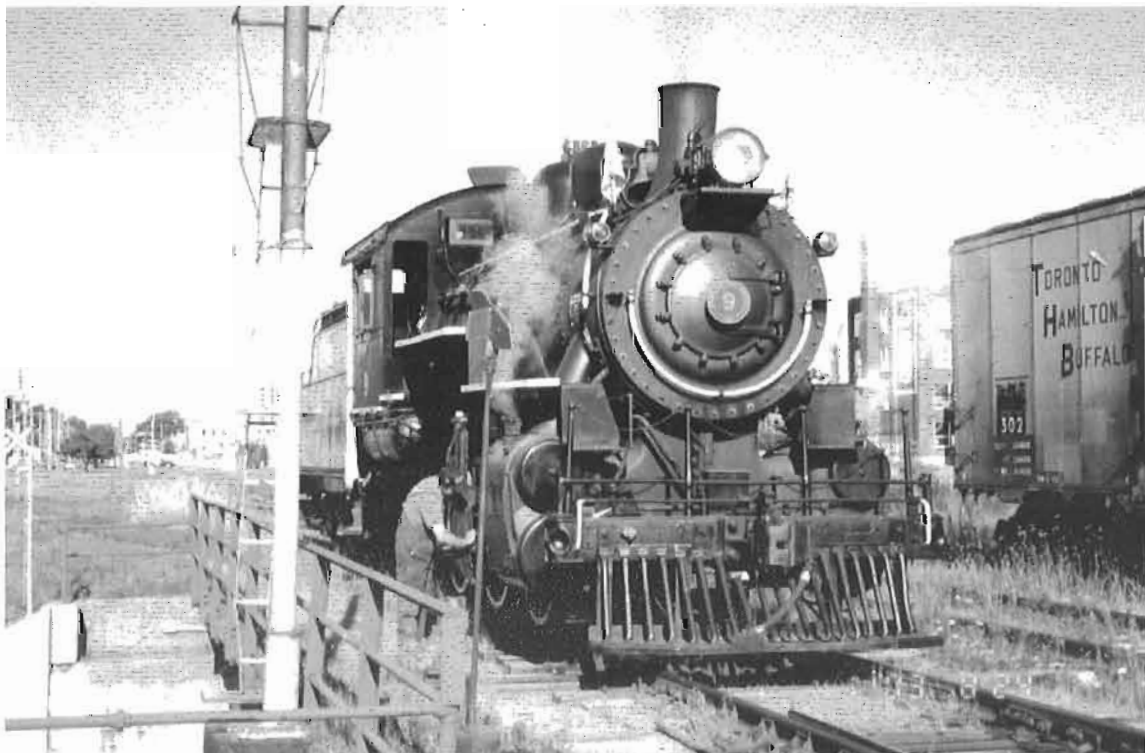
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Every Bridge Tells a Story

by Jay Underwood

To many people, a railway bridge is nothing more than a monolith of steel and masonry, a convenience of transit spanning river or ravine, enabling the train to get from Point A to Point B.

Engineers tend to examine bridges from the perspective of that construction; how it bears the load, its deflection, its trusses, how it manages the stresses and strains of thousands of tons crossing its length at speed.

But the determined historian should be able to unearth a story behind every bridge, not just those made infamous by their calamitous collapse (like the Quebec Bridge in 1907 and 1916) or the political squabbles that led to their existence (like the Folly Viaduct in Nova Scotia.)

There are few bridges, however, with the storied past of that which spans the Straits of Barra on Cape Breton Island; the Grand Narrows bridge, located almost exactly at the half-way point of the railway line that links Sydney with Port Hastings. Indeed, the several stories associated with this one bridge place it well within the realm of legend.

Almost as soon as the Intercolonial railway opened between Truro and Riviere du Loup in July 1876, fulfilling the promise of Confederation made in 1867, politicians and promoters began laying plans for a continuation of the line from New Glasgow to Cape Breton.

Predictably there were problems, mostly with commercial rivals seeking profit from the construction and operation of the line that would connect Cape Breton's coal mines to the rest of the nation, and communities intent upon reaping the benefits a railway was expected to bring. As expected, several different routes were proposed. The first scheme, floated in 1878, took a southerly route across the island from Port Hawkesbury to St. Peter's and then to Louisburg and Sydney. In 1884 an American syndicate proposed to build the line, again to the south, but this scheme also faded beneath a wealth of promises of land grants and subsidies. The route to the north of the Bras D'Or became the political favorite of Macdonald's party, anxious to deliver upon the promise in some form, and knowing full well that a railway line brought federal votes just as surely as highway improvements purchased them provincially.

The Grand Narrows bridge's story begins with Sir John A. Macdonald, the doubtful Glaswegian who rose to become one of Canada's longest-serving prime ministers by virtue of his ability to stir public passion at election time by his tireless travel across the growing country.



Sir John A. Macdonald (1815-1891), Canada's first Prime Minister. He picked the location of the bridge. (National Archives of Canada)

Sir John had a particular fondness for Cape Breton; its highlands and the great loch known as Bras D'Or were a reminder to him of his own birthplace across the Atlantic, and the "Old Man," as party faithful knew him, made frequent trips to the island, sometimes just to escape the bickering of Ottawa.

It was due to Sir John's regime that the railway was being built across the island, pressed by the local politicians who saw good public policy combined with a chance for personal profit along its path. It was the promise of the railway that saw Hector Francis McDougall (born June 6, 1848, died November 27, 1914) first elected as the area's member of parliament for Sir John's Liberal Conservative party in 1884 (he had previously been defeated in 1882), and re-elected in every poll until November 7 1900.

In 1887 McDougall and his partner Edward A. MacNeil, another local merchant, saw the tourism potential develop for the railway, beyond the steamer trade that plied the waters of Lake Bras D'Or, linking the Sydneys to mainland Nova Scotia by way of the St. Peter's canal and the

Intercolonial Railway terminus at Mulgrave.

Together the entrepreneurs built the Grand Narrows Hotel, a splendid facility that thrives today under MacNeil ownership. It was at the hotel that Sir John found himself one fine morning, enjoying the breathtaking splendour of the scenery, and satisfied that the surveys for the railway would be completed in time for him to go to the voters of the region seeking continued support.

Local legend, retold on the hotel's web site <http://www.capebretonisland.com/scenicdrive/grandnarrowshotel/> and in the book *Tracks Across The Landscape, The S&L Commemorative History*, by Brian Campbell (University College of Cape Breton Press, 1995,) notes the prime minister took in the majesty of the scenery and from the front steps of the hotel, pointing northward declared, "That is where the new bridge will go."



*Hector Francis McDougall (1848-1914). He was the local MP, and also owned the nearby hotel.
(National Archives of Canada)*

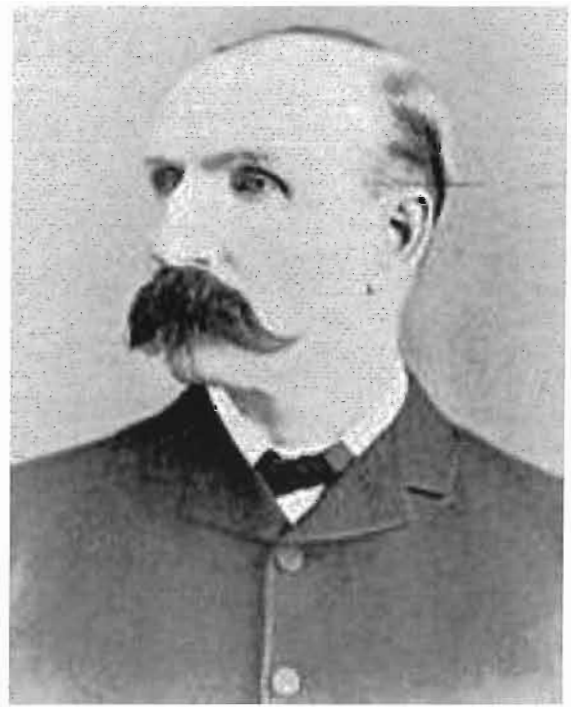
It was an easy decision, and no doubt one made by the engineers who plotted the course of the railway, since the only other suitable crossing on the north shore of the Bras D'Or would have been in the hilly country about Kelly's Mountain near Boularderie, but from such stories are legends made.

Thus anointed, construction of the line proceeded apace, under the keen eye of engineer Robert Gillespie Reid. It would be left to Reid to build the 1,697 foot steel bridge across the narrows, with a swing span to allow the steamers to enter Bras D'Or Lake from Great Bras D'Or.

Robert Cuff's biography of Reid on the Newfoundland heritage web site http://www.heritage.nf.ca/society/rg_reid.html notes that the future patriarch of an influential Newfoundland family was born at Coupar Angus, in Perthshire, Scotland on 12 October 1842. He was apprenticed at an early age to a maternal uncle as a stonemason, and worked in the area of his home village until 1865, when he emigrated to Australia, seeking his fortune in the goldfields.

During the long voyage he met his future wife, Harriet Duff (they were married at Auckland, New Zealand that August), and, gold prospecting proving to be a hard way to make a living, Reid soon returned to practicing his trade. He found more gainful employment building stone viaducts for a railway through the Blue Mountains of New South Wales. In 1869 Reid's father died, and he took his family back to Scotland.

Wanderlust soon set in again, and in 1871 Reid emigrated for a second time, to work in Ontario, where family legend says he worked on the masonry of the Parliament



*Robert Gillespie Reid (1842-1908). The bridge project may have doomed him.
(Provincial Archives of Newfoundland)*

Buildings in Ottawa. In 1873 he brought his family from Scotland and settled in what is now Cambridge as a principle in the firm of Isbester & Reid.

Ever restless, and in search of new challenges Reid then moved his family to California, and for a few more years found work as a contractor and engineer, building bridges on difficult western sections of American railways. By 1883, when he completed a bridge over the Delaware Gap in New Jersey, Reid had established an excellent reputation for building bridges in difficult terrain, and for the reliability of his contracts.

Returning to Canada in 1883, Reid again went to work on railway bridges in difficult terrain, this time for the Canadian Pacific Railway along the north shore of Lake Superior. In 1887 he received the contract to build the entire 87-mile long Sudbury branch of the CPR, the first project he undertaken that went beyond mere bridges, and the first in business with his son William. This contract offered him sufficient wealth to settle his family in Montreal, and in time all three sons would join the business. In all that time Reid enjoyed a robust health, defying the often-unhealthy environments of the Australian hill country, western U.S. deserts, and Lake Superior's mosquito infested muskeg, where typhus and cholera could easily claim one's life.

Then, in 1890, he was awarded the contract to complete the Intercolonial's Cape Breton line, and build the bridge at Grand Narrows. It was in the cold, damp climate of Cape Breton's fall air, at the age of only 48, that Reid is said to have contracted the rheumatism that would plague him for the remainder of his life.

It was his involvement in the construction of the Newfoundland Railway that made Reid fabulously wealthy, creating the Reid Newfoundland Company, which exists to this day as a major industrial force in Newfoundland. But it seems he did not live long enough to enjoy the success, as Cuff notes:

“Sir R.G. Reid died at his home in Montreal on 3 June 1908 (he had been knighted in the 1907 New Year’s honours list). His will directed that his interest in the Reid Newfoundland Company was to be “realized and disposed of as soon as possible” and he advised his sons not to “invest any part of my estate in any new enterprise or in any speculative or hazardous investments in Newfoundland or elsewhere.”

Dead at age 66, the rheumatism he contracted at Grand Narrows contributed to his short life. Other railway engineers of the day lived longer. Sandford Fleming died in 1915 at the age of 88; Alexander Luders Light died in 1894 at the age of 77. Neither of them worked on railways in Cape Breton. Did the Grand Narrows bridge doom the life of its creator?

At least Reid got to watch as the line was opened with rare vice-regal fanfare, and the Grand Narrows bridge has the distinction of being perhaps the only span in the country ever to be officially opened by a Governor General.

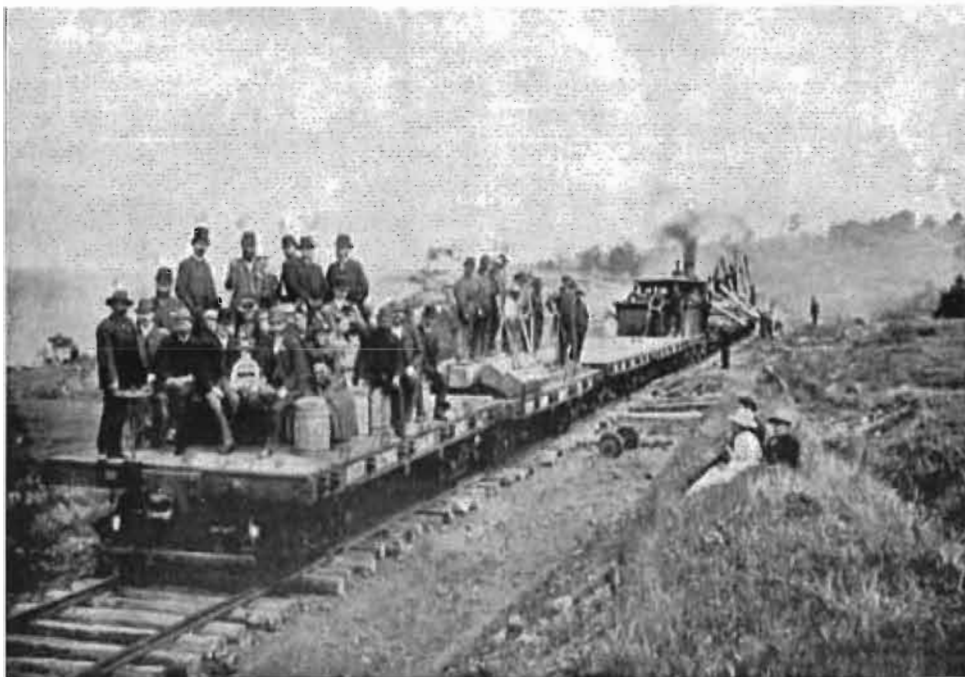
The story of the opening is told in Campbell’s book, *Tracks Across The Landscape*.

At midnight, October 18, 1890, a five-car special train carrying Governor-General Lord Stanley of Preston left Halifax, and arrived at Mulgrave in the early morning (October 19). The five cars were ferried across the Strait of Canso, on the Intercolonial’s newest ship, the *S.S. Mulgrave*, and reassembled into a train at Point Tupper, with the Intercolonial Railway Company’s locomotive 166 at its head.

“At Iona, Lord Stanley (best remembered as the donor of hockey’s Stanley Cup) formally declared the railway to Sydney open for traffic, and then himself drove the train across the Grand Narrows bridge. The official train reached Sydney at 7:10 pm, touching off celebrations that lasted well into the night.”

Anointed by a prime minister, christened by a Governor General, the bridge had already developed a lore all its own, but the legend was to grow the day it was taken hostage.

For employees of the Intercolonial Railway, Canada’s first Crown corporation, life on the job was not always the “cushy” sinecure many citizens believed it to be. G.R. Stevens has documented many instances of drunkenness,

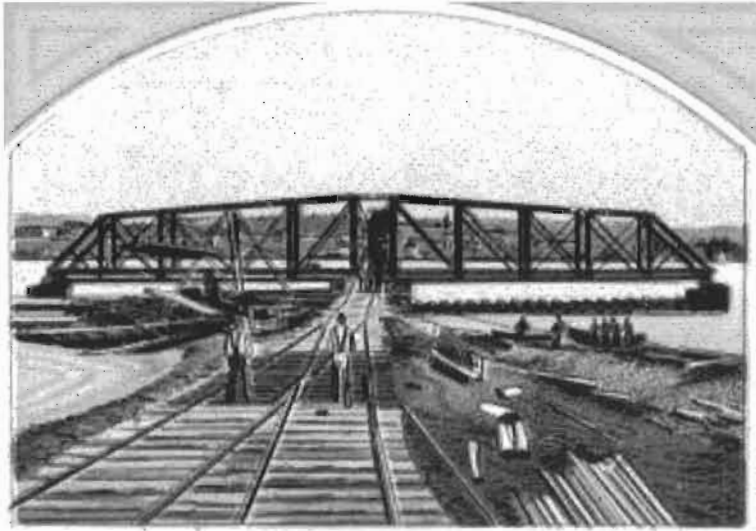


The first train to cross the bridge at Grand Narrows carried a motley crew of workmen, but the vice-regal nature of the trek is told by the proliferation of top hats among the dignitaries who rode with the Governor-General that day. (Beaton Institute)



Lord Stanley of Preston, Governor General of Canada from 1888 to 1893. He officially opened the Grand Narrows bridge. (National Archives of Canada)

theft and loutish behaviour by the ICR’s employees, but as an employer, the railway was equally guilty. Too many politicians had a hand in determining who worked on the railway, (each federal election could bring with it the summary dismissal of employees considered to be disloyal to the victorious political party) and as traffic on the Cape Breton subdivision increased with the rapid development of



Two views of the Grand Narrows bridge shortly after its opening in 1890, one showing the swing span open, the other showing it closed. Photos from Album of Cape Breton (Leighton & Frey Souvenir View Co. Portland, Maine). Note: The quality of these two photos is not the best, but they are all we have. Ed.

Sydney's steel industry, too little attention was paid to the condition of the line, turning even routine milk runs into trips fraught with danger for the train crews.

And then there was the question of pay. It did not always arrive on time, hours were kept erratically and often not recorded at all, leaving the railway men waiting for the money due to them as their household bills piled up.

Newspapers such as the *Moncton Times*, sympathetic to the plight of the working men, railed against such abuses, predicting a backlash would be imminent as the employees formed trade unions to protect their interests.

On the night of Wednesday, January 16 1901, it all became too much for the keeper of the swing bridge at Grand Narrows. The *Sydney Advocate* recorded the events:

"Traffic over the Cape Breton division of the Intercolonial Railway was suspended for five hours Wednesday night by the action of an employee who claimed he had not received pay from the pay car. The employee in question, J.J. McKenna, is bridge keeper at Grand Narrows. He claimed fifty-two days' pay, and when he only received forty-two took the matter in his own hands.

As soon as the fast express had passed east he notified Sydney and New Glasgow that he would allow no more trains to pass till he had received full pay and then opened the draw of the bridge. Two specials, one east and the other west-bound, were obliged to remain at the ends of the bridge.

The conductors at once telegraphed to Sydney and Intercolonial Railway officer McDonald accompanied by city officer Scott went out to arrest McKenna. They found the bridge open only a few feet and swung themselves across.

McKenna was sleeping in the guard house and awoke when he was disturbed. He expressed no surprise at his capture, remarking that he had been expecting it.

Taken before a magistrate this morning, he was charged with obstructing trains and was lodged in jail but was at once bailed out by his friends. His case comes up next Tuesday (January 22). Since he had placed the lights at both ends of the bridge when opening the draw, criminal action cannot be brought against him."

McKenna's fate before the judge went unrecorded, for the *Advocate*, and its daily paper the *Sydney Post* (now the *Cape Breton Post*) suspended publication prior to his court date, as the *Halifax Herald* noted: "in order to straighten out affairs prior to appearing under new auspices."



Queen Victoria (as seen on a Canadian cent of the 1890s). Her death, on January 22, 1901, superseded news of the court appearance of J.J. McKenna.

He was deprived of his day in the news in any other provincial newspaper, for the very day of his court appearance (January 22, 1901) Queen Victoria died, and for several days thereafter many newspapers eschewed local coverage for pages of remembrances of the dead monarch, and tributes to her successor, the new King Edward VII.



The airship Hindenburg (LZ-129) arriving at its German base in early 1937.

Only a week before McKenna took the bridge hostage, an elderly lady had been killed by an express train at Iona, on the north shore of the narrows, and Railways Minister A.G. Blair had pledged \$2 million to improve safety on the division. The accident was the only fatality recorded in the vicinity of the bridge, but Grand Narrows nearly became the site of one of the century's greatest tragedies.

While the hotel was built to accommodate the tourists and travelers of the region, the Barra Strait saw its fair share of industrial traffic, and the railway bridge faced its share of the peculiar perils associated with marine transport.

For many years the only regular vessel to pass through the swinging span was the wooden-hulled *Jessie Gray*, a 76-ton steam scow built at Marble Mountain in 1889, to supply wood to the lime kilns that sprang up near the limestone quarries around the shores of the "Big Lake."

As Cape Breton's steel industry burgeoned prior to the First World War, Marble Mountain became an important source of dolomite, a form of limestone that was used as a flux in the steel-making process, and traffic through the Barra Strait between the quarry and the Sydney steel mills increased dramatically as Cape Breton industry added its weight to the might of the imperial war machine deployed against the Kaiser.

The Marble Mountain quarry was actually in the waning years of its production when the war broke out, as Dominion Steel (DOSCO) was beginning to import its limestone from Newfoundland. The submarine scare in the Gulf of St. Lawrence, spurred by the presence of German U-Boats in the gulf, made the Bras D'or route a more secure source of supply.

At some time between 1914 and 1918, a barge (actually a condemned steamer of some kind) was being towed from the quarry with a full load of dolomite, when it struck the pier of the bridge during a ferocious storm. It sank immediately, with its superstructure left jutting up from the water. The deck was cut away, and the hull and its load remain at the bottom of the channel to this day, unidentified, and its sinking unrecorded in the otherwise extensive archives of either the Beaton Institute in Sydney, or the Maritime Museum of the Atlantic at Halifax.

The Cape Breton Book of Days (Pam Newton, 1984) notes that the great airship *Hindenburg* (LZ 129) passed over Cape Breton en route to Lakehurst, New Jersey, on May 5, 1937. Newton records that the Zeppelin passed low over the railway bridge at Grand Narrows, offering its passengers a spectacular view of Reid's structure, but causing some concern on the ground.

Although not yet at war with Germany, people in Cape Breton were well aware of the events taking place in Europe at the time, and the sight of the swastika on the tail of the dirigible stirred the anger of a major of the local militia. "Big Gordie" MacNeil, a First World War veteran and resident of Iona, ran to his barn to retrieve a Lewis machinegun he kept there, intending to take a shot at the airship. Some residents calmed him down and prevented his firing on the ship as it moved on to its destiny with fate, the fiery crash at Lakehurst New Jersey on May 6, 1937 that killed 35 passengers and forever ended the era of transatlantic airship travel. Had MacNeil's neighbours not restrained him, who knows what further tragedy might have been witnessed from the Grand Narrows bridge?

The Great Railway Shops of Montreal

Continuing our series, we will consider the Grand Trunk shops at Pointe St. Charles. This article was the result of a visit to the shops by a reporter for the Montreal *Herald*, and appeared in its issue of May 15, 1897. As he did at the CPR shops three weeks earlier, the representative of that paper spent an afternoon touring the facility before writing the article. Interestingly the heading refers only to the car shops, whereas the actual story describes the entire shop complex at "The Point". As before, the article is reprinted here exactly as it first appeared 107 years ago.

THE GRAND TRUNK CAR SHOPS.

Visited by a Herald Reporter.

INTERESTING FEATURES.

Everything in the Big Works in Its Own Place.

The Temporary Hospital and the Literary Institute Are Among the Special Arrangements.

When a Herald reporter called at the office of Mr. F.W. Morse, superintendent of motive power of the Grand Trunk Railway, during the past week, and intimated a desire to go through the extensive works, that gentleman kindly expressed his willingness to afford every facility in his power to make the visit satisfactory. He remarked, however, that at the present time there is nothing of special interest attached to the work in progress, it being merely the routine construction and repair work incidental to large railway shops. He at once placed the reporter under the direction of an obliging and well-informed member of his staff, with instructions to furnish all the information possible.

SOME IMPRESSIONS CREATED

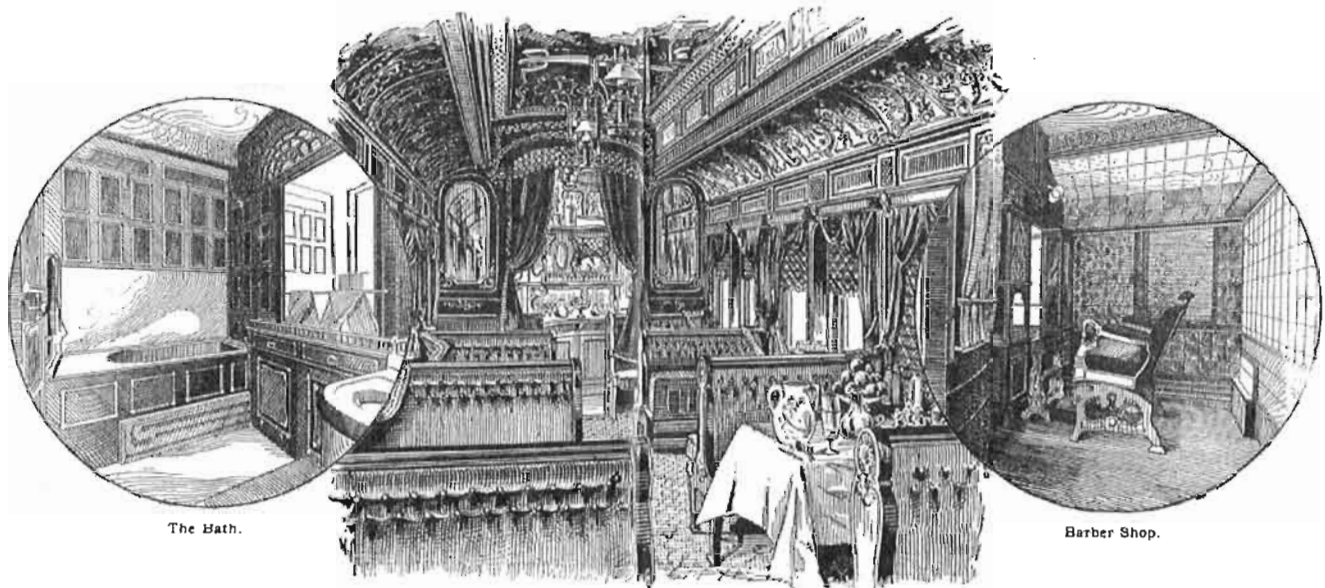
What was seen in the subsequent hours which were occupied in going from one shop to another practically represented the railway locomotive from the time it is a molten mass in a great furnace until it is ready to draw a train of passengers or goods across the country at a rate of from 30 to 50 miles an hour. There could also be seen the preparation of the iron work which enters into the construction of cars of all kinds, as well as the hundreds of smaller affairs which are essential to the successful operation of a great railway. To the visitor the system with which all these manifold processes are worked out appears wonderful. The manufacture of a hundred or more little things are commenced so widely apart that they seem to have no relation whatever to each other, but they keep on going from one department to another until they emerge from the shops a massive locomotive or a handsome passenger coach.

TIDINESS A GREAT FEATURE

These operations are of course attended with a great deal of smoke and grime, especially in the rolling mills and blacksmith shop, but even in these places the order of things is as scrupulous as it is possible to imagine could be the case where work of such a character is carried on. But there are places where the general attention to tidiness shines out much more conspicuously, in ratio to the opportunities and character of the work. The most striking effect of that kind was observable in the large shed where the repairing of locomotives is carried on. On raised platforms on each sides are dismantled engines to the number of nearly fifty, all undergoing repairs. There is a broad space between the two rows, and so neat and clean is the prospect of such a considerable area of flooring that the suggestion at once occurred that it might with little trouble be transformed into a ball-room. The impression of tidiness was maintained throughout the whole visit.

The Finest Passenger Train in the World.

A Solid Pullman, Wide Vestibuled Train from Chicago to Portland and Old Orchard, via St. Clair Tunnel, Thousand Islands, The St. Lawrence River, the White Mountains, and the Seaside Resorts of the Atlantic Coast.



"The Finest Passenger Train in the World" was the boast of the Grand Trunk Railway in its "Summer Tours" brochure for 1897. These are the kind of cars that were built and maintained at "The Point" at that time.

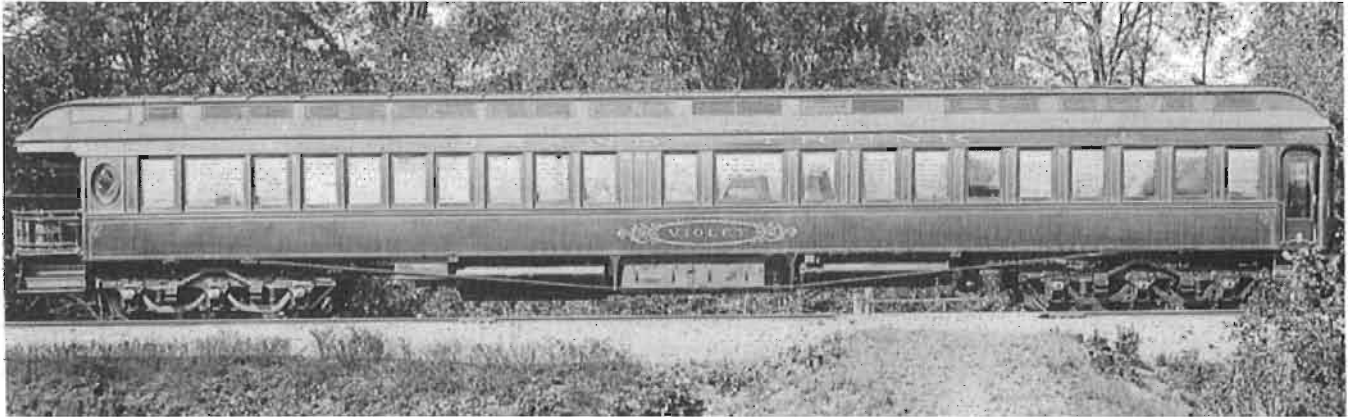
AN INGENIOUS SYSTEM

The building in which Mr. Morse's office is located is situated practically in the heart of the extensive works, and it was from there the start was made. From the administration offices the visitor passes into a large room devoted to the draughtsmen. The work carried on there is of the usual character, but several large boards covered with various-coloured tags was an attractive feature of the room, and naturally invited closer inspection. It was learned that it was nothing else than a clever plan, inaugurated by Mr. Morse, of keeping track of all the locomotives on the system. The first tag in the row gives the number of the engine, the size of her cylinder wheels [sic], the number of the latter and her build. The second tag tells the district in which she is employed, and the third the service in which she is engaged. Her general condition, whether good, medium or bad, is denoted by different coloured tags, while even the condition of various important parts is distinctly and readily ascertained. As there are some nine hundred locomotives represented on these boards, in can be easily appreciated that it is no easy task to keep them in order. Reports are received every month from the master mechanics of the various divisions, and it is from their statements that the tags are moved about to represent the condition of affairs as told by the reports. It will thus be seen that a glance is practically sufficient to tell where an engine is working and all about her.

THE ROLLING MILLS

After passing through the supply department, where so many little necessities are stored, a visit was paid to the rolling mills, a department which was added to the works about four years ago. The men employed there do not work regular hours like most of the others, but are engaged on the contract system, being paid so much for every ton of material they produce. The bodily exertion required of those so engaged is of such an exacting character, largely on account of the great heat, that they knock off work when they are satisfied that they have done a good day's labor. The manufactured article, as it comes from the mills, is in bars of various sizes and goes into the stores department where it is requisitioned as required.

In the blacksmith shop, the extent of which, coupled with the variety of work turned out, would make a village smithy [sic] stare with amazement, parts of the Westinghouse air brake equipment, now being extensively added to Grand Trunk rolling stock, were being worked into shape, under the muscular sledge blows or by means of pounding hammers. The larger furnaces there are fed with crude petroleum. It was pointed out that not only is the fuel oil 25 per cent cheaper than coal, but it is less trouble and is much cleaner. The oil is fed into the furnace by gravitation from tanks above. The fire is easily started and there is no refuse to clean away. Water



Official car "Violet" was in the shops at the time of the "Herald" reporter's visit. This car was then only a year old, having been built in those shops in 1896. Sadly, the "Violet", much rebuilt, was destroyed in the tragic fire at the Salem & Hillsborough in New Brunswick on September 16, 1994. National Archives of Canada, Merrilees Collection, photo No. PA-187470

boilers are fitted above the furnaces and steam is thus supplied without extra expense for running the large hammers. The oil is kept in a vault separate from the rest of the buildings and about a thousand gallons a week are consumed.

In the erecting shop, where the building and repairing of locomotives is attended to, considerable was learned about those all important adjuncts to a railway system. There were forty-five dismantled engines ranged on two sides of a large, well lighted shop in charge of gangs of men working at various parts. The intestines of a locomotive, it seems, are a matter of much trouble to the railway management. The boiler tubes are a locomotive's intestines and their good behavior depends upon the conditions which obtain in the country in which their usefulness is directed. For instance, an engine employed on the eastern section of the Grand Trunk, where soft water is found in abundance, will continue in good working order much longer than one used where hard water containing much alkali is provided. Scales form on the tubes more readily and they become clogged up much quicker in the latter case. A locomotive requires to be taken into the shops for treatment for every 60,000 miles it travels or once every eighteen or twenty months. A word or two about the treatment. On being removed from the boilers, the tubes are placed in a rumbler, an instrument of torture, which revolved the live-long day, and the tubes keep tumbling and scraping against each other, until the scales, with the aid of water which flows into the rumbler, are all rubbed off. After some further attentions they are ready for the road again. The outsides of the boilers are now covered with asbestos paper, which, being a non-conductor, keeps the heat in the boiler better and incidentally effects a saving in fuel.

HYDRAULIC POWER

The next interesting operation witnessed was the riveting of boilers by hydraulic power. The process is very simple to understand, when it is seen, but it is another matter to explain how easily an immense boiler is swung into the air by hydraulic means, the rivet hole placed between the jaws of a vice-like apparatus, the red-hot belt placed in position, the former applied by a simple turn of the hand, and the rivet fixed solidly in place, all by being done without the least noise or fuss. Compressed air is also used in connection with some of the works.

A lesson on the adjusting of tires on the driving wheels of locomotives proved interesting. The system now in vogue is called the Mansell fastening, which renders it an impossibility for a tire to become detached from a wheel. When a groove is worn in the tire from the constant grinding on the rails to which it is subjected, the wheel is taken into the shops and by means of machinery cut level again. Under the Mansell system the life of a tire is longer, as it can be leveled down oftener with absolute safety than could be done under the former *modus operandi*.

AN AIR BRAKE SCHOOL

After a visit to the electric lighting plant the Westinghouse air brake repair proved the next object of interest. That wonderful system, which has revolutionized the handling of trains, is an exceedingly intricate piece of machinery. In the repair shop are to be found sections of the interior workings of the machines which are used to demonstrate to engineers and trainmen how the brake is worked. There is also a brake arranged in working order so that its use can be applied on the spot. It is practically a school, for the men who come in contact with the brake in their labors

must thoroughly understand how to work it and they have to pass a rigid examination before they are qualified to take positions where they are required to manipulate the machine. Upon their knowledge sometime might depend the lives of all on board a train. The great utility of the brake, the use of which is practically universal, was demonstrated for the benefit of the visitors.

INTERESTING FEATURES

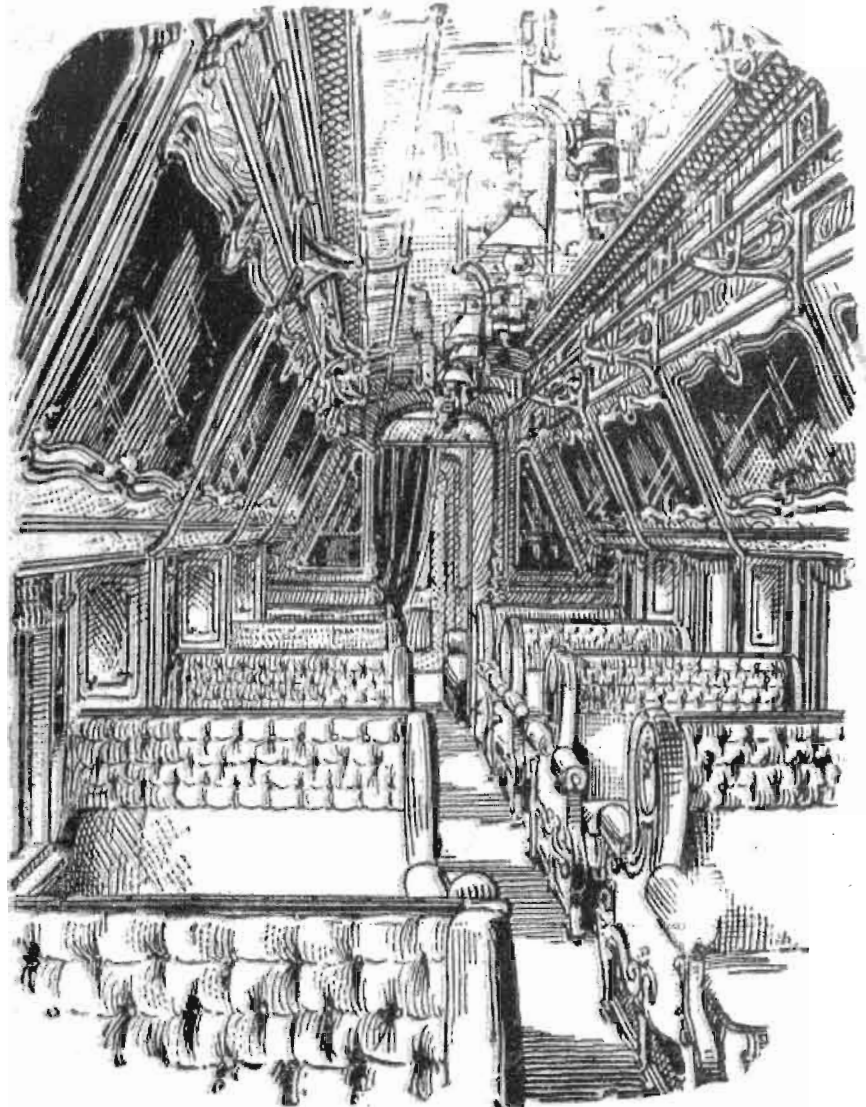
After a trip through the machine shop, tin shop and iron foundry, the visitor was shown the Engineer's quarters and the hall of the fire brigade. In the engineers room are 44 beds where they can retire when they come in after a run. The place is used, of course, by men who find themselves away from home and as everything is kept neat and clean it proves a great boon to them.

In the rear of the hall where the fire apparatus is kept is the ambulance department. If a man is hurt in any of the shops there is every provision for the alleviation of suffering and the application of simple remedies until the arrival of a doctor. They have a trained ambulance class among the men in the works. A visit to the shops where passenger cars are under construction and repairs also proved interesting. The beautiful car *Violet*, which the president, Sir Charles Rivers-Wilson travels in when visiting this country, is at present undergoing some alterations.

IN THE INSTITUTE

One of the last but most interesting features of the visit was the time spent with Mr. F.E. Wyer, librarian of the Grand Trunk Literary and Scientific Institute. There were 693 paid up members on the list last year and the number of books circulated from the library was 16,285. The total volumes catalogued to date is 6,844 including scientific works, history, biography, travels, magazines, etc. It was learned from Mr. Wyer that Conan Doyle is one of the most popular novelists among the members of the institute. Works of fiction are largely asked for but a good many scientific works are also taken out.

When the whistle blew a 5 o'clock there was a rush for home and soon the metal checks were raining in upon the attendants at the wickets.



The sumptuous and highly ornate interior of a Grand Trunk sleeping car was depicted in this promotional brochure entitled "The Scenic Route of America", issued by the GTR in 1898.

Men who toil all day in the heat and smoke and noise of great works like those of the Point may be excused for losing no time in grabbing their coats and making for the exits. The grinding of machinery, the clanking of hammers, the roaring of furnaces are quieted and silence reigns throughout the deserted shops until the light of another day calls men forth from their abodes to resume the arduous duties of life, and at the signal given by a hoarse whistle the equipments of the various departments are let in motion for the day. Tiresome and monotonous as many of the occupations incidental to works of that kind cannot fail to be, there are, however, the bright sides to be considered. One of them which shines conspicuously is the Institute where many facilities are provided for legitimate and profitable pleasure.

How Engineer Hutchinson Stuck To His Post A Forgotten Story of a Brave Engineer

by Fred Angus

The westbound express of the Grand Trunk Railway approached Burlington, Ontario soon after 3 o'clock in the afternoon of Tuesday, March 1, 1898. The train had left Toronto at 2:00 and was due at Hamilton at 3:25. At the throttle was Thomas Hutchinson, aged 57, a veteran of 36 years service with the Grand Trunk and its predecessor the Great Western. Ahead of him was a freight train which was supposed to go into a siding to let the express pass. The switch was protected by a semaphore which had a red target indicating danger if the switch was set for the siding. The caboose of the freight train was painted bright red, the same colour as the semaphore target, and by chance the two were in exactly the same line of sight as seen from the engine of the oncoming express. Because of the light conditions that afternoon, the semaphore was virtually invisible against the background of the similarly coloured caboose. The result was a recipe for disaster.

Believing that the freight was safely in the siding and the line was clear, engineer Hutchinson maintained scheduled speed until within a few hundred feet of the train ahead. Then, according to fireman Clark of the express, he noticed that something was wrong, and that the switch had not been set back for the main line. Both realized that it was too late to stop and a crash was inevitable, the only question was how severe would it be. There was still time to jump and perhaps escape with little injury, but engineer Hutchinson instantly decided to stay at his post. In the few remaining seconds he threw the engine into reverse and applied the heavy emergency brakes which immediately took hold and began to slow the train. However the momentum of the heavy train pushed it on relentlessly, and seconds later it crashed into and demolished the caboose, derailed the engine and trapped engineer and firemen in the wreckage. Both were rescued alive and taken to the hospital in Hamilton. Fireman Clark survived, but engineer Hutchinson died of his injuries on Wednesday evening, March 2. However his self-sacrifice was not in vain. Before the crash the passenger train had slowed to the point where most of the cars stayed upright and were not seriously damaged. It was the opinion of Grand Trunk officials that

had the collision taken place at track speed, it is almost certain that the wooden passenger cars would have telescoped and at least half the passengers would have been killed, and the rest badly injured. Thanks to air brakes, and Engineer Hutchinson's heroic last stand, Canada was spared what might have been one of the worst wrecks in its history.

Thomas Hutchinson was born in Ireland in 1841, and came to Canada in the mid 1850s. In 1862 he joined the Great Western Railway as a fireman, and in 1869 was promoted to engineer. When the Great Western was taken over by the Grand Trunk in 1882 he became a GTR employee and continued in his duties as engineer until his death, a total of

29 years, during which he was promoted from yard service, to freights, and eventually to the express passenger trains, the best the GTR ran.

The job of locomotive engineer was a very dangerous occupation in the 19th century, but Thomas Hutchinson seems to have had more than his share of close brushes with death. He fully realized the dangers but often said that, in the event of an accident, he would stay at his post until the end. He saw and

survived a considerable number of wrecks in which men alongside of him were killed. One day in the 1890s he was engineer of the Toronto Express when it crashed into a freight on the Wye at Hamilton, killing his fireman, Robert Archibald, as well as baggageman Peden. On this occasion, Hutchinson stayed with the engine until the crash, when he was thrown over the tops of two locomotives and through the open door of a boxcar in front. Landing in a pile of wheat, he was buried up to the neck; however he was dug out almost uninjured! Another time he was engineer of the second locomotive of a double-header which was wrecked at the Welland Canal. Thomas Cox, engineer of the first locomotive, was killed, but Hutchinson survived. The most bizarre, and potentially disastrous, situation occurred when he was driving the engine of a holiday train consisting of twelve coaches, all full of passengers. While running along a high embankment, one of the big driving wheels broke loose, fell off the engine and rolled down the embankment into the ditch. Even engineer Hutchinson could not explain the miracle

Stuck to His Post.

**Engineer Hutchinson's Bravery
Saved Many Lives.**

**Sketch of the Hero Who Died in Ham-
ilton Hospital on Wednesday Night.**

The headline in the "London Advertiser" of March 4, 1898 which described the tragic events of the previous Tuesday.



Grand Trunk Railway 4-4-0 No. 2042 was built by Manchester Locomotive Works in August 1873 as No. 186. It received a new boiler in December 1882 and was renumbered 472 in 1898. Subsequently renumbered 270 (in 1904) and 2042 (in 1910), it was scrapped in May 1917. Collection of Donald Angus

that followed. Somehow he managed to stop the train, just at the edge of a high trestle, and not one person, of the hundreds aboard the train, was even hurt.

After all these narrow escapes, it is no wonder that he always thought that death would come to him while driving his beloved engine. On Sunday, February 27, 1898, he put on a new suit of clothes before going to service at Christ Church Cathedral in Hamilton. Possibly he had some premonition, for he remarked to his family that he would probably be buried in that suit. This prediction proved all too true. Two days later, on March 1, he took his last ride aboard his engine, and the following Friday was indeed buried in the new suit.

In the last century and a half many hundreds of railroaders have died in the line of duty while serving the railways of Canada. Most are now completely forgotten. Four years ago we told the story of Joseph Birse who died in a spectacular plunge of an express engine off the Lachine wharf. There are many parallels with the present story. Both wrecks occurred in the 1890s, that decade when wooden cars ruled the rails, and train speeds were being increased to unprecedented levels at the same time as trains were getting longer. Both engineers were long-time employees of the Grand Trunk, and both displayed the highest type of heroism and courage, saving the lives of their passengers at the expense of their own. In both cases the engineer was the only fatality in what could have been a major disaster. Stories like this are a vital part of railway history, and it is one of the duties of historians to see that people like Thomas Hutchinson are never forgotten.

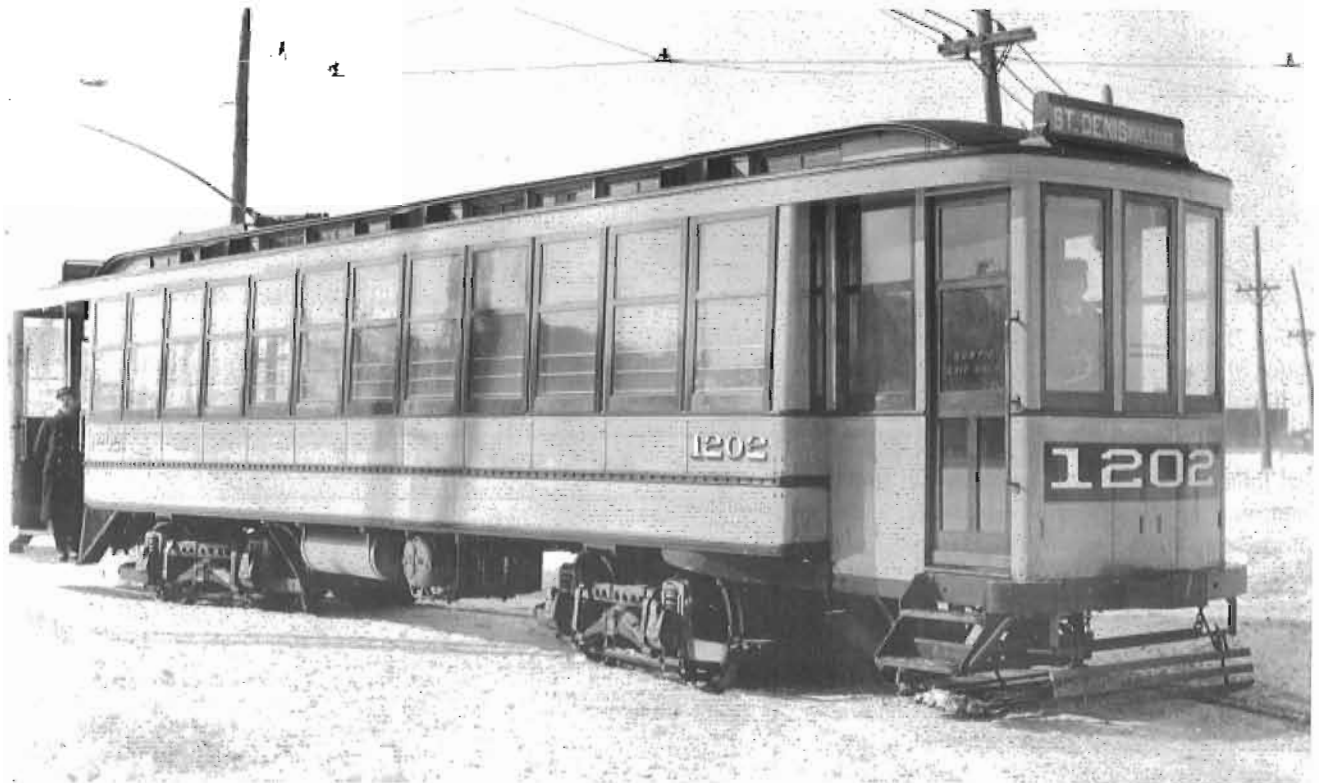
GRAND TRUNK RAILWAY SYSTEM												
TORONTO TO HAMILTON												
Miles	STATIONS	31	33	35	37	39	41	43	45	47		
		Exp. Daily	Accm ex. Sun.	Buff. Exp. ex. Sun.	Exp. Daily	Mall ex. Sun.	Exp. ex. Sun.	Exp. ex. Sun.	Chic. Exp. Daily	Sub. Exp. Wed. Sat.		
Eastern Time												
		Leave	P.M.	P.M.	A.M.	P.M.	P.M.	P.M.	P.M.	A.M.	P.M.	
.....	Montreal (see page 10).....▲	10 25	10 25									
0	Toronto (Union Station).....▲	7 25	7 25	9 05	9 00	4 26	5 20	7 00	10 20	1 00		
0.48	Brock Street.....		7 40			4 30	5 20	7 05	10 25	1 05		
0.88	Bathurst Street Jet.....		7 40			4 30	5 20	7 05	10 25	1 05		
2.65	South Parkdale.....	x 7 32	7 44	9 12	9 06	4 34	5 28	7 09	10 29	1 10		
4.49	Swansea.....					4 38						
5.00	The Humber.....											
6.45	Mimico.....		7 52		2 16	4 42	5 37	7 17	10 38	1 17		
7.33	New Toronto.....		7 54								1 20	
8.83	Long Branch.....		7 56			4 46	5 41	7 21			1 23	
10.77	Rifle Range.....		7 59		f 2 23						1 26	
12.89	Port Credit.....		8 02		f 2 25	4 52	5 47	7 27	10 47	1 30		
14.84	Lorne Park.....		f 8 05		f 2 29	4 58	5 51	7 30	10 50	k 1 34		
15.91	Clarkson's.....			8 07	2 35	4 58		7 33		l 1 39		
21.16	Oakville.....		8 18	9 43	2 48	5 08	6 00	7 43	11 03			
25.40	Bronte.....		8 29		2 56	5 17		7 52				
31.71	Burlington Crossing.....											
31.80	Burlington.....		8 43	9 58	3 08	5 27		8 02				
34.63	Waterdown.....		8 50		3 14	5 32		8 07				
38.85	Hamilton.....▲	8 28	9 00	10 10	3 25	5 39	6 30	8 15	11 25			
.....	Niagara Falls.....▲	11 20	11 00	11 24	4 45	7 25	8 00					
.....	Suspension Bridge.....	11 10	11 10	11 30	4 53	7 35	8 10					
.....	Buffalo (Erie R.R.).....	12 30	12 30	12 30	5 55							
.....	Buffalo (N.Y.C.).....	12 30	12 30	12 30	6 05	8 55	8 55					
.....	London.....▲	11 20	11 20		6 45	9 50	8 50					
.....	Detroit (see page 14).....▲	1 40	1 40		8 30							
.....	Port Huron.....▲	11 55			7 55							
.....	Chicago (see page 12).....▲	9 10			8 30							
	Arrive	P.M.	P.M.	P.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.

a No. 47 runs on Wednesdays and Saturdays only.
 b No. 31 stops at South Parkdale on Sunday and Monday only.
 c Will not stop on Sunday at intermediate stations except So. Parkdale and Burlington.
 k Runs Saturdays only.
 m No. 45 will stop at South Parkdale only on Sunday.
 s Stops Saturdays only.
 x Stops Sundays and Mondays only.
 No. 31. Express, leaving Toronto 7.25 a.m. daily. Pullman Vestibule Sleeping Car, Boston to Chicago, via B. & M., C. V. and G. T. Ry. Sys. daily except Sunday from Boston, and daily from Montreal.
 No. 33. Accommodation, leaving Toronto 7.35 a.m. daily except Sunday. Parlor Car Toronto to Hamilton and Through Coaches Toronto to Suspension Bridge, daily except Sunday.
 No. 36. Buffalo Express, leaving Toronto 9.05 a.m. daily except Sunday. Wagner Parlor Car from Toronto to Buffalo, via G.T. and N.Y.C. & H.R. Rys. daily except Sunday.
 No. 37. Accommodation, leaving Toronto at 2.00 p.m. daily. Parlor Car, Toronto to Hamilton, daily. Pullman Buffet Parlor Car, Toronto to Detroit on Sunday only. Pullman Buffet Sleeping Car, Toronto to New York, via G.T. and L.V. Rys. on Sunday only. Wagner Buffet Sleeping Car, Toronto to New York via G.T. and W.S. Rys. on Sunday only.
 No. 39. Mail, leaving Toronto at 4.25 p.m. daily except Sunday. Parlor Car, Toronto to Hamilton.
 No. 41. Express, leaving Toronto at 5.20 p.m. daily except Sunday. Pullman Buffet Vestibule Sleeping Car, Toronto to New York, via G.T. and L.V. Rys. daily except Sunday. Wagner Buffet Sleeping Car, Toronto to New York, via G.T. and W.S. Rys. daily except Sunday, and on Sunday these cars leave Toronto on No. 37. Through Coaches, Toronto to London and Toronto to Brantford, and St. Thomas, via Hamilton and Harrisburg.
 No. 43. Express, leaving Toronto at 7.00 p.m. daily except Sunday. Parlor Car, Toronto to Hamilton.
 No. 45. Express, leaves Toronto at 10.20 p.m. daily. Pullman Sleeping Car, Toronto to Detroit via Port Huron, daily. Pullman Sleeping Car, Montreal to Chicago, daily. Through Coach, Toronto to Chicago, daily.

This schedule, from the Grand Trunk system timetable of October 5, 1896, shows the trains running between Toronto and Hamilton. It is believed that it was train 37 that collided with the freight on March 1, 1898, although accounts of the accident differ.

A Saturday Afternoon on 1275

by Fred Angus



In service only two months, Montreal Tramways car 1202 poses at the corner of St. Denis and Belanger streets on February 8, 1912. Although modified over the years, all 125 of these cars served for more than forty years, and a few lasted until 1956. CRHA Archives, Binns Collection

By the spring of 1956 the Montreal street car system was nearing the end of the line. In the four years since the conversion to all-bus operation had begun, several major lines had been abandoned, and the number of cars in service was little more than half of the 939 trams that were running when the conversion began. The largest conversion of all, the St. Catherine line and its feeders, was set for the following September, less than six months away. It was expected that the last tram would disappear from Montreal's streets by late 1959 or early 1960.

Several older series of cars had already disappeared, and others were reduced to only a small fraction of their former numbers. Gone were the 703 and 901 classes, the last of those dating back to the days of the Montreal Street Railway, and gone also were the last of the Park & Island cars, the 1032 class. The oldest trams then running in Montreal were the 1200 series, the first built for the Montreal Tramway Company, placed in service between late 1911 and mid 1913. These were the last cars with the so-called "Montreal Roof", a distinctive feature of most street cars built for Montreal between 1896 and 1913. Cars 1200 to 1209 and 1270 to 1299 had been built by Canadian Car and Foundry, while 1210 to 1269 and 1300 to 1324 were built by Ottawa Car Co. Originally 125 strong, the

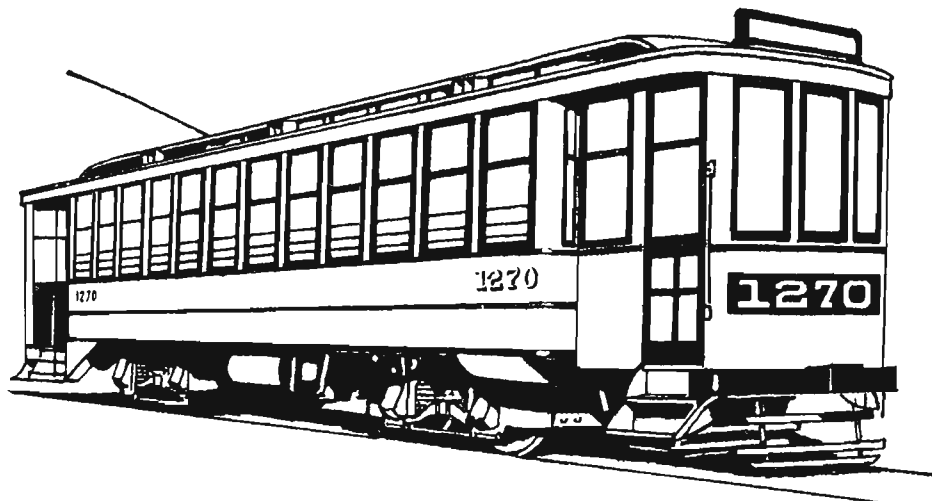
first of the group were retired in 1952. By the start of 1956 there were 18 left, but 6 were retired early that year. Thus by April there were only 12 still in operation (Nos. 1208, 1211, 1220, 1234, 1257, 1265, 1269, 1275, 1308, 1314, 1317, 1321). Interestingly, ten of these last 12 were Ottawa-built, only 1208 and 1275 were CanCar products. It was obvious that the few remaining 1200s would not last much longer, and a considerable effort was made by those interested to photograph them in service in the short time that remained.

For more than ten years, ever since the end of World War II, there were no 1200s in regular all day service. The older cars were used only in rush hours, but during these hours they could be seen on most routes in the city, very frequently showing the designation "EX", standing for "Extra", in place of a route number. During the war, many of the older trams had had their cross seats turned longitudinally to increase standee space. In the late 1940s, some were changed back to their pre-war configuration, but all cars numbered below 1325 retained their longitudinal seating until the end. One major restriction on the older cars was that those with the older type of controller were not permitted to run on steep hills such as Cote des Neiges. Such cars were marked with a white disc, an inch and a half in diameter, on

the right side of the front dash. These included all trams older than No. 1270, as well as a number of later ones, some as high as the low 1500s. By 1956 the Cote des Neiges line had been abandoned, so the restriction did not have much meaning, but the white disc remained. That spring of 1956 your editor made quite a number of early morning and late afternoon photographic expeditions, and did succeed in taking quite a few photos of 1200s in rush hour service.

Of all the 1200s, there was one that had especial interest for the writer; this was No. 1275. In the days, around 1947-1948, when I was first getting mildly interested in street cars I had heard of a family legend of an experience that had happened to my mother about the year 1929. Finishing some Christmas shopping, she boarded a streetcar, No. 1275, and discovered to her chagrin that she had no car tickets left, and, even worse, no money to buy any! However she somehow managed to "sweet talk" the conductor into giving her a free ride. Ever since then, my mother had always called 1275 "my car". Naturally I wondered if this car was still around, since the oldest I had then been on was a 1400. Eventually I found it. About 5:00 P.M. on the mid-term holiday Monday, February 16, 1948, I saw an old car coming down Lansdowne Avenue, running extra on the Guy Beaver Hall 14 route. It proved to be 1275, and it is from this moment that I date my interest in street cars, and later, railways. During the next eight years I did ride 1275 quite a few times, as well as many other cars of that series, for they could then be seen all over the system. However, since mid 1955, such rides were few and far between, as most of the 1200s were gone. For at least 30 years 1275 had been assigned to the St. Henri carbarn, but after the major abandonments of June 1955 it was moved to Hochelaga where it served out the remaining year of its career.

All this brings us to Saturday, April 28, 1956. Exams were over, and it was time to relax a bit. That very morning there had been a feature article in the paper about the scrapping of Montreal streetcars; one realized that the end of the 1200s was not far off. However that day there was no chance of seeing a 1200 in operation, as they were never used on weekends, only in rush hours Monday through Friday. (As it turned out this day, "never" was actually "hardly ever", in true Gilbert and Sullivan style.) There was a good movie playing, and I decided to go to it, but for some reason I did bring a camera along, which proved to be very fortunate. Heading east on St Catherine Street, en route to the movie, I suddenly noticed that an approaching westbound car had the



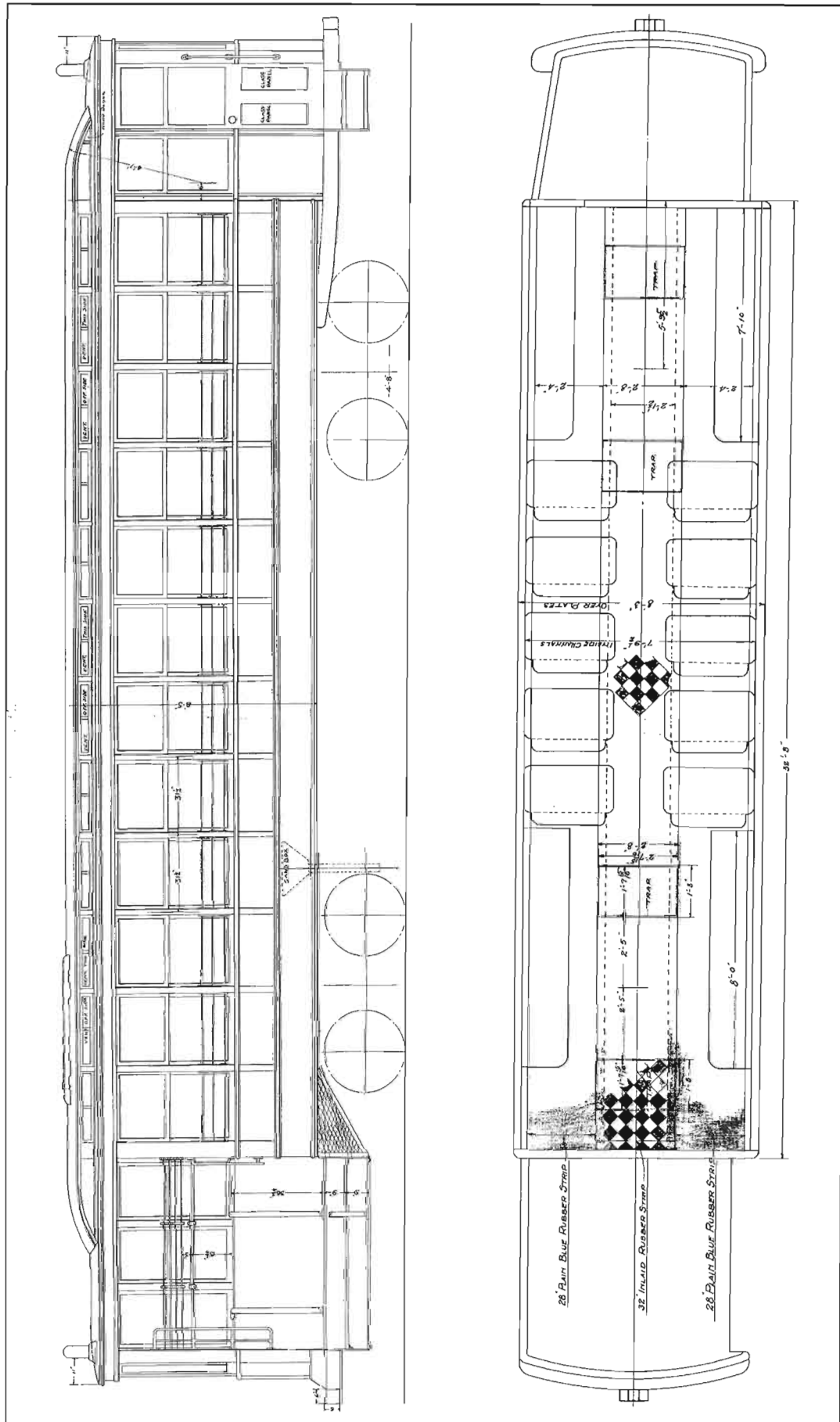
This drawing, by Richard Binns, shows MTC 1270 as it appeared when new in 1913. This tram, built by Canadian Car and Foundry in 1913, was the first one of the sub class (1270 to 1299) which included 1275.

unmistakable look of a 1200. My first thought was "this can't be, it's a Saturday". I then thought that it might be an excursion of some sort, but as it got nearer, I saw that it was a regular 3A, run No. 42, bound for the corner of Somerled and Walkley in Notre Dame de Grace. This was even stranger, because, since June 1955, 1200s were not seen west of Atwater, even in rush hours. The final surprise came as the car I was on passed the westbound 1200; it was none other than 1275!

The immediate question was "what to do". Obviously all thought of the movie vanished in light of this surprising development. I got off at the next stop, but of course 1275 was long gone. I even briefly considered chasing it in a taxi, but soon discarded this option for financial reasons. The best approach was to walk back along the line, and, sooner or later, the elusive tram would pass on its return trip. So I walked west along St. Catherine, up Atwater (the 3A used Atwater, whereas the 3 used Greene) and west on Sherbrooke. Just approaching Clarke Ave., near Westmount City Hall, I saw 1275 coming, heading east. There was just time for a quick photo; then I got aboard and began this nostalgic ride.



1275 eastbound on Sherbrooke street near Westmount City Hall on the afternoon of Saturday, April 28, 1956. The photo is somewhat fuzzy since it was taken with ASA 10 Kodachrome, and there was not time to make fine adjustments for fear of missing the car.



Diagrams of the 1200 class when they were new in 1912. The lighter weight composite construction, which was based on the "near side" cars of Philadelphia, was considered very "high tech" in 1912, and these were the first of their type to run in Canada. The style of floor covering shown in the plan view did not last long.

CRHA Archives, Can-Car Collection



"Sing a song of streetcars, seats all lined with chaps. Four and twenty maidens hanging from the straps". So said a trolley joke book in 1912, and it obviously still applied in 1956! Here we see a typical rush hour scene which was seldom photographed. Straphangers riding along St Catherine street aboard 1275 on April 28, 1956. Note that the interior of the clerestory roof, including the glass, had been painted cream in an attempt to make the car look more "modern". From 1952 on, most 1200s, and a few older cars, received this treatment.

Heading east on St. Catherine, the car soon filled up, and it was not long before all seats were taken and people were standing. I had hoped to take an interior photo, showing details of the car construction, but this did not seem feasible as the car was too crowded. However I did try one photo and ended up with a very rare view of "straphangers in action", holding on to the straps just like rush hours on St. Catherine Street. At the corner of St. Lawrence Boulevard ("The Main") there was another surprise. Coming east was none other than Birney car 200. This car had not carried regular passengers since 1947, but, after a career of transporting fareboxes, was serving as a rolling billboard. This time it was advertising the forthcoming opening of the baseball season. There was time for one photo as 200 and 1275 passed each other, then on to the terminus at Harbour Street (Rue du Havre) which had been the eastern terminus of the line since 1952, when the line east to Viau Street had been replaced by a busses.



Crossing "The Main", Birney car 200 passed. This was one of fourteen such cars acquired second hand from Detroit in 1924. All were retired from passenger service by 1947, but 200 survived and is now at the Canadian Railway Museum.



ABOVE AND LEFT: Two views on the wye at Somerled and Walkley, the end of the line, as 1275 prepared to return east to Hochelaga. The Esso station was selling gas at 39 cents a gallon.

Before getting off, I ascertained that 1275 would make another trip unless the dispatcher decided otherwise. So I crossed the street and waited to see what happened. In the background was the place where the 1898 Hochelaga carbarn had stood (see article in *Canadian Rail* No. 466, September-October 1998). This venerable structure had been torn down in February 1956, and the Frontenac bus terminus was under construction.

About five or six minutes went by, and then 1275 reappeared, heading west; it was indeed going to make another trip! There was time for one photo (see front cover) showing the car with the old Montreal Street Railway office building in the background and also the space where the Hochelaga barn had stood. Since I was using the old Kodachrome (speed index ASA 10) I had to use a 1/50 second exposure, and as 1275 was moving at a fair speed, it was necessary to “pan” the photo, keeping the car sharp and letting the background get slightly blurred with speed. 1275 soon stopped and I got aboard, paid another fare, and sat back to enjoy a ride the entire length of the 3A line, all the way to Notre Dame de Grace. At the corner of Somerled and



Walkley, the end of the line, I got off and took photos of 1275 turning on the wye, before going east again.

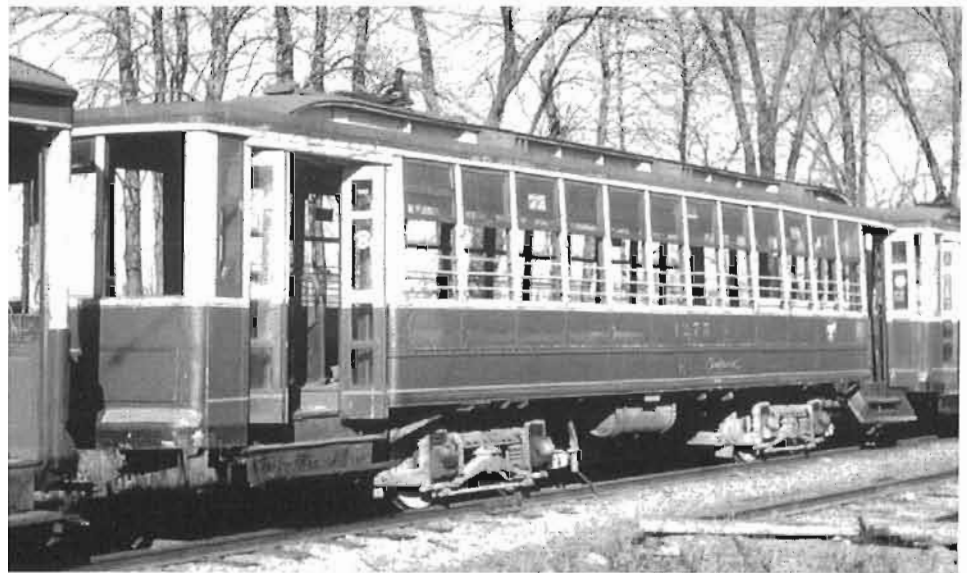
What happened then? You guessed it, I got back on 1275 again, paid a third fare, and rode east to the corner of Victoria and Sherbrooke. By now it was getting late, so it was time to get off, take one last photo, and go home after a most interesting and unusual afternoon. I never did find out why 1275 was running as a regular 3A on a Saturday afternoon in 1956. The most logical explanation is that the regular car (probably a 2100) assigned to run 42 had broken down and the powers that be at Hochelaga had decided to replace it with the first car available from the extra pool. This just happened to be 1275.



At the corner of Victoria Avenue and Sherbrooke Street it was time to get off and go home. The afternoon ride was over.

Less than two months later, on June 22, 1956, car 1220 pulled into the barns after a rush hour run on route 96, Van Horne. This was the last run of a 1200 in passenger service, and truly the end of an era. Fortunately one car of that class was saved. Car 1317 was kept, probably because its interior woodwork still had the varnished finish and had not been painted over. This, despite the fact that 1275 and 1234 (a rather interesting number) were in better condition, having been more recently overhauled. In August 1956, and on a few occasions after that, 1317 was used on CRHA excursions, and it is now preserved at the Canadian Railway Museum.

In April 1957, less than a year after the "adventure" related above, I paid two visits to Youville Shops and went to look at the cars on the scrap line. There was 1275 awaiting its demise. I managed to take a few last photos and save its reverse lever as a souvenir. This was the last I ever saw of 1275. About three weeks later all the cars in that line were turned on their sides, soaked with oil and burned. What was left was then cut up for scrap. I was certainly glad to have had that very interesting, and entirely unexpected, Saturday afternoon "excursion" on the old car in the spring of 1956, now almost half a century ago.



ABOVE: The end of the line. 1275 on the scrap line at Youville Shops on April 9, 1957. By this time there were only five 1200s left. The car immediately in front is 1265 and the one behind is a 1550. The dents in the side of 1275 were the result of an encounter with a truck about 1954. All these cars were burned three weeks after this photo was taken.

BELOW: A closeup of the number on the side of 1275 showing the removable side panels intended to make it easier to repair dents such as the car shows in the photo above.



Fiftieth Anniversary of the Toronto Subway

On March 30, 1954 the Toronto Subway, the first in Canada, opened for service. To commemorate this anniversary we are printing significant articles photos and advertisements, chiefly from the publication *Canadian Transportation*, especially the issue of December 1953. We are also reprinting two articles, one by Omer Lavallée, the other by Forster Kemp, that appeared in the *C.R.H.A. News report*, the forerunner of *Canadian Rail*, for May, 1954 (issue No. 45).



Excavation on Yonge Street, looking north from Queen. In the foreground air hammers are breaking up the soil.

The inauguration of the Toronto subway was the culmination of a great deal of planning and construction going back many years. Discussion on the subject of a subway for Toronto dated back at least as far as 1910 when Messrs. Jacobs and Davis prepared a report on street railway transportation and recommended a system of subways. In 1911 a tender of an incredibly precise estimate of \$5,497,395.96 by Haney and Miller was accepted, but the required vote of acceptance was defeated 11,645 to 8,233. Another committee, set up in 1915, recommended new electric suburban lines but no subway. Little was done until 1942 when, with the great increase in traffic due to World War II, the project was revived. Plans were drawn up in 1944 for a 4.56 mile line, following Yonge Street, from Union Station to Eglinton Avenue, and the drawing up of detailed construction plans was approved. On January 1, 1946 another public vote was held, and this time support was overwhelming, the vote being 77,935 to 8,360 in favour of the project. Detailed plans were drawn, contracts were awarded, and, on September 8, 1949, work began on Canada's first subway.

During the next four and a half years construction proceeded at a rate that averaged out to about a mile a year. Since the line was built, by the cut and cover



This view, looking north on Yonge Street from Albert Street, was taken on November 7, 1949. The numerous underground pipes and conduits are plainly visible.

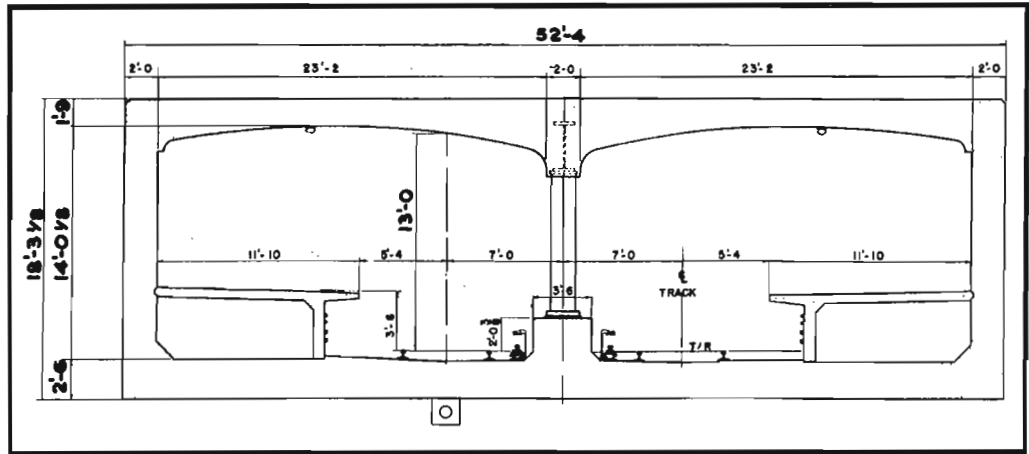
method, under Yonge Street as far north as College, it was necessary to close parts of the street from time to time and lay temporary decking on which street car tracks were laid. North of College, a private right of way was constructed, often in open cut. Between College and St. Clair this route was east of Yonge, but it then crossed that street and ran the rest of the way to Eglinton on the west side. During all this time numerous diversions of street car lines were made.



A pile driver in action on Front Street looking east, in the early stages of the work.

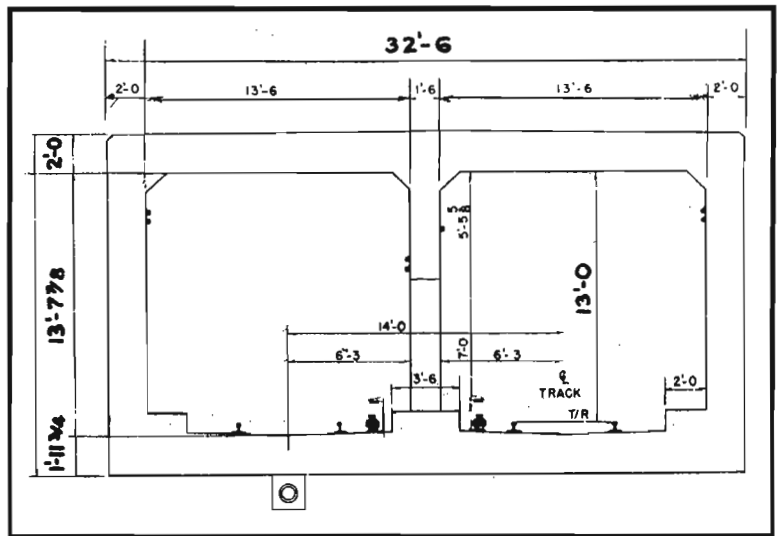
In November 1951 a contract for 104 subway cars was made with the Gloucester Railway Carriage and Wagon Works of Gloucester England. The first of these cars, numbers 5000 and 5001, arrived at the port of Montreal on July 26 1953, and were then transported on special CNR flatcars to Toronto where they arrived at Hillcrest shops on July 30. From Hillcrest they were moved, mounted on Witt car trucks, to the Canadian National Exhibition where they were on view to the public, later being moved to the new shops at Davisville. Subsequent cars were sent directly to Davisville. By the end of 1953 there were 66 subway cars on the property, and 100 were on hand by March 5 1954, well before the opening day. The specifications for the last four cars were changed to aluminum construction in order to save weight; they were delivered later that year.

Meanwhile construction work had advanced to the stage where the first test run could be made, and this took place on September 20 1953, using cars 5004 and 5005. The test was run from Davisville to Bloor. On January 1, 1954, the Toronto Transportation Commission, reflecting its new role, changed its name to the Toronto Transit Commission, however the initials TTC remained the same.



Section through the subway at a station.

As the project neared completion Torontonians looked forward in eager anticipation, and the big day finally arrived on March 30, 1954. At 10:00 A.M. the band of the Royal Regiment of Canada began to play a selection of musical numbers, recalling how the band of the Artillery Regiment had played "spirited airs" at the opening of the original horsecar line, which covered much of the same route, away back in 1861. Soon the ceremony began, and at 11:00 A.M. a ceremonial subway signal light turned to amber as the band played God Save the Queen. After some speeches, and a blessing by Rev. C.H. Bentall, Mr. Leslie Frost, the Premier of Ontario said: "Mr. Chairman, ladies and gentlemen, it is now my great honour and pleasure to give Canada's first subway the green light." As he said this he turned a handle and the ceremonial signal light turned to green. The band played a fanfare, the air whistles of all subway cars in the Davisville yard blew a salute, and then the official guests boarded the first train which soon departed, bound for Union Station which it reached about 12:10. After almost half a century of talk and planning, Canada had an operating subway.



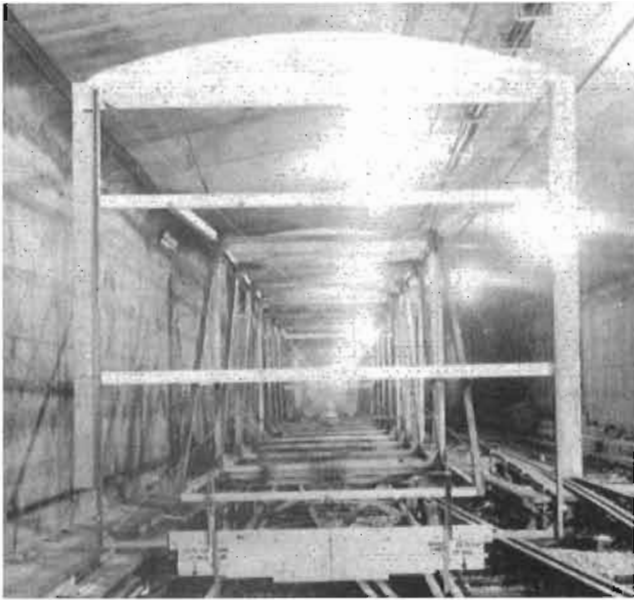
Section through the subway between stations.



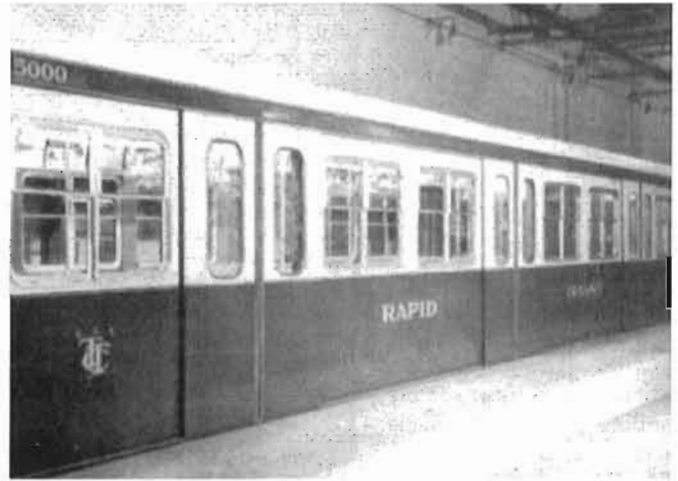
This photo illustrates the "cover" part of "cut and cover". It is taken on Yonge Street, looking north to Wellington, and shows the steel deck beams in place in the foreground, with timbering and laying of temporary street car tracks in the background.



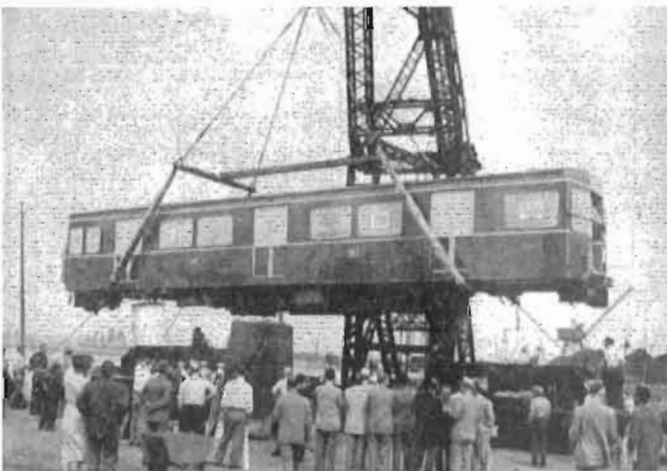
Excavation proceeded under the "cover". This photo shows the "intermediate lift excavation" in the area near Yonge and Queen. Heavy trucks are hauling earth up ramps to exits on side streets.



Before the subway cars arrived, this "gauge car" was used to test clearances as construction of the tunnels proceeded.



This "mock up" of a subway car was built late in 1949 to test the door and window arrangements before the actual cars were ordered. No passenger would be more than 7 feet 6 inches from a door.



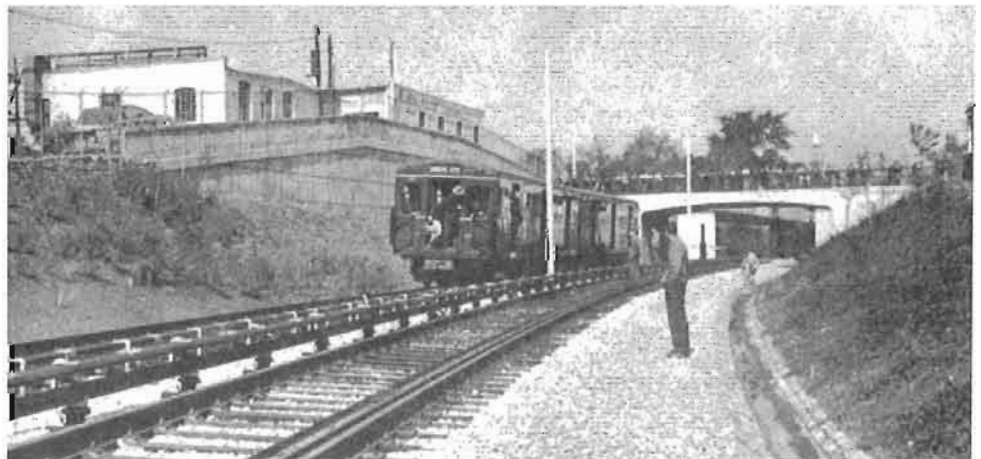
A momentous event! The first subway car is unloaded from the "S.S. New York City" of Bristol City Lines at Montreal on July 27, 1953. Coincidentally, this was the day the Korean War ended. Three days later the first two cars were in Toronto.



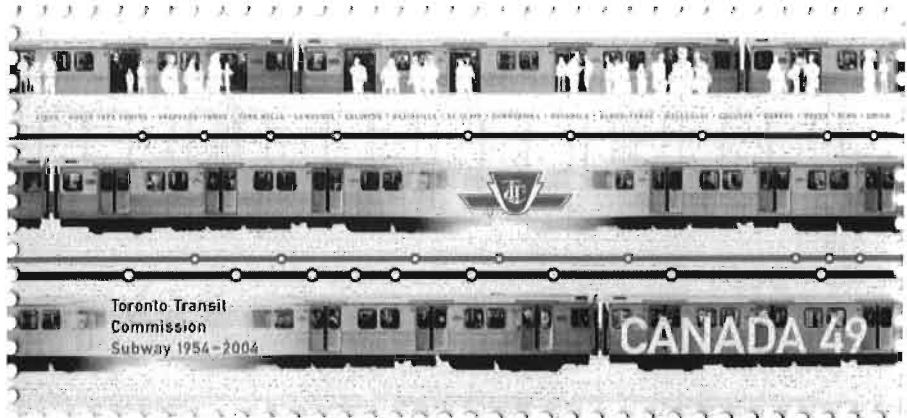
ABOVE: Concrete work progressing steadily in the area of Wellesley Station. Note the steel reinforcing bars ready to be placed in the concrete.

BELOW: The first run of rapid transit equipment in Canada. The first test train, consisting of cars 5004 and 5005, just after passing under the Aylmer Street bridge on September 20, 1953. Note the crowd of people on the bridge watching this historic event.

With the subway open, the street car service on Yonge Street ended the same day. The last scheduled run was made early that afternoon by car 2928 which ran from Eglinton to the temporary yard at the harbour, where the old cars were stored. At 2:40 P.M. a special two car train, chartered by the Upper Canada Railway Society, and headed by car 2574, departed for the last time. It was the end of two-car Witt train service and of the Yonge street cars. After 93 years the Yonge cars were gone; the subway had taken over.



In the succeeding fifty years the mileage of the Toronto subway has grown to many times the size of the original 4 1/2 mile line of 1954. All the original Gloucester cars are gone now, replaced by much longer units, and the system has been upgraded and modernized over the years. The subway has been an important factor in the growth of Toronto, which is now by far the largest city in Canada. As Chairman McBrien said on March 30, 1954 "It was a job well done".



UPPER RIGHT: A 49 cent Canadian stamp issued in March of 2004 to commemorate the 50th anniversary of the opening of the Toronto subway.

MIDDLE RIGHT: A view of the open cut right of way as seen looking south from Rosehill Avenue.



LOWER RIGHT: Looking south along the open cut section, showing some of the many bridges which carry streets over the rapid transit line.

BELOW: An advertisement for the Arthur A. Johnson Company which were major contractors in building the Toronto subway.

We as sponsoring contractor for the major portion of the new Toronto Subway, are proud of our part in this most noteworthy achievement so ably planned by the commissioners and engineers of the Toronto Transportation Commission.

THE ARTHUR A. JOHNSON CORPORATION
347 Madison Avenue - New York 17, N. Y.

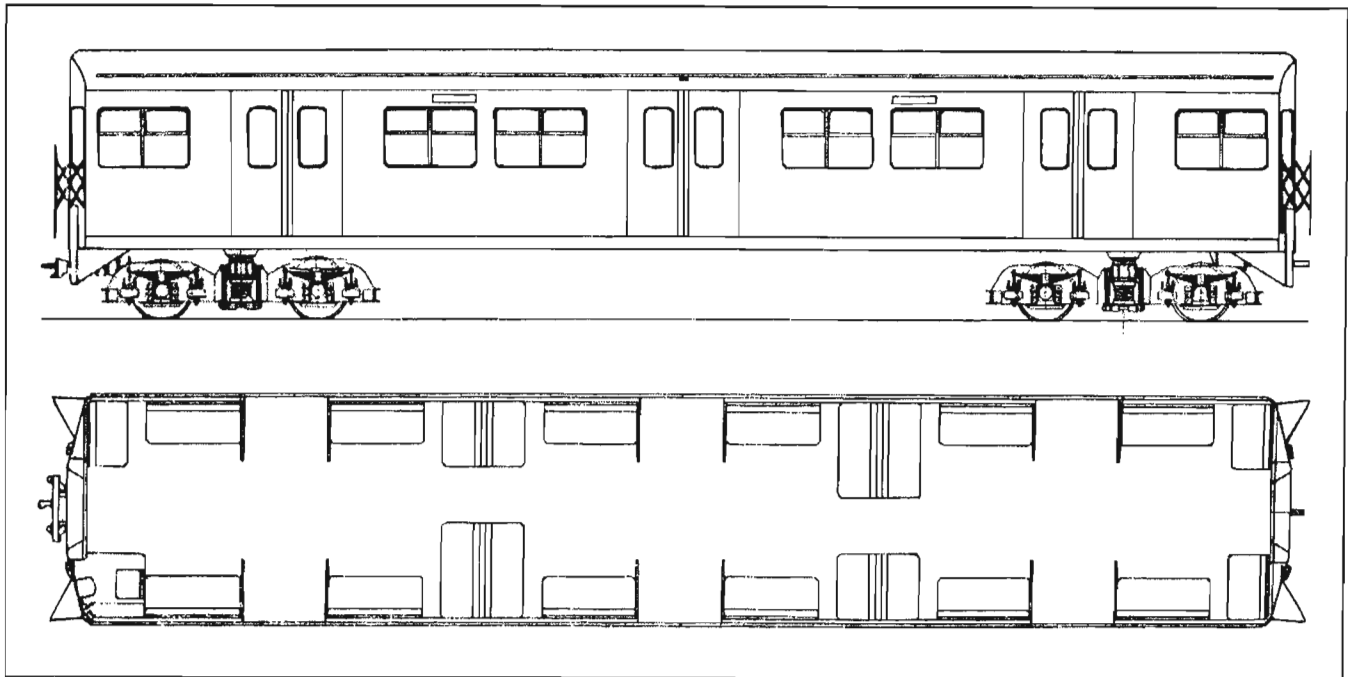
The world's leading contractor for subway construction; specialists in Tunnels, Bridges, Foundations, Dams, Canals, Heavy Cranes, Utility Plants and other major construction.

Our operations in Canada are carried on by

ARTHUR A. JOHNSON CANADA, Ltd.
126 Austin Street - Toronto, Ontario - Telephone - Mayfair 9461



LEFT: A subway token of the type first issued by the TTC when the subway opened in 1954. Both sides of this token are the same. Although superseded by a later type, a few of this design are still in use. However they cost a great deal more now than they did in 1954!



The Cars for Operation on the Rapid Transit System

Passenger service in the Toronto subway will be provided by 104 cars being built in England by the Gloucester Railway Carriage & Wagon Company, Limited. The first 100 will be of steel construction, whereas the last four will utilize aluminum to the maximum practical extent, in order to determine if the economies due to lighter weight justify the additional first cost. The first two cars were delivered in late July for display at the Canadian National Exhibition, and it is expected that delivery will be completed during the first quarter of 1954.

Significant dimensions of the car are:-

Car Length over bumpers	57 ft. 1 1/2 in.
Car Length over body.	55 ft. 7 1/2 in.
Car Width	10 ft. 4 in.
Car Height	12 ft. 0 in.
Truck centres	38 ft. 0 in.
Truck wheelbase	7 ft. 0 in.
Wheel diameter	30 inches
Door openings	3 per car side
Door opening width.	3 ft. 9 in.
Door height	6 ft. 4 in.
Seating capacity	62

Train Size: The cars are semi-permanently connected in pairs to form two-car units. Train size will vary with the traffic, up to a maximum of eight cars (four two-car units) which is the maximum number that can be accommodated at the 500-foot platforms provided at all subway stations. Operation of eight-car trains will accommodate some 40,000 passengers per hour in each direction.

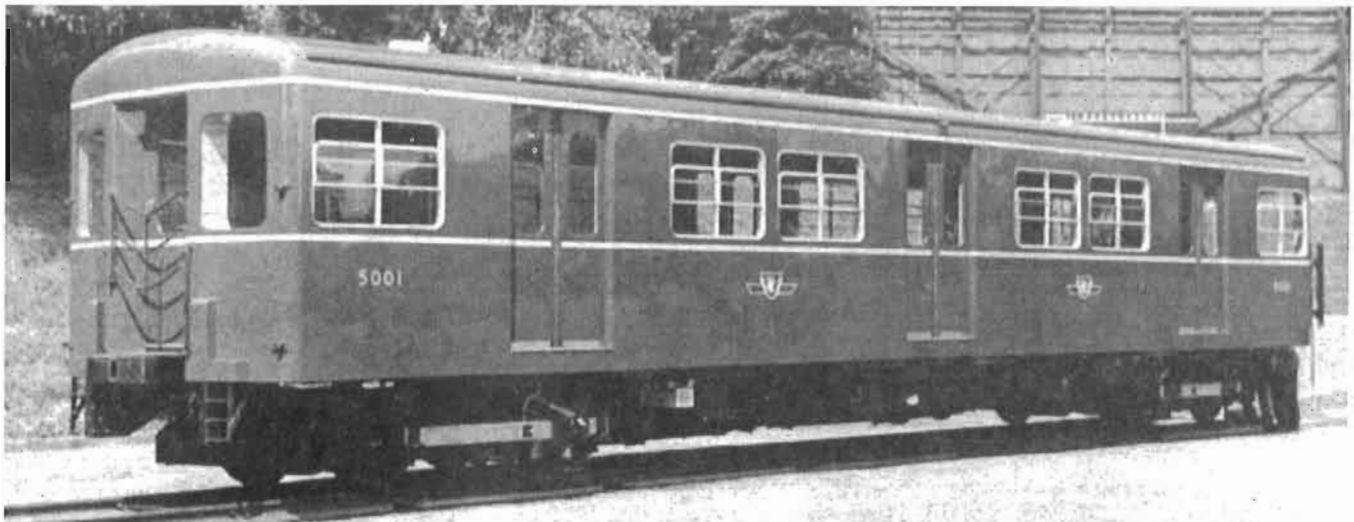
Car Body: The underframe, body and roof are of steel. The side panels are attached to the structure with countersunk rivets thus giving a smooth appearance. The floor is of 1/4 in. rubber, laid on 1 1/2 in. of cork fastened to a dovetailed steel sub-floor. This arrangement has excellent sound-deadening qualities. In addition, special sound-deadening paint is applied to the inner side of the exterior body panels, including a layer of fabric from floor to window bottom. The seats, consisting of a combination of longitudinal and cross types, are arranged to provide adequate comfort, and rapid passenger movement at stations. The frames are of cast aluminum to which is attached rubber latex cushions and rubberized hair seat backs, both covered with red plastic upholstery. A liberal supply of stanchions and ceiling-attached grab handles accommodate standing passengers.

There are three door openings, each of 45 in. clear width per car side, The sliding aluminum alloy doors are operated by pneumatic engines. Each abutting door edge is of rubber, and one leaf of each door opening in the closed position can be pulled open 4 1/2 in. against a spring, in order to free any object that might get caught.

Windows are arranged with the bottom half stationary and the top half movable vertically.

There is one driver's cab per car body, located at the coupling end, In effect this provides a two-car unit, 114 feet long with a cab at each end. This arrangement provides for double end operation, which is less expensive than it would be to provide underground turning facilities.

Multiple unit Operation: The cars are equipped for multiple unit operation. That is, in a train of any length, all cars are motor driven; not one is a trailer. When the controls in the leading car are operated the motors or brakes of every car in the train respond simultaneously. This feature results in faster speeds, smoother and faster



acceleration and braking, and, in general, greater train efficiency.

The Guard is stationed in an unoccupied operator's cab on the platform side of the train. From this position he is able, by means of a full drop cab window, to view the station platform in both directions, and he has control of all the doors on that side of the train by means of push buttons.

Lighting and Heating: The lighting is provided by incandescent fixtures. The units are of the circular ceiling-recessed type, commonly used on modern street cars and trolley coaches. There are 47 fixtures in each car, to provide an illumination of 18-20 foot candles on the reading plane at 550 volts. Forty-one of these lamps operate in 2 parallel circuits off the 600-volt power supply, while the remaining six are connected to the 50-volt supply from the storage batteries. In case of a power failure the battery-operated lights remain in operation to provide sufficient illumination.

Heating is furnished from under-floor current resistors of 30 kw. capacity over which air circulates to the car through seat pedestal louvres. Thermostatic control in three 10 kw. steps provide a temperature of 62-65 F. degrees. A combination of fresh and/or recirculated air may be obtained by adjusting the controls.

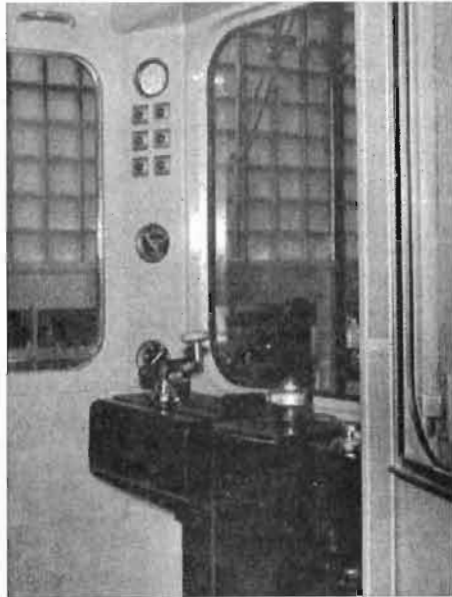
Propulsion and Braking Equipment: The motors are supplied by the Crompton Parkinson Co. The four motors per car are rated at 68 h.p. each, and are wound for 300-volt operation with two-in-series.

The drive is by propeller shaft to a hypoid gear on each axle, similar to automotive practice and the P.C.C. car. This reduces the unsprung truck weight, thereby reducing noise and vibration.



Automatic acceleration is provided, with a choice of three rates under control of the operator. There are also three running positions, switching, series (half speed) and parallel (full speed). The maximum speed of an empty train on level track is approximately 50 m.p.h.; although proximity of stations will seldom permit this speed to be attained.

The control is known as type PCM (Pneumatic Cam Magnetic), and is manufactured by the British Thomson-Houston Company of Rugby. It is almost identical with that used exclusively by the London Underground for many years. Its predominant characteristics are its compactness, simplicity and extreme reliability. The car increases in speed from standstill by the cutting out of resistance placed in series with the motors. This is done by rotating a cam shaft automatically by pneumatic pressure, the various cams operating electrical contactors. The control, and various low voltage devices are operated from a battery which is charged from a motor generator set.



The braking is by compressed air operating on brake shoes on the wheels. It is provided by the Westinghouse Brake and Signal Company of England and is practically identical with that used on the London Underground System. The system is of the electro-pneumatic type, that is, the application and release of air to the brakes of each car is controlled simultaneously from the operator's position by electric wires. This ensures that all brakes on a train operate simultaneously, and those on a long train as quickly as on a short one. In the unlikely event of a failure of the electric portion, the same functions can be performed, but not quite so rapidly, by straight pneumatic means.

A unique feature is a retardation controller. In principle, it is two mercury "U"-tubes located in each cab and having electrical contacts which are made or broken by the movement of the mercury. It operates in two ways: (a) to prevent the application of more air if or when a pre-determined braking rate has been obtained, and (b) to exhaust air if the rate tends to exceed the pre-determined rate of braking as a train decreases in speed. Its chief purpose is to bring the train to rest as smoothly and as rapidly as possible.

The braking mechanism consists of two brake shoes per wheel with one brake cylinder per shoe, or eight per truck. Each cylinder has an automatic slack adjuster. This arrangement, which reduces the amount of brake rigging required, also reduces noise and vibration and increases the uniformity of braking.

Trucks: The trucks are manufactured by the car builder and are very similar to those used in London, except for the modifications needed to mount two propeller-shaft driving motors per unit instead of one axle-hung motor. The frame is of structural and cast parts, assembled by a combination of welding and rivetting. Anti-friction journal bearings and 30 inch solid steel wheels are used.

The suspension system consists of leaf springs and double coil helical springs, suitably connected for maximum passenger comfort. Spring-loaded friction pads provide suitable damping. A screw adjustment compensates for wheel and rail wear to keep the floor height uniform.

Each truck has a third rail shoe on each side for current collection from the top surface of the contact rail. Also, there is a pneumatic trip cock on each leading truck, and it is engaged by a corresponding wayside track trip to effect an automatic emergency stop if a train should be operated past a red signal light.

Connections between Trains: The two cars of any one unit are held together mechanically by a coupling bar together with a suitable amount of cushioning or "draft gear". The electrical and pneumatic connections are made by means of multi-conductor cables and hose lines respectively. The two halves of a unit will not be uncoupled except in the case of major shop repairs or maintenance. They are not exactly similar, but consist of an A and a B car. The A or pneumatic car contains the air compressor, while the B or electric car contains a 50-volt storage battery and a battery charging MG set.

The coupling between any two units is by means of an automatic electro-pneumatic coupler manufactured by the G.D. Peters Company. The coupling and uncoupling are accomplished by remote control from within the cab of the moving part of the train. The coupler transmits the mechanical forces, the pneumatic brake lines and the electrical control. The contacts of the electrical control are protected by a metal cover in the uncoupled position, the cover being pushed aside automatically as the couplers engage.

Summary of Safety Features: In an underground system where multiple-unit trains operate at high speeds, frequent headways and with rapid rates of acceleration and braking, all precautions must be taken to ensure that a very high degree of safety is incorporated. For that reason, the chief safety features of the system are summarized below in order to show the care that has been given this important subject:

The line is protected with an automatic block signal system, equipped with wayside track trips and interlocking in the yards and terminals, all designed to prevent trains from coming in contact with each other.

A system of underground telephones together with adjacent push buttons, permits contact with supervisory forces and permits power to be cut off from any section of track with minimum delay.

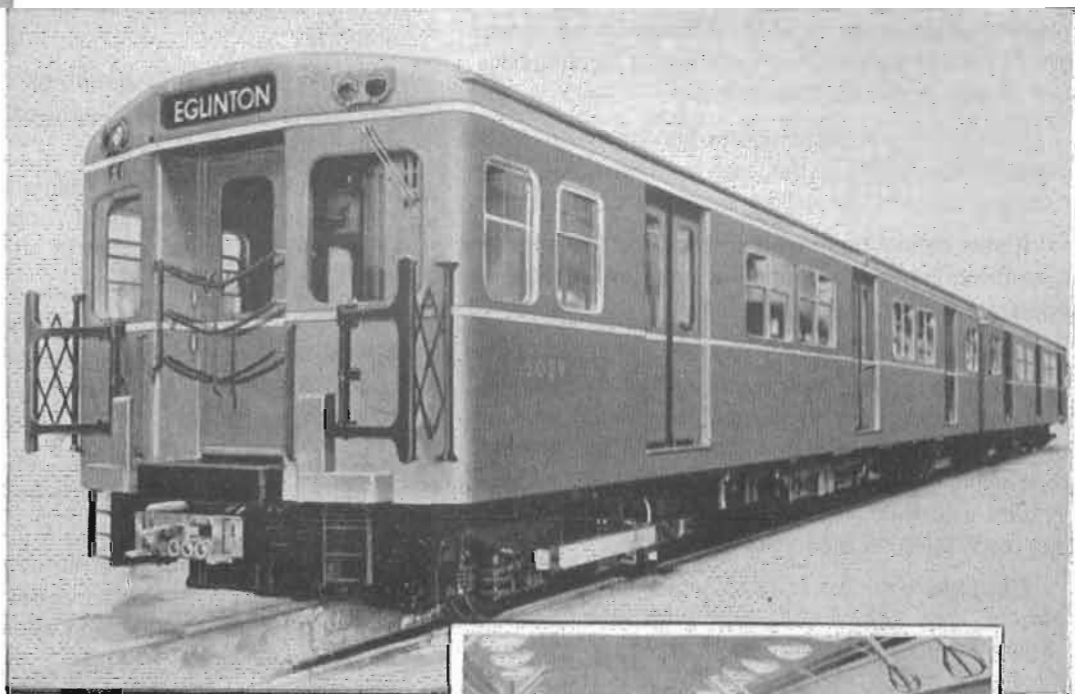
A train cannot start until all side doors are closed.

Brakes will be applied automatically on a train if a driver attempts to pass a red signal, releases his hand from the controls, has his train break in two, or a guard or passenger operates the emergency cord in any car.



On Canada's first subway

GLOUCESTER CARRIES THE LOAD



It's the pride of the people of Toronto that theirs is the first underground system in Canada. And they're going to be equally proud of the superbly equipped cars which in peak periods, and by means of 8-car trains, can carry up to 40,000 passengers per hour.

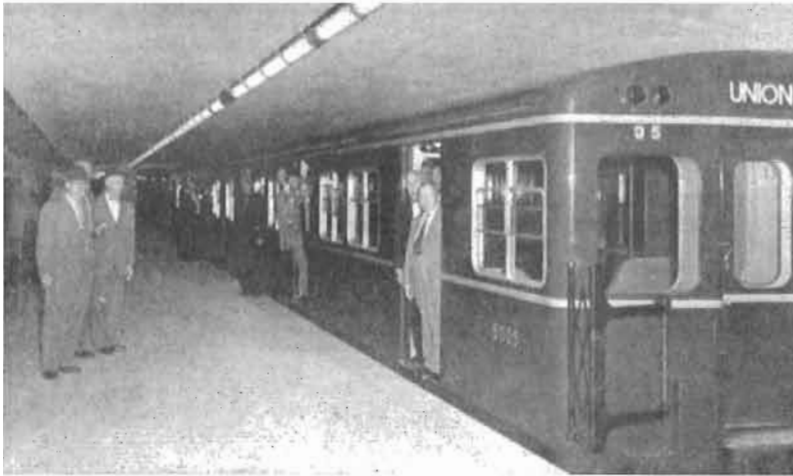
All the rolling stock for this new project comprising 104 cars has been designed and built by Gloucester Railway Carriage & Wagon Company, specialists in rolling stock for the world's railways since 1860.



GLOUCESTER RAILWAY CARRIAGE & WAGON CO. LTD.

GLOUCESTER · ENGLAND

LONDON OFFICE: 1 ALBEMARLE STREET, PICCADILLY, W.1. Phone: GROSVENOR 8206



A system of battery lights provides adequate illumination in every car in case of failure of the power supply. Front and rear marker lights would automatically remain lit also under such conditions.

A system of pantograph gates and chains prevents passengers from falling on the track between cars, either from the platform or when walking from one car to another.

A train cannot be moved, or connected to another train, or disconnected from another train unless there is an adequate supply of air for braking.

There are two independent means of applying the air brakes. The system used normally has an indicating light to show that it is in good condition, similarly for the retarder that provides the high and uniform rate of braking. Also, by using electricity to effect application and release of all cars in a train, a long train can have its brakes applied as quickly as a short one.

Each brake shoe has its individual brake cylinder, 16 per car. Thus, failure of one, or even several, would still leave a substantial proportion to bring a train to standstill.

An exterior red light, over the centre door on each side of each car indicates when any side door of the car is open, similarly when not lit it indicates that the doors are closed. Likewise a dual-light indicator in the driver's cab and guard's cab gives a green indication when all side doors are closed.

The abutting door edges at each side door opening are protected by soft rubber. Also, one leaf of each pair can be shoved open manually by about 4 1/2 in., in case any object should become caught.

Marker lights at the front and rear of a train are lit automatically in the performance of other functions essential to train movement.

A system of spring buffers between cars provides an uninterrupted and smooth floor between cars, thus minimizing dangers of falling and of accidents.

All compressors start and stop simultaneously, thereby ensuring equal division of load.

Each car has a plainly visible fire extinguisher.

Summary of Dependability Features: In case of trouble on a subway train, it is essential that adequate means be provided to get the train moving with minimum delay in order to avoid disruption of the service and to reduce all possible chances of passenger panic.

Toronto's subway cars have an elaborate set of features designed to provide these features, and the main ones are summarized below:

In normal operation all side doors must be shut on a train before power can be applied to it. However, it is possible in the case of door trouble to prevent any or all doors from opening at stations.

Two side door openings on each car can be passenger-opened in emergencies, either with or without compressed air.

The end doors on a train are normally locked, but can be very easily or quickly unlocked and opened by passengers or crew in case of an emergency.

By the breaking of a sealed switch, a train can be moved in an emergency with reduced air pressure. Likewise, operation of another sealed switch permits cutting out the electro-pneumatic brake system in case of trouble and operation on the straight pneumatic brakes.

In case of compressor trouble on a train, any compressor can be disconnected electrically from its source of supply.

Isolating cocks permit isolation of almost any piece of defective pneumatic equipment or burst air lines, thereby permitting movement with the affected parts out of service.

Should the propulsion equipment of any car in a train become defective, the affected car can be quickly rendered inoperative, becoming in effect a trailer, while still remaining in service.

Should the brakes on any car fail to release, they may be released, or released and rendered ineffective, from within the car and with little delay.

Summary: In the construction of Canada's first subway cars, the Toronto Transportation Commission has drawn upon the knowledge and experience of a great many individuals and firms. It has sent representatives to study methods in effect in many cities of the world where rapid transit service is provided. It has collaborated with operating and manufacturing companies to obtain the most modern transit vehicle for the needs of Toronto. And, as far as possible, it has provided cars which combine efficiency, appearance, comfort and, above all, dependability and safety.

SOURCE: *Canadian Transportation*, December 1953.

THE **LYMAN** LINE OF LEADERS



TORONTO
SUBWAY CARS
EQUIPPED WITH . . .

Tenax speed roller bearings, with their characteristic long line contact and true rolling action, have a high load capacity and great durability. They are used on all types of rolling stock, including steam, diesel and electric locomotives, in Timken-made axle-boxes.

As in other fields of engineering, Timken-made axle-boxes give greater availability and longer life coupled with great savings in cost and maintenance, and lubrication.

Your Lyman representative is always available to discuss Timken-made axle-boxes at any time.

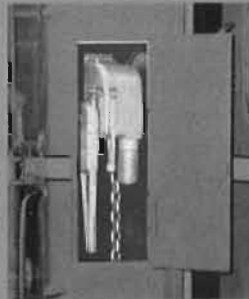
BRITISH
TIMKEN
TAPERED-ROLLER BEARING
AXLE-BOXES



LYMAN TUBE AND BEARINGS, LIMITED
MONTREAL TORONTO WINNIPEG
Representatives of Timken, B.C. and New Glasgow, N.S.
DISTRIBUTED IN PRINCIPAL CITIES

THE **LYMAN** LINE OF LEADERS

ON TORONTO
SUBWAY CARS



**PEACOCK
HAND BRAKES**

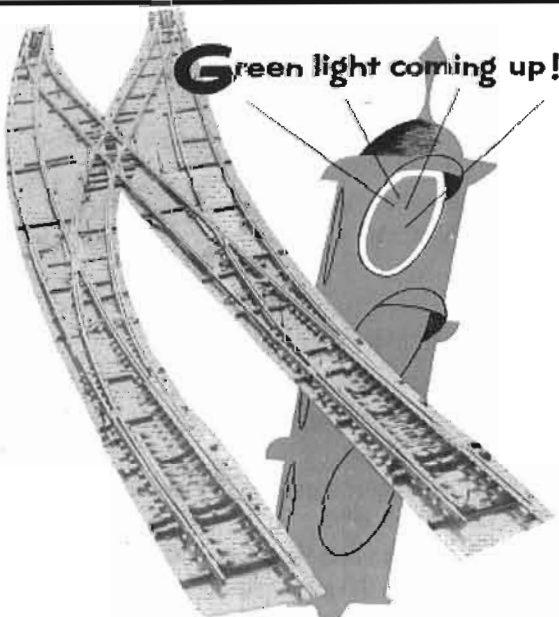
. . . have been selected by the Toronto Transportation Commission for their dependability, ease of operation and maintenance free characteristics.



**BECLAWAT
WINDOWS**

. . . were chosen for their modern styling, ease of operation, freedom from maintenance and their "in-pipe" seal that assures safety ventilation.

LYMAN TUBE AND BEARINGS, LIMITED
MONTREAL TORONTO WINNIPEG
Representatives of Timken, B.C. and New Glasgow, N.S.



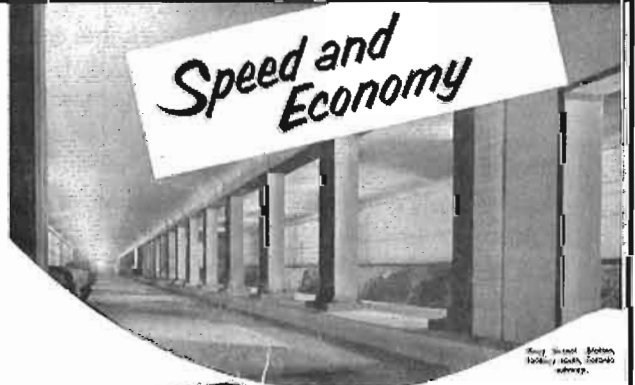
Green light coming up!

TRANSIT TRAINS SOON TO ROLL IN TORONTO'S YONGE STREET SUBWAY

With the big engineering classic—an outstanding Canadian "First"—well on the way to completion, Canadian Car congratulates the Toronto Transportation Commission on the planning and enterprise which made the project possible. Can-Car is part of the subway picture. Frogs, switches and cross-overs for the trackage were manufactured in the Company's Longue Pointe foundry where more than 3850 tons of rail steel were

used for the purpose. As each section was completed in the foundry, it was assembled and coated, then dismantled and the entire job shipped to the subway site. Canadian Car, proud to have contributed to this important project, salutes Toronto on the coming completion of Canada's first subway.

**CANADIAN CAR & FOUNDRY
COMPANY LIMITED**
MONTREAL - PORT WILHELM
Canada's largest Manufacturer of Railway Rolling Stock and Equipment



Speed and Economy



feature application of
CONCRETE
in Canada's FIRST SUBWAY



Concrete figured largely in the construction of the Toronto subway. By the time the entire route was completed, 1,140,000 bags of cement had gone into this huge transportation development. The flooring, roofing, station steps and platforms, tunnel walls and other parts of the project saw extensive use of this durable, fire-resistant construction material. Concrete speeds completion of the construction job in which it is used. It means faster schedules, real economy, moderate first cost and low upkeep. No other building material of comparable cost offers all the money-saving advantages of concrete. Write us for information on concrete for every construction use.

Canada Cement Company Limited
CANADA CEMENT COMPANY LTD., 1001 BAYVIEW SQUARE, MONTREAL
SALES OFFICES: MONCTON, QUEBEC, MONTREAL, OTTAWA, TORONTO, WINNIPEG, CALGARY

Address by TTC Chairman William C. McBrien at the Opening Ceremony of the Toronto Subway, March 30, 1954.

In speaking at the Davisville station ceremony, Mr. McBrien said:

Honourable Sirs and Distinguished Guests, on behalf of the Toronto Transit Commission I welcome you here today and wish to thank each of you for coming and helping us make this, the official opening of Canada's First Subway, a success.

We would not be human if we did not admit that we are a very proud organization today. This tremendous task is completed.

The dream of 1944 becomes a reality of 1954. This project was designed and built in the ten most chaotic years in the history of our country - war, shortage of steel and building supplies, shortage of skilled and unskilled labor and a general increase in labor and materials of nearly 100 per cent.

True, it cost more than our original estimate of ten years ago, but if started today, at present prices, it would cost at least 15 million dollars more or 30 per cent above the actual cost.

We are more than satisfied with the design, construction, finish and equipment, and today we publicly express our sincere thanks to the engineers, architects, contractors, suppliers and workmen for a grand job.

In admitting that we are a proud organization today we must also admit that we are also a humble one. For we know that the completion of this subway is not the final solution of Toronto's traffic problems. It is only the start of combatting this monster. Many other lines will have to be built in the future.

But the right-of-way and construction of all future rapid transit lines will have to be financed out of general taxation. If public transportation is to be the medium of relieving traffic congestion in our cities, and we believe it is, its success will depend upon getting more people to use it rather than on increasing fares to make it pay. We must not price ourselves out of our own field. We know that moving the masses, in the future, will be a tremendous task.

But if planners will give us the same consideration as the automobile in providing rights-of-way for new rapid transit lines; if government bodies, federal, provincial and civic, will start making capital expenditures for the benefit of public transportation, we will accept the challenge.

Our major problem in Toronto is traffic congestion. If our small downtown business area supplies one-third of our taxation we cannot allow it to be strangled to death by traffic congestion.

Surely we now realize that our patent medicine prescription of street widenings is not the cure. For it has only lured unmanageable numbers of automobiles into our downtown streets that were already overcrowded. We suggest:

1. Eliminate parking on all major streets in the downtown area.
2. Parking meters belong to the horse and buggy days and have no place in a large modern city.
3. Develop fringe parking lots to be serviced to this subway and the downtown area by bus transportation.
4. Downtown business will have to establish a system of staggered hours for their employees. All of these improvements can be put into effect with little or no capital cost.
5. The proposed mile of Queen Street subway should be started at once, eliminating 80% of the street car operation in the downtown area, and freeing many main streets for one-way traffic.

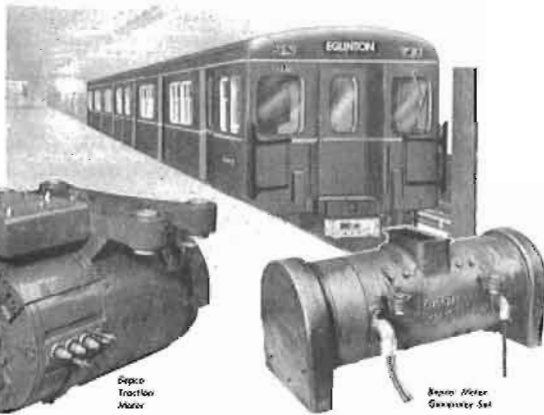
Do not sell public transportation short. We are not a dying industry, but one that can and will meet the competition of the automobile. For we know that the egotism is gone from driving a motor car and that, today, tens of thousands of automobile owners do not want to bring their cars into the downtown area.

We also know that what the great majority of our people want is good public transportation with more speed, greater comfort and improved service at a reasonable fare. Our ambition is to give such service.

In conclusion, I wish to say that the Toronto Transit Commission does not want or expect any praise or glory for the completion of this gigantic task. It was our job and we did it. Our reward is in the fact that we, ourselves, know - It was a job well done. Thank you.

BEPKO EQUIPMENT

will help speed 20,000 passengers per hour on
TORONTO'S SUBWAY SYSTEM



Bepko
Traction
Motor

Bepko Motor
Generator Set

The Toronto Subway Cars were manufactured by **GLOUCESTER RAILWAY CARRIAGE AND WAGON COMPANY LIMITED**, leading British manufacturers of Railway Rolling Stock, and were sold by **BEPKO CANADA LIMITED** as exclusive Canadian Representatives.

The Subway Cars are equipped with Bepko 64 HP Traction Motors, and 4 KW Motor generator Sets. Bepko traction motors, which for many years have been used on London's great Underground railway network, are noted for their outstanding performance and reliability.

BEPKO CANADA LIMITED



Canada's First Subway chooses MITCHELL, FIRST IN LIGHTING

Working from specifications and preliminary drawings issued by the Toronto Transportation Commission, Mitchell engineers designed, developed and produced over 400 miles of lighting fixtures (more than 7,000 units) for Canada's first Subway.

In order to increase the amount of operating positions, Mitchell lighting fixtures will light the way on the perfect station levels; on the mezzanine floor, in the passages and passageways to the underground platform and on the stairs.

The fixtures are specially constructed from anodized and die-cast aluminum, glass shielded, with provision for fluorescent, and incandescent emergency lighting, and are sealed by a rubber gasket so as to be dust tight. Ranging in size from one foot to four feet in length and in style from surface to recessed mounting, all the units were designed to have an integral part of the design of the modern transportation development.

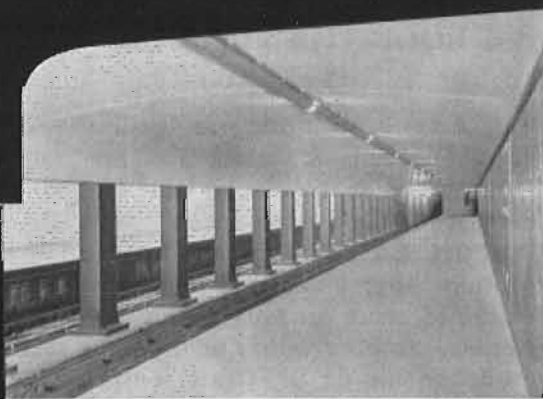
We at Mitchell are proud of the part we have played in this project and sound our congratulations to the Royal Transit for a job well done.

The above illustration was taken looking west from the centre of the platform at Union Station showing a continuous row of end-board surface-mounted fluorescent and incandescent Mitchell fixtures.



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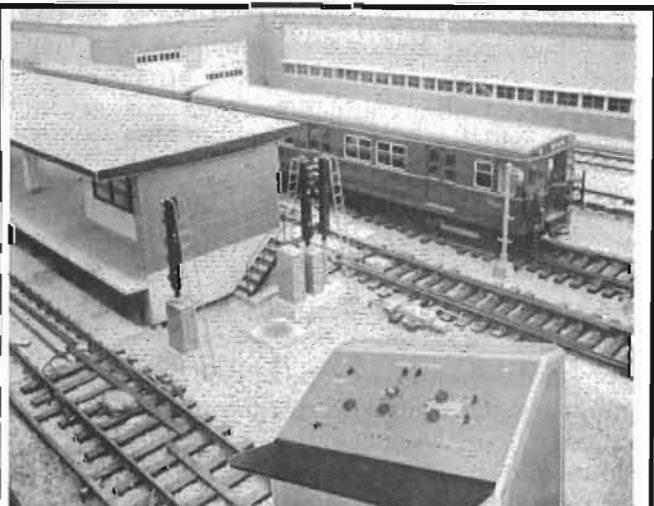
On Toronto's subway the completely moisture proof, corrosion proof copper covered cable is being used for all wiring of the lighting system between all stations. In addition, it is being used extensively for service wiring in the District Maintenance Shops.

Pyrotanax is a neat, compact, permanent cable that makes a "Mechanical Engineer's" job of electrical wiring. It has a heavy tough, bendable copper sheathing. And it can be used in locations outdoors—buried or on the surface. Best of all, Pyrotanax is easy and economical to install.

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TORONTO OPENS THE FIRST CANADIAN TRANSIT SUBWAY

Shortly after noon on Tuesday, March 30th, 1954, the first rapid transit subway in Canada was opened to the public by the Toronto Transit Commission. It marked the culmination of more than four years of work by the TTC and was an event looked upon with interest by city transportation groups throughout the country. The work started officially on the rapid transit line on September 8th, 1949 and involved the systematic removal of parts of Yonge and Front Streets in the downtown section, to construct the subway structure. Temporarily "paved" with wood planking, the street was eventually totally restored while the work of expropriation of property and removal of buildings went forward on the northern sections of the line. Part of the route lay in open cut rather than in a tunnel and viaducts and bridges were necessary at a number of places where east-west streets crossed the transit line's route.

In July 1953, the first subway cars arrived in Canada from the builders, the Gloucester Carriage & Wagon Company of Gloucester, England. The first of the 104 cars created an unusual amount of interest as they stood on railway flatcars on Montreal's waterfront while Montreal's radio stations urged the citizens to go and look at them, as they were liable to be the only subway cars Montrealers would see for a long time. They were referring to the oft-planned, much talked about and discussed subway in Montreal, which has never left the planning stage.

Soon the cars were being received regularly in Toronto, and the first units were shown at the Canadian National Exhibition, in the Queen City in September 1953. The cars were hauled to and from the C.N.E. grounds using the surface line rails, in the small hours of the day.

Such measures, however, were only temporary. Crewmen were trained, signalling installed, outside earthwork landscaped, modernistic stations, autobus and tram transfer facilities, loops and shelters received their finishing touches in anticipation of the Big Day, March 30th, 1954.

As might be expected, the opening of the subway was a tremendous success. Crowds formed at the stations long in advance of the public opening time, and despite the unusual crush of traffic created by the curious' lending bulk to the mass of regular riders, no train was completely full, and schedules were maintained and the public served, as if the line had been in operation for years. Above the ground, members

of the Upper Canada Railway Society rode the last cars down Yonge Street, leaving Eglinton shortly after 2 PM.

By the end of the first week of operation, TTC officially reported that the Yonge tube [sic] had carried 1,800,000 paying passengers. This is actually an understatement as far as capacity is concerned, for many, many passengers paid only one fare and rode from end to end of the subway many times. Of this number of paying passengers, TTC stated that only twelve "foreign" subway tokens had been placed in the turnstiles in the initial seven days.

Those of us in Montreal and in every part of Canada congratulate the Toronto Transit Commission on its initiative, its hard work and perseverance to accomplish this essential public work which will pay rich rewards in time to come. The possibilities of the rapid transit rail system in urban transportation are limitless; already, there is some agitation to start work on the complementary Queen Street subway.

One of our members, Mr. Forster Kemp, visited Toronto on the Sunday following the opening, rode on the Rapid Transit line, and later in the day participated in an excursion sponsored by the Upper Canada Railway Society, using a single "Peter Witt" type trolley car, and a motor-trailer "train" from the former Yonge rail line which is now defunct. His account of his visit and observations, done with typical thoroughness, follows.

I RODE THE TORONTO SUBWAY

by Forster Kemp

I spent April 3rd and 4th in the "city of the subway", that is, of course, Toronto. Train Number Four arrived at the regular time of 7:05 AM, and I headed for the subway right away. The entrance is at the east end of the lower concourse of Union Station. After I boarded one of the red cars, it remained there for twelve minutes due to signal trouble. Once we were under way, a fast run was made as far as St. Clair. I marvelled at the stations, with their gleaming glass tiles, — a different colour scheme for every station. At that time of the morning, they were being mopped out, before the rush of shoppers and sightseers which later besieged it. I wonder how many other cities wash their subway station floors? There are three light colours for stations: yellow, grey and green. Three dark shades are used for a narrow top band, and all lettering except that on the top band. These "contrast" colours are red, black, blue and dark green. So, there are four yellow stations (Union, Dundas, Bloor and St. Clair) but the first

of these has red headlining and lettering, the second, green, the third, blue and the last, black.

A clock is provided at the end of each platform, so it is easy to watch your progress. There are newsstands in all but two stations. Most stations also have telephones and lockers for parcels. Escalators are provided at principal stations, but in most cases they accomplish only about half of the upward journey to the street.

In the first paragraph I cut off my northward journey at St. Clair. North of this point, there was some signal trouble, so after a number of extra stops I arrived at Eglinton at about 7:30 AM. I took a look around the chic, spacious terminal which is located there and re-boarded the same train. On the southbound trip I rode in the first car, and was very interested as we stopped at every block signal down to the portal above St. Clair. At each signal there is a box containing a telephone, so that motormen can pull up to a restrictive signal and report to the towerman. The latter can pull a lever which supplies a yellow "call on" light. After this is done, a key can be inserted in a slot below the 'phone box and used to retract the trip which will apply the brakes if run through. This procedure, known as "keying by" was done for some half-a-dozen signals. After that there were green blocks and a fast run to Union Station, time 8:03 AM.

This trouble did not last all day, but it recurred about 5:00 PM to a lesser extent, resulting in serious overcrowding at the already-packed Queen Street station, which appears to have been made too small for the traffic it handles. This station has only one level. Stairways come down from the street into entrance lobbies on both sides at platform level. A passage joins the two beneath the tracks. There are entrances into Eaton's, Simpson's, and Woolworth's basements in addition to the regular exits and this makes Queen Station one of the busiest on the line.

Trains are mostly of four and six cars with a two-man crew. There is motorman, who is on the left side, in the front, and a guard, who sits at the rear of the second or fourth car, opening and closing the doors. The latter blows a shrill whistle before closing the doors, giving ample warning. The tunnels have fluorescent lights throughout their full length. In the stations, every fifth fixture contains incandescent lights, apparently for standby lighting.

The scene as a train enters is as follows: Passengers on the platform peer anxiously down the track in the direction from which the train comes. As it approaches, everyone steps back. There is a rush of air, but not as much noise as you would expect. The train rushes in, and as it

passes the centre of the station, the brakes are applied and the train comes squealing to a stop. (The brakes are apparently of the disc or drum variety, for the sound in stopping is like that of a Rail Diesel car). Everyone hurries inside, the guard blows his whistle, closes the doors, and the train draws smoothly out of the station (except for the cars which have incurred flat wheels during the training period).

There were a great number of sightseers on Saturday and Sunday. Six-car trains were run and they were full of children who crowded to the front of the first car, ran between cars (until the doors were locked), swung from the handstraps (they make great gymnastic appliances) and often rode from Union to Eglinton all day, finally obtaining a transfer for the homeward trip, all on one car ticket!

Thousands of Torontonians found a new recreation in riding the subway on Sundays, but I spent most of Sunday, April 4th, on streetcars. The UCRS ran what they called "the last trailer train in North America" excluding interurbans, of course. [Editor's note: Montreal ran two-car trains, albeit with a semi-motorized "trailer", until November, 1954]. Actually, there were three cars, as they also had a big Brill, No.2668, along with former Yonge motor car 2932 and trailer 2783. An interesting routing was planned out, using little-used lines, mostly in the west end of the city. Curious stares were given the procession as it passed along such streets as Lakeshore Road in Long Branch, Old Weston Road, St. Clair Station, Danforth Avenue, and others.

Some memorable scenes took place, such as at Humber Loop where several members took pictures of John Mills as he took a picture of 2932 from the roof of 2668, or at St. Clair Station, where No.2932 crushed a ventilator against the overhanging station roof. This car was low in front, high in back, and the station is not built for Peter Witt cars! Other sights seen were: a PCC with Curtis trucks (at Hillside Shops); cursing motorists when we held up traffic to take pictures on Avenue Road hill; the patches over the rails on the same street (we ran right through them!); Bob Sandusky with a large container of Lady Borden ice cream; the Niagara Falls, New York destination sign on the Brill (from the NS&T); No. 4000 with the legend "London Transport" on the side and a large "54" in the windshield; No. 2210 moving around the yard. I ripped a button off my coat while throwing the switch under her; we didn't have room to clear that long overhang — that is when you need a Montreal switch rod.

The weekend in Toronto proved to be most interesting, even more so than I had expected.

Source: CRHA News Report No. 45, May 1954.

A New Home for B.C. Rail's Budd Cars

When B.C. Rail gave up its regular passenger service, its famous Budd Rail Diesel Cars quickly found new homes. Three of them (10, 11 and 31) are used regularly in the summer months on the "Lewis & Clark Explorer" train running between Portland and Astoria in the state of Oregon. This train, commemorating the bicentennial of the Lewis and Clark Corps of Discovery expedition (1803-1805), runs through very scenic country to the historic town of Astoria, near the mouth of the Columbia River. An added bonus is the 1913 street car (operated by a motor-generator in a trailer unit; no overhead wires) that runs for almost two miles along the waterfront. This car began its career in San Antonio Texas, and is on loan from that city. Anyone with an interest in western history, or who likes riding Budd cars, should take this trip. The fare is minimal, and the full day required will give the rider a good sense of history and a most enjoyable experience.



ABOVE: The train at its terminus, just outside Portland, about to start its run to Astoria.

BELOW: Car 10 (formerly BC-10) waiting outside the station at Astoria.

All photos by Fred Angus on August 4, 2003.

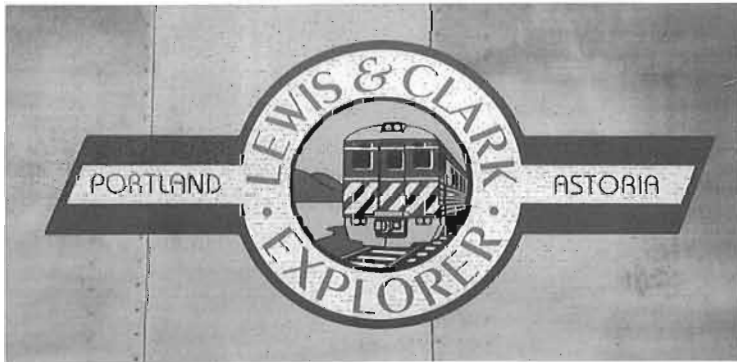




ABOVE: The train at Astoria station with the street car on the adjacent track.

LEFT: The insignia that appears on the sides of the cars.

BELOW, LEFT AND RIGHT: An exterior and interior view of street car 300, built in 1913.



By Steam to Goderich in 2003

Photos by Gord Taylor

In our November-December issue we made mention of the steam excursion, with former Essex Terminal Railway No. 9 from Stratford to Goderich and return on September 27, 2003. Our member Gord Taylor has sent these very fine photos that he took on that day.

RIGHT: Number 9 getting a last minute check-over at the Goderich & Exeter yard at Stratford, Ontario.



LEFT: Rail Link No. 1400 at the rear end as a helper for the special train.

RIGHT: View from the cab of Rail Link No. 1400 as the special train leaves Stratford en route to Goderich.



RIGHT: View in the rear view mirror of No. 1400 on the engineer's side, showing No. 9 on the head end.



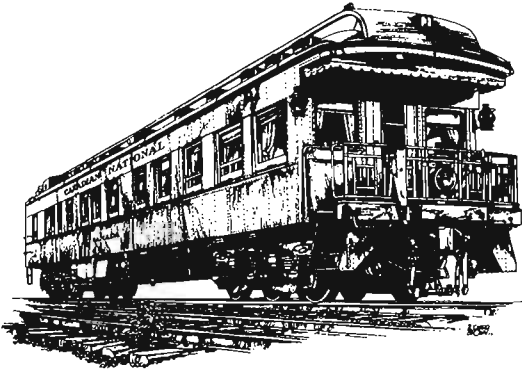
BELOW: View from the cab of No. 1400, showing sister locomotive 1401 in the Goderich & Exeter yard at Goderich.



RIGHT: No. 9 at the top of the big hill at the Goderich & Exeter yard at Goderich. The former CNR station is in the background.



The Business Car



MONTREALMAINE & ATLANTIC

On November 29th, Bryce Lee reported that MM&A had reached an agreement with Irving owned Sunbury Transport and the New Brunswick Southern RR to haul twenty piggyback cars in each direction, between Brownville Jct. in Maine and Farnham, Quebec. Trains operated westbound on Saturday and eastbound on Sunday. This traffic was originated by Wal-Mart Canada and Canadian Tire. It was expected this traffic would grow to eight cars per day within three to four months. The trains originated on the New Brunswick Southern in Saint John and were handed over to the MM&A at Brownville Jct. for forwarding to Farnham.

On December 17, Atlantic Northeast Rails & Ports reported the Sunbury Intermodal was running five days a week, an increase from the weekend-only trial operation earlier. ANR&P also reports Ed Burkhardt, head of MM&A's principal owner Rail World, remarked at the annual Maine Transportation Conference, "In Maine, the best success will be a public-private partnership, working with government leaders." He tipped his hat to DOT and other Maine leaders: "There is no place I've ever been that's helped us more than in Maine... a pro-business state."

ANR&P goes on to state: Burkhardt announced the MM&A "broke into the black" in August, just eight months after taking over the formerly bankrupt BAR, "and we have increased profitability since", though not detailing financials. The good news resulted from trimming payroll and increasing service. "To be successful, we have to make our customers successful." On the nearly-completed Searsport project, Burkhardt called it a "great asset" for which "we have to make a partnership" with private and port officials. Shipping lines are not happy with the ports they use, specifically referring to Saint John, Halifax, and "ports down the coast," citing their burden with labor and management problems. Referring to his "past life" as head of the Wisconsin Central, Burkhardt revealed he had looked at acquiring the BAR in 1993, but was rebuffed by then-BAR President Bucky Dumaine.

Source: The 470, January 2004

Editor's note: A visit to Farnham on April 3, 2004 revealed activity of a magnitude not seen there for many years. A real success story for the former CPR "Short Line".

INFORMATION WANTED

The following letter was received recently:

I was passed your e-mail address by Mr Francois Gaudette. I am researching the visit of the London, Midland and Scottish locomotive, Royal Scot 6100, to Canada and the USA in 1933. Francois supplied me with 2 past copies of Canadian Rail containing reports on the visit.

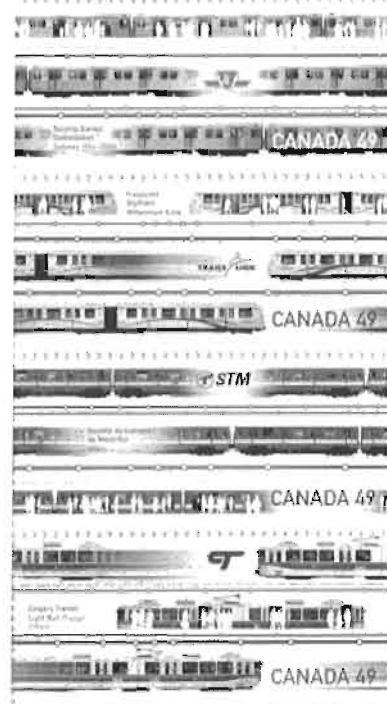
Would it be possible to advertise for information/newspaper clippings/photographs from your readers in the magazine.

Best regards,

Phlyn Simpson, 1, Barnes Lane, Wellingore, Lincoln.
LN5 0JB United Kingdom

NEW STAMPS FEATURE URBAN TRANSIT SYSTEMS

In 2004 the Toronto Transit Commission (TTC) celebrates the 50th anniversary of the opening of its first subway line.



Late in March 2004, Canada Post issued four new 49 cent commemorative stamps featuring light rail and rapid transit systems in Canada. The reason for the issue was to commemorate the 50th anniversary, on March 30, of the opening of the Toronto subway. There are four stamps in the series, depicting, from top to bottom, the systems in Toronto, Vancouver, Montreal and Calgary. We have illustrated a large photo of the Toronto stamp on page 63, but above is the complete set, including the inscription on the margin of the sheet.

The stamp comes in sheets of 16, containing four of each stamp. They were designed by Debbie Adams from photos by Andrew Leyerle, and are printed by the Canadian Bank Note Company in Ottawa.

CN KNOWS HOW TO RUN A RAILROAD

Canadian National, which has transformed itself over the last decade from a lumbering government agency into the envy of North American railroads, recently completed a share buyback worth \$655 million and gave notice of plans to raise up to \$1 billion in debt. Cash flow is at record levels, and the share price has surged almost 50 percent so far last year. CN is the only railroad in North America with a network linking the Atlantic and Pacific Oceans, as well as the Gulf of Mexico. It hauls more freight than it did a decade ago, and is more profitable now, even though it has 22,000 fewer workers, 800 fewer locomotives and 22,000 fewer freight cars. Most recently, employees have been urged to wage a "war on bureaucracy" by, for instance, sharing office printers and sending documents by mail rather than courier.

CN's operating ratio, or the proportion of revenue used to operate and maintain the railroad, stood at 68% in the third quarter, by far the lowest in the industry (as in golf, the lower the better). The best-performing U.S. - based carrier, Union Pacific, reported an 80% ratio. At Kansas City Southern, it was almost 90%. "No American railroad can hold a candle to CN at the moment in terms of efficiency," said Frank N. Wilner, a former chief of staff at the Surface Transportation Board, which regulates the railroad industry in the U.S. CN's stock closed at \$53.94 Canadian in Toronto on April 5th, 2004. Although well down from its high set last Fall, the value is more than four times its listing price at the time of the company's privatization in 1995. In the same period, UP's stock has risen 36 percent, while shares of CSX and Norfolk Southern have lost about a fifth of their value.

According to Mr. Wilner, who has written a book on the deals that have shrunk the number of major American Railroads from 30 to 5 in two decades, "It is fully expected that CN will merge with a major American system, certainly within the next 10 years; it would not surprise me if that were to take place within the next five years." Hunter Harrison, who took over as CN's chief executive late in 2002, said that once the first shot is fired in the next round of mergers and takeovers, the number of big railroads could dwindle "rather quickly" from seven, including CN and CP, to two. CN, in the meantime, has no shortage of other outlets for its cash. The company has raised its dividend for seven years. CN's strategy was evident in its purchase recently of Great Lakes Transportation. Besides 382 miles of rail line, CN will take possession of a fleet of eight ships that carry iron ore. Based on an article in the New York Times via The 470.

VIA STOP AT TRANSCONA CANCELLED

On Friday, April 2nd, 2004, Canadian National informed VIA Rail Canada that it will no longer allow the public to access CN's property at Transcona, supposedly "for reasons of railway safety". This means that passengers on VIA's train "The Canadian" will no longer be able to board or detrain at Transcona and the stop is therefore

cancelled, effective immediately. This appears to be related to events in the recent strike against CN rather than concerns of national security. Those passengers who would have boarded or detrained at Transcona are advised to instead use VIA's station at 123 Main Street in downtown Winnipeg, located some 13 km west of Transcona. VIA's historic, fully-accessible Winnipeg station offers a full range of services, including reservations, ticketing, and checked baggage.

ANOTHER MONTREAL STREET CAR BACK IN SERVICE

The Shoreline Trolley Museum ("Branford") at East Haven Connecticut has recently completed restoration of former Montreal street car No. 1972. Acquired by the museum at the same time as Montreal double-ender 2001, the 1972 has been in storage for many years awaiting restoration. That restoration has now been done, and No. 1972 takes its place in the roster of operating cars at Shoreline. 1972 is a single-ender, built by CanCar in 1929, very similar to 2001. It fact it was identical, from the same lot, before 2001 was converted to double-end in the early 1930s. A photo in Shoreline's newsletter *Tripper* shows 1972 about to start its first revenue run. Alas, the route signs are wrong, showing St. Catherine 52 (Route 52 was actually Mount Royal, and both it and the St. Catherine routes never used one-man cars). Visitors to New England should drop in at Shoreline and ride a Montreal car that has not been in service for a very long time.

ANOTHER RAILWAY BRIDGE BURNED

On April 6, 2004 the Green Lake trestle between Nanaimo and Lantzville B.C. caught fire. All traffic on the E&N has been halted until further notice. The trestle is approximately three hundred feet long. VIA Rail passenger service to Courtenay, BC has been suspended for at least a month. Trains will run between Victoria and Nanaimo. Officials think a spark from the southbound E&N Parksville Turn caused the fire.

Courtesy of John Godfrey

SALEM & HILLSBOROUGH'S 20TH ANNIVERSARY

On November 13, 1983 the Salem & Hillsborough, a project of the New Brunswick Division of the CRHA, had its first day of operation. This year will mark 20 years since the first full year of running trains for the public. Despite the disastrous fire in 1994, the S&H has continued service, including the ever-popular dinner trains, ever since. Members visiting the Maritimes should visit the S&H and help them observe this significant milestone.

CRHA CONVENTION TO BE IN ST. CATHARINES

By now most CRHA members should have received notice of forthcoming national convention to be held in St. Catharines, Ontario over the Victoria Day weekend. Members are urged to attend what should be a most interesting event.

BACK COVER TOP: On July 9 1960, a Toronto subway train, consisting of original Gloucester rolling stock, passes a crossover on the open-air portion of Toronto's pioneer rapid transit system.

BACK COVER BOTTOM: What the subway replaced. Small Peter Witt car 2758 returning to the barns after its morning rush hour runs on August 23, 1962. Both photos by Fred Angus

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