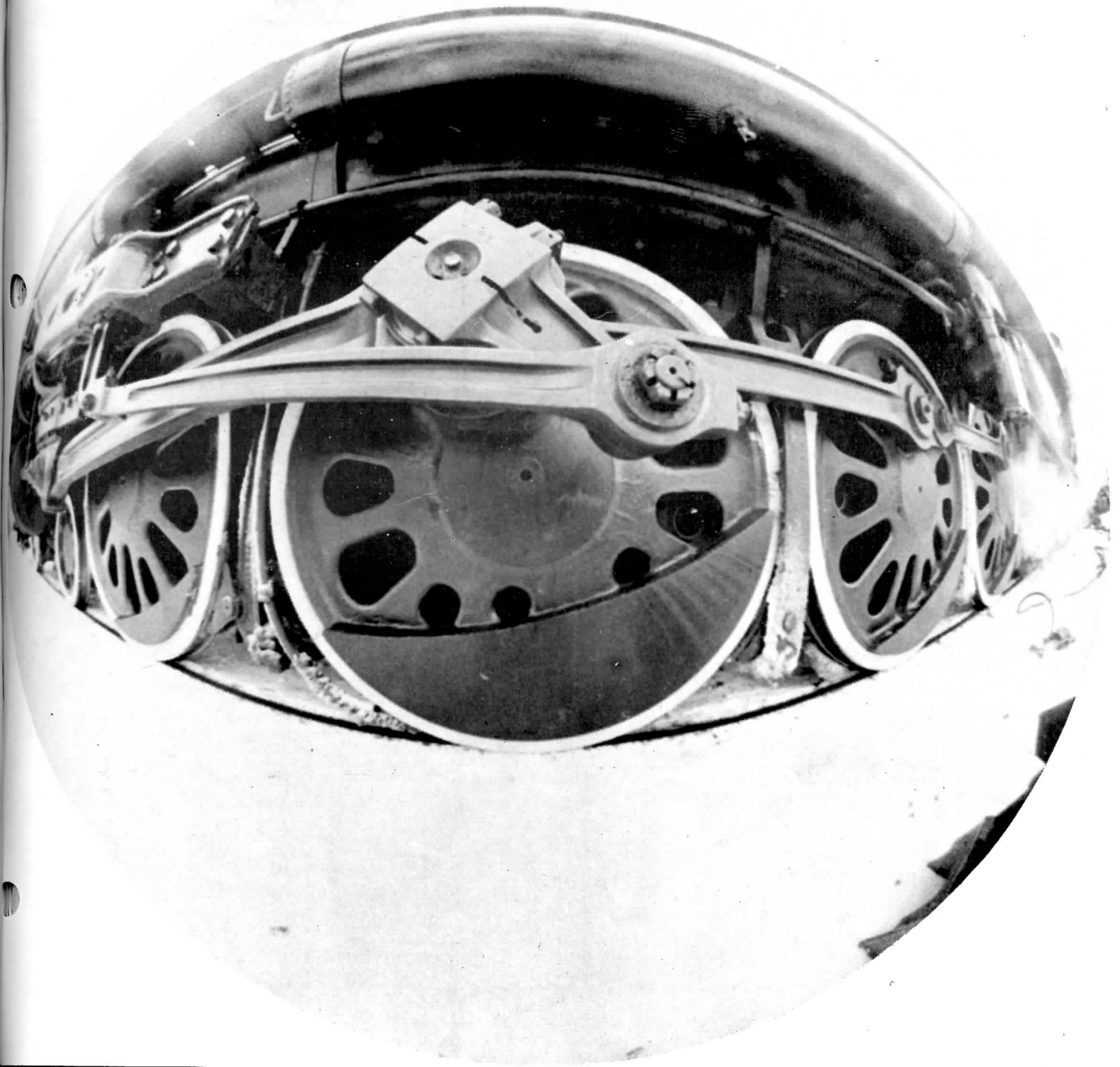


newsletter

January 1970 50c



newsletter

Number 288

January, 1970

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Robert D. McMann, Editor.

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To avoid delay, please address Newsletter items directly to the appropriate address:

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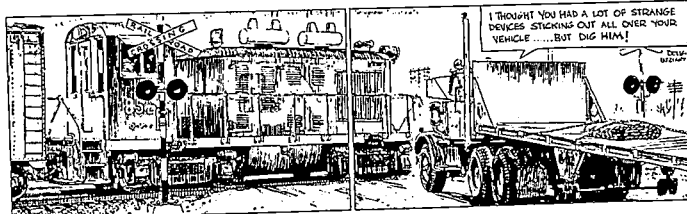
Don McCartney

Bill Miller



THE WHEELS

-- Brampton Guardian.



The Cover

WHAT IS IT? The main driver of 6218, of course. This slightly different shot is how the engine appears to a fish-eye lens, in this case the fabulous 7.5 mm f/5.6 Fish-Eye Nikkor, mounted on a Nikon F. The photograph was taken on the January 25th steam trip of the UCRS to Stratford, while the locomotive was serviced at Stratford. Photography is by Brian George.

Readers' Exchange

WANTED: Good black & white photographs of CNR steam power in the British Columbia area from 1950-58, especially from Smithers Division, classes 5100, 4300, 2700, 6000. J. A. Korsenes, 29 Petrel St., Kitimat, B. C.

WANTED: 35 mm colour slides or colour photos of CNR 6500 series FP9A units in olive green scheme. Scenic shots of same in B. C. (olive green scheme only). James Reid, 4584 Brentlawn Drive, North Burnaby, B. C.

Coming Events



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

- Apr. 17: Regular meeting. Ross Hoover "Railways of Manitoba." (Fri.) Illustrated by slides.
- Apr. 24: Hamilton Chapter meeting, 8:00 p.m. in the CN Station (Fri.) Board Room, James St. N., Hamilton.
- Apr. 25: UCRS steam excursion with CN 6218 Toronto to Lindsay. (Sat.) Leaves Toronto Union Station 0900 hours Eastern Standard Time. Fares adults \$12.00, children \$6.00, infants \$1.00. Return to Toronto about 1820 hours.
- Apr. 26: Six hour TTC streetcar trip around Toronto. Departs EB (Sun.) King & Yonge at 0930 hours Eastern Daylight Time. Fare \$4.00. Contact Trip Committee for full details and information. Flyer on these trips in the mail shortly.

1970 UPPER CANADA RAILWAY SOCIETY FIXTURES

Directors & Officers:

- H. Cameron -- Membership Secretary
- N. E. Kinsman -- President
- H. T. Ledsham -- Vice-President
- R. D. McMann
- W. F. McNairn
- G. A. Meek
- S. Munro -- Recording Secretary
- J. A. Nanders -- Corresponding Secretary
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Chairmen of Committees:

- Excursions -- W. F. McNairn
- Preservation -- W. F. McNairn
- Newsletter -- R. C. McMann
- Books -- E. W. West
- Publications Sales -- N. E. Kinsman
- Entertainment -- G. A. Meek
- House -- J. Porter
- Library -- to be appointed

RAILWAY NEWS AND COMMENT

MORE ON THE DEPARTMENT OF TRANSPORT REORGANIZATION

Additional light was shed on the upcoming changes in the role and structure of the Department of Transport were announced by the Minister of Transport Don Jamieson in Ottawa recently. What is to come is outlined below:

The National Transportation Act as passed in 1967 sets out the principle that transportation services could best serve the national interest if each component of transportation were free to respond to the financially supported demands placed on it and were made responsible for its own continuing viability. This follows the principle that transportation is a means of serving public and private purposes, and is not an end in itself.

The pace of technological development in transportation is increasing; there is pressing requirement to match these developments to the changing needs of a society that is moving towards large urban-industrial complexes, and whose increasing affluence is rapidly developing extended means and directions for the leisure use of transportation. At the same time, transportation will continue to be a vital force and an instrument for national unity and economic development.

These developments and potentialities are impinging more forcefully on the nation and society. New routes and faster vehicles raise problems of sovereignty, ownership, access or control. Larger vehicles and increasing intermodality raise issues of adequacy and consistency in licensing and safety. The increased inter-dependence between the components of transportation systems raises questions about the vulnerability and adaptability of such systems.

The present structure of the transportation complex is not organizationally sound in that it does not bring together the regulatory developmental and operational considerations in a balanced manner. It does not relate the other program influences of Government to the federal transportation activity in a sufficiently cohesive fashion. It does not ensure a ready means of achieving broader Government objectives.

Against this background, it has been decided that the Department will be restructured and revised to provide a cohesive, unified management system, devoted to overall planning, development, policy formulation, program coordination and evaluation. The current operations of the Department will be revised and restructured to facilitate its adaption to the Ministry concept.

The Ministry system envisages a corporate structure of Crown Corporations and operating Administrations with varying degrees of autonomy, together with separate regulatory and development agencies. The Minister will continue to serve as both the senior corporate executive of the federal transportation complex and as the individual responsible to Parliament.

The Deputy Minister will work closely with the Minister in directing the total complex, and integrating national transportation programs with the activities of other departments and sectors. Complementing the increased delegation to the operating Administrations, a small Ministry Headquarters staff will support the Minister and Deputy in planning and policy formulation. The delegation will require new processes of audit and evaluation, the application of which would depend on the degree of autonomy enjoyed. As is now done with the Crown Corporations, the performance of each Administration would be assessed in large measure on its annual operating reports and projections in support of capital and operating budgets.

Canadian National Railways and Air Canada will continue to operate with existing managerial and corporate autonomy as set out in their respective Acts; their budgets will continue to be examined within the Ministry prior to discussion with Treasury Board and the Department of Finance and before submission to the Government, and the Minister will maintain close and effective liaison with the Chief Executive Officers.

Other transportation services that need to be provided by the Federal Government would be the responsibility of several new organizations identified as Administrations.

The Canadian Air Transportation Administration will operate airways and federal airports; the Canadian Marine Transportation Administration will coordinate and develop all federal waterways and harbours services. Within the organizational structure of these Administrations, authorities based on self-financing would be set up to manage components of the system, in particular, major international airports and major harbour complexes.

A Canadian Surface Transportation Administration is proposed to consolidate federal participation in the operation and coordination of highway, rail, bridge, ferry and other surface modes. While program and planning functions will be located in this Administration, it will not assume any construction functions.

Northern Transportation Company Limited, which is at present responsible to the Minister of Indian Affairs and Northern Development, will be included within the Ministry of Transport. This carrier would then be associated managerially with other aspects of federal transportation and its vehicle operations could be extended to other modes.

A Transportation Development Agency will be established within the Ministry to develop and coordinate technological and economic research. The Agency will undertake much of the research work now being carried out by the Research Division of the Canadian Transport Commission as well as certain research functions now located in the Department of Transport. Working closely with the Canadian Transport Commission and the academic and scientific community, the Agency will provide the national focus for changing technology and economic development in the field of transportation.

The Canadian Transport Commission will continue to perform its economic regulatory role independently, subject to Ministerial and Governmental review as established in the National Transportation Act.

CN & AIR CANADA COOPERATE TO BRING AMERICAN VISITORS TO CANADA

A cooperative program designed to encourage U.S. vacationers to visit Canada has been announced by Air Canada and Canadian National. Announcement of the combined air-rail tours was made by J. F. Roberts, general manager, passenger sales and services, Canadian National, and J. E. Nickson, assistant vice-president, sales Air Canada.

The program provides for air transportation on Air Canada from the U.S. to four Canadian gateway cities--Montreal, Toronto, Winnipeg and Vancouver--with CN Maple Leaf package tours providing the land transportation in Canada. The tours range from a seven-day vacation in the Quebec-Gaspe region to a 19-day cross-Canada rail trip. Also available is an eight-day Alaska cruise--Vancouver to Skagway--aboard the S.S. Prince George.

Officials of both companies termed the program a promising new venture to help develop tourist travel in Canada. By combining air and rail transportation, officials say, distant Canadian vacation areas will become much more accessible. The two companies will market the program largely in the United States.

LRC COULD BE IN OPERATION BY 1973

A new, rapid interurban train being developed by three Canadian companies could be in commercial operation by 1973. The companies may have the first coach in their LRC--light, rapid and comfortable--train ready for testing this year. A locomotive and the coach may start test runs before the end of 1972.

The companies are the Aluminum Company of Canada Limited, Dominion Foundries and Steel Limited and MLW-Worthington Limited. They are convinced rapid rail transport between cities 200 to 400 miles apart makes good sense.

Financing development of the LRC poses serious problems. Before the technical validity of the train can be proved, the Federal government will have to say whether it will put up 50% of the development cost. The project has been approved for aid under the Federal program for the advancement of industrial technology. But the Treasury Board is holding up the funds. Ottawa's economy drive appears to be behind the delay.

The developers point to traffic studies to underline their enthusiasm. Of the 12,000 people who travel daily between Toronto and Montreal, 50% go by car. Among the rest, 18% already prefer trains. Almost 30% go by air and a relative handful take the bus. Canadian National's Rapido, which makes the 335-mile run in five hours, is always heavily booked and often sold out. Some transportation experts say both rail and air facilities should be expanded.

-- Financial Times News Service.

Only weeks before CP Rail begins its great coal haul 700 miles through the Selkirks from Crownsnest Pass to the new deep-water port at Roberts Bank, moves have been made by the Great Northern to steal the traffic from under CP Rail's nose. CP Rail has invested \$30 million in what promises to be a classic unit train operation.

The main competitor to CP Rail is the Kootenay & Elk Railway, which does not yet own any track. This company was incorporated in 1967 by Crows Nest Industries, which has connections with Kaiser Resources, the American company that is exploiting the Crownsnest coalfield which is not expected to produce up to 20 million tons a year for export to Japan through Roberts Bank. The K&E has applied to the Canadian Transport Commission for permission to build an 80-mile link from Elk Valley in British Columbia south to Roosville on the American border. Here there will be an end-on junction with a Great Northern branch from its main line at Eureka, Montana. GN also has access to Roberts Bank from its main line to Vancouver, and so would be able to offer a competitive rate to that agreed under current CP contracts: \$3.50 a ton rising to \$4.80 in 15 years. Kaiser is dissatisfied with CP rates because the volume of coal to be hauled has risen sharply since the first contracts were negotiated, and the price has not come down far enough. It seems most improbable that the Canadian Government would agree to the construction of the K&E, which would patently duplicate the existing CP Rail operation, and it is probably intended as a threat to bring down CP prices. A more serious threat to CP Rail's coal business is coming from Cascade Pipe Line, a CPR subsidiary, which is also moving into this market.

FIRST CN UNIT COAL TRAIN ARRIVES IN BRITISH COLUMBIA

The first shipment of export coal to move to Canada's West Coast by unit train arrived 23rd at Canadian National's Port Mann freight yard at Surrey, British Columbia.

The 50-car train, hauled by three diesels, was greeted by the skirl of pipes and the cheers of railway employees as it burst through a red, white and blue banner strung across the main line. Horns and whistles from nearby yard engines saluted the train as it ground to a halt in the yard. On hand to greet the crew were D. F. Purves, vice-president of CN Mountain Region, A. Street, CN manager for British Columbia, and P. J. Cullimore, executive vice-president of the Cardinal River Coal Company.

The train crew clambered down and led by piper H. Turnbull, a retired CN pensioner, marched to the group of waiting officials and newsmen and handed over the waybills to signify the train was ready for delivery to the bulk loading terminal.

The train carried a payload of more than 5000 tons of coking coal from the Cardinal River Coal Company mine at Luscar, Alberta. The mine has a contract to supply Japanese steel interests with some 1.12 million tons of coal annually during the next 15 years. The coal will be loaded into ships at a bulk loading terminal on the north shore of Burrard Inlet. As mine production increases the CN unit trains will be enlarged to 85 cars.

CLAPHAM MUSEUM CLOSURE

Clapham Transport Museum in London continues to lie under the threat of closure, amid strong protests. The government argues that London must not have all the good things, and proposes to enlarge the museum at York, 200 miles to the north, and send some Clapham exhibits, particularly of locomotives, there. The rest of the collection would be dispersed.

Last spring, British Rail offered the former Midland Railway St. Pancras Station to the Victoria and Albert Museum, but were turned down. It has been suggested that this would be an admirable site for the Clapham exhibits, being the best remaining example of a major Victorian London station since the rebuilding of Euston (former London North-Western) in the 1960's.

Another suggestion is that Clapham's museum should move a few miles to Nine Elms Goods Depot (former passenger station) on the south bank of the Thames near the bridge leading to Victoria Station.

It has been pointed out that enlarging the York collection need not involve Clapham, as over 100 steam locomotives are still in storage (the last withdrawals were only a year ago) at various south coast depots.

Concern has also been expressed for the fate of Clapham's large collection of trams and buses, which would be totally out of context and irrelevant if sent north.

So far, the debate has left Swindon Railway Museum, which focusses on the history of the Great Western Railway, largely out of consideration. In its present quarters, it could not take any significant number of additional exhibits.

Canadian National Bridges and Structures employees recently put the finishing touches on one of the most ambitious bridge repair projects ever undertaken in Ontario—extraordinary repairs to the International Bridge between Niagara Falls, Ontario and Black Rock, New York. The double-track swing bridge was lifted one inch, repaired, and lowered into position. During the two year project, CN's ironworkers replaced more than 307 tons of steel.

CN's regional bridges and structures engineer, John Jeronimus, said that one of the major problems encountered in repairing the 432-foot bridge, which crosses over the Erie Canal and New York Interstate 190, was obtaining adequate supplies of special-grade steels during the American national steel strike in the summer of 1969. The bridge has not received any repairs, except for minor maintenance, since it was built in 1910.

First phase of the project was replacement of the floor system with high-strength corrosion-resistant steel, 412,026 pounds of it, during 1968-69.

The second stage, begun late in 1969 and now nearly finished, was the replacement of the badly corroded and deteriorated bottom portion of the circular girder which forms part of the swinging mechanism of the bridge. This work included construction of outside pedestals on the concrete swing pier using reinforced and post-tensioned concrete to accommodate temporary steel supports. The bridge was jacked one inch employing eight 200-ton hydraulic jacks to allow repair and readjustment of the swing mechanism and steelwork.

All 48 of the tapered steel wheels on which the bridge turns were removed and repositioned for smoother operation. This second phase required 202,626 pounds of replacement steel. In total 43,500 rivets were cut out and replaced with high strength steel bolts.

With completion of the project the useful life of the bridge will be extended for many years.

Because the bridge crosses over a navigable water between Squaw Island and Black Rock, New York, Mr. Jeronimus had to obtain permission from the U.S. Coast Guard to interrupt the waterway during repairs. Bridgework made the canal inoperable since Jan. 1, but rail traffic has continued with only brief delays each day. The bridge handles about 4500 railcars of international traffic weekly.

The bridge was first opened in 1873. Cost of the 3501 ft. span was \$2,008,202. In 1910-12 the existing 432-foot swing bridge over the Erie Canal was constructed to provide wider ship channels.

GAS TURBINES TO POWER GERMAN LOCOMOTIVES

Avco Lycoming T53-L-13 gas turbine engines have been selected to German Federal Railroad locomotives, it was announced recently. Under terms of the contract, ten of these engines will be delivered by Klockner-Humboldt-Deutz (manufacturers of the engine under license) to the German Federal Railroad, eight of which are for installation in a Combined Diesel and Gas Turbine (CODAG) system for Type 210 locomotives. The remaining two engines will be retained as spares. The German Federal Railroad operates locomotives and fast trains equipped with diesel engines on those tracks on their system not electrified. The Type 210 engine uses a diesel of approximately 2500 maximum continuous horsepower as the main propulsion unit. The T53-L-13 gas turbine, rated at 1200 shaft horsepower maximum continuous, will be used for boost power as required for acceleration and for higher speeds on grades. The average operating time for the gas turbine as a booster will be between 30% and 40% of the diesel engine's operating time. With both engines running, the locomotive has a total power of 3700 shp. When control of power is necessary as this level, only the diesel engine is adjusted to varying power requirements. If less than half power is required, the gas turbine switches off and the diesel engine runs at full power again. As a result, the gas turbine runs only at maximum continuous rating, thus providing operations under optimum fuel consumption conditions. Significant advantages are achieved through the use of such a system, prime among them being a compact installation with very small bulk and low weight. In addition, high torque through the fluid drive at low speeds greatly improves acceleration capabilities. The turbine engine requires no cooling system.

The ten Avco-Lycoming engines will be delivered to the German Federal Railroad beginning in May, with the last engine scheduled for October.

A TRANSPORT MUSEUM FOR TORONTO

by Guy Clarkson.

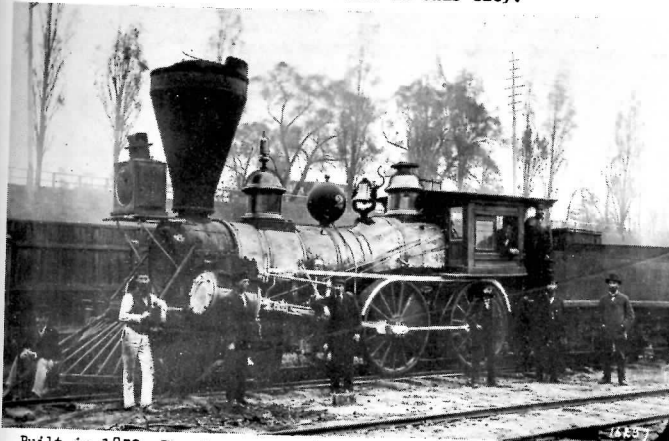
For a number of months now, a group of dedicated individuals have been working very hard to preserve the heritage of this country and at the same time provide the citizens of Metropolitan Toronto with the unique opportunity to inspect and examine (eventually) some of forms of transport which have contributed so much to the development of Canada. The Toronto Transportation Museum Project offers an unparalleled opportunity for all those interested in the many forms of historic transport--road, rail, air and marine--to participate in the creation of a spectacular "all interest" transportation museum at an ideal site on the eastern waterfront of Metropolitan Toronto.

The Metropolitan Parks Committee received representations from the Toronto Transportation Museum Association in May 1969, and instructed the Metropolitan Parks Department to work with the group in the creation of a mutually agreeable plan. The conceptual outline that was presented to the Committee last May is shown in an accompanying illustration. This includes road, rail, air and marine components, and while some modification of these suggested plans may take place, the provision of facilities for all these forms of transport does not appear to be in question. The more complete the Museum in all respects, the greater asset it will be for the city.

The origin of this plan can be traced back to the interest of the former Chairman of Metropolitan Toronto, William R. Allen, in a proposal to make use of the many historical artifacts left over from the original concept of the Provincial Centennial Project and supplemented by the many valuable artifacts in the hands of Ontario collectors. Metro financing of buildings and facilities, however, had to be ruled out as a consequence of the tight municipal financial situation that had developed by 1968. In order to mobilize private financial resources to get the project started, therefore, the Toronto Transportation Museum Association was incorporated in September 1968, with Directors who were either currently or previously prominent in the Antique & Classic Car Club, the Upper Canada Railway Society and the Canadian Aviation Historical Society. During the past year the Association has been developing its organizational base. Tax deductible status for contributions was received from the Department of National Revenue and an active marine group was added to the Directorate. The following is a description of the project as it is now constituted.

THE CONCEPT

Toronto was the birthplace of the first Canadian made self-propelled land vehicle--the locomotive "Toronto" built at a location at Queen and Yonge Streets in 1853. This city has also been the site of the construction of some of the very early Canadian automobiles dating back to the early 1890's and one of the first successful electric trolley demonstrations in 1884. The power plants of some of the earliest lake steamers were also built in this city.



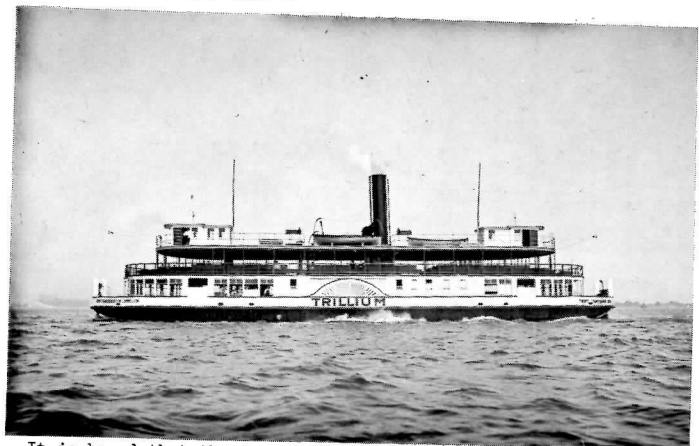
Built in 1853, The locomotive "Toronto" was the first Canadian built locomotive.

-- Canadian National.

With such an historical background in the field of Canadian engineering and invention, it is only natural that Toronto should be the site of an important museum dedicated to saving the remaining artifacts of our mechanical heritage from loss to the United States and the ravages of time. The Toronto Transportation Museum is to be a museum of "action" in which early automobiles can perform on specially built roads; where early steam locomotives can pull passengers on a special track system; where early electric trolleys can again perform their public duty; where early steamboats and motor launches can again flex their iron muscles for the benefit of would-be sailors and where the amateur aviator can experience the excitement, if not of "winged" flight, then of controlled balloon flight. In addition the public would be able to witness performance contests and demonstrations of armoured cars, tractors, tanks, steamrollers, traction engines, fire engines, motorcycles, bicycles, horse-drawn vehicles, amphibious vehicles, large stationary steam engines, electric turbines, windmills, watermills, light-houses, rickshaws, and steam shovels. The evolution of road, rail, bridge and canal construction, as well as service and repair facilities, blacksmith shops, service stations, roundhouses and docks would all be included.

Many historic original machines are available in all the areas described. In the automotive field, hundreds, if not a thousand restored classic and antique vehicles are potentially available on a rotating basis. Among horse-drawn vehicles there are a hundred examples of the craftsman's art. In the railway sphere, between locomotives that are owned by Toronto residents, those that are left over from the Provincial Centennial Project, those that might be reactivated from public display and those that could be retrieved from the United States, there are literally dozens. In the aviation sphere there are antique planes available from the United States and Britain, and on an exchange basis within Canada. In the marine sector, there is also a potentially satisfactory collection available.

To supplement the originals, many types of vehicle and machine would be shown under construction. Artisans and amateur builders exist who can build replicas of some of the earliest "flying machines" such as the "Silver Dart" and Blériot machines as features of the aviation exhibit. Construction can be shown out in the open, not hidden in a backroom shop. Likewise it would be possible to build operating replicas (with the help of contributing companies) of the locomotive "Toronto", of the British "Locomotion No. 1" and of Stephenson's "Rocket". Restoration and replica building of antique automobiles also is not an operation to be hidden away out of sight--since the internal mechanics of these vehicles frequently only become evident when they are taken apart. Rebuilding in full public view would be a feature of this museum.



It is hoped that the ferry, the S. S. "Trillium", will be a featured display at the TTMA Museum.

-- Toronto Transit Commission.

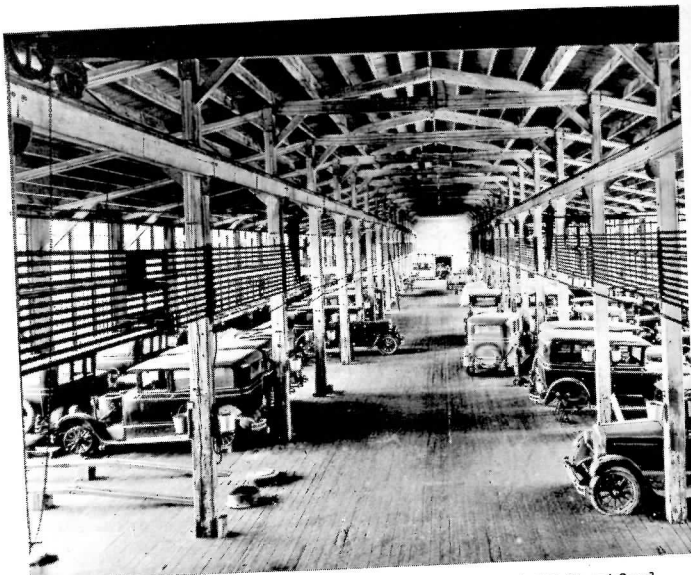
In addition to the full size original and replica machines there would be operating models of all types and scales. Since it is presently impossible to find or recreate many of the famous ships of the Great Lakes and the world, it is the intention to have large scale operating models of many of these vessels built by volunteer model engineers who would also own and care for their own creations. These would be operated on a large outdoor pond in the summer and in an indoor waterway during the winter. Large tanks with glass sides would be used to show the operation of radio-controlled model submarines and other undersea apparatus. Simulated ship sinkings such as the "Titanic" disaster, and rescue operations would be planned. The underwater action of propellers and paddlewheels could be viewed at eye level. Similarly, outdoor sailing races between models of famous yachts could be held during the summer, and races between model power boats. The sailing action of model square-riggers and clipper ships could be demonstrated. The action of model ships passing through model locks could be shown.

On the 1:1 scale it is hoped to obtain a decommissioned submarine from one of the navies of the world--remove it from the water on a marine railway and have it open to the public through fore and aft access doors, as at the Chicago Museum of Science and Industry. Plans are also underway to have a few full-size ships of historic value, such as a paddle-wheel ferry, tugs, small steamers and naval vessels on permanent display and with operating capabilities. In addition, it is planned to arrange temporary visits of various full size replicas of famous ships such as the "Bounty", "Bluenose" and others. As a suitable setting for the docks and anchorage where these vessels would be displayed, pioneer buildings of an early lakeport or seaport could be recreated, as at Mystic, Connecticut. Cobble streets, an old Inn, a boat-building shop, a replica of the "Griffin" being built on the ways out in the open, or of the first Lake Ontario steam boat, the "Frontenac" of 1813, with fishermen's nets and "old tars" to lend an authentic flavour. In a separate section of the marina, where they would not clash with the port, would be a display of antique motor launches, steam launches, old canoes, rowboats, birchbark canoes (perhaps being made), Durham boats, York boats and sailing luggers of early days. Some of the old motor and steam launches would be in floating boat slips or in boathouses where they could be shown in operation.

In another corner of the park, a second collection of pioneer buildings related to the road and rail transport could be located. This might consist of an old Coaching Inn, wagon shop (where real wagons, buggies, horse-drawn sleighs and cutters could be built for sale), a tollgate, blacksmith shop, an early mechanic's shop and gas station where a replica of an early motorized buggy could be under construction, an early bicycle shop. An early railway station with its fancy fretwork and other buildings could round out the scene. The Inn and tollgate could be the starting point for a stagecoach ride around the park and the railway station for a rail trip. In another corner could be a trolley stop for early trolleys operating around the track.

Below:
Former fantrip locomotive CNR Pacific 5107 may be a featured display in the railway collection of the Toronto Transportation Museum Association.

-- Guy Clarkson Collection.



Stratford, Ontario, is well known as the home of CN Stratford Shops, where many steam locomotives were shopped. But how many fans know that Stratford was also the home of another form of steam propulsion for a few brief years in the late 1920's? The only Canadian-built steam automobile, the Brooks Steamer, was built in Stratford from late 1925 to the middle of 1927. Plagued with difficulties, the company wound up business in late 1931, after producing only 170 cars and two steam buses. In the above view, we see the interior of the plant after it had been closed for some time. In the background may be seen one of the steam buses.
-- photograph courtesy, Peter A. B. Weatherhead, Editor of the publication of the Antique & Classic Car Club of Canada, "The Reflector".

Models could also be used to supplement the real thing in the aviation and automotive fields. Operational models of antique aircraft and dirigibles could be in constant operation throughout parts of the display building suspended from ceiling tracks--without interference with floor displays. The ceiling contact would provide electric power with which to operate the propellers for realistic performance. Operational radio-controlled models of "missing" automobiles--particularly those of Canadian manufacture--would be a valuable addition to the museum.

In the railway sphere, operational model building in all scales has long been a pursuit of many hobbyists. Genuine steam powered locomotives running on tracks from 3" gauge and wider, and hauling substantial numbers of revenue passengers, have long been used. On the larger scale, a railway of the size of the Romney, Hythe and Dymchurch Railway in England is both a tourist attraction and a public carrier. A scenic excursion route along the Scarborough Bluffs running for miles could be created with such a system, perhaps meeting Museum patrons at key transportation points along the route.

The essential beauty of the area visualized as the site for the Transportation Museum is that it is in fact a "park" with large grassy open spaces and vistas of Lake Ontario from the Bluffs. The museum, therefore, is visualized as a "park" development with different attractions spotted throughout the grounds and a great deal of open-air outdoor activities during spring, summer and fall months. In spite of the proposal to construct a loop of standard gauge railway track throughout the grounds it would be out purpose to preserve and enhance the natural beauty of the setting to the greatest degree. It would remain a picnic area and outdoor recreational space as well as a site for the museum. Exhibits and indoor activities represent only part of the concept--but it is desired to make that part as attractive as possible, with glistening aluminum prefabricated geodesic domes to house those parts of the display which do not require structures of special atmospheric authenticity. This type of construction is relatively inexpensive, yet would be a credit to the city. Landscaping, the construction of the marina, and other features would be part of natural park development and would remain a Metro responsibility. It is hoped that the normal program of park development might eventually include a swimming pool, skating rink, ski and toboggan runs and other crowd attracting sports facilities which would make for good attendance both winter and summer. Both operating revenues and costs have been carefully examined and it is estimated that these could both approximate about a million dollars a year.

The Executive consists of but their at on your supp bers of the

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James A.

Dennis Ca

Guy Clark

John Cou

Norman Ha

Al Kinsma

Frank Mc

George M

George T

Ralph Tu

Boris Zi

The Executive of the Toronto Transportation Museum Association consists of people well-known in the historical vehicle movement, but their ability to achieve their goal depends to a great extent on your support. (See the accompanying table for a listing of members of the Executive.)

It is the purpose of the Executive Committee to have representation not only from the organizations as mentioned in the table, but from other societies of a similar nature in the Metro area. It is estimated that all such societies between them, contain at least 5000 members.

It is noteworthy that the Museum project will make possible for the first time, the combining of large groups of artifacts from every aspect of the transportation scene, together with operational and restoration facilities, meeting rooms, auditoriums, and libraries suitable for societies and all members of the public interested in this important aspect of Canada's historical heritage. By becoming a friend of the Museum you are supporting the Museum Association and helping to assure that the museum becomes a reality. Since the Toronto Transportation Museum Association is a registered charitable and educational institution, receipts for tax deduction purposes are issued to all contributors.

TORONTO TRANSPORTATION MUSEUM ASSOCIATION EXECUTIVE COMMITTEE:

- James Allward - Architect, Past President Antique & Classic Car Club of Canada.
- Sheldon Benner - Engineer, Executive Committee Canadian Aviation Historical Society & Canadian Aviation & Space Institute.
- James A. Brown - Engineer, Past President Upper Canada Railway Society.
- Dennis Cardy - Sound Engineer, Armoured Fighting Vehicle Association.
- Guy Clarkson - Economist, President Toronto Transportation Museum Association.
- John Coulter - Marine Engineer, Toronto Marine Historical Society.
- Norman Hathaway - Designer, Past President Antique & Classic Car Club of Canada.
- Al Kinsman - Engineer, President Upper Canada Railway Society, Ontario Antique & Steam Preservers Association.
- Frank McNairn - Engineer, Executive Upper Canada Railway Society.
- George Morley - Businessman, Founder & Past President Canadian Aviation Historical Society.
- George Thompson - Businessman, Toronto Marine Historical Society.
- Ralph Turner - Lawyer, Past President Antique & Classic Car Club of Canada.
- Boris Zisoff - Engineer, President Toronto Branch Canadian Aviation Historical Society.

It is interesting to note in this respect that the net cost of making a contribution is considerably less than the actual contribution itself due to the income tax deduction. Two examples are as follows:

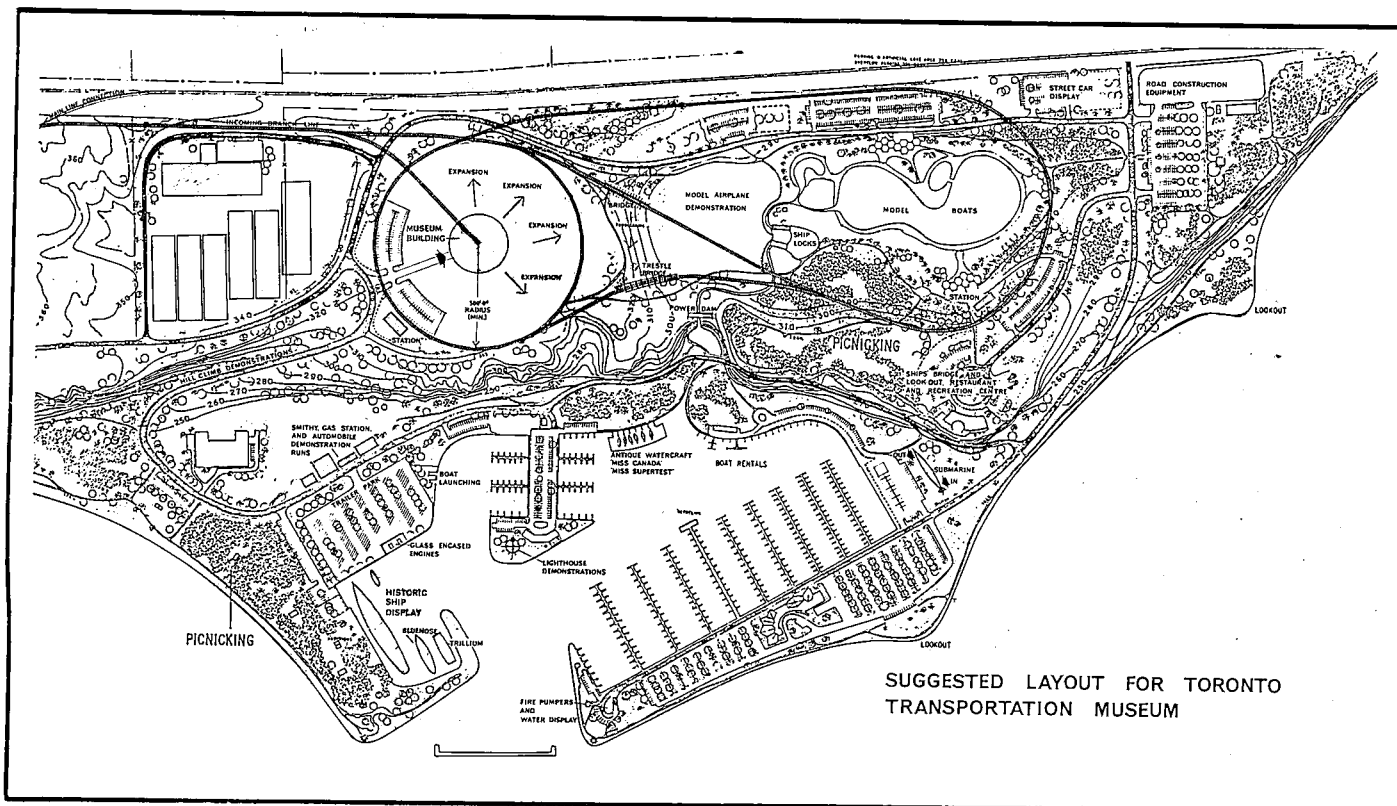
A person with a net income of \$8000 would get an approximate 1/3 rebate on his contribution, depending on individual circumstances and provided that the total charitable and medical deduction exceeds in both instances (before and after) the basic \$100 minimum. Under these circumstances a \$15 contribution would in reality cost \$10. Likewise for a person with a \$15,000 net income, and under the same conditions as above, the rebate would be approximately 40%, or \$10 on a \$25 contribution, making a net cost of \$15. The same percentage principles apply on whatever sums one might choose--not exceeding 10% of net income. In the light of these facts we would like to ask you to make the establishment of a transportation museum in the Metropolitan Toronto area a goal for you this year, by becoming a FRIEND of the Toronto Transportation Museum Association.

All contributors of \$25 or more will have their names enscribed on a plaque to be prominently displayed at the Museum. Such contributions are designed solely to aid the establishment of the Museum and will not entitle the contributor to any privileges.

The amounts raised by this initial request will provide the "kick-off" to pay for a full-scale professionally managed campaign aimed at business, industry, foundations and governments. It is, so to speak, the "seed" money from which the mighty tree will grow.

May we count on your support for the establishment of this Museum? If you are interested, send your contribution (cheques to be made out to the Toronto Transportation Museum Association) together with your name and address to the TTMA, 3 Apsley Road, Toronto 380, Ontario. Receipts for all contributions will be made at the earliest possible date.

Below is a conceptual plan of the museum site of the Toronto Transportation Museum Association.



EQUIPMENT NOTES...

CANADIAN NATIONAL MOTIVE POWER NOTES

* The following motive power transfers have taken place:

- from Spadina to Calder (Edmonton)
4147-4153 GR-17y 89 mph gearing
- from Calder to Spadina
4417-4423 GR-17a 65 mph gearing

* The following units have been received from General Motors Diesel Limited (all SD-40s):

5123	GF-30e	Dec. 12/69
5124	GF-30e	Dec. 12/69
5125	GF-30e	Dec. 23/69
5126*	GF-30h	Dec. 23/69
5127*	GF-30h	Jan. 15/70
5128*	GF-30h	Jan. 15/70
5129*	GF-30h	Jan. 20/70
5130*	GF-30h	Jan. 20/70
5131	GF-30h	Jan. 27/70
5132	GF-30h	Jan. 27/70
5133	GF-30h	Jan. 31/70
5134	GF-30h	Jan. 31/70
5135	GF-30h	Feb. 6/70
5136	GF-30h	Feb. 6/70
5137	GF-30h	Feb. 13/70
5138	GF-30h	Feb. 13/70
5139	GF-30h	Feb. 20/70
5140	GF-30h	Feb. 20/70
5141	GF-30h	Feb. 27/70
5142	GF-30h	Feb. 27/70

* These units equipped with dynamic braking.

* Other motive power transfers:

- from GTW Battle Creek to CN Fort Erie
9002, 9003 GFA-15a F3A
9001, 9004 GFB-15a F3B
- from Calder to Toronto Yard (all SD-40s)
5004-5007 inc. (Dynamic brake equipped)

* The renumbering of GO coaches, cab cars, and self-propelled units is now going ahead.

* The following diesel units were retired during November and December 1969:

32	ER-6a	Nov. 28/69	Retirement program
3025	MR-16b	Nov. 28/69	Retirement program
4814	GR-15a	Nov. 28/69	Wreck, Vancouver, B. C. Oct. 10/69
6850	MPB-16a	Nov. 28/69	Retirement program
8160	MS-10b	Nov. 28/69	Wreck, Sarnia, Ont. Nov. 3/69
9029	GFB-15b	Nov. 28/69	Retirement program
3800	MR-16e	Dec. 22/69	Retirement program
4805	GR-15a	Dec. 31/69	Wreck, Vancouver, B. C. Dec. 11/69
9033	GFB-15b	Dec. 31/69	Wreck (rock slide) Clearwater Sub., B. C. Nov. 21/69

QNS&L MOTIVE POWER NOTES

* The following two QNS&L diesel units have been retired:

- 91 - sold to United Railway Supply Co. Montreal in December 1969.
- 109 - involved in sideswipe in October 1969, retired December 1969.



CN F3's 9002/01/04/03 are seen with train 400 at Malport, Ontario. Newly assigned to Fort Erie, these units are running on trains 390 & 391, between Toronto and White River Jct., Vermont, the same run they had in 1948 when delivered.

-- James A. Brown.

CANADIAN NATIONAL FLAT CAR ORDERS

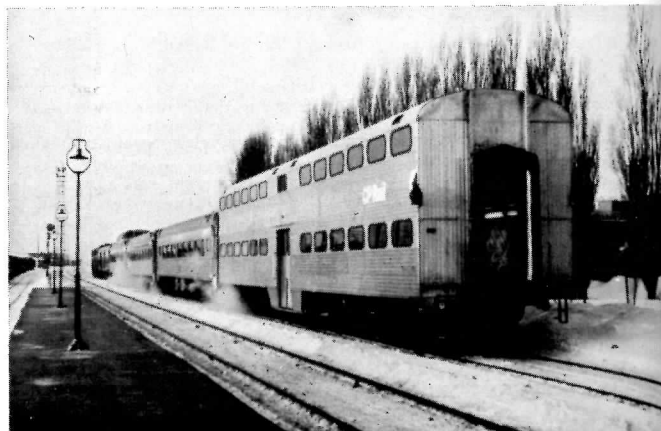
* CN has placed an order with Marine Industries Limited of Sorel, Quebec, for 1150 flat cars at a cost of nearly \$19 million dollars. These cars will be used in lumber and pulpwood service. The first cars are to be delivered in June, with deliveries continuing to November.

* Another order placed by CN, is for 150 50-ton 63' piggyback flats with IEC-Holden Limited of Montreal. The \$2.7 million order is to be built at Napanee, Ontario. The cars will be used to handle the growing volume of piggyback traffic. Delivery is to start in August and is to be completed by November.



Two new CP Rail M-636's 4701/07 are shown heading west at Campbellville, Ontario, with the CIL Acid Train for Courtright, Ontario. This particular train is the first unit train operation in Canada.

-- James A. Brown.



New CP Rail double-deck commuter cars are being tested between Montreal and Ottawa on the tail of train 233. Here one of the cars is seen on the tail of 233 (1802 on the point), leaving Westmount Station on January 6, 1970. This car was frequently seen on this train during the month of January.

-- Robert J. Sandusky.



CN GRG-12a's 1912 and 1905 are pictured at Brampton, Ontario, enroute to Sarnia with No. 649. Most of these units are now being removed from passenger service, and their steam generators are being deactivated.

-- James A. Brown.

EXPANSION AT AGINCOURT

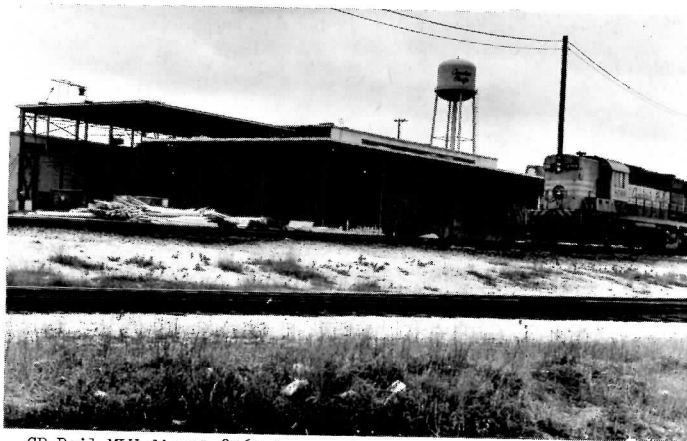
by John D. Thompson and William E. Weighill

Visitors to CP Rail's Toronto Agincourt Yard during the last half of 1969 and early 1970 have been witness to the first major addition to the yard's facilities since its opening on April 26, 1964. By April 1970 the company hopes to have in operation a \$900,000 two-track addition to the present three-track diesel shop at the yard, located in Scarborough Borough. The improvements wrought by the new facility will be numerous and far reaching.

The decision to build the diesel shop addition was made by CP Rail in May 1968, the necessary funds being set aside in the 1969 Facilities program budget. The basic reason for construction of the Agincourt addition is to permit ultimate closure of the diesel shop at Chapleau, Ontario, and as a result obtain more efficient utilization of motive power. This latter facility, located in a town deep in the forests of northern Ontario, is one of five major system-wide diesel shops for CP Rail, the others being located at Kamloops, B. C., Alyth (Calgary), Weston (Winnipeg), and St. Luc (Montreal). It had been discovered in recent years that the Chapleau location was not proving too successful as a diesel shop. The terminal, located on CP Rail's main transcontinental line 170 miles northwest of Sudbury, is a division point with 35 diesels assigned, of GMD, MLW, and Alco manufacture. Chapleau's road units operate west to Thunder Bay and east to Toronto and Montreal. All freight trains passing through Chapleau change locomotives and crews. In the case of the streamliner "The Canadian", crews only are changed, the locomotives continuing on to Winnipeg. Of the 35 units based at Chapleau, the majority are road switchers.

In the years following total dieselization in 1958, there became apparent at Chapleau a major problem involving the excessive amount of deadhead and hence unproductive mileage incurred by the division's diesels when they broke down on the road. For example, if a Chapleau unit developed mechanical difficulties en route to Fort William, Agincourt, or St. Luc, it could not be repaired at these locations. Instead it would be hauled dead in the consist of a freight train to its home base. This presented problems, as only mixed or extra freights could be used for this purpose, on account of speed restrictions pertinent to the haulage of dead locomotives. Frequently, three days would elapse before the disabled units arrived back at Chapleau. If a diesel failed near Chapleau and was unable to proceed, one of the shop's mechanics would be sent out to the halted train on a gasoline powered jigger and attempt to correct the difficulty. Another problem at Chapleau was the availability of spare parts for the division's diesels. When parts were required at Chapleau, a Telex message or telegram was used to get the order in to Montreal quickly. Upon receipt of the message at Windsor Station headquarters, requisition was made to Angus Shops, who in turn relayed the order to Montreal Locomotive Works or General Motors Diesel. These companies would deliver the order of parts to the local CP Rail station for delivery to Chapleau by train, a process which could consume as much as four days. Because of this situation, Chapleau at times would find itself without sufficient motive power on hand to meet its requirements. Finally the mixture of GMD and MLW units at Chapleau presented difficulties, one of these being the inability of certain GMD and MLW units to MU with each other. There was also the problem and expense of stocking certain parts for both makes. CP Rail decided that elimination of Chapleau Diesel Shop would enable the company to obtain better returns from part of their motive power investment. This is another case where fewer maintenance points can be operated without loss of proper inspection and servicing.

When Chapleau Diesel Shop is closed down, all of its diesels, with the exception of 7049 a 1000 hp Alco yard unit built in 1946, will be transferred to St. Luc. However, crew changes will still take place at Chapleau. In exchange for receiving the Chapleau units, St. Luc will reassign twenty 8700-series MLW roadswitchers to Agincourt Yard. Also expected at Agincourt,



CP Rail MLW diesel 8769 is seen beside the abuilding addition to the Agincourt Diesel Shop in November, 1969.

-- John D. Thompson.

when it is completed by MLW-Worthington, is unit 4719, the only 4000 hp diesel on the system. This locomotive will be classed DRF-36b and will have the new V18-251 engine. Finally, by May 1970 fifty of the 3600 hp Century-636 units will be assigned to Agincourt.

Chapleau will become what is known as a run-through point for motive power, a place where units remain coupled to their train while being fuelled, sanded, and their fuel and electrical systems receive inspection. Under the new setup the post of Mechanical Supervisor will be created for Chapleau. This man will be both locomotive foreman and car foreman, having under him a staff of approximately ten workers who will look after the run-through locomotives and handle car repairs. Of the 37 employees formerly connected with diesel maintenance at Chapleau, 30 have already been transferred to Agincourt. 32 employees, split over three shifts, will be left at Chapleau, compared with 75 prior to the changeover. The shop facilities at Chapleau will remain intact for the time being in order to handle any unforeseen mechanical failure that may arise on a diesel in the area that would prevent the unit from returning home. Three yard units of the 7000 class and two 8400-series MLW roadswitchers for wayfreight use will be assigned to Chapleau. These units will be sent to Montreal for heavy repairs. Shop machinery at Chapleau includes a hoist for removal of engines from units, various lathes, a wheel turning lathe, and a pit which is used for dropping wheels from trucks and inspection of traction motors. Chapleau has a sixteen stall roundhouse, with eight stalls used for engine storage. The stores department is also housed in the roundhouse. There is also a two-track concrete block diesel shop near the roundhouse, and a separate building for the car department. This latter facility is capable of handling four freight cars at a time, repairs including renewal of wood flooring, sheathing, and truck repair. Car repairs are also performed outside on the rip track.

The Agincourt Yard diesel shop addition will be structurally similar to the original building constructed seven years ago, being of concrete block over a steel girder frame and covered by a surface layer of concrete. The exterior walls are protected by a steel alloy siding extending from the roof line to a point ten feet above ground level. The new diesel shop can, however, be readily distinguished from the earlier structure by its lower roof, made possible by the lack of an overhead travelling crane such as exists in the 1964 building. The present facility contains three tracks. The new shop is approximately 236' in length and 77' in width. It will contain the dispatcher's office as well as the general office. The latter facility will be used by the chief clerk and the crew clerk, as well as two other clerical workers. The function of the crew clerk is to handle payroll and keep records of the road time of engine crews.

Work performed in the new shop will include running repairs, which consist of changing cylinder heads, injectors, water pumps, oil and air filters, air compressors, turbochargers, trucks and traction motors. The staff working at Agincourt Diesel Shop will increase to 400 employees from 200, split over three shifts of eight hours duration. It is expected that this level of employment will be reached by August 1970.

With the opening of the new diesel shop addition, the delegation of authority among supervisory personnel will be restructured and known as area control. The new positions will include those of planner, check-off man, truck foreman, wheel foreman, and diesel foreman. The following is a description of the responsibilities of these men. The planner ascertains from the dispatcher at Union Station, what repairs may be needed to units, information which he obtains prior to the locomotives' arrival at Agincourt. The dispatcher has been advised of any difficulties by the locomotive crew, via two-way radio. The planner then relays this information to the assistant foreman on duty at the diesel shop, so that he can have the necessary workers and materials ready. Another function of the planner is to arrange for sufficient motive power for outgoing trains. He is advised by the yard office as to the tonnage of all trains scheduled to leave Agincourt over the next four hours. The diesel shop has a tonnage chart which is divided by railway subdivisions to show how much horsepower is needed to move a given number of tons over the various CP Rail lines out of Agincourt. Previously the role of the planner was occupied by a person known as the locomotive clerk.

The check-off man takes note of an engine's number and class as it enters the diesel shop for repairs, date of entry and departure, and the type of repairs performed on the unit. He maintains records of this information at Agincourt and sends copies to the data centre at Montreal where the information is stored in a computer.

The truck foreman's duties are to ensure that sufficient trucks of the correct type are on hand for installation, and to oversee their repair. The wheel foreman, who is assigned four men, is responsible for inspecting and changing locomotive wheels, turning wheels, and stocking wheel units (the name given to a wheel and axle set). He requires advance notice in order to change the wheels on a diesel, so that he will have time to remove the weatherproofing substance with which the wheels are protected for outside storage.

The diesel foreman supervises running repairs and has four men working under him. He is allowed to take men from other sections as work demands.

It is anticipated that the new personnel structure at Agincourt Diesel Shop will result in more efficient work performance. The expectation of CP Rail management is that the opening of Agincourt Diesel Shop Phase II will permit them to realize even greater benefits from the tremendous potential of their diesel locomotives.



RAILWAY NEWS AND COMMENT (continued from Page 4.)

CN'S NEWFOUNDLAND TRUCK-TO-TRUCK TRANSFER

Newfoundland's narrow gauge railroad track may be a thing of historical interest to tourists and photographers, but it can be a pain in the neck for shippers moving goods to and from the mainland.

For years goods moving in standard gauge cars reaching Port aux Basques by ferry had to be unloaded and reloaded onto narrow gauge cars and vice versa. This handling could cost bulk shippers as much as \$90 a car.

More recently, however, CN engineers have come up with a thing called the truck-to-truck transfer—a process which permits standard gauge wheels to be removed from the cars and replaced with the narrow gauge version. It is done by raising the cars with electric jacks and rolling the trucks away.

Facilities recently set in place at Port aux Basques can handle some 24 cars a day in this fashion, with priority being reserved for bulk commodities such as lumber, elemental phosphorus, anhydrous ammonia, meats and paper.

the most noticeable benefit to the shipper is that his shipping costs are greatly reduced by eliminating the transfer of goods from one car to another.

Not all CN cars are suitable for truck-to-truck transfer, but a special list of those that are totals some 60,000 cars, including boxcars, insulated boxes, mechanical reefers and bulk-head flat cars.

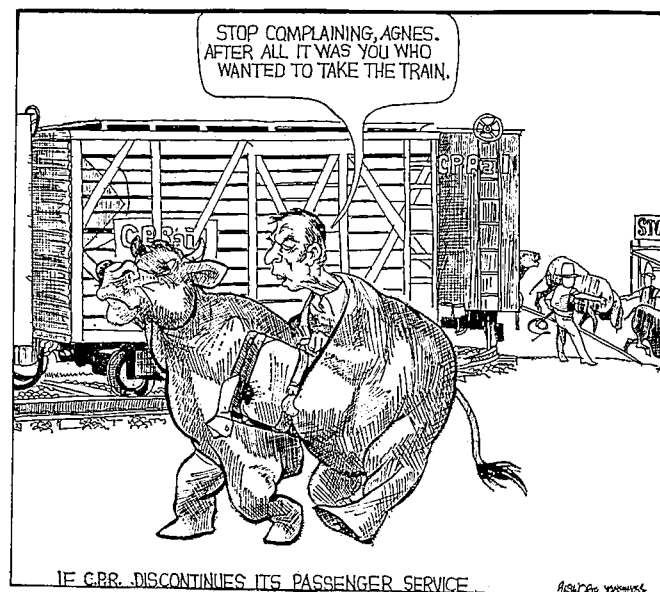
Even with the new service, shippers must limit loads to 142,000 pounds gross to ensure safe passage over Newfoundland's bridges and trestles.

A step-by-step look at the truck transfer process for the technically minded is as follows:

The standard gauge car is switched from the ferry at Port aux Basques onto a special three-rail track, then to a four-rail track in the transfer shed. The brake rods are disconnected and the car is pulled onto a jacking pad. It is raised by four simultaneously operated electric jacks and the two standard gauge trucks are replaced by narrow ones. Alterations are made to side bearings and the car is lowered and moved to a service area where a final check is made and the journal boxes oiled.

The car moves to an adjacent track for completion of the brake system. Brake charging, testing, piston travel, etc., are completed and the car is ready to commence its journey across Newfoundland.

A special 11-ton propane operated fork lift handles the trucks (which weigh from three-and-a-half to four tons) between the jacking track pad and a truck storage area. Each truck is indexed in order that it can be restored to its original car for return movement to the mainland.



— VANCOUVER PROVINCE.

CP RAIL'S STATEMENT REGARDING ITS TRAIN-OFF APPLICATIONS

After all of the uproar which occurred following the announcement of passenger train-off applications by both CN and CP Rail, the following statement was issued by S. M. Gossage, vice-president, Canadian Pacific, and senior executive officer of CP Rail:

"The applications filed by CP Rail are required by the National Transportation Act to bring about an examination by the Canadian Transport Commission of uneconomic passenger train services.

The act recognizes that the railways cannot operate effectively in a competitive environment while bearing the full burden of uneconomic passenger train services. The magnitude of this burden is shown by the extent of CP Rail's losses under the CTC's own costing formula. This loss amounted in 1968 to \$30,090,700.

The Commission is required to examine thoroughly the question of public interest in determining whether each specific train is required or may be discontinued.

We will cooperate fully with the Commission and supply all pertinent information it needs in reaching its decision. To the extent the Commission requires CP Rail to maintain passenger services, we will continue to operate them efficiently to satisfy the essential needs of the travelling public and to minimize the loss to be borne by the government."



STEAM TO STRATFORD! This was the destination of the UCRS Winter trip this past January 25th. Although the day turned out to be uniformly grey, the trip was well patronized and enjoyed by all. In the above scene, 6218 is seen charging past the station at Rockwood, Ontario (James A. Brown photograph), and in the scene to the right, the engine and train are coming through a very scenic rock cut near Limehouse, Ontario. (John D. Thompson photograph)

A HOME FOR THE ZEPHYR

The Denver Zephyr, the sleek silver streamliner that opened a new era in railroading when it made a record-breaking Chicago-to-Denver run in 1936, has been saved from the scrap pile. The train was bought for an undisclosed sum by Alexander J. Barker, a prominent Kansas City business man, but he has not announced any definite plans for the train. The Zephyr has been out of service for more than three years. Badly vandalized, the 12 stainless steel cars failed to draw an acceptable bid at a Parke-Burnet auction in Denver last fall. In its last years of operation the train ran as the Texas Zephyr between Dallas and Denver.

TTC ORDERS NEW CARS FOR NORTH YONGE EXTENSION

On January 21, 1970, the Toronto Transit Commission announced the awarding of a contract for 76 subway cars to Hawker Siddley Canada Limited at a total price, including spare equipment, of \$11,781,787. The Hawker Siddley bid was the lowest of three tenders received.

The new cars will be similar in design and features to the 164 H-1 class cars purchased from Hawker Siddley in 1964 for the Bloor-Danforth Subway. Principal car dimensions and features are as follows: The cars will be of aluminum structure and corrugated exterior sheeting with an unpainted wire brush finish. Principal dimensions of the cars are Length 74'5", width 10'4", height 11'11", and weight (average) 55,550 lb. The cars will seat 83 and will be equipped with fixed windows and with forced air ventilation, sheet rubber flooring and fluorescent strip lighting. Traction control is to be supplied by Canadian Westinghouse, with traction motors from Brush Electrical Co. of England. Trucks are to be the Dofasco Mark I design, presently in use under the present H-1 cars. Traction gear units will be supplied by Safety Electrical Equipment Corp. Four-way communications equipment will be supplied by English Electric-AEI Canada Ltd. Other equipment on the cars not mentioned will be similar in design to the present H-1 cars.

The last six cars of the order will be somewhat different in performance and design. These cars will feature a number of experimental features--notably the application of solid state (chopper) control capable of regeneration into the DC third rail, the substitution of a solid state inverter/converter to replace existing motor alternator equipments, and a redesigned roof and ceiling and a different ventilating system to reduce interior noise levels.

The cars (No's. 5500-5575, class H-2) will be built at Thunder Bay, Ontario, with delivery to commence in January 1971, and to be completed late in that year. When delivery of these cars is completed, the TTC lightweight subway car fleet will total 410 units.



YES, THE UCRS HAS IT!

Has what? Why, the new Canadian National Steam Power book, of course. UCRS Publications Sales Department has this book now in stock, ready to fill all orders. Critically acclaimed by steam fans all across the continent, this hard cover book is the bible to the Canadian National steam enthusiast. Hard cover, 128 pages size 9 x 12, over 130 photos, tables and rosters, this book is only \$12.95.

Below, authors Anthony Clegg and Raymond F. Corley are seen presenting an autographed copy of the book to CN President N. J. MacMillan.



-- Canadian National.



DO NOT GET THE WRONG IMPRESSION OF THIS PICTURE. This is not what the new TTC subway cars will look like. It is only an artist's impression of a design proposed by Hawker Siddley Canada Limited in their tender submission to the TTC. This design was turned down by the Commission. The new H-2 class cars will look exactly the same as the present H-1 cars now in operation on the Bloor-Danforth Subway and Yonge-University Subway.

-- photograph courtesy TTC Public Relations, and Hawker Siddley Canada Limited.

TRACTION TOPICS

Edited by Alf Nanders.

* Effective January 1, 1970, the Province of Ontario increased its contribution towards Toronto subway construction costs from 33 1/3 % to 50 %. This welcome move will reduce the amount of debt financing by Metropolitan Toronto required to augment the annual 2-mill subway tax levy.

Work is now in progress on several contracts for the first extension from the present terminal at Eglinton Avenue to Sheppard Avenue at an estimated cost of \$79 million. The second extension which will take the Yonge subway from Sheppard to Finch Avenue will be built in tunnel at a cost estimated at \$31 million. Total length of both extensions is 5 1/2 miles. Target for completion to Sheppard Avenue is late 1972, and service to Finch Avenue would begin in late 1973 if there are no delays.

Construction Contracts Now Or Soon To Be In Progress.

- Y-1 Cut-and-cover construction from Eglinton station to Roehampton Avenue. Awarded to Dineen Construction Limited on December 2nd, 1969 for \$1,475,000.
- Y-2 Tunnel construction from Roehampton Avenue to Lawrence Station. Awarded to Robert McAlpine Limited on October 3rd, 1968 for \$6,950,000. Twin tunnels have been constructed south from Lytton Boulevard to St. Clements Avenue and north to Muir Park Hotel.
- Y-3 Cut-and-cover construction from Lawrence to Ranleigh Avenue. Bids were received on January 26th, and are now being analyzed.
- Y-4 Tunnel construction under Yonge Street from Hogg's Hollow to Lawrence Station. Awarded to Robert Mc Alpine Limited on October 3rd, 1968, for \$4,923,000. Twin tunnels have been constructed south to Glen Echo Road.

- Y-5 Cut-and-cover construction east of Yonge Street through Hogg's Hollow. Top of structure will be approximately four feet below Don River. Awarded to H. J. O'Connell Limited on February 26th, 1969 for \$5,386,000.
- Y-6 Tunnel construction between York Mills and Sheppard Stations. Awarded to S. McNally & Sons Limited on December 19th, 1969, for \$6,983,000.
- Y-9 Cast iron tunnel liners. Awarded to Canron Limited on April 23rd, 1968, for \$6,233,454.
- Y-10 Concrete tunnel liners. Awarded to Precon Murray Limited on May 15th, 1968, for \$2,883,000.

<u>Length to Sheppard:</u>	Cut-and-cover - 1.13 miles
	Tunnel - 2.89 miles
	Total - 4.02 miles

Related Contracts.

- Y-50 Contracts for special trackwork for the crossovers at Eglinton, Lawrence, York Mills and Sheppard Stations were awarded to two companies, Abex Industries of Canada Limited in the amount of \$181,600 and Marubeni-Iida (Canada) Limited in the amount of \$274,264. The total cost of the crossovers and replacement parts will be \$428,864.
- Y-52 Rail Rubber pads. Awarded to Biltrite Rubber Limited for \$74,000.
- Y-53 Contact Rail Insulator Chairs. Awarded to Canadian Ohio Brass Co.
- Y-20 Supervisory Control Equipment. Closing date for bids March 9th, 1970.
- Y-24 Traction Power Substation Equipment. Closing date for bids March 9th, 1970.



TORONTO TRANSIT COMMISSION

SURFACE CAR AND SUBWAY CAR ALLOCATION ASSIGNMENTS

***** DECEMBER 1969.

DIVISION	SURFACE CARS (PCC)	SUBWAY CARS	TOTAL	DUAL CONTROL
Russell	Various Air PCCs* (15)			4199
	A-6 4300-4369 (67)			4300-4306
	A-7 4490-4499 (10)			4495-4499
	A-11 4625-4674 (50)			4625
	A-12 4675-4699 (25)		167	(14)
St. Clair	A-8 4500-4549 (50)			4500-4503
	A-9 4550-4566 (17)			4550
	A-14 4750-4779 (28)		95	4779 (6)
Roncesvalles	A-6 4370-4399 (30)			4397-4399
	A-7 4400-4489 (90)			4400-4405
	A-9 4567-4574 (8)			4701-4704
	A-13 4701-4747 (44)		172	(13)
Davisville		G-1 5000-5099 (96)		
		G-2 5100-5105 (6)		
		G-3 5200-5227 (26)		
		G-4 5110-5115 (6)	134	
Greenwood		M-1 5300-5335 (36)		
		H-1 5336-5499 (164)	200	
TOTALS:	Surface Cars - 434	Subway Cars - 334		

Note: PCC Training Car 4700 (stored at Hillcrest) not included in the listing.
Peter Witt car 2766 also not included in the listing.

* Air-electric PCC cars in service: 4199, 4226, 4228, 4245, 4247, 4253, 4261, 4290, 4578, 4586, 4589, 4593, 4597, 4599, 4600.