

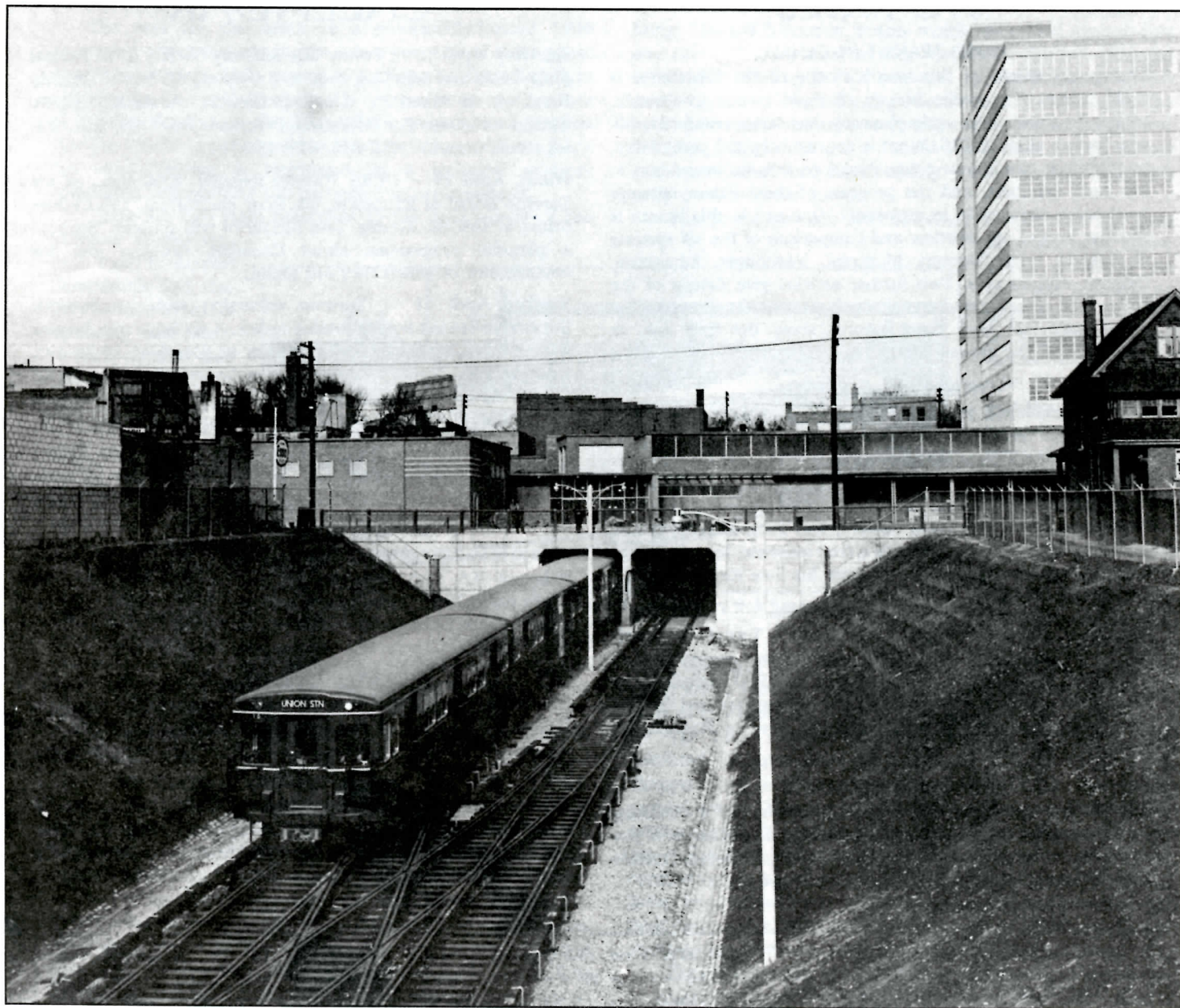


# Newsletter

50th ANNIVERSARY  
1941-1991

NUMBER 497

MARCH 1991



UPPER CANADA RAILWAY SOCIETY

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# Newsletter

Number 497 — March 1991

UPPER CANADA RAILWAY SOCIETY  
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## NOTICES

### RAPID TRANSIT IN CANADA

The special theme of this month's issue of the **Newsletter** is rapid transit. The entire history of rapid transit in Canada, except for some of the early planning, has fallen within the 50-year history of the UCRS. What is now an essential part of day-to-day life in the largest cities, therefore, was an innovation to our early members, and the progress of these urban railways must seem remarkable in retrospect. One article this month is the first part of an overview and comparison of the six systems in Canada — in Toronto, Montréal, Vancouver, Edmonton, Calgary, and Ottawa. Two further articles give details of the oldest and newest rapid transit equipment in the country. The front cover and back cover photos show the first line, in Toronto, and the newest extension, in Calgary.

### NORMAN J. CARDWELL

We were saddened to learn of the death in February of our member and friend Norm Cardwell. Members in the Toronto area knew Norm from his attendance at the monthly meetings and participation in many UCRS activities. Members across the country knew Norm from his articles in the **Newsletter**, which explained railway operation, history, and geography, in a way understandable to all. Norm was a true amateur: his knowledge and expertise was gained purely from his love for the hobby.

### UCRS ANNUAL MEETING

The annual meeting of the UCRS was held in Toronto on March 15. At the meeting, the members present were presented with reports of the activities of the Society in 1990 including the financial statements. Rick Eastman, Pat Scrimgeour, and Gordon Shaw were re-elected by acclamation to serve as directors for the term 1991–1994.

### READERS' EXCHANGE

Bill Coe is preparing a book on *The Canadian*, and is searching for photos or slides of some unusual scenes and consists. If you can help, write to him at Box 231, R.R. #1, Kingston, Ontario K7L 4V1 for a list of the specific subjects sought.

## CALENDAR

**Saturday, April 13** — Forest City Railway Society 17th Annual Slide Trade and Sale Day, 1:00 to 5:00 p.m., All Saints' Church, Hamilton at Inkerman, London, Ontario. Admission \$2.00, dealers welcome. For information, contact Ian Platt, R.R. #3, Ingersoll, Ontario N5C 3J6, 519 485-2817.

**Friday, April 19** — UCRS Toronto meeting, 8:00 p.m., at the Toronto Board of Education, 6th floor auditorium, 155 College Street at McCaul Avenue. Don McQueen will present "Seeing," a pictorial programme about Canadian railways and the environment in which they are found.

**Sunday, April 21** — Toronto excursion with a chartered Edmonton Transit System trolley coach. A six-hour trip, leaving from TTC Lansdowne Division (north of Bloor) at 10:30 a.m. Fare: \$20.00. Toronto Transportation Society, P.O. Box 5187, Station A, Toronto, Ontario M5W 1N5. For information, call Jeffrey Kay at 416 782-9252 or Jan Gregor at 416 961-6605.

**Friday, April 26** — UCRS Hamilton meeting, 8:00 p.m., at the Hamilton Spectator auditorium, 44 Frid Street, just off Main Street at Highway 403. The programme will be recent news and a showing of members' current and historical slides.

**Friday, May 17** — UCRS Toronto meeting. Curt Frey will show slides of U.S. and Canadian electric railways from the late 1950s and 1960s. Lines covered will include the BCER, Ottawa, Montréal, the Chicago, North Shore and Milwaukee, Johnstown, and Pittsburgh. There will also be some railway views.

**Friday, June 21** — UCRS Toronto meeting. Ralph Beaumont will give a slide presentation on a railfan's search for steam in Canada and the U.S. during the past 25 years. Ralph's talk will also feature a look at abandoned CPR branch lines in Southern Ontario.

We would like to list suitable events from all across Canada in this column. Please send news of excursions, railfan meetings, and sales of railroadiana to the UCRS well in advance of the event, in time for publication.

### FRONT COVER

A southbound TTC subway train posed, before opening day in March 1954, at the portal at Pleasant Boulevard, at the south end of St. Clair Station. This section of the subway is now covered by a parking garage.

—TTC Photo

Please send short contributions to the addresses shown at the end of each news section. Please send articles and photos to the address at the top of the page. If you are using a computer, please send a text file on an IBM-compatible (5¼" or 3½"), Macintosh, or Commodore 64/128 disk, along with a printed copy.

Completed March 24, 1991

Subscriptions to the **Newsletter** are available with membership in the Upper Canada Railway Society. Dues for the calendar year 1991 are \$25.00 for addresses in Canada, and \$28.00 for addresses in the U.S. and overseas. Student memberships, for those 17 years or younger, are \$15.00. Please send inquiries and changes of address to the address at the top of the page.



# CANADA'S NEWEST RAPID TRANSIT CARS

## CALGARY TESTS THREE-PHASE AC TRACTION

BY BOB SANDUSKY

A frequent sight on Calgary Transit's C-Trains over the past several months has been a pair of prototype LRVs powered by induction motors. They are instantly recognisable by their pure white colour scheme which is devoid of the usual CT crimson and blue striping. Thus far, they have been observed only separately, operating as the middle unit of three-car trains, appearing intermittently on either of the two LRT routes. They are numbered 3001 and 3002.

The cars are the result of a provincially-funded 1986 agreement which has resulted in a two-year test of three-phase alternating-current (AC) power technology on Canadian light rail vehicles. The participants in this agreement are the Province of Alberta, funders of the \$2.5 million project, and Siemens Electric, a local subsidiary of the Siemens Group, who are doing the work. Testing is monitored by a technical advisory committee, representing the participating organisations.

There are two main objectives to the involvement of the province in this venture. First, to support Edmonton's and Calgary's efforts to reduce operating and maintenance costs of their LRT systems, and, second, to foster expansion of the Alberta light rail traction industry. The Siemens Electric plant in Edmonton has been making LRV traction and control equipment since 1976. By receiving a transfer of technology from Siemens AG, then developing an efficient and reliable three-phase propulsion package, they stand to benefit from the potential extension of the results to other LRV designs found in North America.

Accordingly, work began on the two prototype units in Düwag's Düsseldorf plant in 1987, using the familiar U2 car body. They arrived in Edmonton around April 1989 for trials there. By May 1990 they had been moved to Calgary. I first saw them in operation there in December on the Northeast line and they have been in fairly regular peak hour use since then, recently mostly on the 201 Anderson-Brentwood route.

As for the physical characteristics, the obvious difference to the traveller is the undecorated, white garb. Once that catches your eye, you next see the identification along the side panelling proclaiming this "New Technology Light Rail Electronics - A Joint Project of . . ." followed by the names of Alberta, Calgary, Edmonton, and Siemens. There appear to be no other significant external differences between these cars and members of the existing fleet except for a longer grey roof housing on the pantograph-equipped half of the unit and a new housing on the other half.

Once you step inside the car, you notice several changes. A 5 to 7 cm ceiling panel projects down along the arch of the

roof. The floor is a flat, grey material meeting stainless steel kick panels at the walls, in contrast to the main fleet's rusticated, non-skid covering which continues up to the seat level to meet the simulated rosewood panelling. The seat fabric is a striped brown pattern rather than the normal brown, checkered pattern. There are other minor differences at the wheelchair doorway in safety strap positioning and placement of an additional overhead standee rail.

Beneath the surface are the real differences. Inside the standard truck frames are a pair of completely redesigned, axle-hung, 136 kW induction motors which are sealed against dust and snow. That's a total of four motors for the two powered trucks. The existing fleet is powered by Siemens double-shaft motors mounted longitudinally, one for each of two bogies. The induction motors are self-ventilated, connected in parallel and fed from a single converter. Should a converter fail, its motors can be switched out electronically while the remaining two carry on at a lower speed.

The prototype cars are somewhat heavier than the base fleet but have higher speed potential. As they are not able to interface with the CT signal system, they are run as mid-train units with the DC cars. The problem of the difference in acceleration characteristics is solved with a microprocessor which creates a "DC simulation switch," allowing the AC car to pretend it's a DC one. With electronic wheel-slip and slide control and individually driven

axles, the result is better traction. No doubt this also potentially offers easier handling of wheelset failures, not that that is an issue at this early stage in the cars' lives.

The basic control equipment converts the 600 V (DC) overhead to three-phase AC power for traction using a DC chopper and a phase sequence inverter with inter-phase commutation. The converters use an hermetically-sealed evaporative bath cooling system. Heat-generating components are cooled by a sealed, pumpless circuit. Traction controls are microprocessor-based and regulate such functions as thyristor-firing, inverter switching, traction, braking, safety controls, and fault detection. Component functions, energy consumption, and regeneration levels are read by on-board microprocessors.

The cars do make the travelling public take notice and one overhears comments of recognition when they draw into a station. Any visitors to Calgary wanting to see them should wait at a station on 7th Avenue during heavy load times when three-car trains are running, if it is a day when they are in use. They are withdrawn from service periodically but should be part of the transit scene until the end of the test program this year. ■

*I would like to thank Calgary Transit staff for the technical data which made this article possible.*

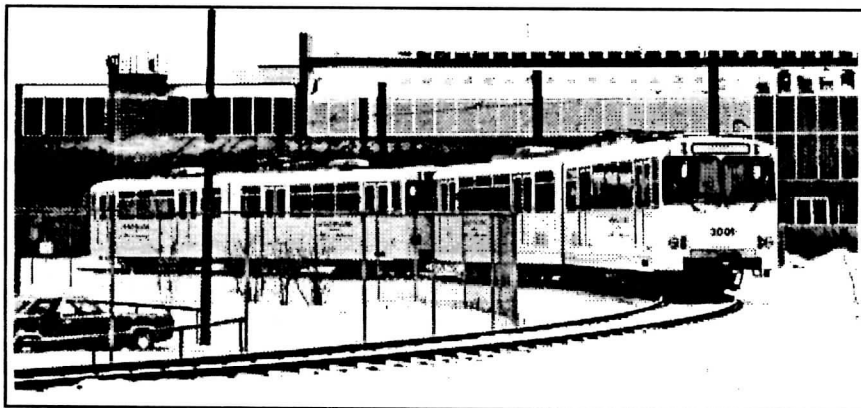


Photo at Anderson Road shops by Bob Sandusky, March 2, 1991

# UCRS 50th ANNIVERSARY FEATURE

## RAPID TRANSIT IN CANADA

### PART 1 – TORONTO AND MONTRÉAL

#### TORONTO

##### SUBWAY, RT, and LRT

The first rapid transit system to be built in Canada was the Toronto Subway, begun in 1949 by the Toronto Transportation Commission. By the time the line was completed and opened, in 1954, the Municipality of Metropolitan Toronto had been formed, and the TTC, in changing from a city to a metropolitan agency, was renamed the Toronto Transit Commission.

The first section of the subway was the north-south Yonge line, between Eglinton Avenue, in what were then the northern suburbs of the city, and Union Station. This line replaced the Yonge streetcar line, which was operated with trains of Peter Witt motor and trailer cars. The new line was built underground downtown by cut-and-cover, and primarily above ground north of Bloor Street, in private right-of-way and open cut (now partly covered).

In early plans, it was expected that small, light cars, based on the PCC streetcar design, would be used. Instead, heavier, larger 57-foot steel cars were bought

from the Gloucester Railway Car and Wagon Company. It has been suggested that the order was placed with a British company for political reasons, to balance the flow of goods to Britain and money to Canada that was created by the war.

Power, at 600 V (DC), is supplied to the cars by a third rail, to one side of the running rails. The motors are grounded through the running rails. The running rails also carry circuits for the signalling system. Trains are manually controlled, and authority is given by wayside block signals.

With further extensions, the subway now operates into northern, western, and eastern Metro Toronto. The subway carries passengers from the TTC's system of feeder bus routes, and from suburban transit agencies, which connect with the TTC at Islington and Finch stations. The subway has promoted high-rise commercial and residential development along its length, but construction and capacity has not kept up with the pace of economic growth in Toronto.

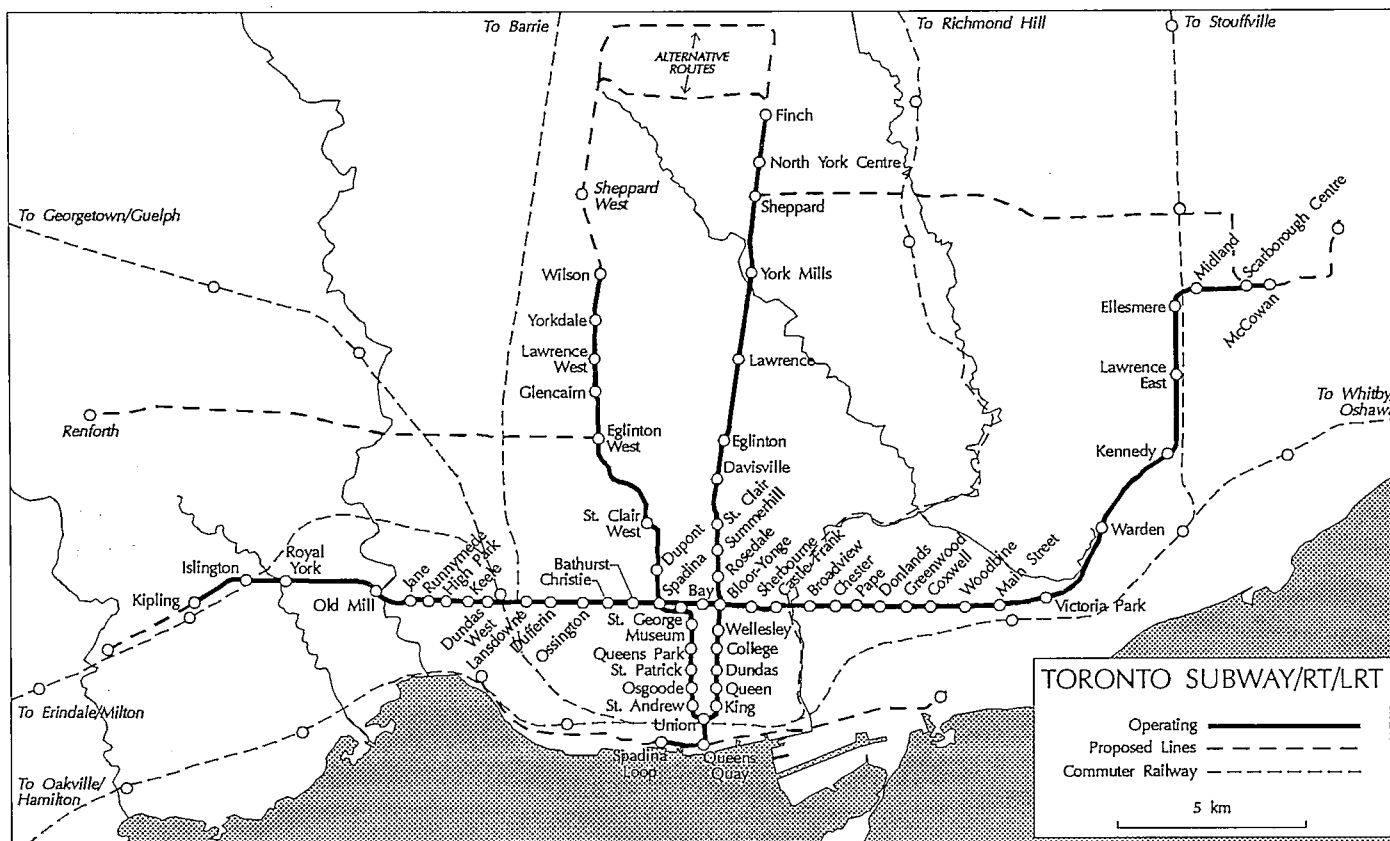
The original Gloucester cars have now

been retired, and all service is now provided by Canadian-built 75-foot aluminum cars, which have faster acceleration and a higher top speed ("high rate"), though they are now kept to the same "low rate" as the Gloucester cars, to reduce the load on the traction motors.

The subway is now operated as two routes. The Yonge-University-Spadina line is a U-shaped route between Finch and Wilson stations. The Bloor-Danforth line is a crosstown line connecting at St. George and Bloor-Yonge stations at the north edge of downtown Toronto.

In rush hours, trains operate every two to three minutes on both lines. On the Yonge-University-Spadina line, every second train turns back at St. Clair West Station. (The TTC plans to eliminate this short-turn in 1991.) Outside the rush hours, trains operate every four to six minutes on both lines.

Most stations have two platforms, to the sides of the tracks. Terminal stations and some stations near the terminals have one centre platform. At the busy stations, buses connect with the subway at large above-ground platforms within the fare-



paid area. Downtown, and at smaller stations, passengers transfer to streetcars and buses at stops on the street.

Fare-paid areas are separated by full barriers at each station. Turnstiles at the barriers accept single-trip tokens and monthly passes. Ticket booths are open at each station to sell tokens, tickets, and passes, and to accept tickets, transfers, and cash fares.

Trains are operated by a two-person crew: a motorman, to operate the train, and a guard, usually in the fourth car, to open and close the doors at each station. At the terminal stations, the crew members change positions while the train sits at the platform.

The equipment is stored at three yards, at Davisville, Greenwood, and Wilson. A fourth yard, between Dundas West and Keele stations, is no longer used. Maintenance is carried out at the Greenwood Shops.

The Scarborough RT (Rapid Transit) line was opened in 1985, connecting the suburban office and commercial area at Scarborough City Centre with the Bloor-Danforth subway line at Kennedy Station. The line is at grade and elevated, except for a short tunnel under a CN railway line.

The RT uses the Intermediate Capacity Transit System developed by UTDC, with small 42-foot cars powered by linear induction motors, which pull the train by magnetic force applied against a flat "reaction rail" between the running rails. The RT is fully automatic, except that an operator on each train closes the doors and can stop the train in an emergency.

The Scarborough RT was closed during the summer of 1988, for extensive modifications. The turning loop at Kennedy Station, which was built when the plan was to operate the Scarborough line with streetcars, was replaced by a crossover in the station. After the line re-opened, rush hour service was operated with four-car trains, instead of the earlier two-car trains.

RT trains operate approximately every four minutes in rush hours, and every six minutes at other times. The terminals are operated as single-track stations, and the operator changes from one end of the train to the other while the train waits at the platform.

In 1990, the Harbourfront LRT was opened between two loops at Union Station and Spadina Avenue. The short line is built in a tunnel under Bay Street and in a centre reservation on Queens Quay. The line connects a redeveloped area on the waterfront with the subway

## TORONTO — HISTORICAL AND TECHNICAL SUMMARY

### Lines

|                     |                           |          |
|---------------------|---------------------------|----------|
| Yonge Line          | Eglinton—Union            | 1954     |
| University Line     | Union—St. George          | 1963     |
| Bloor-Danforth Line | Keele—Woodbine            | 1966     |
| Bloor-Danforth Line | Woodbine—Warden           | 1968     |
| Bloor-Danforth Line | Keele—Islington           | 1968     |
| Yonge Line          | Eglinton—York Mills       | 1973     |
| Yonge Line          | York Mills—Finch          | 1974     |
| Spadina Line        | St. George—Wilson         | 1978     |
| Bloor-Danforth Line | Islington—Kipling         | 1980     |
| Bloor-Danforth Line | Warden—Kennedy            | 1980     |
| Scarborough RT      | Kennedy—McCowan           | 1985     |
| Harbourfront LRT    | Union—Spadina/Queens Quay | 1990     |
| Spadina LRT         | Bloor—Queens Quay         | Proposed |
| Spadina Line        | Wilson—Sheppard West      | Proposed |
| Eglinton LRT/Busway | Eglinton West—Renforth    | Proposed |
| Northern Loop       | Finch—Sheppard West       | Proposed |
| Scarborough RT      | McCowan—Sheppard          | Proposed |
| Sheppard Line       | Yonge—Scarborough Centre  | Proposed |

• A new station on the Yonge line, North York Centre, was opened in 1987

### Equipment

|           |     |         |                                  |                            |
|-----------|-----|---------|----------------------------------|----------------------------|
| 5000—5099 | G-1 | 1953-54 | Gloucester Railway Car and Wagon | (retired)                  |
| 5100—5105 | G-2 | 1954-55 | Gloucester Railway Car and Wagon | (retired)                  |
| 5200—5227 | G-3 | 1956    | Gloucester Railway Car and Wagon | (retired)                  |
| 5110—5115 | G-4 | 1958-59 | Gloucester Railway Car and Wagon | (retired)                  |
| 5300—5335 | M-1 | 1962-63 | Montréal Locomotive Works        |                            |
| 5336—5499 | H-1 | 1965-66 | Hawker Siddeley                  |                            |
| 5500—5505 | H-2 | 1971    | Hawker Siddeley                  | (classed as H-3 1973-1984) |
| 5506—5575 | H-2 | 1971    | Hawker Siddeley                  |                            |
| 5576—5663 | H-4 | 1974-75 | Hawker Siddeley                  |                            |
| 5670—5807 | H-5 | 1976-79 | Hawker Siddeley                  |                            |
| 3000—3023 | S-1 | 1983-84 | UTDC (Kingston)                  |                            |
| 3024—3027 | S-1 | 1986    | UTDC (Kingston)                  |                            |
| 5810—5935 | H-6 | 1986-89 | UTDC CanCar (Thunder Bay)        |                            |

downtown at Union Station.

At present, the line is operated with streetcars, usually rebuilt PCC cars. When the proposed Spadina LRT line is built (expected to be later in the 1990s), it will be combined with the Harbourfront line, and both will be operated with new low-floor light rail vehicles.

The TTC also operates nine streetcar routes, mostly east-west across the City of Toronto. The lines are, for the most part, in the centre of city streets, in mixed traffic with automobiles. The Queen Street line (Route 501) has some characteristics of rapid transit, as it uses articulated LRVs, uses a proof-of-payment fare system, and may soon run in reserved lanes.

Toronto is served by the provincial GO Transit commuter railway network. From Union Station, lines radiate to Whitby/Oshawa and Stouffville in the east, Richmond Hill and Barrie in the north, and Georgetown/Guelph, Erindale/Milton, and Oakville/Hamilton in the west. Except for the Whitby—Oakville and Toronto—

Erindale lines, trains operate only in the rush hours. GO fares are fully integrated with the transit systems of most of the suburban cities, but the only integration with the TTC is a combined monthly pass.

In 1990, the Province of Ontario announced funding for a major expansion of the Toronto rapid transit network. A new east-west subway line, planned for some years, is to be built on Sheppard Avenue. The Yonge and Spadina lines are to be connected into a circle at the north end, and the Bloor line is to be extended west, to the Metro boundary. The Scarborough RT is to be extended further northeast, and the Harbourfront LRT may be extended west, or east, or both. A new line, possibly LRT, is to be built on Eglinton Avenue, to connect at the west end with the airport and with a busway in Mississauga.

The TTC is negotiating with UTDC for the supply of the equipment for the new subway and LRT lines, and has begun development of a modified design of subway car, known as the T-1 class. ■

# MONTREAL

## MÉTRO and EXPO EXPRESS

Montréal built the second rapid transit system in Canada. Construction of the Métro began in 1962, on two lines. The east-west line, Line 1, was to extend from Atwater to Frontenac, and the north-south Line 2 from Place d'Armes to Crémazie.

When Montréal was awarded Expo 67, planning began for Line 4, under the St. Lawrence River, serving the Expo site on Île-Sainte-Hélène. At the same time, construction for Line 2 was extended west to Bonaventure and north to Henri-Bourassa. (The number 3 was reserved for a possible conversion to rapid transit of the CN electric commuter train line through the Mont-Royal tunnel.)

Lines 1 and 2 were built parallel to busy arterial streets, instead of directly under them, so that construction would not interfere with traffic. Line 1 is parallel to, and north of, rue Sainte-Catherine, and the north-south section of Line 2 is just east of rue Saint-Denis. The lines are entirely underground, mostly in rock tunnel, with some sections downtown built by cut-and-cover. The trains are narrower than Toronto's, so that tracks in both directions will fit within one tunnel.

The Métro was built on the model of the Paris Métropolitain, reflecting the ties in the 1960s between France and the civic administration in Montréal. The cars ride on rubber tires and travel on concrete rails, steered by guide rails at the side. Between the concrete running rails are steel guard rails, used to negotiate switches and when the rubber tires fail. The construction of the line entirely underground was required for the rubber tires, but also protects the passengers from the winters in Montréal.

The use of rubber tires allows much steeper grades than with steel wheels. This ability to climb was used on the Métro to build stations near the surface, and the line between deeper below ground, for two reasons. First, acceleration of trains leaving the stations and deceleration of trains arriving at the stations is assisted by gravity. Second, the deeper tunnels reduced the need to relocate underground utilities.

The first cars were built by Canadian Vickers to a French design. The cars are coupled in three-car sets, with two motor cars and one trailer, which carries auxiliary equipment for the motor cars. Up to three sets can be coupled together, to form a nine-car train. Four double doors on each car allow passengers to board and alight from the cars quickly.

The power of 750 V (DC) is collected from the side guide rails, and grounded through shoes which slide on the steel guard rails. Signalling was initially simple block signals, but these have been replaced, first, by cab signals and, later, by automatic train operation ("auto-pilot").

The Métro began operation under the Commission de transport de Montréal. The organisation is now named the Société de transport de la Communauté de Montréal (STCUM), reflecting its crown-corporation status and the metropolitan coverage. Construction is administered by another organisation, the Bureau de transport métropolitain.

Lines 1 and 2 have been extended, and a new Line 5 crosstown route has been built. Plans have been formulated for extensions in all directions, and for many new lines; the proposals on the table at any time vary according to the agency making the proposals and according to the funding, which changes often.

The most recent set of proposals call for the extension of Line 2 north from Henri-Bourassa into Laval, as part of a transit integration programme, the extension of Line 5 east to Anjou, and the construction of a new Line 7, using steel wheels and steel rails, along Boulevard Pie-IX to Montréal-Nord.

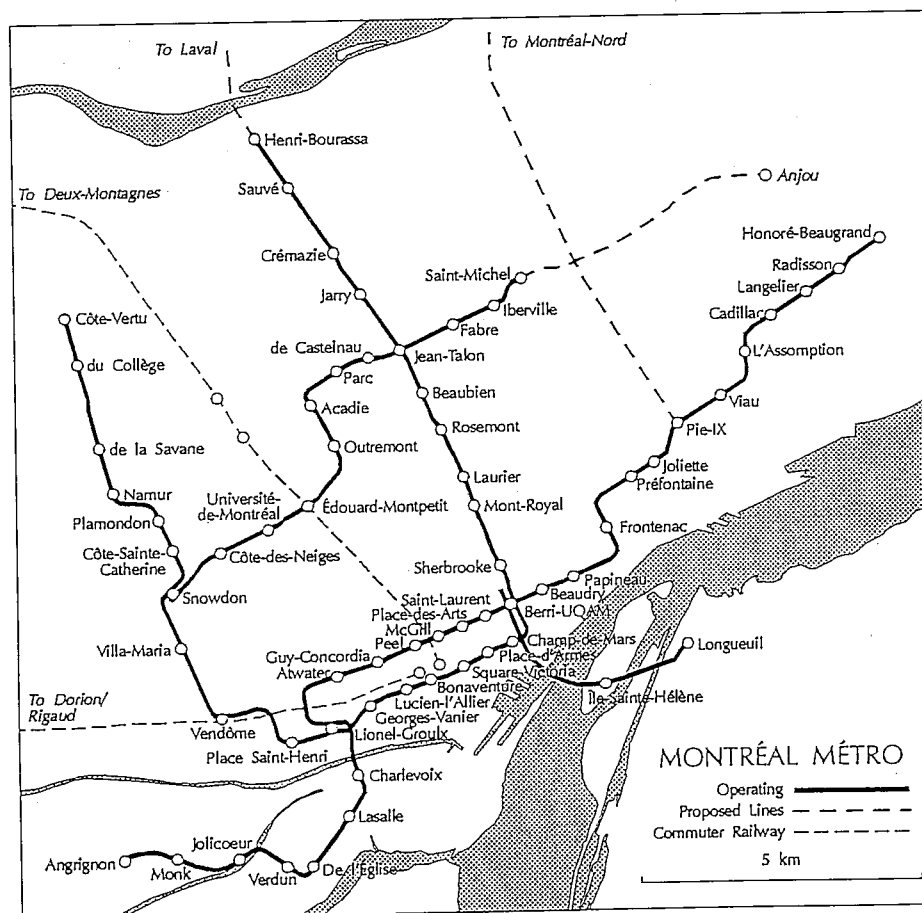
Other proposals that are often heard are for the extension of Line 2 north from Côte-Vertu to meet the Mont-Royal commuter line at Val Royal, the construction of a Line 6 east-west at the north of the island, perhaps along the CN St-Laurent Subdivision, an extension towards the west of Line 5, and the construction of an LRT line east from Honoré-Beaugrand to Pointe-aux-Trembles.

Whether any of these lines are built will depend entirely on the financial priorities of the province, which has recently announced an end to its operating subsidies for transit.

During rush hours, trains run every two to three minutes on Lines 1 and 2, and every four to five minutes on Lines 4 and 5. Nine-car trains are used at all times on Lines 1 and 2, and six-car trains are used on Lines 4 and 5, with sawhorses used to block the unused parts of the platforms.

All stations (except for Lionel-Groulx and Snowdon, discussed later) have side platforms. Two stops on the Line 1 extension to Angrignon have a two-level station, with both platforms on one side.

At the terminal stations, trains unload at one platform, then proceed into the tunnel beyond the station. The train then reverses, and pulls up to the other platform to load.



Fares are collected at barriers in each station. Turnstiles accept magnetic tickets for a single trip, monthly passes, and computer-punched transfers from bus routes. Cash fares are paid at ticket booths. Whether bus routes connect on the street, or at platforms connected to the stations, paper transfers are required. All-door loading in a fare-paid area is not possible in Montréal, because the back doors of the buses are opened from the inside by spring-loaded gates, not by the more common treadle steps.

Lionel-Groulx, the transfer station between Lines 1 and 2, and Snowdon, the western connection between Lines 2 and 5, are built on two levels so that most passengers can transfer by crossing the platform. At Lionel-Groulx, the trains of both lines bound for downtown stop on one level, and the outbound trains on the other level. Only passengers travelling in the less-common directions need to change levels. Berri-UQAM, where Lines 1, 2, and 4 meet, is on three levels, and at Jean-Talon, the original station on Line 2 is at the highest level, and the tracks for Line 5 are on two levels below that, with both platforms on the same side.

Equipment is stored at garages beyond the terminal stations at Henri-Bourassa, Honoré-Beaugrand, and Angrignon, and at the main d'Youville shops, connected to Line 2 north of Crémazie and to Line 5 between Parc and de Castelnau.

The STCUM also operates the commuter trains on the CN, from Central Station to Val Royal and Deux-Montagnes, and on the CP from Windsor Station to Dorion and Rigaud. Both Windsor and Central Stations are connected to the Métro at Bonaventure. Fares on the commuter trains are higher than, but fully integrated with, fares on the STCUM buses and Métro.

The stations on the CP line have been refurbished, and new locomotives and cars have recently been put in service. A new connection with the Métro was built at Vendôme, replacing the nearby CP Westmont station.

Operation on the CN line through the Mont-Royal tunnel continues with forty-to eighty-year-old electric equipment. Because no decision has been reached on the future of the line (it could be refurbished as-is, converted to rapid transit, or converted to LRT), no capital expenditures have been made. There is provision for a future connection from Édouard-Montpetit station on Line 5 to the Mont-Royal tunnel below.

A form of rapid transit is provided to the west of downtown Montréal. Buses travelling on Autoroute 20 stop at stations

## MONTREAL — HISTORICAL AND TECHNICAL SUMMARY

### Lines

|                 |                               |          |
|-----------------|-------------------------------|----------|
| Line 1 (Green)  | Atwater—Frontenac             | 1966     |
| Line 2 (Orange) | Henri-Bourassa—Place-d'Armes  | 1966     |
| Line 2 (Orange) | Place-d'Armes—Bonaventure     | 1967     |
| Line 4 (Yellow) | Berri-de Montigny—Longueuil   | 1967     |
| Expo Express    | Place d'Accueil—La Ronde      | 1967     |
| Line 1 (Green)  | Frontenac—Honoré-Beaugrand    | 1976     |
| Line 1 (Green)  | Atwater—Angrignon             | 1978     |
| Line 2 (Orange) | Bonaventure—Place-Saint-Henri | 1980     |
| Line 2 (Orange) | Place-Saint-Henri—Snowdon     | 1981     |
| Line 2 (Orange) | Snowdon—Plamondon             | 1982     |
| Line 2 (Orange) | Plamondon—du Collège          | 1984     |
| Line 5 (Blue)   | de Castelnau—Saint-Michel     | 1986     |
| Line 2 (Orange) | du Collège—Côte-Vertu         | 1986     |
| Line 5 (Blue)   | de Castelnau—Parc             | 1987     |
| Line 5 (Blue)   | Parc—Snowdon                  | 1988     |
| Line 2          | Henri-Bourassa—Laval          | Proposed |
| Line 5          | Saint-Michel—Anjou            | Proposed |
| Line 7          | Pie-IX—Montréal-Nord          | Proposed |

• Expo Express not part of regular transit system; closed 1968

• Berri-de Montigny renamed Berri-UQAM and Guy renamed Guy-Concordia in 1988

### Equipment

|               |               |         |                  |           |
|---------------|---------------|---------|------------------|-----------|
| 81-501—81-746 | MR-63 Motor   | 1965-67 | Canadian Vickers |           |
| 80-001—80-123 | MR-63 Trailer | 1965-67 | Canadian Vickers |           |
| A01—F48       | Expo Express  | 1966    | Hawker Siddeley  | (retired) |
| 79-501—79-782 | MR-73 Motor   | 1976-78 | Bombardier       |           |
| 78-001—78-141 | MR-73 Trailer | 1976-78 | Bombardier       |           |

• 81-501—81-746 were originally 81-1501—81-1746

• 80-001—80-123 were originally 80-0001—80-0123

built at the sides of the highway, where connections can be made with local buses and with trains on the CP line.

A new rush-hour contra-flow bus lane has been designated in the centre of Boulevard Pie-IX running north from the station on Line 1, along the route of the proposed Line 7. Buses stop at stations built in the centre of the street, connected to the sidewalks by crosswalks.

During Expo 67, the Expo Express connected Île-Sainte-Hélène and Île-Notre-Dame, in the St. Lawrence, with the main island of Montréal. This operation was built to rapid-transit standards, but for use for only a few months in 1967 and 1968. The Expo Express was not just a small connecting link: the line was three-quarters of the length of Toronto's original Yonge line.

The 48 cars were built by Hawker-Siddeley, similar to the H-1 cars for Toronto, but with air conditioning, larger windows, and only three doors on each side. The two end cars of each six-car train were built with a streamlined front end. One operator controlled the doors and started the train, and trains ran automatically. Stations on the line were made of timber and fabric, for temporary,

warm-weather use.

After the end of Expo 67, the line was dismantled. The cars were stored and put up for sale, but have never been purchased. Such cities as New York, Edmonton, and, most recently, Toronto, have considered using the cars, but they remain stored. One is at the Bombardier plant in La Pocatière, and the other 47 are outdoors a former munitions storage yard in Les Cèdres, west of Montréal. ■

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Pat Scrimgeour, Scott Haskill, Pat Semple, Harold Povilaitis, Jeffrey Kay, George Chiasson.

## UCRS 50th ANNIVERSARY FEATURE

## TORONTO'S GLOUCESTER SUBWAY CARS

*This article, with material by George Chiasson, Ray Corley, Jeffrey Kay, and Pat Semple, and with excerpts from TTC publications, has been reprinted from **Transfer Points**, by kind permission of the Toronto Transportation Society.*

## INTRODUCTION

October 26th, 1990, marked the end of an era in the history of Toronto's subway. During the morning rush hour on that day, a Gloucester train ran in revenue service for the last time. After over 36 years there were no longer any red cars in the subway system.

To mark the occasion, Toronto Transportation Society's *Transfer Points* assembled an article about the introduction, growth, and withdrawal of the G-car fleet. First we look at the delivery and introduction of the initial 100 cars. Next, we turn to the acquisition of 40 more Gloucesters, and look at the differences between these cars and the original 100 cars. Then we examine the movement of G-cars in their final days, when only a couple of Gloucester trains were part of the active fleet. The chart following this article lists the date that each pair of G-cars was placed in storage and the date that each pair that has been scrapped was removed from TTC tracks.

## THE ORIGINAL CARS

Canada's first subway had been proposed as early as 1910, but it was not until over 40 years later that it became a reality.

Proposals to construct subways were made by the Toronto Transportation Commission to the City in 1942, and again in 1945, which resulted in overwhelming approval by the voters on January 1st, 1946. Of the two lines proposed (Yonge and Queen alignments), Yonge was the more urgently needed, and construction commenced on September 8, 1949.

An order was placed with the Gloucester Railway Carriage and Wagon Company (GRC&W) in November 1951 for 104 cars (the last 4 cars later became part of the G-2 order), to be delivered in the nine months from July 1953 to March 1954, at a contract price of \$11,500,000.

When the first two cars were weighed at the factory, the weight estimate was gravely exceeded — by 40 percent, to a total of 85 000 pounds. Hurried arrangements were made to enhance the electrical power system to handle the increased current and energy demands. Traction motor capacity was rechecked and mechanical adjustments (fortunately possible) were made to the brakes. Some weight reduction measures were implemented immediately by GRC&W, resulting in a one ton weight decrease after the first 30 cars were built.

The first two cars were delivered by rail to Hillcrest Shops in Toronto on July 30, 1953, having been transferred from a ship to flat cars by a floating crane at Montreal (the St. Lawrence Seaway had not yet opened).

The cars were off-loaded on the ramp at the west side of the Hillcrest property, using temporary track to enter the shop. After clean-up, the cars were taken, again on temporary track, out to the north end of the property for display to the press and officials.

After the Hillcrest preview, the cars were taken back into the shop to have modified Brill streetcar trucks substituted, so that the cars could be towed over the surface tracks to the Canadian National Exhibition, on the night of August 24-25,

where their own trucks were restored.

The exhibit was just south of the Exhibition streetcar loop, and included mock-up station platforms for visitors to board the cars, and one of the trucks, together with a track switch and line signals.

The cars were displayed from August 28 to September 12, and then towed on the night of September 14-15 via Bathurst Street, St. Clair Avenue, and Yonge Street, to the Davisville Yard by a temporary track connection at the point where Yonge Street and the yard had a common level.

Car 5001 was the first up Yonge Street, but it derailed at the temporary track, causing a loss of time, so the second car, 5000, was stored the next day in Lawton Loop, just north of St. Clair Avenue, and then taken into the yard the following night.

All of the remaining cars were delivered on the Canadian National Railways' Belt Line directly to the Davisville shops, where shunter Y-2 (specially modified for the task) switched the cars off the flat cars and into the shop area.

Cars 5005/5004 made the first trip under power (with temporary connection only) at very slow speed, with officials and reporters aboard, from Davisville to Bloor Street on September 20, 1953. In October, the cars continued south to Union Station on a trip with only a clearance staff on board.

Cars were tested only on a short section of electrified track at Davisville until December 5, when the whole route was electrified and test runs could commence.

With 100 cars delivered by March 5, opening ceremonies for the subway were held on March 30, 1954. A VIP train (comprised of the newest eight cars) proceeded at 11:50 a.m. from Davisville to Eglinton (with 5092 leading), then reversed and (with 5099 leading) ran non-stop to arrive at Union Station at 12:10 p.m. At 1.30 p.m., revenue service commenced on the entire 4.5 mile line.

The car bodies were painted in the traditional TTC red, with striping, numbering, and insignia in yellow-gold. The roofs, underframes, and trucks were finished in black.

The cars were numbered consecutively, and within each semi-permanently coupled pair of cars, the even-numbered car carried the M-G set and the odd-numbered car had the air compressor and the coupling controls. All even-numbered cars were kept at the north (Eglinton) end of the pair, since operable coupling was impossible between a normal and reversed pair.

## THE FLEET GROWS

The final four cars of the initial order, and two additional new cars, were used as test cars to promote the use of more efficient aluminum unpainted body shells. Thus, they were delivered in 1955 as the G-2 series (5100-5105), and were operated in mixed consists with the G-1s. These were perhaps the most conspicuous of all of the Gloucester cars through the years.

Within a year of its opening, the Yonge Subway was prospering beyond the limits of its capabilities, and an experiment was tried using eight-car trains in the spring of 1955, rather than the six-car trains that were used previously.

Later in the year, 34 G-3 series cars were ordered from GRC&W, consisting of pairs of B-unit cars, without cabs, to be inserted between the lowest-numbered G-1 pairs, creating ready sets of four cars. Only 28 cars of the 34 ordered were delivered



as originally specified, as the TTC changed the specifications of the last six cars. All of the G-3 cars (5200–5227) were delivered by the end of the year and placed inversely into G-1 married pairs 5000–5027. This created 14 four-car sets. Aside from having roofs made of aluminum, instead of steel, the G-3s presented little change from the G-1s.

The final six cars became the G-4 class (5110-5115), with an experimental electro-dynamic braking system, as well as other untried features. Delivery of the cars was delayed until 1958-59 due to the extensive modification work involved. Cars 5110 and 5115 were the cab units, and 5111-5114 were arranged in the middle as non-driving cars. The G-4s had bodies similar to the G-3 cars, with aluminum roofs and the red livery.

During operation of the wye at St. George and Bay stations for six months in 1966, G-trains were used on the Eglinton-Keele and the Eglinton-Woodbine routes, but not on the Keele-Woodbine route. In September 1966, when the Bloor-Danforth route began operating independently, the G-trains were restricted to the older Yonge-University section of the subway between Eglinton and St. George. M-1 and H-1 cars in low rate also operated on the Yonge-University line.

During late 1966 and early 1967, the experimental electro-dynamic braking system and special motors were removed from the G-4 cars, making them internally the same as the G-1s and G-3s. Non-driving B-unit cars 5112/5113 and 5111/5114 were inserted between G-1 sets 5028/5029 and 5030/5031, respectively, and 5110/5115 began operating as a married pair in the spring of 1967.

In that same year, G-1s 5032/5033 were converted to non-driving cars, and placed between 5034/5035. Thus, the final fleet configuration for the Gloucester fleet became 16 four-car sets (64 cars) and 35 married pairs (70 cars).

By 1981, the TTC began planning for a fleet of new subway cars to replace the Gloucesters. Detailed specifications for the new trains were completed in 1982. An order for 126 cars was placed with UTDC (the successor to Hawker-Siddeley at the Can-Car plant in Thunder Bay), but due to a long series of delays, delivery of the H-6 cars did not begin until 1986. In 1987, the first pair of Gloucester cars (aluminum G-2 pair 5100/5101) was removed from service and prepared for future work equipment duties. As the H-6 fleet began entering service on the Bloor-Danforth line, H-5 cars were slowly moved up to

the Yonge-University-Spadina line and G-cars were withdrawn from service.

By October 1987, only a handful of the old cars (including the last G-2s) were actually withdrawn, as continuing problems forced the new H-6s to make frequent visits to the repair shops. Over the next three years, all of the G-cars were retired.

## TORONTO'S SUBWAY GOES G-FREE

As of approximately 10:00 a.m. on Friday, October 26, 1990, the Toronto subway system became free of Gloucester train operation. As this date was the official last day of operation, the plan was to use the last train as a standby train (Run 47) in both rush hours. But cars 5098/5099 lost battery power while pulling into the yard after the morning rush hour, and the train remained on Track 4 at Davisville Yard and was not used for the afternoon rush hour.

The final consist of 5098/5099/5044/5045/5110/5115/5075/5074 remained in the yard until Monday evening, when cars 5066/5067 (which had last run during the summer) were attached. The train was taken to Greenwood Shops, where six of the ten cars were deposited, and they are still there now. On Tuesday, October 30, 5044/5045/5100/5115 returned to Davisville to pick up the last remaining pair, cars 5092/5093, which had also suffered mechanical failure during the summer. All six cars moved to Wilson and were placed in storage there. As of midnight on October 30, the Gloucester cars had departed Davisville Yard for the last time -- probably marking the first time since the fall of 1953 that the yard had been devoid of the familiar red cars.

Soon after, a demolition company was hired and, as of March 20, 1991, 94 cars had been removed from the TTC tracks at Wilson Yard to be cut up there by the scrapper. Eight cars have been converted to service cars, eight more have been stored for possible conversion, and two, 5098/5099, have been held for preservation at the OERHA museum in Rockwood.

In retrospect, it is surprising how long the last G-train did operate. Since the summer of 1989, when the second-last train (5050/5051/5068/5069/5086/5087/5094/5095) was retired, Run 46, a standby train (numbered as Run 47 after October 14, 1990), was operated by the Gloucester cars in almost every rush hour. It seems that the reliability of the G-cars could not be matched by more modern equipment. ■

## TTC GLOUCESTER CARS – THE END OF THE LINE

| G-1 Class | Stored   | Removed  |           |                       |                       |                  |                       |                       |   |          |          |
|-----------|----------|----------|-----------|-----------------------|-----------------------|------------------|-----------------------|-----------------------|---|----------|----------|
| 5000/5001 | 88-02-11 | 91-03-16 | 5042/5043 | 89-02-16              | 90-12-15              | 5086/5087        | 89-10-23              | 91-02-16              | 5208/5209                                 | 88-02-08 |          |
| 5002/5003 | 88-03-30 |          | 5044/5045 | 90-10-30              | Stored                | 5088/5089        | 89-02-18              | 90-11-24              | 5210/5211                                 | 88-10-01 | 91-02-16 |
| 5004/5005 | 63-03-27 | Fire     | 5046/5047 | 89-03-03              | 91-01-12              | 5090/5091        | 89-03-03              | 91-01-12              | 5212/5213                                 | 88-10-08 | 91-02-02 |
| 5006/5007 | 88-11-25 |          | 5048/5049 | 89-02-12              | 91-01-12              | 5092/5093        | 90-10-30 <sup>3</sup> | 90-11-24              | 5214/5215                                 | 88-05-21 | 91-03-02 |
| 5008/5009 | 89-03-03 | 91-02-16 | 5050/5051 | 89-10-23              | 91-02-16              | 5094/5095        | 89-10-23              | 90-11-10              | 5216/5217                                 | 88-10-01 | 91-01-19 |
| 5010/5011 | 88-10-01 | 91-02-16 | 5052/5053 | 89-03-03              | 91-01-19              | 5096/5097        | 89-03-03              | 91-01-12              | 5218/5219                                 | 88-03-11 | 90-11-24 |
| 5012/5013 | 88-10-08 | 91-02-02 | 5054/5055 | 89-02-16              | 90-12-15              | 5098/5099        | 90-10-29              | Preserved             | 5220/5221                                 | 88-02-17 | 91-03-16 |
| 5014/5015 | 88-05-21 | 91-03-02 | 5056/5057 | 89-04-24              | 90-12-15              | <b>G-2 Class</b> | <b>Stored</b>         | <b>Removed</b>        | 5222/5223                                 | 88-04-23 |          |
| 5016/5017 | 88-10-01 | 91-01-19 | 5058/5059 | 63-03-27              | Fire                  | 5100/5101        | 87-06-10              | RT-38/39 <sup>4</sup> | 5224/5225                                 | 88-11-25 |          |
| 5018/5019 | 88-03-11 | 90-11-24 | 5060/5061 | 88-05-21              | 91-03-02              | 5102/5103        | 87-10-23              | RT-34/35 <sup>5</sup> | 5226/5227                                 | 88-03-11 | 91-03-16 |
| 5020/5021 | 88-02-17 | 91-03-16 | 5062/5063 | 89-03-03              | 91-01-12              | 5104/5105        | 88-01-07              | RT-14/15 <sup>6</sup> | NOTES                                     |          |          |
| 5022/5023 | 88-04-23 |          | 5064/5065 | 89-02-12              | 91-03-02              |                  |                       |                       |   |          |          |
| 5024/5025 | 88-11-25 |          | 5066/5067 | 90-10-29 <sup>1</sup> | Stored                | <b>G-4 Class</b> | <b>Stored</b>         | <b>Removed</b>        | • <b>Stored</b> is date placed in storage |          |          |
| 5026/5027 | 88-03-11 | 91-03-16 | 5068/5069 | 89-10-23              | RT-36/37 <sup>2</sup> | 5110/5115        | 90-10-30              | Stored                | • <b>Removed</b> is date removed from     |          |          |
| 5028/5029 | 88-03-30 |          | 5070/5071 | 88-12-22              | 90-11-10              | 5111/5114        | 88-10-08              | 91-02-02              | TTC track, or other disposition           |          |          |
| 5030/5031 | 88-10-08 | 91-02-02 | 5072/5073 | 89-02-18              | 90-11-24              | 5112/5113        | 88-03-30              |                       | 1. Out of service with failure, 90-07     |          |          |
| 5032/5033 | 88-12-22 | 90-11-10 | 5074/5075 | 90-10-29              | Stored                |                  |                       |                       | 2. Rail-grinder motors                    |          |          |
| 5034/5035 | 88-12-22 | 90-11-10 | 5076/5077 | 89-02-12              | 91-03-02              | <b>G-3 Class</b> | <b>Stored</b>         | <b>Removed</b>        | 3. Out of service with failure, 90-08     |          |          |
| 5036/5037 | 89-02-16 | 90-12-15 | 5078/5079 | 88-05-21              | 91-02-02              | 5200/5201        | 88-02-11              | 91-03-16              | 4. Garbage cars                           |          |          |
| 5038/5039 | 89-03-03 | 91-02-16 | 5080/5081 | 89-02-16              | 90-12-15              | 5202/5203        | 88-03-30              |                       | 5. Rail-grinder motors                    |          |          |
| 5040/5041 | 88-12-22 | 90-11-03 | 5082/5083 | 89-03-03              | 91-01-19              | 5204/5205        | 63-03-27              | Fire                  | 6. Wall-washer motors (numbered           |          |          |
|           |          |          | 5084/5085 | 89-02-12              | 91-01-12              | 5206/5207        | 88-11-25              |                       | RT-36/37 until 89-06-23)                  |          |          |

# TO THE LANDS OF THE GENIUSES

## PART 14

BY JOHN A. FLECK

**Tuesday, May 10, 1988** — I awoke while my train was racing south on the classic PLM Line towards Marseille on this bright and sunny morning. My arrival was at 0718, two minutes early.

Many European stations, including Marseille St-Charles, have pay shower and bath facilities, which are very useful and refreshing after a night on the train. Then I headed downtown on the Métro Line 1 for breakfast prior to beginning my tour of the new Marseille Métro System. While downtown, I saw that the previously mentioned mobile two-storey merry-go-round in the park was no longer there! Also, I saw signs on the harbour docks for boat rides to the Chateau d'If, the famous island prison to which the innocent Edmond Dantes was sent in Alexandre Dumas' classic novel "The Count of Monte Cristo."

The Métro, which first opened in 1977, has two lines, both of which together serve two stations: Gare St-Charles and Castellane, south of downtown. The remaining 20 stations are on one line or the other. The rubber-tired trains are white and are in three-car sets. The nine-kilometre Line 1 begins at Castellane, runs under downtown, then heads northeast to La Rose. The first 5.9 km is in tunnel, and the rest is on or above the surface — 1.3 km of which is in the middle of an expressway built at the same time. Overpasses in this area provide great vantage points for photography. The 8.5 km Line 2 is all underground and runs from Ste-Marguarite Dromel, south of downtown, to Bougainville, north of the city centre. One of its downtown stations, Noailles, has an underground connection with the three-kilometre No. 68 tram line to St-Pierre.

As mentioned above, the Gare St-Charles Métro station serves both Métro lines. All trains run on the same level, with an island platform in the centre serving Line 1 trains and separate platforms on either side for those on Line 2. There are burrowing junctions beyond both ends of the station. This is a similar set-up to the RER Chatelet-les-Halles station under downtown Paris as described in Part 12. Incidentally, this station is 36 metres below the SNCF St-Charles station.

After exploring the Métro, I used my Eurailpass to ride the 1038 express on its 39 minute non-stop run to Toulon during its run from Lyon to Nice. Then, after 43 minutes there, I rode the 1200 local EMU back to Marseille at 1258.

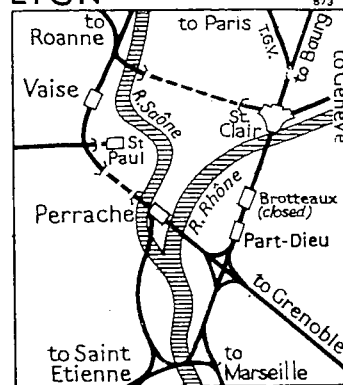
After lunch came the highlight of the day, a very fast ride back to Paris on the 1358 TGV with only one stop at Avignon, covering the 779 km (or 484 miles) in four hours and 42 minutes for an incredible average speed of 166 km/h (or 103 m.p.h.)!

Over 100 TGV passenger units were initially built, including eight capable of running under Swiss power and signalling. They were all equipped with coil spring suspension, but they are gradually being re-equipped with air suspension.

We left Marseille on time and stopped in Avignon behind another TGV from Montpellier and Nimes. It was this same train I saw in Avignon way back on April 14 as described in Part 2. After joining the front unit, we left five minutes down at 1459 for the longest non-stop run in Western Europe: 658 km (or 409 miles) to Paris Gare de Lyon in just three hours and 46 minutes to average 175 km/h or (109 m.p.h.)!

My train had a clear run right through the heart of Lyon, including its Part-Dieu Station, before reaching its dedicated LGV at Sathonay. Signs mark the neutral section in the catenary between the old 1500 V DC and the new 25 000 V AC, 50 Hz power. I taped the entire run through Lyon and the acceleration to 270 km/h on the LGV by placing my camcorder on a window ledge in the snack-bar car. The ride throughout was rock-steady.

### LYON



Our run was very fast, and we stopped at Gare de Lyon one minute down at 1841 due to a signal stop outside the station.

So strong was my faith that the TGV would return me to Paris on time that I booked a T2 sleeper on the EuroCity *Galilei* to Venice leaving Paris at 1932, less than one hour later. After a quick bite to eat, I headed for my sleeper. Normally, the *Galilei* runs as one train

to Milan before splitting its Venice and Florence sections, however, May 10 marked the beginning of a series of both public and religious holidays in France. Thus two sections ran separately from Paris, with the Florence section leaving on time and my Venice section less than four minutes later. I taped our departure, including passing one of the five TGV postal half-train units, each unit consisting of a power car and four trailers. They are in the yellow French Post Office colours. As we left the station, a train running light to the Villeneuve St-George coach yard left at the same time. It ran ahead of us, but then we passed it at high speed on our right on the six-track main line! This is my idea of real railroading; high-speed electrified multiple-track rights-of-way! We passed commuter trains running in both directions, plus some TGVs.

We headed for Lausanne, Switzerland, then onto the Swiss Simplon Line to Brig and the famous tunnel into Italy.

**Wednesday, May 11, 1988** — Heading into Milan, we did not approach the stub-end Central Station described in Part 5. Instead, we stopped at the through station called Milan Porta Garibaldi which was opened in 1961 with 20 platforms, including eight through tracks. I set my watch for the departure time from Porta Garibaldi of 0453 to see if we would follow the route through Milan I thought we would. Sure enough, right on time, we left the platforms facing east and west and went into a tunnel turning sharp left to head north parallel to and west of the lines into Milan Central. Climbing onto a bridge, we swung right to cross over the lines into Milan Central and headed south, passing non-stop through Milan Lambrate Station (coming up on May 14) before turning east for Verona (of Romeo and Juliet fame) and Venice. Trains bound for Bologna, Florence and Rome continue straight south from Milan.

Approaching Venice, we first stopped at the mainland station of Venice Mestre before reaching the long causeway carrying four tracks and an expressway into the city. The terminal station of Venice Santa Lucia is situated right at the

south end of this causeway and its interlocking begins on the causeway itself. Arrival was just four minutes down at 0849.

This station faces right on the Grand Canal, and I walked to the express boat on Route 2 to the famous St. Marks Square—shown in the James Bond movies. There I walked among the many Italian pigeons (they coo in Italian!), and went up the famous 99 metre high Campanile Tower to watch and tape the nearby Torre dell'Orologio clock tower with the two Moors striking the hour bell. The Campanile Tower was rebuilt in 1912 after its predecessor decided to collapse in July 1902.

Although my departure wasn't until 1200, I had a special reason to return to the Santa Lucia Station before 1050, so I returned to the boat dock to ride back to the station. Luckily, this was a Wednesday; one of the two days per week when the *Venice-Simplon Orient Express* leaves for Paris and London. Upon my return, there it was behind an Italian FS Class 646 dark brown tank-like electric locomotive. After watching lots of action at the station, the 646 came to life and hauled all 17 cars of the train out, grinding like a huge old interurban unit.

Then, soon before 1200, an FS ALe601 EMU in two-tone green livery came in to form the first class only IC *Marco Polo* to Rome Termini Station. Motion began at 1201 and we headed across the causeway to Venice Mestre. Here we joined up with two more ALe601 units: one from Trieste to Rome and the other from Udine to Rome. Our next stop was Padova, after which we swung south-west, turning away from the line to Verona and Milan which I was on that morning. Then, at Bologna, we waited for the late-running EMU from Bolzano to Rome. From here my train headed into the scenic Appennine Mountains on the 97 km Direttissima to Florence completed in 1934. It has gradients reaching 1.2 percent on the approach ramps to the 18.5 km Appennine Basis Tunnel. Construction delays slowed our approach to the stub-end Santa Maria Novella Station in Florence.

Soon after leaving Florence, we passed under a long bridge under construction which is part of the final link of the high-speed new Direttissima between Florence and Rome. Just a few minutes later we came onto the Direttissima and opened up to around 180 km/h (or 112 m.p.h.) for a steady high-speed run to Settebagni, 16 km from Rome Termini. The Direttissima has many tunnels which were extremely difficult to build, and one of the world's longest railway viaducts over the Paglia Valley — 5.4 km long. It also has several connections to the old double-track line, thus allowing trains to switch off for intermediate stops and then switch on again. The old and new lines effectively create a four-track trunk artery between Rome and Florence. Enroute, I saw on the parallel old line one of the previous flagship trains of the FS, the *Settebello* ETR301 EMU, which has a full-width observation saloon at each end and driver cabs mounted above its roof.

Our delays brought us into Rome Termini 41 minutes late at 1808, so I didn't have time to ride one of Rome's subways to see the Vatican. Instead, after a quick snack, I headed for the overnight 1910 EuroCity *Palatino* to Paris, on which I reserved a T2 sleeping room.

The stub-end Rome Termini was opened in 1951 with 22 tracks and a signal tower containing 730 levers. Although it is used by most trains serving Rome, through IC trains between Milan and Naples use instead the through Rome Tiburtina Station to avoid reversal. My *Palatino* was on Track 20 over on the west side and, once in my room, I set my watch alarm for 1910. I had barely stopped the alarm when motion began, and I whipped out my camcorder to tape my exit through Rome

Termini's massive interlocking. The tracks all face south-east, and soon we entered a long sweeping curve to the right to head north to Pisa, Genoa, Torino, and the 13.7 km Mount Cenis Tunnel into France. At this time, the *Palatino* was the only non-stop train between Rome and Pisa.

**Thursday, May 12, 1988** — Regaining consciousness before arriving at Dijon, we ran the final 315 km into Paris Gare de Lyon non-stop, arriving 35 minutes late at 1042. Then, after a late breakfast, I boarded the 1202 commuter train to Lieusaint-Moissy, 30 km from Paris and just south of the junction where the TGV High Speed Line (LGV) begins. Here the LGV is very close to the station, and the signs marking the neutral section (like the one in Sathonay near Lyon described above) can easily be seen. All the TGV's coast by with their pantographs down, and the southbound ones usually raise their AC pantographs as they round a curve south of the station.

After one hour here, I took the 1334 train onwards to Melun, a major commuter stop, before returning to Paris by 1500. Then I rode the Paris Métro to and on its Line 2, which runs across the north side of the city, partly on a 2.2 km elevated right-of-way crossing the approach tracks to both Gare du Nord and Gare de l'Est. Later that day, I rode the 1706 train out of Gare de Lyon to Fontainebleau-Avon, where a major university is located, then the 1858 back to Paris to have dinner before boarding my single bedroom on the *Napoli Express* at 2056 for Naples, Italy. This was the longest train ride of my European tour, scheduled for 19 hours and 12 minutes.

**Friday, May 13, 1988** — The *Napoli Express* pulled right on time at 0807 into the Genoa Piazza Principe Station, then we went into a tunnel and swung left through an underground junction before emerging at the Genoa Brignole Station. We followed exactly the same route between Paris and Rome that my *Palatino* did two nights before. Some delays along the west coast of Italy put us into Rome Termini about 20 minutes late. I taped our run through the interlocking, and it is so large that it took two minutes and 15 seconds from passing under the approach signal to reaching the outer end of Platform 13. My camcorder also recorded all the track sounds which were very prominent while going through the interlocking! We were re-engined to head south for Naples Central on another older Direttissima high speed line completed in 1927. After a signal stop, we completed the long approach to the 25-track stub-end Naples Central Station 37 minutes late at 1645. As in Rome, Naples has a through station for trains between Rome and southern Italy virtually right under the Central Station called Naples Piazza Garibaldi.

My base was still Paris on this portion of my trip, however I could not catch the northbound *Napoli Express* to Paris as it left Naples at 1350. Fortunately, there was an overnight train with a T2 sleeper at 1900 for Zurich and Stuttgart. I boarded it after exploring the station and the Piazza Garibaldi outside. Motion began at 1902 and we followed the same Direttissima to Rome Termini. We left Rome just four minutes off at 2159 and I watched out the open window as we threaded its interlocking for my last time before swinging left to head north to the new Direttissima to Florence and on to Bologna, Milan, and the Swiss Gotthard Line to Zurich. ■

**Next** — Returning to Paris via Zurich, Basel, Biel/Bienne, Neuchatel and Geneva; to Lille, France and the TGV to Lyon, a day in Lyon, and fast rides to Bordeaux and return.

# THE FERROPHILIAC COLUMN

CONDUCTED BY JUST A. FERRONUT

Since the ides of March is fast approaching as I write this, I had better convert some of your mail into our column for the month. I must apologise for being slow in handling some mail this year but hopefully, I will soon get caught up.

There has been mention about the Atherley Narrows area just east of Orillia in several of the recent **Newsletters**. Well, Norbert Krommer of Lindsay writes that he and Ross Gray took advantage of winter and the bare trees to get a better look at the abandoned rights-of-way in the area. Norbert also mentioned the advantage of light snow in helping to highlight the abandoned rail lines. To add to that, drifted snow along old roadbeds, etc., make them very visible from the air in the springtime.

One thing I did miss on our December 1990 map is the alignment of the old TS&MJ (Northern) bridge across the narrows. It was located between the two railway lines shown on the map and swung northward on the east side of the narrows. Our friends from Lindsay write that the centre pier of the old TS&MJ swing span is still plainly there. Also, the stumps of the piling for the east approach trestle are still visible. Not bad, since it has been 102 years since the superstructure of this bridge was demolished. Norbert closed with a couple of comments and questions relating to the Orillia station area, but I since I want to cover that subject separately, I am leaving it for now.

Sean Robitaille forwarded a letter about a trip he had made last August to Simcoe, Ontario. Amongst Sean's comments, he writes of the amount of rail that this small town has, although most is unused. What would Sean have had to say if he had made his trip 50 or so years ago?

Simcoe's first railway was the Canada Air Line Railway, built as a subsidiary of Great Western Railway. This line was an attempt to compete with the Canada Southern and opened from Fort Erie to Glencoe on December 15, 1873. The second line into Simcoe came two years later on October 7, 1875, when the Port Dover and Lake Huron Railway opened its line from Port Dover to Woodstock. The third railway arrived in Simcoe on June 30, 1889, with the opening of the South

Norfolk Railway line from Port Rowan. These three railways all became part of the Grand Trunk Railway and later the CNR.

The fourth railway to arrive did not come until June 2, 1916, when the CPR controlled Lake Erie and Northern reached Simcoe. This electric line had planned on considerable freight traffic to and from the lake freighters, but with the Grand Trunk owning most of the lake front at Port Dover, they had to settle on catering to the beach-goers.

Sean tells us of the small prefabricated metal building located on the south side of the CN Cayuga Subdivision a few hundred feet west of Highway 24 used by CN presently as a base for maintenance-of-way employees. This site, CN Mile 73.23 Cayuga Subdivision, is the location of the original Canada Air Line Simcoe station and is one of at least four station sites in Simcoe.

The first Air Line station was officially opened with great fanfare by the Earl of Dufferin on August 28, 1875. This two storey, multi-gabled frame structure lasted until October 27, 1904, when it burned. A new structure was started at once, but it had a close call when a fire started by a spark from a passing locomotive set the roof on fire in late August 1905. This depot lasted until July 1930, when again a passing locomotive deposited a spark that this time totally gutted the building.

Going west 1.1 miles on the Air Line (CN Cayuga Subdivision), one comes to Simcoe Junction. The *GTR 1907 B&B Inventory* shows a single storey 14-foot by 18-foot frame telegraph office at this location.

The second station on the GTR/CNR side was the Simcoe station, located just south of Union Street, east of Queen Street. This site is near the current end of steel of the Simcoe Spur, details of the present trackage in the area is shown on the Simcoe map. This station site is 1.75 miles south of Simcoe Junction. The first station at this location was a 21-foot by 63-foot single storey frame one built in 1876. Since this depot was a Union station, is this where the name Union Street comes from? A second question is did this station last to the end or was there a second generation station at this location?

The *GTR 1907 B&B Inventory* shows a 53-foot turntable that was built in 1888 near Victoria Street and the junction with the Port Rowan line. This GTR record also shows a station platform located on the Port Dover line at the Exhibition (Fair) Grounds. This platform was constructed in 1896 and was maintained by the Town.

My information on the LE&N stations is not as good as for the GTR system. But this latecomer to Simcoe had two stations in Simcoe. One, called Simcoe North, was north of the LE&N underpass of the Air Line. The second LE&N depot was 0.7 miles to the south, on the west side of the track near Wilson Avenue, and was a single storey structure combined with an electric substation.

Simcoe, in the early part of the century, saw trains in all directions. There would be the local switching and through freights (don't forget the Wabash). You could expect an average of two GTR passenger trains a day on each of the branches to the south. The Air Line in 1908 saw three GTR passengers and four Wabash express trains each way every day. The 1921 LE&N Timetable in John Mills's book *Tracion on the Grand* lists ten trains each way through Simcoe. No wonder the north-south lines had grade separations with the Air Line.

As will be seen from Sean's report, things were a little quieter in 1990. Sean started in the northeast part of town at Mile 73 of the Cayuga Subdivision, at the recently-removed junction with the LE&N. This LE&N junction was 43.1 miles from Galt, on their Simcoe Subdivision.

The last main use of the LE&N line into Simcoe was to make connection with CN's Cayuga Subdivision to give the TH&B (CP Rail) access to the steel traffic from Nanticoke. The arrangement started in the early 1970s when Stelco was constructing their new plant at Nanticoke. The plan was for CN to move the traffic for 60 percent of the time and CP for 40 percent. While it may have been fair, it didn't make much money for either. The Brantford mud slide solved that problem but spelt the death knell for the LE&N.

The removal has left a roadbed of limestone ballast and various railway signs that were of no value to the contractor. The switch at the connection with CN,



while spiked, is still in place and equipped with a CP switchstand.

Sean then started walking westward over the dilapidated half-deck plate girder bridge where the LE&N used to pass under the Air Line. Sitting on a back track near the CN station (M.O.W. building) was CN brush cutter 689-14. The rusty condition of all the tracks except the main line indicated the low level of rail traffic these days. The main user presently is the Norfolk Southern and their two trains.

Sean continues, "I hiked on west along the 115-pound mainline to Simcoe Junction. The vines growing amongst the limestone ballast and split ties in this area seem to be attempting to reclaim this rail line for Mother Nature. At Simcoe Junction, mile 74.3, the Simcoe spur swings off southward and I followed along it. The Simcoe Spur is a little-used remnant of the

Port Dover and Lake Huron Railway. At the connection between the Cayuga connecting track and the PD&LH, a surprise awaited me. When the PD&LH was abandoned north of the connecting track, they left the track intact! It is in very poor shape: 80 pound rail on very rotten ties. Actually, the Simcoe spur isn't in much better shape by the time you pass the Highway 3 crossing. In the stretch between Highway 3 and Queen Street, there were signs of a passing siding along the north side, now ripped out. Halfway between the crossings is a small wood pile trestle, still in quite good shape, over a creek.

"The spur ends in a maze of trackage between the Ball Packaged Products plant and the Nabisco foods plant. At the time of my visit, it looked as if the siding hadn't been used in years. The spur ends

just short of Kars Street. Prior to 1987, the spur continued south towards Port Dover, see map. That's what is left in Simcoe today."

Two final comments: First, the former PD&LH station was located where Sean saw the present Ball and Nabisco plants. Second, the sidings which Sean said looked unused for years I saw filled with cars in 1987.

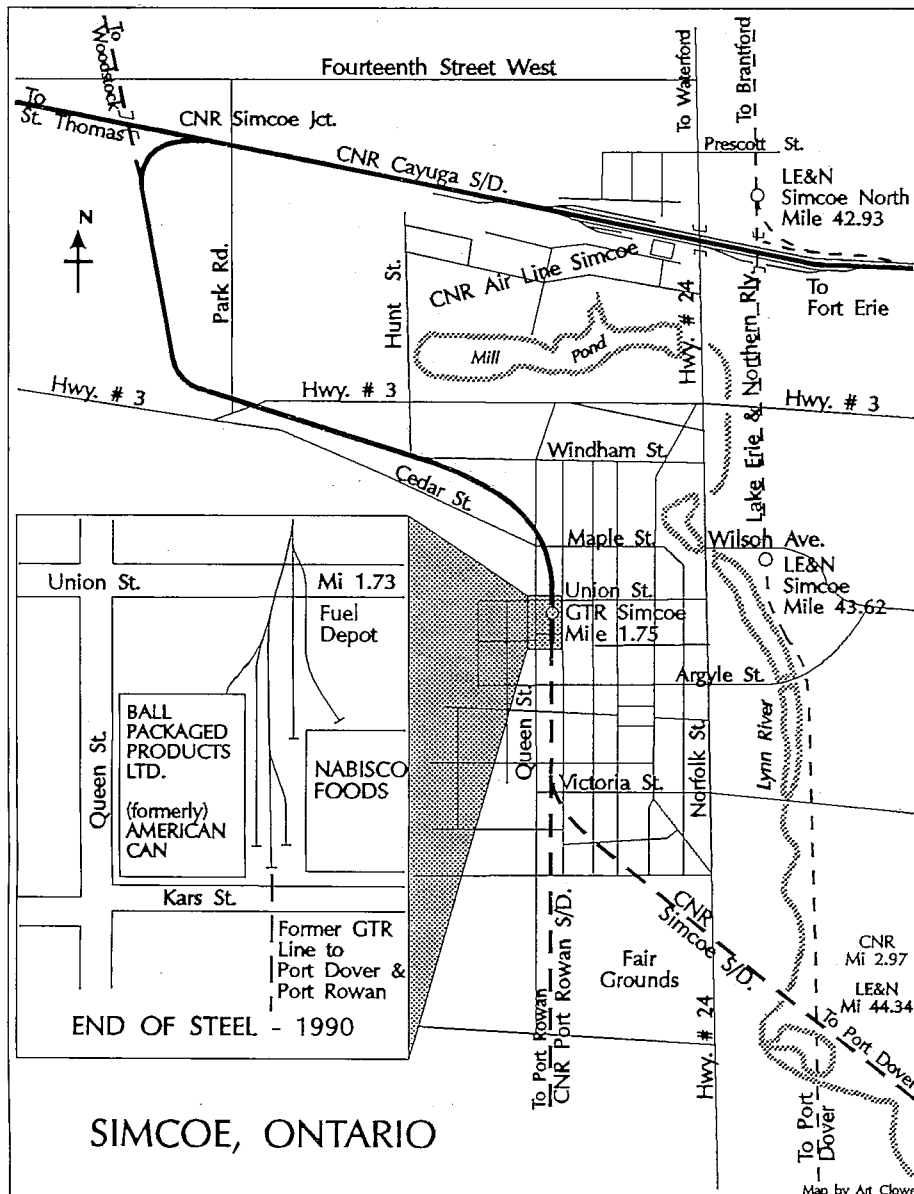
Mike Lindsay and Rick Mannen have both sent along an item from the Hamilton Spectator about a building in Hamilton. The question around Hamilton is whether part of the Shakespeare Steak House, at the corner of Ferguson Avenue and Main Street, is in fact the Hamilton and Lake Erie Railway station. Apparently many old patrons in the days when this restaurant opened spoke of this as the old H&LE station. All agree it is at about the right location. The H&LE extended from Hamilton up the escarpment and southward to Jarvis and Port Dover.

I have had a quick look at this building and based on the *GTR 1907 B&B Inventory*, my vote would be no. The GTR refers to the location of this station as at Hamilton, King Street, the next block north, but that is not my reason, my reason is size. The old part of this restaurant is a single storey about 25 feet by 50 feet. The GTR index goes on to list three buildings in this general location, all single storey. The station waiting room is listed as being a brick building on a stone foundation, 13 feet by 68½ feet. There was a flagman's and store room, again a brick building, 18 feet by 27 feet. However, the third building listed was the baggage room and closet. This building was built 18 years after the other two. This building was a 24-foot by 48-foot brick building on a stone foundation with a slate roof. This is very close to what I paced out, so without more knowledge would get my vote. As they say, stay tuned.

One closing item that was brought to my attention. Don't forget this is 1991, and when ordering books be sure to add both an amount for taxes as well as mailing and handling. This is for times I mention a publication but forget all the add-ons. See you next month.

#### THE FERROPHILIAC COLUMN

Send your commentary to Just A. Ferronut, c/o Art Clowes, 50 Alexander Street, Apt. 1708, Toronto, Ontario M4Y 1B6.



## SOME TELEGRAPH HISTORY

BY DENIS TAYLOR

In "The Ferrophiatic Column" in the last few issues there have been discussions on station locations and some of the odd office signals that were assigned.

No railway station is really complete without its telegraph bay and the shelf of ticking relays. The telegraph equipment began to disappear some time before the stations vanished, but in earlier days it was the link to the outside world for most towns.

In the early 1800s, when scientists were doing research into the properties of electricity and magnetism, another group of experiments was being carried out in both Europe and the U.S.A. to apply these discoveries to a method of long distance communication.

Cooke and Wheatstone in England and Morse in the U.S. approached this problem from different directions.

By 1837, Samuel Morse had reached a point where a crude device of coded type set in a rule which, when drawn along a sender, would send signals along a wire. At the other end a register made a record of the received signals. At this point Morse met Alfred Vail, whose father owned the Speedwell Iron Works. Vail improved the apparatus for Morse, and a patent was obtained on October 6, 1837.

Within a few weeks, Vail had suggested changing the type rule to a key and had improved the recording register. In March 1838, Morse and Vail formed a partnership by which Vail would supply money and service for a share in the profits from the invention. With the advent of the key, Vail devised a telegraph code and a new patent was granted in June 1840.

The first successful public demonstration of telegraphic communication was made in 1844 between Baltimore and Washington, D.C. Telegraph lines soon became common and operators found that they could read the messages by listening to the click of either the relay or register. Recording registers became superfluous and were abandoned, to be replaced by another Vail innovation, the sounder. The telegraph system was now complete with battery, line, key, relay, and sounder.

This system found favour in Europe, but because of the accented letters, the code was changed in 1851 to the Continental Code and removed the spaced letters C, O, R, Y, and Z, and added the additional letters they required.

Meanwhile, in Canada, the first telegraph line was opened between Toronto and Hamilton on December 19, 1846, and between Toronto and Montréal in August 1847. Early telegraph lines usually followed country roads, but in 1852, the GTR saw the value of the telegraph to the railway and agreed to lines along their rights-of-way.

Early telegraph keys came in all shapes and sizes and many operators made their own and carried them from job to job, just as they did with their Autoplex and Vibroplex bugs many years later.

As the wires spread across the country, the volume of traffic increased, especially on press and commercial circuits. The strain on the circuits was relieved somewhat by the introduction of automatic, duplex, and quadruplex telegraphy, but operators on busy routes worked harder than ever.

An operator, transmitting 15,000 words in eight hours, is depressing the key about 180,000 times and releasing the key at the same rate, with the result that operators became victims of "glass arm," a telegrapher's paralysis.

To relieve this problem, Horace G. Martin, in 1903, received

a patent for a semi-automatic key, followed in 1904 by a patent for the original Vibroplex. The sixth Vibroplex key, offered by the H.G. Martin Company in 1923, had a choice of black or nickel plated base and was named the Lightning Bug, probably the best known of all "bugs."

For an operator to "copy" code means to transcribe it or write it down. An operator with good penmanship might reach 25 to 30 words per minute, but above that it requires proficiency in touch typing on a "mill" or upper case typewriter. T.R. McElroy set the record, in 1939, at 75.2 words per minute.

Today the clicking of the sounder has faded away and the instruments of telegraphy can be found only in museums or hands of ardent collectors.

## BOOK REVIEWS

### TRACKS OF THE BLACK BEAR: IN COLOUR

BY DALE WILSON AND GORDON D. JOMINI

Published by Nickel Belt Rails, P.O. Box 483, Station B Sudbury, Ontario P3E 4P6. Price: \$32.10, postpaid, Canadian addresses; \$30.00, postpaid, U.S. funds, U.S. addresses.

The publishers, who are the authors of the Nickel Belt Rails books, have established a reputation for high-quality topical books at attractive prices. Previous works covered the Algoma Eastern Railway, CPR passenger service in the 1950s, the Sudbury and Copper Cliff Street Railway (all in softcover), and their magnum opus, the 200-page Algoma Central story.

This latest volume is derived from a much smaller book of the same title published by Wilson in 1974. It is designed to give the reader an excellent overview of the ACR's equipment and operations, with colour pictorial emphasis on the recent decades. The first 25 pages review briefly but adequately the history of the line since its inception, with many illustrations, some in colour. The next 25 pages are a photo essay, four pictures to a page, almost entirely in colour, covering the route and its trains. The final 15 pages illustrate rolling stock and locomotives, again in colour, with a brief roster of passenger cars and locomotives, essentially since dieselisation.

The photography is excellent, and the book is recommended as a handy reference and update, as well as a fine photographic record, of the present-day system.

—R.F. Corley

### AN UPDATE ON STORIES AND MEMORIES OF THE LONDON, HURON AND BRUCE RAILWAY

Newsletter readers may be interested to know that the book *Stories and Memories of the London, Huron and Bruce Railway, 1870–1989*, which was reviewed in the August 1990 Newsletter, is now available from the author, Calvin M. Patrick.

The book has been updated and additional material has been included. This has increased the number of pages to 97 and has caused a minor change in the title: 1990 has replaced 1989. Mr. Patrick has had the book printed privately.

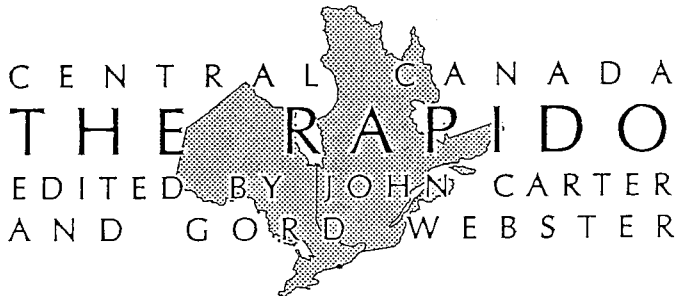
Though the book is a little thin on illustrations and some may prefer more detail about equipment and operations, it is rich on branchline lore. It is an excellent chronicle of the role the railway played in the lives of the communities and individuals it served.

The book costs \$15.00 plus \$1.50 postage and handling. Those wishing to obtain a copy can order one from the author, Calvin M. Patrick, at 204-157 Green Avenue West, Penticton, B.C. V2A 3S9.

—Ian Cate

# TRANSCONTINENTAL

RAILWAY NEWS FROM COAST TO COAST



CANADIAN PACIFIC

## NEW TRAIN NUMBERING SYSTEM

With the integration of the Soo Line and the D&H into the new CP Rail System, CP has extended its numbering system to the Soo and D&H. Train numbers will be assigned as follows:

- Numbers 001 to 199 will be assigned to passenger and commuter trains. This will result in the renumbering of such trains as the Havelock way freight, currently numbered as trains 89 and 90, and the Montréal to Ottawa way freight, currently trains 85 and 86. Freight 78 between Edmonton and Calgary has already been renumbered 461.
- Numbers 200 to 299 will be assigned to locals on the CAR, D&H, and Soo. The Soo trains will be assigned 200 to 269, and the CAR and D&H trains will be assigned 270 to 299.
- Numbers 300 to 399 will be assigned to unit grain trains. See last month's Newsletter for further assignment of the 300-series trains.
- Numbers 400 to 499 will be assigned to fast freights. Numbers 420 to 459 will be assigned to Soo Line trains. As a result, CP trains 446, 448, and 450 are to become 466, 468, and 460 respectively.
- Numbers 500 to 599 will be assigned to international trains. This will result in train 504 (Toronto to Montréal intermodal) being renumbered, as it does not cross a border.
- Numbers 600 to 699 will be assigned to unit sulphur, potash, urea, and fertilizer trains.
- Numbers 700 to 799 will be assigned to unit acid, dangerous commodity, and methanol trains.
- Numbers 800 to 899 will be assigned to unit coal trains.
- Numbers 900 to 999 will be assigned to local and inter-regional trains to reflect where they are going.

## OPERATING CHANGES

CP commenced running trains 412 and 495 between Coquitlam and Toronto on February 16. Train 495 handles "hot" pool traffic (non-intermodal), operating Thursday, Friday, and Saturday, departing Toronto Yard at 22:00 and making a lift each night in the west end of Toronto. Train 412 operates as and when required, usually Thursday, Friday, and Saturday, departing Vancouver IMS at 05:00, operating with only intermodal spine cars.

CP freight trains 85 and 86, which run between Ottawa and Montréal, are back to running six days a week. The train had been reduced to four days a week during a strike at CFPF at Gatineau, Québec.

Trains 561 and 562 (Winnipeg to Edmonton) have been abolished and replaced by 403 and 404, which have been extended to run from Toronto all the way to Edmonton.

The Medonté Turn has been abolished and replaced with the train it was created to replace, the Fourth Emery. CP found it difficult to get crews to work this assignment as it did the same work as the Fourth Emery but was paid lower wages as the crews on the Medonté Turn only received way freight rates but as the Fourth Emery they receive yard rates.

Effective February 13, the Napierville Junction Railway is dispatched by CP RTCs, usually the Mégantic Subdivision RTC.

Rouses Point, New York, has been eliminated as a crew change point. Formerly, through trains would change crews when passing from the NJR to the D&H. Now crews handle the trains between Saratoga, New York, and St-Luc Yard. There are still local assignments that are called out of Rouses Point.

## MORE TRAINS WITHOUT CABOOSES IN ONTARIO

Effective January 21, the Havelock Subdivision has gone cabooseless, affecting the Havelock way freight, Trains 89 and 90. On January 28, the Owen Sound Subdivision also went cabooseless, affecting the *Moonlight*. Effective March 11, the Cobourg Turn, First Oakville, Peterborough Turn, Ford Turn, and the Second Emery all went cabooseless. The Second Emery is, however, a yard assignment, and CP promised the unions that all yard assignments would keep their cabooses.

## SMITHS FALLS INTERLOCKING

On February 24, the Smiths Falls interlocking was removed from service and was operated by switchtenders while the switch controls were transferred to the Belleville RTC, enabling the elimination of the Smiths Falls operator. The Belleville CTC board was replaced on February 7 with a computer.

## VAUGHAN IMS CRANES ARRIVE

In late February, sections of the first of three overhead gantry cranes arrived by train for the new intermodal yard at Kleinburg. CP crews have been busy working through the winter with numerous work trains laying welded rail and dumping ballast. The yard is expected to open this summer.

## SHORTS

CP received permission to abandon 10 miles of track on the Saint-Gabriel Subdivision between Joliette, mile 7.1 and end of track, mile 17, near Saint-Félix de Valois, Québec, effective December 25, 1991. In 1989, the line handled 120 cars. • Track removal began in February on the Scarborough Industrial Spur, mile 201.36 Belleville Subdivision, between mile 2.71 and end of track at mile 3.4. The spur runs south from Warden Avenue and Ellesmere Road, parallel to Warden on the east side, to the Eglinton and Warden area. Track removal began at the south end and is expected to continue north of Lawrence Avenue. Not all of the spur will be removed.

## CANADIAN NATIONAL

On January 25, CN grain train 882 derailed at Dunrobin, 15 miles west of Ottawa. Trains were diverted over the Smiths Falls Subdivision to the CP, then on the CP Chalk River Sub to Pembroke, and back on to the CN Beachburg Subdivision. • CN's reclamation yard in London, Ontario is to close on June 28, of this year. It will mean the loss of 25 jobs. • All of the siding tracks have been lifted at the Tiffin elevator, mile 73.5, Midland Subdivision.

—J.M. Harry Dodsworth

## GO TRANSIT

## UPDATE ON EXPANSION PLANS

At a directors meeting in February, GO Transit chairman Lou Parsons said that the \$2 billion expansion program will take ten to fifteen years to complete. The fine-tuned expansion plans include:

- Extension of the GO Subdivision from Whitby to Oshawa. Cost: \$60 million. Completion: 1993.
- Trains to operate from the former TH&B Hunter Street station by 1993. Within ten years service will increase to 20 trains a day for Hamilton.
- Train service to Bowmanville (extension of current Oshawa train) by the fall of 1991.
- All-day service to Burlington by the spring of 1992.
- All-day service to Milton by 1995, to cost \$100 million, with the extension of a third main line track on the CP Galt Subdivision and a possible gateway terminal at Meadowvale to connect with local and regional bus service.
- If negotiations with CN are successful, all-day service to Barrie, Georgetown, Stouffville, Markham, and Richmond Hill.

Ed Shea, also from GO Transit, said that expansion plans to Orillia and Kitchener-Waterloo are now considered dead. No mention was made of any extension to Cambridge (February 1991 Newsletter, page 13).

—Toronto Star

## VIA RAIL CANADA

## HIGH-SPEED TESTS

In February, VIA carried out six tests of its proposed four-hour schedule between Toronto and Montréal. The tests were made with a single train, consisting of LRC locomotive 6921, five cars, and 6920. All of the tests were made without exceeding the regular top speed of 95 m.p.h. The time savings were made by eliminating the stops at Kingston and Guildwood, by keeping the train on one track the whole way, and by clearing freight trains in advance. On one day, the westbound test train on the north track was held up because Train 68 on the south track was stopped at the station at Trenton Jct., which is on the north side. In future, arrangements would be made to reduce such conflicts.

The test trains ran as Train 267, westbound, and Train 266, eastbound. There were no revenue passengers carried on these runs. The trains left Montréal and Toronto just ahead of the regular Trains 67 and 66, and were about half an hour ahead by the end of the run. Dates and times were as follows:

|         |               |                             |               |
|---------|---------------|-----------------------------|---------------|
| #267-21 | dp Mtrl 15:45 | by Kgon 17:51               | ar Trto 19:42 |
| #267-23 | dp Mtrl 15:45 | by Kgon 17:51               | ar Trto 19:41 |
| #267-25 | dp Mtrl 15:45 | by Kgon 17:48               | ar Trto 19:35 |
| #266-22 | dp Trto 15:45 | by Kgon 17:35               | ar Mtrl 19:43 |
| #266-24 | dp Trto 15:45 | by Kgon 17:33               | ar Mtrl 19:40 |
| #266-26 | dp Trto 15:45 | (Other times not available) |               |

As you can see, the times of the test runs range from 3 hours 50 minutes, on February 25, up to 3 hours 58 minutes, on February 22. All of these runs were made in less than the target running time of 3 hours 59 minutes.

## ACCIDENTS

On December 30, 1990, at 13:10, VIA Train 43 hit a 40-foot washout while travelling at 60 m.p.h. at Jasper (mile 10.3) on the CP Brockville Subdivision. The train, consisting of F40 6408, seven cars, and 6423, crossed the washout at track speed, and travelled over the gap where there was nothing supporting the rails. There was 20 feet of track damaged, with 13 ties missing.

The only damage to the train was a bent pilot of on one of the units. The train continued to Brockville where it was then cancelled, and passengers were sent to Toronto on Train 69.

On January 31 at 20:00, the engine and the club car of Train 37 derailed at M&O Junction after an axle broke on the club car at Hawthorne on the CN Alexandria Subdivision.

On February 6, Train 43, with LRC 6902, encountered a CP local freight, with CP C424s 4222 and 4213, making up its train, in its path on the CN Smiths Falls Subdivision. The VIA train, travelling at 85 m.p.h., stopped less than a car length from the CP train, as it tried to get out of the way. The two engineers jumped from the VIA train with minor injuries. There are no further details available as the incident is currently under investigation.

—J.M. Harry Dodsworth, various sources

## STCUM — MONTRÉAL

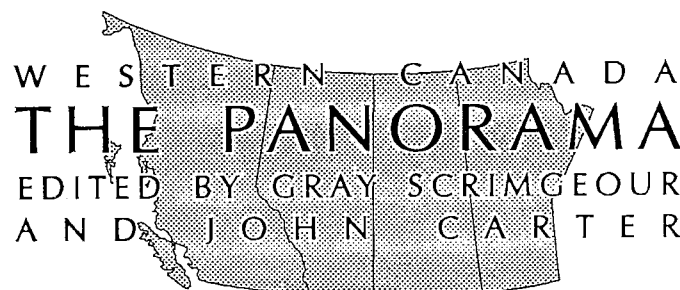
The Québec provincial government has earmarked \$39 million that was to be spent on a highway extension to Mirabel airport, for upgrading the Deux-Montagnes commuter line. CN threatened to stop operating the line unless it was upgraded by 1992 (see December Newsletter, page 16). STCUM is currently leasing 15 coaches from VIA to keep the line operating.

## ALGOMA CENTRAL

The Algoma Central Railway has leased an engine from CP for up to three months. SD40-2 5926 was sent from Winnipeg. This must be an act of sympathy or an arrangement made in return when CP leased four ACR units; the CP is currently power-short, since it is leasing two QNS&L units.

## THE RAPIDO

Please send railway news from Ontario and Québec to Gord Webster, P.O. Box 17, Station H, Toronto, Ontario M4C 5H7.



## CANADIAN NATIONAL

## ATHABASCA SUBDIVISION CLOSED

The Athabasca Subdivision is now considered out of service. The last train north left Calder Yard in Edmonton at 18:10 on January 13, 1991. There were 22 grain empties and a caboose, pulled by GMD1s 1614 and 1612. At Legal, 21 empties were set out and 10 loads of grain were picked up. These loads and the remaining empty were set out at Vimy. The train (521-5L13) arrived at Athabasca as a caboose hop at 01:50 on January 14, and the crew went back to Calder by taxi.

The return crew left Calder by taxi and picked up 1612 and 1614 for the round trip at Athabasca at 18:55 on the evening of January 14, with a final five loads of grain and a caboose. They lifted 18 grain cars at Vimy and 22 grain cars at Legal, and were in Calder at 04:20 on January 15.

The Athabasca Sub will be abandoned from about mile 32, just north of Legal, to Athabasca (mile 93.1). This branch has been limited to 15 miles per hour, and has averaged only one grain train per week, in recent years. It's not too many decades since the only way to Athabasca Landing (now called



Athabasca) was by stage coach on the muddy Athabasca Trail — a long and tiring 100-mile journey from Edmonton.

#### NEW GRAIN TRAIN NUMBERS

Last month, the CP grain train numbers were listed in "The Rapido" column. This month, we can list the new CN numbers for grain trains here. Effective January 20, 1991, the grain trains were renumbered in western Canada, essentially reverting to an earlier system where trains of grain empties are assigned to their intended destination from the port city, Thornton (Port Mann) or Ridley (Prince Rupert).

For western ports:

| From           | To Thornton | To Ridley | Return |
|----------------|-------------|-----------|--------|
| Grande Prairie | 803         | 823       | 802    |
| Calder         | 805         | 825       | 804    |
| McLennan       | 807         | 827       | 806    |
| Kindersley     | 809         | 829       | 808    |
| Prince Albert  | 811         | 831       | 810    |
| North Regina   | 813         | 833       | 812    |
| Symington      | 815         | 835       | 814    |
| Dauphin        | 819         | 839       | 818    |

The trains returning with the empties are have an XM or RI designation added. For example, 803 returns as 802XM from Thornton and 823 returns as 802RI from Ridley.

To eastern and northern ports, the numbers are:

| From/To                                 | Loads | Return |
|---|-------|--------|
| North Battleford to Thunder Bay         | 844   | 843    |
| Saskatoon to Thunder Bay                | 846   | 845    |
| North Regina to Thunder Bay             | 848   | 847    |
| Saskatoon to Churchill via Humboldt     | 853   | 852    |
| Saskatoon to Churchill via Melville     | 855   | 854    |
| Letellier to Symington                  | 859   | 858    |
| North Regina to Thunder Bay via Brandon | 862   | 861    |
| Elgin to Thunder Bay                    | 864   | 863    |
| Symington to Thunder Bay                | 866   | 865    |
| Brandon to Melville                     | 869   | 870    |
| Thunder Bay to Rockingham               | 880   | 881    |
| Thunder Bay to Joffre                   | 882   | 883    |
| Symington to White River                | 892   | —      |

Local runs are numbered:

| From/To                            | Loads | Return |
|------------------------------------|-------|--------|
| Melville to Canora                 | 841   | 842    |
| Calder to Humboldt                 | 851   | 850    |
| Calder to Symington                | 857   | 856    |
| Saskatoon to Symington via Dauphin | 867   | 868    |

Train 899 is an exception: it carries blocks of both Thornton and Ridley grain from Symington, Dauphin, Kindersley, McLennan, Grande Prairie, or Regina to Jasper, where the blocks are switched out to the appropriate port destination.

#### ROUNDHOUSE TO BE DEMOLISHED

The CNR roundhouse in Regina is slated for demolition. The building was built in 1914. A safety hazard, it has been closed for years.

#### DETOURS ON CP AND BN

Due to difficulties operating through the Fraser Canyon in January and February due to snow and land slides, the CN was forced to detour a number of trains over the CP and Burlington Northern. The CP detour used the Cascade, Thompson, and Mountain Subdivisions. CP was detouring the CN freights so fast that CN asked CP to slow down as Thornton Yard could not

handle them that fast. The four grain and one potash train (empties) that detoured over BN from Vancouver, through Blaine, Everett, and Spokane, Washington, and then east to the Prairies.

—Lineup One Newsletter

### CANADIAN PACIFIC

#### ABANDONMENT APPLICATION

CP would like to abandon 18 km of track in Saskatchewan, just north of Henribourg — about 30 miles north of Prince Albert — east from Sharpe (the junction with the CN), to Meath Park.

#### SWITCHER CHANGE AT GRAND FORKS

Because CP 6720 at Grand Forks was due for inspection, it was replaced by 6708 from Lethbridge. No. 6708 went to Coutts, then to the BN in Montana, and wound up in Grand Forks. That's what happens when CP has no connecting line to Grand Forks. BN charged CP roughly \$1300 for the move.

#### TRAIN AND PLANE COLLIDE ON TRACK

Last September, an Edmonton family was flying from Sudbury to Thunder Bay in a Cessna 172 when the plane's engine failed near Loon Lake, 80 kilometres east of Thunder Bay. Unable to find a road large enough to land on, the pilot (the father) landed the plane on a siding on the CP Nipigon Subdivision. After landing the plane safely, the pilot saw an eastbound freight approaching approximately 10 seconds before it removed the right wing from his plane. All of the passengers in the plane escaped unharmed. The head-end train crew said that they saw a headlight but thought it was just a motorcar in the siding, and were surprised when they got closer to find it was an airplane.

—CP Rail News

### TOURIST RAILWAYS AND MUSEUMS

#### ALBERTA PRAIRIE — CENTRAL WESTERN

Alberta Prairie Steam Tours Ltd., Postal Bag 800, Stettler, Alberta, has an ambitious series of railway excursions on the Central Western Railway planned for the summer of 1991. The proposed excursions begin on May 25, with the last scheduled run on October 27. There are over 50 excursions running either north or south from Stettler, with 2-8-0 No. 41 the planned power. There are runs on most Saturdays and Sundays, with some mid-week excursions. For a detailed schedule, write to them, or phone toll free 1 800 282-3994.

#### CANADIAN NORTHERN SOCIETY

In addition to looking after their Meeting Creek station and Big Valley station, the Canadian Northern Society will be assisting this year in refurbishing the Viking station, the Camrose station, and the Smoky Lake station. They'll be cooperating with Alberta Prairie Rail Excursions for additional work at Donalda, Alberta.

### OTHER RAILWAY NEWS

Canterra Energy at Ram River, Alberta sold their stored Alco RS24 (ex-Reading 524) to M4 Holdings in Edmonton for scrap in April 1990. • The Southern Railway of B.C. (the privatised former B.C. Hydro Railway) now runs cabooselless trains. • A new service facility, PDS Railcar Services, is under construction in Calgary, with a loan from the Western Diversification Program. The company will apply protective linings to tank cars, and will also handle repairs, cleaning, inspection, and testing. The facility is being built on the north side of Alyth Yard at 30th Avenue and 17th Street SE.

—Bob Sandusky

#### THE PANORAMA

Please send railway news from Western Canada to Gray Scrimgeour, 227 Hanna Road, Toronto, Ontario M4G 3P3.

# IN TRANSIT

EDITED BY SCOTT HASKILL

## VANCOUVER

### RIDERSHIP INCREASES AND SERVICE IMPROVEMENTS

Ridership in 1990 increased significantly on all three modes — SeaBus, bus, and SkyTrain — of the Vancouver Regional Transit System. System ridership increased by 10 percent in the first nine months of the year, resulting in the highest growth rate of any major transit system in Canada. The service improvements proposed in the annual Service Plan have been approved, and will begin in April. Several new routes will be introduced, and the frequency of service on some routes during the midday will be improved.

Between April and September, ridership on the SkyTrain increased by 31 percent, largely because of the extension to Surrey that opened in March 1990. Scott Road station, the new eastern terminus of the line, quickly became the busiest station on the system, with about 18 000 passengers per day (about the same as at the Eglinton West station in Toronto).

—VRTS/BC Transit, via Ted Wickson

### CONSTRUCTION OF WHALLEY EXTENSION

On February 18, 1991, the construction of the SkyTrain extension to Whalley was symbolically begun. The new section will be 4.3 km long, with three new stations. The project is budgeted to cost \$127 million; much has been made of the degree of private sector involvement in the funding and station locations. The extension should be open for service in 1993.

## TORONTO

### RIDERSHIP DECREASES AND SERVICE CUTS

TTC staff have proposed service reductions on about half of the routes in Metro Toronto. The proposed cuts are in response to ridership in early 1991 that was about five percent below the level that was expected. The TTC now expects to carry 451 million passengers in 1991, down from the original projection of 462 million.

Much of the ridership decline has been attributed to the recession, and the fewer work trips that result from employment losses. Some of the ridership loss may also reflect concerns about service reliability and personal security, and changes in the appeal of transit (as described for Ottawa and Hamilton in the November and January **Newsletters**).

The service cuts are proposed generally on busy routes, and would increase the interval between buses or streetcars by two minutes or less. (Even the reduced levels of service would be much more frequent than in most other cities.) The staff report indicates that the cuts could drive away another million passengers in 1991 because of increased waiting time and increased crowding.

The cuts would save the TTC over \$4 million, and another \$8 million would be saved in administration and other areas. Alternatives to service cuts would be a special fare increase, unlikely in a year when the regular increase was greater than the rate of inflation, or an increased subsidy from the Metro or provincial government, difficult to imagine in the current economic climate.

Some of the rarer, older types of TTC vehicles may be threatened by the cuts. The oldest GM buses, a very few of

which are still in the red and cream colours, and the 30-foot Orions, which have never found a home on the TTC system, may not be seen in service again. And the number of unrebuilt PCC cars in service could be reduced, especially as articulated LRVs are returned to service with new axles.

### NEW BUS ORDER

The TTC has ordered 106 Orion V diesel buses from Ontario Bus Industries of Mississauga, for delivery beginning later in 1991. This is the first TTC order for standard 40-foot city buses from OBI, which previously supplied 19 Orion 30-foot buses in 1981–1982, 90 Orion-Ikarus 60-foot articulated buses in 1987–1989, and 123 Orion II buses for passengers in wheelchairs in 1985–1988. The TTC's 25 natural-gas powered buses currently on order from OBI are also the Orion V model. OBI currently has a backlog of 800 buses on order for the North American market.

—TTC, Toronto Star

### G-CARS AS WORK EQUIPMENT

TTC Gloucester cars 5068/5069 have been converted to rail-grinder motors RT-36/37, painted to match the aluminum cars, with yellow and black stripes. The cars were released from Greenwood Shop on January 2, and have been tested in the yard. These are the second cars with the numbers RT-36/37. The former 5104/5105 were numbered RT-36/37 when they were converted to wall-washer motors in 1988, but renumbered RT-14/15 in 1989.

—Ray Corley

## GUELPH

### GUELPH MAY PIONEER "RIDER KEY"

The Guelph Transportation System is getting closer to pioneering a new fare system. The imaginatively named "rider key" would be a small card with a magnetic strip that could be purchased in varying denominations. Each time the passenger boards a bus, the card would be passed through a reader that would reduce the value of the card by the amount of a fare. Once the rider's account runs out, the rider would return the card and have it reactivated by making another payment. The City of Guelph has been asked to pay \$40 000 and the Ontario Ministry of Transportation would fund the remaining 90 percent. It is believed that the use of stored-value fare cards on a small, all-bus transit system would be a first in North America. The Guelph Transportation Commission already has a waiting list of representatives from other municipalities who want to see the system in operation.

—Kitchener-Waterloo Record via G.W. Horner

## NOTES

The rebuilt TTC PCC car, newly in service, that was inadvertently referred to without number in the February **Newsletter** was the 4611. • Vaughan Transit now has fare integration with GO Transit. • BC Transit has ordered 60 Orion V buses from OBI. • Montréal's STRSM (South Shore) estimates that, with the proposed removal of operating subsidies from Québec, its monthly pass would increase from \$52 to \$83.

## IN TRANSIT

Please send public transit news from across Canada to Scott Haskill, 15–2520 Bloor Street West, Toronto, Ontario M6S 1R8.

# MOTIVE POWER AND ROLLING STOCK

## WHITE PASS UNITS SOLD

Two of the four DL535Es built by Bombardier in 1981-82 for the White Pass and Yukon, but never delivered, and stored since then in and near Montréal, have now been sold to U.S. Gypsum in Plaster City, California, just east of San Diego. The narrow-gauge, wide-cab units were stored most recently at Soulanges Industries in Les Cèdres, Québec. WP&Y 113 travelled west through London on February 18 (on CN flatcar 667095), and WP&Y 112 moved west on February 19. —FCRS Tempo Jr.

## NEW VIA EQUIPMENT

From BRS Branchline, a list of seven coaches purchased by VIA late in 1990 VIA for use in the present rebuilding programme:

- Amtrak 44-seat coach 4430 (built in 1954 as SP 2365)
- Amtrak 54-seat coach 5433 (built in 1946 as PRR 4053)
- Amtrak 60-seat coach 6007 (built in 1948 as C&O 1600)
- Amtrak 60-seat coach 6065 (built in 1948 as C&O 1605)
- Amtrak 60-seat coach 6068 (built in 1949 as L&N 3251)
- Georgia Railroad 52-seat coach 106 (built 1949, WofA 106)
- Former Southern Railway coach 825 (built in 1949)

Also, these cars were purchased in late 1989 and early 1990, and were not previously reported:

- Former NJ Transit 322
- Former NJ Transit 324
- Amtrak bar-lounge 3302
- Amtrak coach-lounge 3815
- Former Southern coach 824
- Former Amtrak coach 6077
- Former Louisville and Nashville 40100
- Former ECPX 4055

In all, VIA has now brought 57 cars from the U.S. for the rebuild programme. • A correction to the list of new VIA cars in last month's Newsletter: VIA purchased Conrail 5650 (NYC 2914) and 5684 (2945), and *not* 5657 (2930) and 5671 (2955). —BRS Branchline

## VIA EQUIPMENT SOLD AND LEASED

VIA has agreed to lease 15 cars to STCUM/CN for the Montréal-Deux Montagnes commuter train service. The first 10 are 5443, 5467, 5476, 5486, 5490, 5516, 5536, 5562, 5580, and 5589.

Recently sold:

- Baggage car 7189, to Classic Railcars, Morristown, New Jersey, who are interested only in the car's trucks.
- Baggage car 9611, coach 5184, and daynighter coach 5744, to Edelweiss ski resort, to be used on the Hull, Chelsea and Wakefield tourist line.
- Baggage car 9629, to the Chemin de Fer Cartier.

—BRS Branchline

## CP's LEASED UP DASH 8s RETURNED

The UP GE Dash 8-40Cs arrived February 2 at Kingsgate, British Columbia. The numbers of the units were different from those originally planned: 9409, 9413, and 9416 were the ones that arrived. The units were sent on to Montréal, and arrived there on February 8. Numbers 9416 and 9413 were set up at St-Luc with classification lights and reset safety controls, to allow them to lead in Canada.

The Dash 8s were used mostly on grain trains between Winnipeg and Québec City, but towards the end of their stay operated on intermodal freights west of Montréal. The three left Toronto for Windsor on March 23, headed back to the UP.

Another lease: CP has again leased Québec North Shore and Labrador SD40s 200 and 202, commencing February 17.

## GO TRANSIT EQUIPMENT IN THE U.S.

GO GP40-2 703 and APCU 904 left Toronto on January 11 on CP train 507, destined for Tri-Rail in Florida. (Tri-Rail is the commuter train service to Miami, and uses double-deck cars from UTDC identical to GO Transit's). Also on the same train was new GO F59PH 561, headed for a test on the MARC commuter service in Maryland. —Lineup One Newsletter

## GENERAL ELECTRIC NOTES

GE delivered new Super 7-23B number 51 to the Roberval-Saguenay in December. And CP brought GE 2000, a Super 7 demonstrator, to Montréal on February 6, on its way to the R-S.

These Burlington Northern B30-7A(B)s have recently been at GE: 4000, 4009, 4014, 4018, 4022, 4029, 4035, 4036, 4043, 4061, 4107.

BCR M630 707 and BN B30-7A(B) 4000 were tested on CN on November 9.

Santa Fe 7488, 7496, 7497, and 7498 left GE at Montréal on November 29, bound for the plant at Erie, Pennsylvania, via Conrail at Huntingdon.

## CN NOTES

CN F7As 9164, 9165, 9167, and 9177 were re-sold from Century Locomotive Parts, in Lachine, to National Railway Equipment, in Dixmoor, Illinois, in the southern suburbs of Chicago. Century sold "red beetle" F7A 9100 to the Feather River Railroad Society of Portola, California • All of the tied-up units in the 2000-series were returned to service for the grain traffic, except for 2005, 2007, 2021, and 2036, which stayed at Gordon Yard.

## MOTIVE POWER AND ROLLING STOCK

Please send news on rolling stock and OCS equipment to Don McQueen, 38 Lloyd Manor Crescent, London, Ontario N6H 3Z3. Please send motive power information to Pat Scrimgeour, 22 Prust Avenue, Toronto, Ontario M4L 2M8.

## UPPER CANADA RAILWAY SOCIETY

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## BACK COVER — TOP

Calgary Transit LRT car 2034 waits at Brentwood station, on the extension of the Northwest C-Train line. Opened in August, the extension is the newest rapid transit line in Canada. The single car is typical of service on Sundays.

—Photo by Bob Sandusky,  
November 4, 1990

## BACK COVER — BOTTOM

Seen just north of Braintree, Vermont, on the Central Vermont, Grand Trunk Western GP38ACs 5800 and 5802 were the lead units of six GTW and CV locomotives on this train, headed north towards St. Albans.

—Photo by John Carter,  
November 1988

