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Canada's transit industry right on track!

A strong domestic urban transit industry has been developed in Canada that is being increasingly recognized in many parts of the world.

Examples turn up with growing regularity:

— Mexico City bought 180 metro cars for \$100 million;

— New York City bought 825 subway cars for \$800 million;

— Detroit bought the Downtown People Mover system for \$110 million, which is a similar system bought by Vancouver in Canada, costing \$720 million;

— Massachusetts Bay Transit Authority, which serves the Boston area, bought 168 diesel buses for \$21.5 million;

— the light rail system used by Portland, Oregon, was developed in Canada; and

— there are excellent prospects for Canadian sales in Mexico, Singapore, Malaysia,

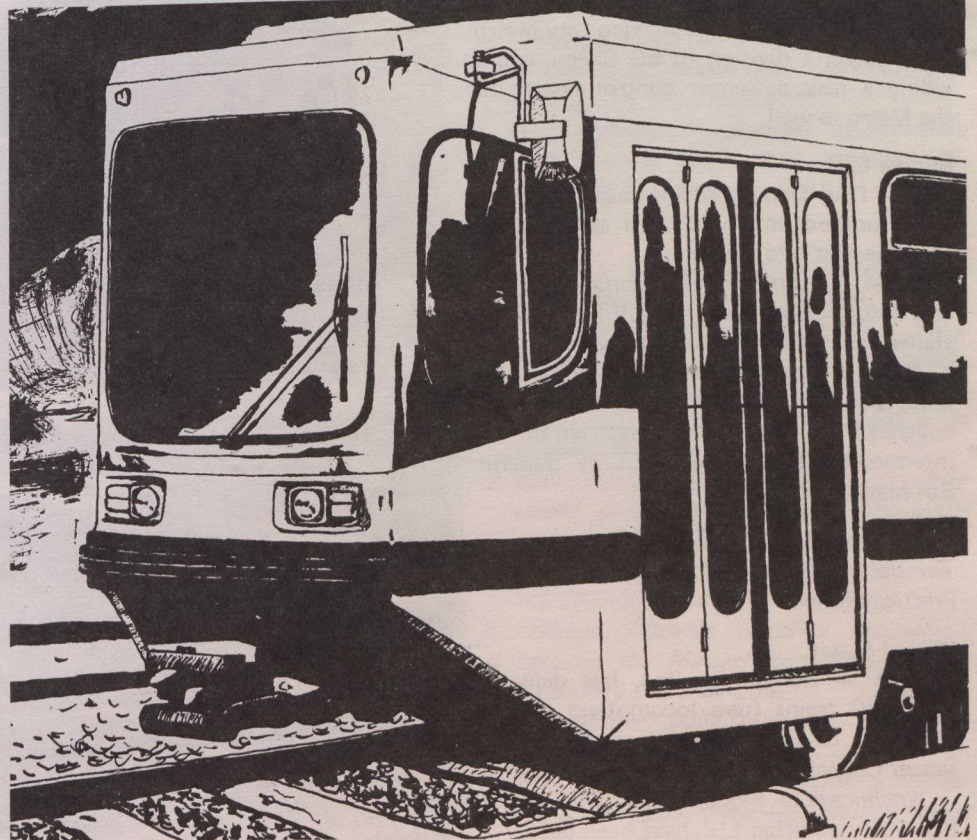
Colombia and Hong Kong, as well as the United States.

Reason for success

Over the past 80 years, Canada has developed a solid foundation of specialists in the mass and urban transit fields. The urban transit systems they have developed and built offer reliable service daily to millions of people throughout the world. Also, Canadians have had to design equipment that will stand up to some of the most difficult weather conditions.

Faced with temperature extremes of from -40 degrees Celsius to 35 degrees Celsius and more and with highly variable weather conditions, Canadian-made equipment is designed to operate trouble-free in all types of climates.

Close attention is given to such details as air conditioning and heating, safety, —p. 4



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Canada

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Canada worldwide

Canada's transit industry is meeting the requirements of the highly competitive international marketplace with the export of millions of dollars in new equipment yearly illustrating its ability to hold its own in tough bidding.

The following are examples of Canadian expertise in the transit field that have been or are being supplied throughout the world:

Australia

Ansett-Pioneer has become a large user of highway coaches built by Motor Coach Industries (MCI).

Europe

France, Norway, Spain — Insul 8 Corporation (Canada) Ltd. and its affiliates, manufacturers of wayside power systems for people movers, have sold their products in Paris, Bergen and Barcelona.

Britain — Ferranti-Packard Electronics Ltd. supplied the information displays in Paddington Station, London, England.

Latin America

Chile — The signalling system of Santiago's subway was installed and commissioned by BG Checo International Inc. of Montreal.

Venezuela — Kilmer van Nostrand is currently building a section of the Caracas subway (tracks and guideways).

Mexico — Bombardier Inc. supplied 180 rubber-tired cars for the Mexico City Metro. Automatec, a division of BG Checo, is providing a new passenger control system for the Metro as well.

Middle East

Iraq — Paul Demers & Fils have delivered a few hundred ambulances to this country over the past two years.

Israel — A surface-fleet "Communications and Information System" (CIS) is being installed in Tel Aviv by the IBI Group.

Saudi Arabia — Buses have been supplied here, specifically specially equipped intercity coaches by Motor Coach Industries and the intermediate size Pioneer Bus by Superior Bus Manufacturing.

North Africa

Tunisia — Prevost Car Inc. has supplied its Prestige model.

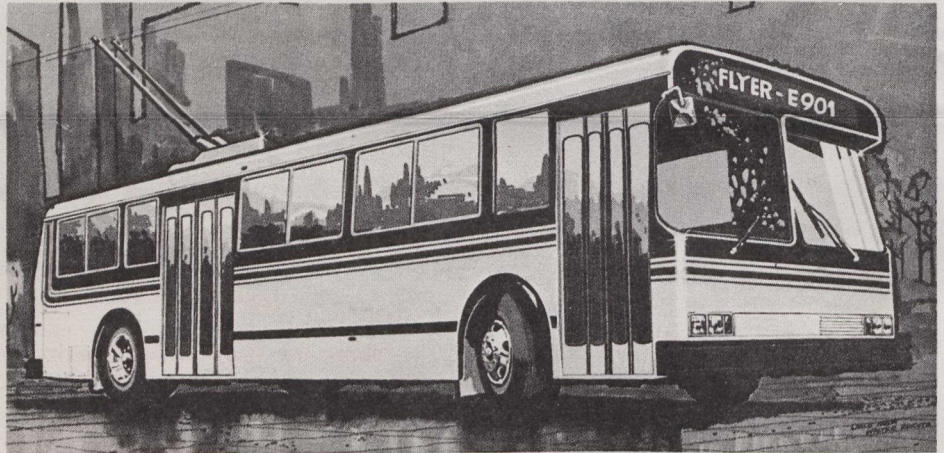
United States

Amtrak — Bombardier Inc. has delivered two LRC trains (two locomotives and ten coaches) to the National Railroad Passenger Corporation.

Anchorage — Pioneer buses by Superior Bus Manufacturing Ltd. have been delivered.



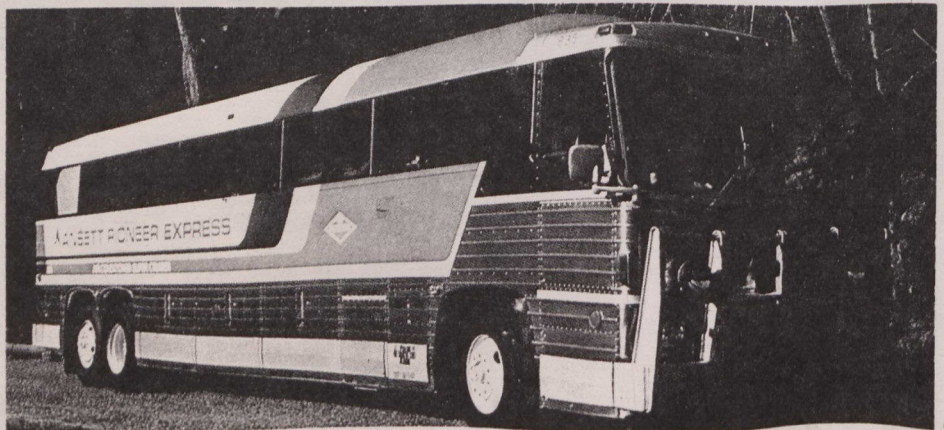
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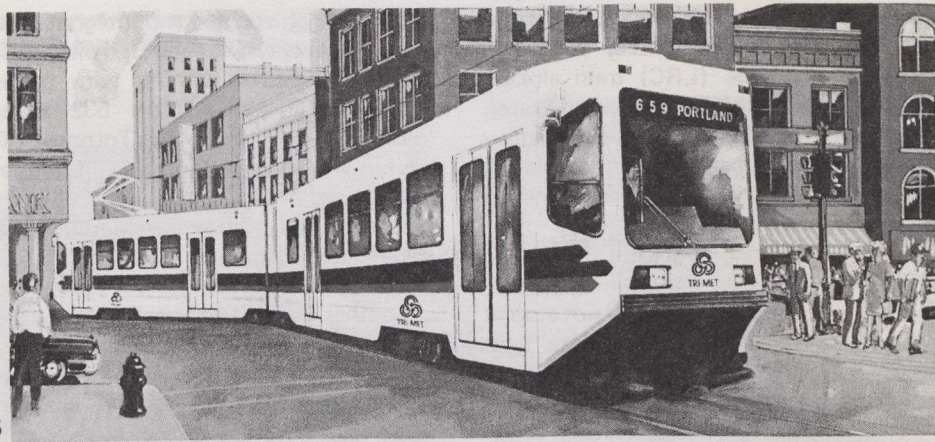
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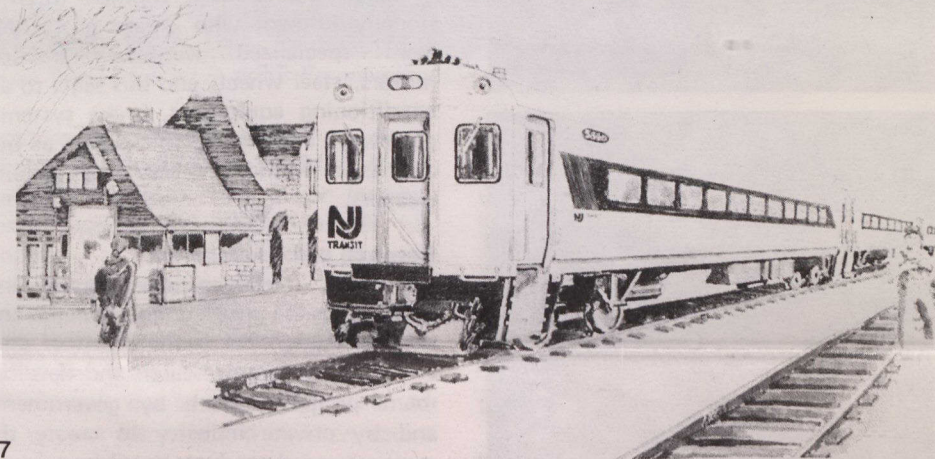
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Atlanta — Kilmer van Nostrand is building a section of the Atlanta subway.

Boston — Boston has a large fleet of trolley coaches furnished by Flyer Industries Ltd. As well, 190 mass transit cars of two different sizes have been supplied to the Massachusetts Bay Transit Authority for its Orange and Blue lines by Hawker Siddeley Canada Inc.

Chicago — 36 bi-level gallery cars were delivered by Bombardier in 1978-1979.

Dayton — Flyer Industries has furnished a fleet of trolley coaches here as well.

Denver — Otaco's Innovator transit seats are in use in Denver's transit operation.

Detroit — SEL Canada's SELTRAC control system is to be supplied with the UTDC project for Detroit.

Hawaii — Prevost Car Inc.'s Prestige buses have been supplied.

Los Angeles — As with Detroit, a SELTRAC system is being included in the UTDC project here.

New Jersey — Bombardier Inc. supplied 117 single level commuter cars in 1981-82.

New York — Hawker Siddeley Canada Inc. has built 44 rapid transit cars for the Port Authority Trans-Hudson (PATH).

Oakland — 175 diesel buses have been supplied by Flyer Industries Ltd.

Portland — 26 Advance Light Rail Vehicles are to be supplied by Bombardier Inc. in 1983.

San Francisco — 343 trolley buses have been supplied by Flyer Industries.

Seattle — 261 diesel buses have been supplied, again by Flyer Industries.

Virgin Islands — Pioneer intermediate capacity buses have been supplied by Superior Bus Manufacturing Ltd.

1. *Prevost's Le Mirage intercity coach, in use in Hawaii and North Africa.*
2. *Flyer E901 Electric Trolley Bus — Flyer has sold trolley buses to San Francisco, Boston, Seattle, Oakland and San Mateo.*
3. *Superior's Pioneer bus in service in Winona, Minnesota.*
4. *MCI's Model MC-9 Crusader II intercity coach. MCI has sold coaches as far away as Australia and Saudi Arabia.*
5. *Bombardier BN Light Rail Vehicle built for TRI-MET, Portland, Oregon.*
6. *Hawker Siddeley supplied lightweight cars on the Massachusetts Bay Transit Authority's Orange Line.*
7. *Bombardier built push-pull commuter cars for New Jersey Transit.*
8. *The UTDC-designed, Hawker Siddeley-built Canadian Light Rail Vehicle being tested on Boston's Green Line.*

passenger comfort, economics, noise and environmental pollution reduction. In addition, the products are innovative and noted for their quality, safety and reliability.

Expo '86

A showplace for this advanced technology, not only for Canada but internationally, will be Expo '86, a world exposition covering every aspect of modern transportation with special emphasis on urban transportation equipment and services.

Canada is host to this highly respected exposition, the theme of which is "Man in Motion", to be held in Vancouver, British Columbia from May to September in 1986.

The ten million people who are expected to attend Expo '86 will have an opportunity to examine at first-hand Canada's approach to urban transit. They will also learn what Canadians, inhabiting the second largest country in the world, have learned about moving people and products over great expanses of difficult terrain.

They will see a Canadian urban transit industry that provides its own engineering expertise, virtually all its major equipment and systems, and a large portion of the sub-systems and components.

They will see subway cars and trains (steel-wheeled or rubber-tired), streetcars

or light rail vehicles (LRVs), commuter rail cars and trains such as the light, rapid, comfortable (LRC) train already in use by AMTRAK in the United States. There will be diesel buses and trolley buses, large and small, rigid or articulated, and large inter-city bus coaches. They will even see marine passenger vehicles.

Whole systems

But Canadian technology does not stop at products. Whole transit systems have been developed for smooth and efficient movement of people and goods.

Canada's urban transportation showpiece is the multi-modal system operated by the Toronto Transit System (TTC).



Urban transport in Canada has come a long way since the double-decker loading in Toronto, 1923 (above) and Bombardier's rubber-tired metro cars operated by the Montreal Metropolitan Transit Bureau, which also have been bought by other countries.

This is a sophisticated and integrated network of subways, streetcars, trolley buses and diesel buses running with precise efficiency throughout the 632 square kilometres of Metropolitan Toronto. TTC has also developed techniques for effective co-ordination of its activities with inter-city bus and suburban rail transit system companies.

The Métro subway system of Montreal is another Canadian showpiece noted for its efficiency, quietness, cleanliness and architectural beauty. Its innovative rubber-tired trains virtually eliminate noise and vibration and, in Métro's completely closed environment, the rubber-tired suspension allows safe, reliable acceleration and braking on grades up to 6.5 per cent.

Rolling stock, equipment and systems are not the whole of the Canadian transit scene, however. Components and sub-systems — electronic, electrical or mechanical — are important factors, and all are designed, developed and manufactured domestically but with applications anywhere in the world.

Space does not permit the listing of all Canada's component and sub-system manufacturers in addition to the electronic and electrical producers. However, there are those, many of them internationally known, who create everything from specialized windows, traction motors, steel wheels and bus seats to air conditioning equipment, brake systems, guideways and such care systems as bus and train washers, dryers and vacuum cleaners.

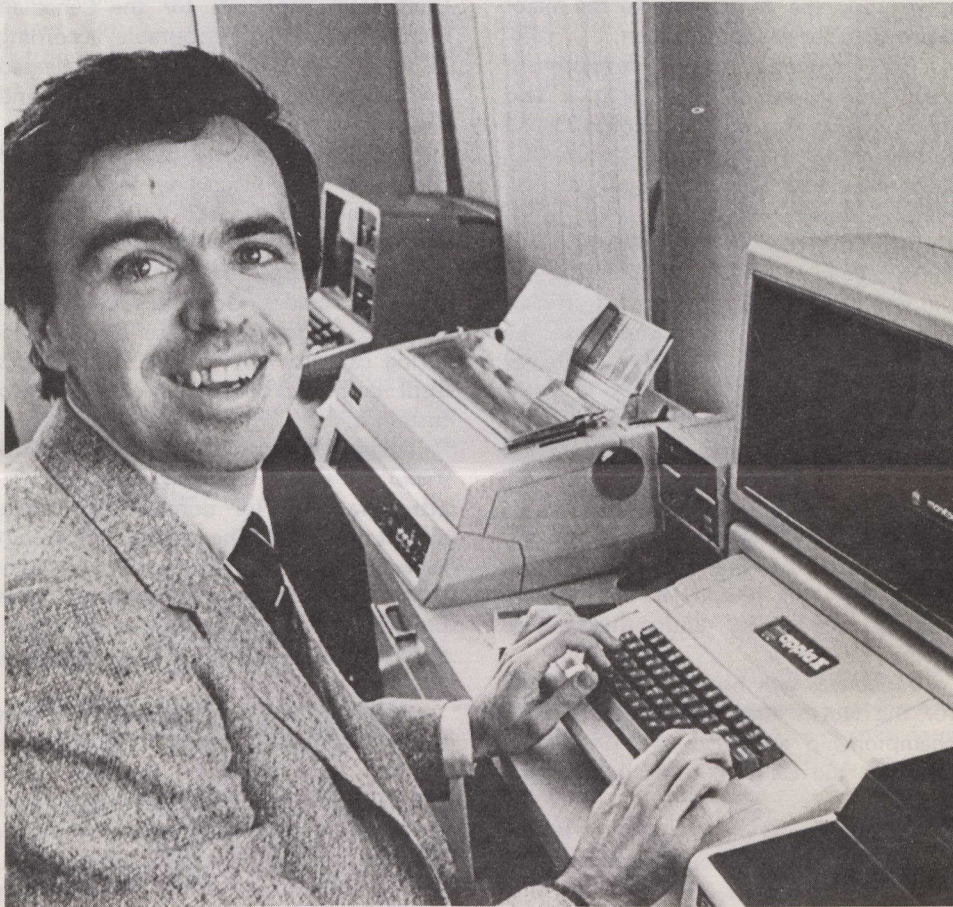
Research and development

All of this — from major equipment and systems to the smallest components and simplest systems — is the result of constant and ongoing research and development programs both by governments and by private industry to create the most advanced products possible.

One of Canada's most important facilities for the development of new urban transit technology is the Transit Development Centre (TDC) located about 257 kilometres east of Toronto. Established and operated by the Urban Transit Development Corporation Limited (UTDC), a research and development agency of the Ontario provincial government, the centre is a comprehensive facility where the transit community, both of Canada and abroad, can develop new technology.

Another important Canadian source of research and development is Transport
(Continued on P. 8)

French language home computer opens doors for exports



CANAPRESS Photo Service

Pierre Turgeon at work at his French-speaking computer.

Teaching his home computer to speak French has opened a new world for Pierre Turgeon and given him major international markets in which to sell his product.

Turgeon, vice-president of the Montreal-based publishing house Sogides Ltée., recalled that when he bought his first home computer two years ago, he was the only one in his family who could use it since his wife and children spoke only French.

"What a shame that my daughter couldn't understand it, play with it, learn with it," said the publisher. "That made me decide, 'Okay let's do it in French!'"

Sogides formed a computer software branch called Sogiciel — a play on *logiciel*, the French word for software — to market French-language computer games and programs for management and editing. It will also sell a program that corrects spelling mistakes in French.

In a market study, Turgeon found that 40 per cent of the home-computer market in Quebec and an equal proportion in France was held by one company,

Apple Computer Corp.

He decided to translate the programs used by Apple, although he added that his programs can be adapted easily to other brands. Turgeon hopes to export them to France and other French-speaking countries where 40 000 Apples have already been sold.

He expects exports to account for 80 per cent of Sogiciel sales.

Prize-winning author

Turgeon has written an award-winning play, three screenplays and four novels, including the 1981 winner of the Governor General's award for French-language fiction, published in English under the title *First Person Singular*.

He bought his home computer to write fiction. Now that it is programmed to operate in French, he has to line up to use it.

His wife, journalist Michèle Thibault, works on it, his five-year-old son plays on it and his nine-year-old daughter has become so skillful she can beat him in computer games.

Food aid to Botswana

A grant of \$2.5 million to supply emergency food aid to drought-stricken Botswana was announced last month by Deputy Prime Minister and Secretary of State for External Affairs Allan J. MacEachen.

The funds, supplied by the Canadian International Development Agency, are to be used for the purchase and transportation of approximately 2 000 tonnes of white pea beans required by Botswana's drought-relief program.

The emergency situation arose because for the second time in the past four years the rainfall in this sparsely-populated land-locked nation in southern Africa had been inadequate to ensure normal agricultural production. Yields of maize and sorghum, the country's staple crops, are only about one-quarter of required levels.

Canada's contribution will help Botswana protect its most vulnerable citizens — young children, lactating mothers, tuberculosis patients and those living in remote areas — from the effects of a series of crop failures resulting from the drought. In total, about 786 000 people in Botswana are suffering the effects of food shortages.

Recreational tastes change

A healthy shift in Canadian recreational tastes is indicated in a Statistics Canada survey.

Canadians are turning their backs on motor boats and taking up canoes, row-boats and sailboats. They are turning off snowmobiles and being turned on by skis, especially cross-country skis, said Statistics Canada.

"The outboard motor boat still retains its status as the most popular boat in use today, but canoes, row-boats and sailboats are gradually gaining ground," the 1982 survey revealed.

"The level of snowmobile ownership, after remaining stable at nearly 10 per cent since 1976, showed a large drop to 8.5 per cent in 1982, but the use of skis, both downhill and particularly cross-country, has continued to expand."

A spokesman for Statistics Canada says that it was not certain why the shift had taken place — the survey did not ask why — but increased fuel prices and an increasing concern about physical fitness might have contributed.

Vancouver raises the roof over first domed stadium

Canada's first fully-covered multi-purpose stadium passed the acid test when the teflon-coated roof was raised into position at the British Columbia Place amphitheatre in November.

The fibreglass roof rose above the concrete walls like a giant mushroom cap as 16 electrical fans increased the air pressure inside the stadium to inflate the suspended apparatus. The roof, covering four hectares, rose 24 metres above the walls and 60 metres from field level.

The inflation process, which took less than two hours, was viewed by more than 3 000 guests inside the stadium. Thousands more watched from outside.

"This is a great day for British Columbia," said Premier Bill Bennett. "This is the most outstanding building of its kind in North America. That's the only kind of inflation we want in B.C. That's the B.C. spirit."

The air-supported dome, weighing 123 tonnes, is restrained by 22 bridge-strand cables which criss-cross at 121 clamped intersections. The cables also hold the lighting and sound installations.

The electrical fan system, which was operated manually during inflation, will soon be controlled by a computer centre within the stadium.

Mr. Bennett said the covered stadium, which will officially be named in the

spring, was the centrepiece of the major downtown redevelopment plan.

"This is a much larger development than just a stadium," the premier said in reference to a light rapid transit system and Vancouver hosting Expo '86. "The economic benefits could top \$1 billion in future years."

Environment Minister Stephen Rogers, the provincial minister responsible for the B.C. Place development, said officials were confident the stadium would be ready for use by the target date of July 1, 1983.

The stadium will come in on budget at \$111.4 million and will seat 60 000 for major sporting events. Workers are installing individual seats at the rate of 10 000 a month.

Financing of the project is being shared by the provincial and federal governments, along with the private sector.

Vancouver will host Soccer Bowl '83 for the North American Soccer League championship and also the 1983 Grey Cup for the Canadian Football League title.

The stadium is one of the three largest air-supported fabric domes in the world, the others being the Metrodome in Minneapolis, Minnesota, and the Silverdome in Pontiac, Michigan.



Roof covers 60 000-seat stadium over ten acres and weighs 123 tonnes.

Nuclear industry good prospects

Long term prospects for the Canadian nuclear industry are favourable, according to the *Nuclear Industry Review* released by the Ministry of Energy, Mines and Resources.

Nuclear power is the most economical choice for new electricity generation in many parts of Canada today and the country will need an industry capable of building new reactors in the 1990s, the review concludes. Government initiatives may be required to preserve manufacturing capacity over the next few years until domestic demand is sufficient to sustain it.

Despite the current downturn in demand, CANDU remains economically attractive both for domestic and some export markets. The review points out that both markets support a high-technology Canadian industry with positive spin-offs for potential technological developments and industrial activity.

Although the review observes that there has been criticism from some quarters that Canada's stringent safeguards requirements are an impediment to sales, it notes that the government believes these safeguards to be a requirement before export, and proposes that the present policy be maintained.

Hostel for sick children

A "Ronald McDonald" house will be built in Ottawa to lodge out-of-town relatives of sick children being treated at local hospitals, according to McDonald's Restaurants of Canada Ltd. representative Carol Vani.

The plan calls for McDonald's to donate a fixed amount, which is not yet known, then help co-ordinate efforts to raise the rest of the money in the community.

An 11-member committee of parents and staff from the Children's Hospital of Eastern Ontario and McDonald's has been set up to oversee fund-raising, site selection and construction. The house would contain about 12 bedrooms and construction could start as early as this summer. Preference would be given to relatives of children suffering from cancer-related diseases.

There are similar McDonald's houses in Halifax and Montreal, and others under construction in Vancouver and Winnipeg.

Indian culture exhibition

A photographic exhibition, *People of James Bay* by John Flanders, is being featured at the Public Archives of Canada in Ottawa until February 25, 1983.

The exhibition at the Public Archives includes 23 photographs selected from the 4 000 taken by Mr. Flanders during the summers of 1973 to 1975.

The photographs document the serious impact of the white man's culture on the indigenous Crees through large-scale exploitation of the environment and conflicting social values. They touch those issues with long-term implications, particularly the depletion of the forest by logging and the imposition of non-native education upon Cree children in towns like Matagami and Fort George.

John Flanders, a member of the faculty of the school of architecture at Carleton University in Ottawa since 1970 and a freelance photographer for the past



Fort George, Quebec, 1973.

25 years, has photographed extensively in Canada, Europe, Japan and the United States. His photographs of rural architecture have been the subject of a one-man

exhibition by the National Film Board of Canada and he has written a book on people working at traditional crafts in Canada.

Computers link museum collections

Canadian museums are among world leaders in using computer techniques to keep track of their collections.

Some 152 museums will use PARIS — Pictorial and Artifact Retrieval Information System — to exchange information on their collections and arrange exchanges of artifacts.

CHIN — the Canadian Heritage Information Network — will record information on millions of museum objects while providing sophisticated record-keeping and inventory control.

The network was developed by the National Museum of Canada in co-operation with Control Data Canada Ltd. whose US parent developed PARIS. The program will link all the major museums across Canada which will have access to the system through a network of 110 terminals.

The system's director Peter Homulos says there are, for example, some 360 000 artifacts in a single building at the Royal Ontario Museum in Toronto and 5 000 transactions involving them each week. This work-load equals seven person/months a calendar month, but PARIS lets one data-entry worker handle the load.

Control Data's vice-president of public affairs Peter Lowry said the project helps both his company and the National Museums. Control Data's parent company

was looking for a museum system large enough to allow a valid field trial and Canada's museum system was ideal. Control Data will be marketing the system internationally, he said.

Control Data used a computer in its Toronto offices to build up the initial data bank from museums and galleries across Canada. The system became operational in Ottawa recently when the Control Data computer was installed at the National Museum's headquarters.

Collection donated to university

One of the finest private collections of Canadian art has been donated to the University of Toronto.

The collection, estimated to be worth some \$4 million, is the gift of Jules and Fay Loeb, former residents of Aylmer, Quebec, who spent more than 35 years acquiring 200 works of art dating from the late eighteenth century.

The Loebes, who moved to Toronto in 1971, have also donated their home, where the collection is now housed, but they will continue to live in a portion of the home after renovations are completed next summer.

In addition, the couple have donated \$1 million to the university to establish a Fay Loeb chair in Canadian art history.

Arts briefs

Pianist Arthur Rubenstein, who died in December just before his ninety-sixth birthday, held a particularly warm spot in his heart for the city of Montreal. According to Canadian music critic Jacob Siskind, who interviewed the pianist frequently, Rubenstein loved his visits to the French-Canadian city and played there every year for more than 20 years. He also strongly supported the introduction of the popular Star Dollar Concerts held in the Montreal Forum at a cost of \$1 a ticket.

Two Canadians, producer Daniel Bertolino and composer Osvaldo Montes of Montreal, have been awarded the Grand Prix audio-visuel européen by the Paris-based Académie du disque français for their album, *Indian Legends of Canada*. The award is considered one of the most coveted in the European recording industry. The French-language record of actor Victor Davy telling two Indian legends was drawn from a 14-part television series produced by Bertolino.

Canadian Musician magazine has expanded into the publishing field with its first complete directory to music-related businesses in Canada. The *Music Directory Canada '83* includes listings of symphony orchestras, radio stations, record producers, agents, studios, sound and lighting companies, and management.

Canada's transit (Continued from P. 4)

Canada's own Transportation Development Centre, located in Montreal. It involves all modes of transportation and all stages of the innovative cycle — from concept definition to prototype design; from development and pre-production demonstration to deployment in revenue service.

In its innovative urban transit technology research, the centre has been studying the development of a taxi vehicle that would overcome the shortcomings of regular automobiles in use as taxis; prototype wheelchair restraint systems for vans; microprocessor-controlled destination signs for buses. The centre has also been involved in the study of tracked levitation technology, the magnetically levitated (Maglev) transportation systems.

Private industry itself continues to innovate, carrying out its own research and development in many aspects of urban transit. For example, the area of control and communications systems is a high priority among Canadian companies and all available indications suggest that

Canada has a lead in the development of certain urban transportation control systems.

Canadian technology is not confined to products alone. Consulting engineers and construction companies from Canada are also involved in the development of urban transit systems not only in their own country but in all parts of the world.

Regardless of the mass transit requirements — subway equipment, intermediate capacity transit systems and equipment, buses or vehicle monitoring and control systems — Canada has the capability.

This capability is offered to international customers with the assurance that emphasis will be placed on safety, controlled capital and operating costs, efficient energy utilization, passenger comfort and environmental considerations.

(From Canada Courier, international edition, 1982. A catalogue on Canadian urban transit equipment and supplies, First Choice Canada — Urban Solutions, is available from the trade offices located in the nearest Canadian embassy, high commission or consulate.)

News briefs

Gasoline and heating oil prices dropped about 1.6 cents a litre January 1, although they will go up again 60 days later on March 2. The price drop resulted from a January 1 cut in the federal Petroleum Compensation Charge, the tax now tacked on to oil produced by domestic wells and used to offset the higher price of synthetic and imported oil. The January-February cut works out to a saving of about \$1 a tank on a fill-up and about \$14 on a 900-litre tank of heating oil.

Gerry Sorensen, the first Canadian woman in 24 years to win the world downhill skiing championship, has been voted Canada's female athlete of the year. The 24-year-old from Kimberley, British Columbia, who won the title in February 1982, was a decisive winner in the year-end poll of sports writers and broadcasters conducted by *The Canadian Press*. The only previous Canadian to win the women's downhill title was Lucile Wheeler, who was also named athlete of the year when she accomplished the feat in 1958. The last Canadian world title in women's skiing was Kathy Kreiner's victory in the giant slalom at the 1976 Winter Olympics.



Renovations to make Rideau Hall accessible to the handicapped are tested as Governor General Edward and Lily Schreyer hosted guests who arrived in wheelchairs. Here Art Barrette, followed by the Schreyers, wheels out of the elevator which is connected to a new ground-floor ramp entrance.

Prime Minister Trudeau has invited the premiers, the heads of the two northern territories and native leaders to a constitutional conference to be held in Ottawa March 15-16. The conference is to focus on defining aboriginal rights but may also include discussion of other topics, such as Senate reform.

The federal government will increase its spending on Canada-wide reforestation programs to a minimum of \$130 million within five years. At present, approximately \$300 million a year is spent on reforestation and about \$50 million of that comes from the federal government. Environment Minister John Roberts told a meeting of the National Hardwood Lumber Association that forests should be farmed rather than mined and said that, to accomplish this, expenditures of \$650 million a year would have to be made by federal and provincial governments and industry during the next four or five years on reforestation programs.

DAF Indal Limited of Mississauga, Ontario has landed an \$82-million order for its helicopter recovery, assist and traverse (RAST) systems for the United States Navy. The order consists of a \$52-million contract for 18 RAST systems and a letter of intent for an additional 13 systems valued at more than \$30 million. The systems will be procured by the Canadian Commercial Corporation and will be sold to the US Navy under the US-Canada Defence Production Sharing Arrangement.

Jacques Thibault of Quebec City won all four men's sprint events at the season-opener international speed skating meet in Inzell, West Germany, in December. Thibault won both the 500- and 1 000-metre sprints on the outdoor 400-metre oval, repeating his performance of the previous day to rank first in the ten-competitor men's sprint category.

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