



The Intermediate Capacity Transit System can serve from 5 000 to 25 000 passengers an hour in each direction.

company — RailTrans — which has acquired full ownership of Can-Car. RailTrans itself is owned 80 per cent by UTDC and 20 per cent by Hawker Siddeley.

#### Expo '86 showcase

The first major technological innovation of UTDC was the Intermediate Capacity Transit System (ICTS). The name is derived from the fact that ICTS is designed to fill the gap between the small and large capacity services provided by busses and subways. ICTS technology is being applied in Vancouver under the name Advanced Light Rapid Transit (ALRT) and will be a showcase for Canadian Technology at Expo '86.

The 1986 World Exposition — Expo '86, to be held May 2 to October 13, 1986 — is based on the theme "Man in Motion". It celebrates both Vancouver's centennial and the hundredth anniversary of the first transcontinental railroad's arrival on Canada's west coast.

Designed to relieve Vancouver's traffic congestion and to provide the major link between the main Expo site at False Creek and the Canada Host Pavilion on Burrard Inlet just two kilometres away in the downtown core, ALRT combines the latest in computerized train control with lightweight vehicles employing linear induction motor propulsion (LIM).

In the operation of a linear induction motion, the stator with its windings is flattened out and attached to the underside of the vehicle and the rotor (the LIM reaction rail) is placed horizontally along the full length of the track. The thrust or torque developed is continuous and the vehicle moves along the track.

The LIM needs no heavy gear trains or transmissions since it acts independently

of the wheels to produce thrust. It also provides primary braking in an energy regenerative fashion. In operation there are two LIMs per vehicle mounted below the trucks. They are powered from a 600-volt DC supply, using two rails (positive and negative) and vehicle collector shoes.

The absence of rotary traction motors and their necessary transmissions reduces undercar clearances. At the same time the maintenance of brushes, commutators and bearings is eliminated and track and wheel friction reduced. This in turn increases performance ratings of the propulsion system on grades.

Another improvement on the ICTS are steerable-axle trucks which further reduce wear on both the steel wheels and steel rails. These patented trucks are also available on UTDC's other transit vehicles.

While revenue service on the 21.4-kilometre Vancouver ALRT system will not commence until 1986, to coincide with the opening of Expo '86, construction of the line is well advanced and the first production vehicles, for demonstration and testing purposes, have been delivered from RailTrans' Kingston plant after undergoing their run-in tests at the nearby test and research track.

RailTrans is also providing similar cars for the Scarborough Rapid Transit as the first application of this new transit concept for Metropolitan Toronto. With the 50 cars ordered for Scarborough and the 114 slated for Vancouver, RailTrans has built up production to a two-a-week schedule.

#### Expanding markets

In the United States, UTDC is designing and managing construction of a 4.7-kilometre elevated transit loop in downtown Detroit.

With a service frequency of 90 seconds and 13 stations, the one-way system is designed to move people throughout the downtown area and is slated to begin operation in 1985.

UTDC will also supply 54 subway cars to Boston, US in a contract it won in competition with major European and Asian transit suppliers. This is in addition to 126 cars ordered by the Toronto Transit Commission for Toronto's subway system.

UTDC technology has also been adapted for Ontario's GO-ALRT inter-regional transit program. Routes planned to extend present GO service include a western extension from Oakville to Hamilton; an eastern extension from Pickering to Oshawa; central improvements between Oakville and Pickering; and a northern link from Pickering and Oakville through North Metro, including the Pearson International Airport. Operating on exclusive rights-of-way, the vehicles will be capable of speeds up to 120 kilometre per hour at both grade and elevated sections.

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#### Energy study in Southern Africa

A Memorandum of Understanding has been signed between Canada and the Southern African Development Co-ordination Conference (SADCC) for three energy feasibility studies relating to electric power interconnections in the SADCC region.

The Canadian International Development Agency (CIDA) will contribute \$2.865 million for the studies which will be carried out by Canadian consultants. The studies include: interconnection of the Zimbabwe and Botswana electric power grids; extension of the Zambia or Zimbabwe networks to Kazangula and Kasane in Northern Botswana; and a master plan for electricity supply to Swaziland and Southern Mozambique.

"The goal of the project is to help the SADCC member states develop a comprehensive master plan for energy interconnection that can be presented to donor countries for funding and implementation," said Minister for External Relations Monique Vézina in the announcement. SADCC is a regional organization of nine Southern African countries — Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe — that are committed to accelerated economic development through regional integration and self-reliance. Angola is the co-ordinating country for energy and the Canadian consultants will work with a technical and administrative unit set up in Angola for that purpose.