

## GO TRANSIT: A NEW APPROACH TO URBAN TRANSPORTATION

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\*GO Transit, Ontario's government-sponsored rail and bus commuter system, carried more than 9 million passengers last year. Now in its fifth year of operation, the success of this experiment in public transportation rests in large measure with the foresight and planning by the province during the early 1960's.

Until last year, the east-west rail commuter service constituted the prime components of GO operations. Then, in 1970, GO Transit took another important step toward expansion and integration of the regional transportation system with the addition of an express bus commuter service and a dial-a-bus feeder service.

Ontario recognized the need for a comprehensive review of transportation planning in 1962 and initiated the Metropolitan Toronto and Region Transportation Study, one of the first large-scale approaches to urban transportation planning undertaken in Canada. Some 3,200 square miles were involved in the study, extending to the neighboring cities of Hamilton, 40 miles west of Toronto, Oshawa, 30 miles east, and Barrie, 60 miles to the north. Estimates placed population growth in this region at 6.5 million by the year 2000; and metro Toronto alone has a population of more than 2 million people.

Early in the study program, and in parallel with its interest in other modes of transport, consideration was given to the possible use of existing regional rail facilities to supplement highways, particularly for heavy commuter movement to and from central Toronto. At the time there was little knowledge of the passenger-carrying capabilities of these rail lines, and therefore an engineering study was conducted to determine the potential of various routes to handle significant commuter traffic volumes.

With rail service available, would the auto-oriented commuter make use of it? This was the question faced by the study group in 1964, once it had determined the physical feasibility of a commuter rail network. The few existing suburban trains operated by Canadian National Railways offered little useful evidence because their number was so limited that appeal to the auto commuter was severely restricted. The same limitations applied to some intercity trains that were used to a minor extent by Toronto commuters.

A 42-mile portion of Canadian National Railways lakeshore rail lines between Oakville and Pickering seemed to offer the greatest promise for a successful suburban service because of the existing and potential population characteristics of the corridor and the physical feature of the rail line itself. Attention was focused on this route.

Canadian National Railways agreed to operate trains under contract to the Ontario government along the Canadian National right-of-way. In effect, CN would run the day-to-day operations while the government would specify the type of service, fares, schedules, and other policies; supply the capital; pay operating costs; and receive the revenues.

In 1965, based on recommendations of the study, the provincial government gave the go-ahead for an east-west commuter rail service along the lakeshore between Oakville and Pickering, and the Ontario Department of Highways was given the responsibility for implementation and administration of the new service. Phase I of the Ontario government's new approach to urban transportation was now under way.

The commuter service needed an image. A design group was formed to produce a distinctive identification of all aspects of the new operation, and thus was born Government of Ontario Transit, called GO Transit for short. GO Transit's symbol—a stylized G and O in bright green linked together by the white horizontal bars of the letter T lying on its side—now appears on everything connected with the system, from tickets to locomotives.

As 1965 progressed, so did detailed planning of the myriad items that had to be considered in the development of this totally new mass transportation concept. This included such activities as station locations and property acquisition, design and construction of rolling stock, railway construction engineering, scheduling and consists, maintenance requirements, crew arrangement, labor negotiations, fare structure and ticketing, promotion, and many more.

The project was developed in just 24 months from the date of the announcement to proceed, in May 1965, until inauguration in May 1967. Specially designed GO equipment was constructed that included 54 streamlined aluminum coaches, nine self-propelled commuter cars, and eight 3,000-horsepower diesel-electric locomotives. The 85-foot long cars will accommodate 94 seated passengers each and have thermostatically controlled air-conditioning, heating, and ventilating systems.

Prior to the opening of the service in May 1967, an extensive 4-week promotional campaign was undertaken. Its purpose was to develop the specific advantages of GO service over auto commuting. The advertisements were warm and friendly, with a slightly whimsical appeal. They were designed to help offset preconceptions of commuter travel and to establish the GO service as socially desirable, modern, and relaxing. The ads highlighted the contrast with the frustrations and anxieties of auto commuting.

A total of 4,440 free parking spaces have been provided at the 12 stations located along the 44-mile section between Oakville and Pickering. Stations are located close to major arteries to provide easy access for people in the area. The new GO stations consist of 900-foot platforms to accommodate 10-car trains, heated shelters spaced one car length apart, and a ticket office constructed of prefabricated aluminum and glass panels, finished in green enamel. Pedestrian underpasses were built to enable passengers to cross from one platform to the other without danger.

Passenger convenience was the prime consideration in devising GO Transit schedules. Trains run 18 hours a day 7 days a week. During rush-hour periods on weekdays, trains run at 20-minute intervals, and in off-peak periods a basic hourly service operates. Trains operate on the push-pull principle, eliminating time-consuming turn-arounds at the end of each run.

By September 1967 the GO Transit commuter rail service was in full operation. Surveys had indicated that an estimated 15,000 passengers per weekday would use the service. This figure was surpassed almost immediately, and the volume rose past the 17,000 mark by January 1968. Over 20,000 passengers per day are now being carried on the rail service.

One of the effects of the increasing popularity of the GO Transit rail service was congestion in the parking lots at the suburban stations. One of the recommendations of the transportation study was that a feeder bus service be tested in conjunction with the rail service. If a successful feeder bus service could be implemented, some of the problems associated with parking-lot capacity could be eliminated.

Phase II of the GO Transit story commenced on July 6, 1970.

Because it both was a well-delineated community and had no existing bus service when the GO Transit service started, Bay Ridges was considered the most appropriate of all the GO station neighborhoods in which to test a feeder bus. Following a promotional campaign that covered every residence in the Bay Ridges community, a many-to-one dial-a-bus service was implemented on July 6, 1970, with the one destination or origin being the GO station. Service was provided to every GO train arriving and departing from the Pickering station. Service was, therefore, required 19 hours a day 6 days a week, and for 15 hours on Sunday. As mentioned previously, the GO trains operate on hourly headways between Pickering and Toronto at all times except during the weekday peak periods. In the peak periods the trains arrive and depart from Pickering every 20 minutes. This change in train headway means that, although the off-peak service can be maintained with one bus covering the whole community, additional buses are required in the peak periods. These additional buses are added in until there is a total of four in operation, with each one being assigned to one of four zones.

In this small community of approximately 15,000 persons, it was obviously unrealistic to consider the need for a sophisticated computerized dispatching system. Instead a manual system employing a single dispatcher in radio contact with each driver was introduced. In practice, a potential patron is required to phone the dispatcher at least 1 hour before his train to book a seat on a minibus. At this time the dispatcher tells him when, to within 5 minutes, the bus will pick him up. The dispatcher plots all requests for pickups on a zoned map of Bay Ridges, which is then passed on to the driver who uses it to schedule his route. In the case of emergency calls made less than 1 hour before the train departure time, the dispatcher can radio the bus direct with the information. If a patron fails to appear when the minibus reaches his home, the driver will contact the dispatcher, who will then telephone the patron to find out what is delaying him. Reservations for dial-a-bus service can be made by regular customers for a week in advance.

The equipment being used in the experiment is a converted Ford Econoline window van. Various conversions were made to the standard vehicles before they were put into service in the experiment. A 75-inch floor-to-ceiling clearance was provided by adding a fiberglass raised roof, complete with one window in front and two on each side. The seating layout consists of 11 vinyl-covered seats. The seats are arranged so as to provide additional standing room for three or four people and space for a luggage rack.

The fare for the dial-a-bus service is 25 cents cash or 10 tickets for \$2.00 for adults and 15 cents for children under 12.

A local service addition to the experiment was made on February 22, 1971, when a limited form of a many-to-many service was provided between the morning and evening peak periods. This service requires the use of two buses and is designed to give service to the GO station and to any other destination in Bay Ridges.

Patronage on the dial-a-bus feeder service to and from the GO train doubled during this first year of operation. An average of 250 passengers per day were carried at the start of the service. This figure now averages well over 500 per day. In addition, between 75 and 100 passengers per day are being carried on the local service. Passenger surveys indicate that 60 percent of the market is making use of dial-a-bus as a feeder system to and from the GO trains.

The need for parking-lot expansion has undoubtedly been delayed by the introduction of the feeder service.

In September 1970, Phase III of the GO Transit plan was introduced. At that time GO Transit express bus services began to operate between Hamilton and the Oakville GO terminal and between Oshawa and the Pickering GO terminal. These express buses connect with all GO train arrivals and departures. Twenty 44-passenger buses were purchased for this service. All are equipped with air-conditioning and environmental improvement equipment. Between Pickering and Oshawa, intermediate stops are made at Ajax and Whitby. On the Hamilton-to-Oakville service one intermediate stop is made at Burlington. New modern bus terminals have been constructed, and parking facilities have been provided within the interchanges of the freeways over which these express bus services operate.

GO Transit bus commuter services were also introduced in September 1970 in the area north of Toronto. The northern GO bus service links the towns of Newmarket, Aurora, Oak Ridges, and Richmond Hill with Toronto's subway, the main bus terminal, and GO Transit rail service at Union Station.

The total capital cost of the GO Transit system has been \$30 million, of which \$25 million has been spent on the rail service and \$5 million on the bus services. This is in contrast to the \$16 million-per-mile cost of Toronto's elevated Gardiner Expressway through the downtown core and the \$7 million-per-mile cost of the 12-lane Mac-Donald Cartier Freeway bypass across the northern half of the city.

Surveys indicate that GO Transit has had a significant effect in attracting people to lakeshore communities, and, as a direct result, residential and commercial developments have been stimulated in areas with convenient access to GO stations.

GO Transit operations have provided and are providing guidelines for transit planners in Ontario, enabling them to work toward a balanced coordinated network of public transportation embracing all modes of transport to meet the needs of the people of Ontario.