Unwatched Trains

by STEVE MUNRO & THOMAS LANGAN

[Originally published in T*he* Idler, No. 21, January & February 1989]

A FRIEND recently visited New York City after an absence of eight years. He could not stop talking about the cleanliness and efficiency of the subway system. This was not the first report we had heard of a renaissance under New York. Friends who have visited both cities now comment on how run-down the Toronto Transit Commission's properties appear.

New York is *supposed* to be a filthy, smelly, crime-infested dump above a rat-hole of a subway, and Toronto the shining city on the lake. The TTC assures us at every opportunity that our transit system is the envy of the civilized world. Yet, Metropolitan Toronto is being defeated by problems in waste management, housing, social services, road congestion, and public transportation. Together, these portfolios have an appetite for capital and operating funds that exceeds the means of both Metro and the Ontario government. In the case of public transportation, Metro Council is beginning to suspect there is little to show for its TTC subsidy and much that needs scrutiny in the TTC's plans.

Service is irregular, vehicles are often overcrowded, and the physical condition of the system is deteriorating. Anyone who has watched the decline of large transit systems in the United States may notice signs of worse to come.

TORONTO'S pretension to being a "world-class city" with a first class transit system is well entrenched. This belief is rooted in history, but the triumphs of the past are little consolation for the present.

The TTC was one of the first publicly owned transit services on the continent. It thrived in the compact and prosperous City of Toronto from 1921 until the early 'sixties. At its inception, the TTC almost completely rebuilt the dilapidated streetcar network it acquired from the private Toronto Railway Company. The TRC's owners were robber barons. They had stripped the company's capital by failing to reinvest in new plant and expansion. The new TTC quickly made a reputation for the quality of its construction, its maintenance standards, and good service.

In the first half of this century, Toronto enjoyed a tradition of competent, dedicated public servants. By the end of the Second World War, the TTC was largely able to finance the construction of the original Yonge Subway itself, from its accumulated capital surplus. It was plain (the tiled stations invited ridicule from style-conscious Montrealers, who would wait more than a decade for a subway of their own), but it worked, and Toronto acquired Canada's tallest downtown skyline.

MANY large city centres in the United States decayed after the war, as their inhabitants fled to the suburbs. Transit systems, in disarray from the war years, had to compete with the automobile for passengers. Huge expressway projects were undertaken with public money. Neither privately nor publicly owned systems had the money to rebuild. Expansion into the new suburbs was (and remains) complicated by the balkanization of local governments. Lower population densities make transit routes less economical, and the suburbs are anyway designed around the car.

Toronto was lucky. Suburbs as we now know them did not exist until after the war, and the city proper recovered in immigration what it lost to suburbanization. The inner city was tranquil, the tax base was healthy, residential housing was maintained, and the demand for transit continued.

Metropolitan Toronto was created by provincial legislation in 1954, and the TTC's service territory expanded accordingly. What a visitor to Toronto might now consider the inner suburbs (Scarborough, North York, Etobicoke) were then largely farmland dotted with small towns. Service to these areas grew slowly. The system maps of the middle 'sixties had large white spaces where buses never ventured. The TTC remained essentially a City of Toronto operation, sustained by the fare box.

When you make a profit, and no share-holders clamour for dividends, high standards are not hard to maintain. By the late 'sixties, the suburbs were a fact of life for the TTC, and those blank spaces began to fill with red and black lines. The new routes cost more money than they made, and by 1972, both capital and operating subsidies had become necessary. The Province and Metro gave the subsidies, wanting influence in return.

WITH the extension of the Bloor-Danforth Subway to Islington and Warden in 1968, the TTC began its suburban expansion in earnest. At first, a zone system imposed a premium on the new, outlying customers. But suburban politicians, who, through Metro Council, were paying for the expansion, would not stand for this. In early 1972 the zones were abolished. For the long run, this would attract new customers. But these would be the customers who cost more to transport than they paid in fares.

Enter Bill Davis. The Premier of Ontario became the American Public Transit Association's "Man of the Year" by killing the Spadina Expressway, while increasing subsidies to Metro's transit system. In November, 1972, he announced a network of new routes, to be built with innovative technology at a fraction of the cost of subways.

It was the Year of the White Elephant. The Urban Transportation Development Corporation was born, an organization that would guarantee the failure of Davis's transit policy.

The UTDC started from the assumption that no existing technology could provide a capacity midway between that of buses and subways at moderate cost. With promises of fame, exports, and jobs, jobs, jobs, it set out proudly to reinvent the wheel. Beginning as a research group, it soon became a manufacturer and promoter, with the TTC as a captive client. A "buy Ontario" policy was reinforced when UTDC bought up the Thunder Bay works of Hawker-Siddeley Canada, the plant that makes the rolling stock for Toronto's subway, and for the regional GO Transit system. Another plant was built in the Tory bastion of Kingston.

In the last sixteen years, exactly one line has been built in Toronto with the UTDC's technology, considerably inferior to a conventional subway line, but every bit its equal in cost. The operating subsidy on this line is now four times the system average, and there have been frequent breakdowns.

(The UTDC's two other sales, to Vancouver and Detroit, owed their existence to Davis's political connections in British Columbia and Michigan, and to substantial funding given with no questions asked by senior levels of government.)

The Scarborough Rapid Transit Line was first proposed in the 'sixties by the TTC, as a high-capacity streetcar running on its own right-of-way. These are common in Europe, and have sprung up in western Canada and the United States in the last decade. Their cost is half that of a subway, because there are no tunnels or elevated structures. When the Province persuaded Metro (with a brutal arm-twist) to let the UTDC build the Scarborough Line with its new technology, the Province agreed to pay all extra costs. The extra exceeded one hundred million dollars.

IN 1972, Toronto's streetcars were under threat from a faction of the TTC management that regarded them as outmoded, and that foresaw the replacement of trunk routes with an east-west subway line through the city core. The belief that subways are the chief solution to transit problems is deeply ingrained in TTC planning, and it was this focus that encouraged work on new transit technology by the provincial government.

A pressure group called Streetcars for Toronto was formed to fight the proposed replacement of streetcars with buses. Where this had occurred in North America, it had usually brought drastic reductions in service. The TTC had itself regretted the removal of streetcars from Bay Street where riders did not, as expected, switch to the newly opened University Subway in 1963. Yet the bias against streetcars remains, and feelings of vendetta against an irritating citizens' group cloud analysis.

Streetcars have always made sense on high-density, established downtown routes. They are far cheaper than subways, but having rails, they define their own rights-of-way. When verbally disguised as Light Rapid Transit vehicles, they are high technology. Their very adequacy made them a threat to the UTDC's development plans, so much that the UTDC dubbed its own technology "Advanced Light Rapid Transit" to suggest it was a natural evolution from its mortal competitor.

Toronto's aging streetcar fleet has been largely replaced by UTDC vehicles, hideously expensive to build and maintain. Within three years they were pounding the track structure to bits, and complaints from residential neighbourhoods about the noise of passing streetcars were mounting. The problem lay in the choice of a wheel designed for roadbeds such as those on railway lines that are springy, and absorb vibrations. With track set in concrete, the entire roadbed resonates, and the pavement soon cracks up. The new cars produced vibrations of a frequency low enough to travel from the concrete through the earth and into adjacent buildings.

At first, the TTC and UTDC ignored the problem, claiming that tests showed the cars to be no noisier than their predecessors. This could no longer be ignored, and the implications for maintenance costs became clear, did the TTC proceed with a simple fix. They replaced the wheels with a new design resembling those on the older cars, which vibrate at a frequency too high to induce a sympathetic rumbling as they pass.

The streetcars were built with sealed windows and no air conditioning. This would make the cars simpler to maintain: it had worked in Toronto's subway. The subway, however, runs underground for long distances, and much of the tunnel remains cool even during heat waves. Only after the windows of a packed streetcar were pushed out by sweltering patrons (an act publicized as vandalism by the TTC) were the windows replaced. By this time, the subway cars were being built with air conditioning.

The high maintenance costs of the new streetcars led to service cuts on the streetcar routes as the TTC struggled to control expenses. Over the decade from 1972 to 1982, Toronto's love for the streetcar cooled, largely because of the negative image of the new cars, and the TTC's intransigence in admitting they were inferior to what they replaced.

It is painful to account for the drain of TTC resources into fixing the products of the UTDC. The TTC's public financial statements do not include separate entries for stupidity or waste. To the unnecessary costs of the Scarborough Rapid Transit Line we may add the higher maintenance costs of the 196 "CLRV" streetcars, premature track replacement, and serious problems with the latest order of 156 subway cars. The total is several hundred million dollars and counting. It was no surprise when the incoming Liberal government of Ontario in effect gave Lavalin Industries several million dollars to take the UTDC off their hands in 1986. But the TTC has not placed a competitive tender for rail equipment in twenty years, and shows no sign of changing its ways.

AND now another agency of the provincial government proposes to compound the damage done by the UTDC. It is the Technical Branch of the Transit Division of the Ministry of Transportation and Communications, already profoundly implicated in foisting the UTDC's "high technology" on Toronto. Now they are trying to sell natural gas buses.

Real world manufacturers have been working on this one for twenty years, without success. Natural gas is low in heat energy, which means buses must refuel frequently or carry a huge gas tank (the existing diesel buses store enough fuel to last a sixteen-hour day). Natural gas engines run at high temperatures, and are thus expensive to maintain. They lack power, and so would not likely be used in high-capacity articulated buses. While their exhaust smells better than diesel fumes, it includes dangerous nitrous oxides.

TTC management, eager to ditch the aging trolleybus fleet (just as they had tried to ditch streetcars), proposed to purchase a "trial" fleet of 125 natural gas buses from Ontario Bus Industries. Conveniently, this fleet would be based at the major trolleybus garage, and would operate on routes that were formerly electrified. Ontario Bus Industries' squeals of delight were muted, however, when the trial order was cut back to twenty-five, and other bus builders expressed an interest in bidding.

The TTC has a small trolleybus system, requiring about 110 buses to operate. The fleet is worn out, the overhead design is obsolete (the trolley poles frequently come off their wires), and maintenance facilities are inadequate. However, trolleybuses are pollution-free, and the Commission has three times declared that they will never be replaced by obnoxious diesels. The natural gas bus is management's attempted end-run around the political difficulties of replacing electric with diesel buses.

A better solution would be to buy state-of-the-art, articulated trolleybuses, and modestly expand the overhead network to allow consolidation of the fleet at a single efficient all-electric garage. There are a number of heavily travelled diesel bus routes that are ripe for conversion. The TTC has produced a study to show that trolleybuses cost more to operate than diesel, but this is refuted by the experience of every large transit authority that uses them, and by the TTC's own earlier studies made when trolleybuses were not out of favour with management.

The TTC argues that trolleybuses are inflexible, both for route changes and for diversions around accidents and construction. Trolleybus technology long ago reached the point where vehicles can run on battery power off-wire for short distances (this is a popular feature of the new trolleybus fleet in Vancouver). The routes on which electric vehicles are normally used are heavy, stable lines, woven into a settled urban fabric, and rarely changed.

FOR the first time, in 1979, the number of riders on the TTC actually decreased, Management panicked, for this is what had happened else where in North America, just before each transit system rode off a cliff. Metro Council was divided, the Left arguing for more subsidies and the Right demanding "fiscal responsibility," which means cutbacks. As ever, both were wrong. From this debate the "Fair Share" formula emerged, a social contract between the TTC and its customers by which fares would be set at sixty-eight *per cent,* of operating costs, and the balance would be split equally between Metro and the Province. Behind the formula was the assumption that the TTC would be able to adjust its operating budget to suit demand. But the Province went on an austerity kick, forcing the TTC to reduce cost per passenger.

The TTC's first response was that of any organization with its back to the wall — undress and bend over. Expansion was curtailed, and service quality was reduced everywhere. Scarce resources were rationed by a "Service Standards Programme" that measured the cost efficiency of existing and proposed routes by arbitrary criteria.

Cost efficiency and net cost are not the same thing, although this distinction is lost on the TTC. Their goal is to minimize the net cost *per* passenger rather than to examine the suitability of the service to demand on a route. Loading standards are applied to averages, rather than to individual vehicles, so that overcrowding is often hidden by the statistics. Moreover, a net cost cannot be allocated without also allocating a realistic estimate of income.

Allocation of revenue in a single-fare system is not possible. The present system (the third that has been tried) allocates roughly half a fare to each route a passenger rides. If he transfers more than once, he allocates more revenue than he has paid in his fare; if he does not transfer, his ticket counts for half. The net effect is to exaggerate the revenue from high-cost, long trips with many transfers, and understate the revenue from low-cost short trips with none. Thus cutbacks are justified on crowded downtown streetcars, while empty buses roam the suburbs. Passengers and politicians may complain if they wish, but the Service Standards Programme is invoked to confuse and silence them. There is no evidence the TTC itself grasps that passengers are lost through overcrowding; or that overcrowding is a symptom of passenger demand.

Last year, even the TTC acknowledged that reasonable requests for service were being denied because of the way it crunches numbers. Its answer was to invent a new number-crunching system, rather than to examine the underlying methodology.

THE TTC has suffered for two decades from managers with weak heads and Commissioners with delicate egos. It is a problem that is found at many levels of Ontario society: insecure people in secure positions. Five Commissioners are appointed by Metro Council, apparently for the purpose of approving requests for additional funding without debate, and to make excuses for management failures. The present Chairman, Jeffery Lyons, is apt to take criticism of the TTC as a personal affront, as citizens' delegations have discovered when making presentations before him. Yet none of the other Commissioners would be an improvement on him. A Gorbachev is needed.

When pressed by representatives of the outside world, the TTC's instinct is to defend inactivity. When a problem won't go away, it is divided into little parts, so that one of the parts can be studied to death. Both management and Commissioners suffer from NIH syndrome. They do not want to know about any proposed improvement or innovation that was "Not Invented Here," and thus have failed to benefit from the accumulated experience of other transit authorities around the world.

Monthly passes were resisted until May 1980 when Metro Council forced them on the TTC. For ten years it has been possible to install subway turnstiles that would read magnetic codes on such passes. A lacklustre trial in 1984 of the Stripes Metropass was sent back to the drawing board, even though it was (according to TTC press releases) an unqualified success. With luck, there will be magnetic pass readers by 1990. Articulated buses and streetcars were purchased only when the provincial government insisted. But these vehicles are efficient only with self-service fare collection, so passengers may use all the doors. (Vancouver's Skytrain runs on this principle; at rush hour, inspectors ride between fare zones, giving passengers without a valid fare the equivalent of a speeding ticket.) The TTC would not risk this. Passengers must still load through one door past the fare box, distracting the driver and piling up at the front.

The TTC is just now implementing a general monitoring system, to keep track of vehicles on congested roads. This is commendable, but the technology existed in Europe before the TTC began to study the problem Instead of improving on Zurich's system, we reinvented it from scratch.

Meanwhile, the TTC's attitude to complaints of irregular service is that it isn't their fault — there are simply too many cars in the way. The TTC does not adequately account for congestion when scheduling its buses and streetcars. It is thus like the employee who says, for the four-hundredth time, that he is late for work because it was bumper-to-bumper on the Don Valley Parkway.

One-third of streetcars running during afternoon rush hour never reach their scheduled destinations. They are kept on time by "short-turning" — an arcane practice in which passengers who were pressed to the windows are suddenly unloaded onto the sidewalk, miles from home, to compete for a place in the next streetcar, also packed to the windows, and liable itself to be short-turned. This of course also causes long gaps in service at both ends of the line. In a novel variant, some cars are short-turned before they reach downtown, and return outbound on time, but empty.

We have now reached the point where retiring Commissioner Tom Jakobek has proposed an express bus to downtown from his neighbourhood in the upscale Beaches, because the Queen Car is so unreliable. Though often suggested as a panacea for transit problems, express buses are generally the most expensive and ineffective solutions. An express bus serves only two locations, and usually operates only during rush hours. In a metropolitan area, where the demand for transit is diverse, such specialized services reduce the productivity and convenience of the network as a whole.

SUBSIDY policies both here and in the United States direct management attention to new construction, and distract from the day-to-day business of getting the most out of existing equipment. Rapid transit construction is visible: earth is moved, concrete poured, there is a beehive of activity, and when it is done, the politicians gather to congratulate themselves. Capital projects attract special subsidies because they are "onetime affairs." They tend, like the Scarborough Rapid Transit Line, to be announced before an election. There are no speeches when the Queen Car runs on time.

A recent master plan for regional transit (the third within twenty years) foresaw twenty-five years of construction at a level of funding unmatched since the 'sixties. The argument is over whether it is affordable, not whether it is necessary.

The plan, sexily entitled Network 2011, attempts to provide for regional transportation needs with the local transit network. It ignores opportunities to expand commuter service on the existing railway lines. It is a mixed bag that contains everybody's pet project: a Sheppard Subway for North York and Scarborough; an Eglinton Busway for York and Etobicoke; and a new Downtown Line to relieve congestion on the Yonge Subway (which will increase when the Sheppard Line opens), *&c.* There will be employment for the TTC Engineering Department until everyone retires.

No sooner had Metro decided the Sheppard Line was the top priority, but a project to increase the capacity of the Yonge Line crept mysteriously to the top of the TTC's agenda. It will take years to complete, cost close to a billion dollars, and, by the TTC's admission, may not work when it is finished. Down by the lake, the Harbourfront LRT is inching forward. Originally conceived as a low-cost streetcar route that would loop in the basement of Union Station, it has grown into a quasi-subway with a twenty-three-million-dollar (and counting) tunnel under Bay Street. As cost overruns mounted, the TTC shifted elements of the project into other accounts. Eventually they had to face the music at Metro Council, and seek additional funding. How did the TTC respond when challenged about the extra cost? Says Chief General Manager Al Leach, "Well, if you don't pay, we can just leave the hole in the middle of Bay Street."

Rapid transit has gone the way of the expressways. Once the pride of postwar America, the expressways are now crumbling, and no government can afford to rebuild them. In some cities, long-deferred maintenance on transit systems has made major capital investment inevitable.

The cleanliness of Toronto's subways is visibly declining. Janitors are no longer a common sight. Litter accumulates in subway cars, and is not always removed overnight. Torn seats that were once re-upholstered are now patched, sometimes with black electrician's tape. The peeling patches are an invitation to further vandalism. Minor equipment failures, such as jammed subway doors, delay thousands of passengers during rush hours. Subway cars go unrepaired for want of spare parts, and only the spare propulsion capacity of most equipment hides the presence of cars running as trailers in the middle of trains. At times, there is not enough working equipment to run the scheduled service, though the fleet is much larger than required.

Streetcar track is now repaired only when necessary and even necessary repairs are left until a major road reconstruction allows the TTC to obtain extra subsidies. Routine complete overhauls of machinery are a memory. Streetcars delivered in the late 'seventies are already showing their age.

Maintenance cannot be deferred very long before the system begins to disintegrate. If the lifespan of a city bus drops from the TTC standard of sixteen to twenty years, to the eight years accepted in the United States (where buses are treated as if they were disposable), there would be a substantial drop in service and rise in cost.

The decline may be seen in human terms in the morale of TTC staff. Poor public sector management is often to blame for the growth of selfish, irresponsible unions, and for the impatient surliness with which employees greet the public. They don't get any satisfaction from their work — they just want to get home when their shift is over. Morale among the drivers falls, as the old pros watch the system decline, and new drivers get used to slovenly habits. It is now three years since the TTC last published its internal "Quarterly) Performance Management Report." It is twenty years since John Inglis, the last old pro General Manager for Operations, retired. He was in the habit of riding around the system, looking for symptoms of trouble and neglect, and making life difficult for complacent employees. But the staff admired him, and shared in his pride.

IN the early 'seventies, the Commissioners realized the advice they were receiving from management was inadequate; they created the position of Chief General Manager. In the case of the first appointee, Michael Warren, the cure proved worse than the disease. Warren was a career bureaucrat with no background in public transportation. A great manager he might have been, but his naïveté about transit left him vulnerable to misinformation from below. He soon realized the only way to get things done was to support his staff, and so became part of the problem he was hired to solve. Warren was responsible for populating the TTC with image-driven senior managers. His successor, Alf Savage, was an improvement, but the damage had already been done. Savage then abandoned Toronto for Buffalo.

The current Chief General Manager, Al Leach, sprang from the Ministry of Transportation bureaucracy. As head of GO Transit, he had presided over a period of modest growth while demand for commuter services was exploding. Rather than creating an alternative network of longer routes into central Toronto, GO Transit was content to become a feeder system for the overcrowded subway.

THE New York subway was not built to be dirty and dangerous and unreliable, but rather to move millions of riders through a dense urban area quickly, comfortably, and cheaply. It deteriorated through neglect of this simple goal, and billions of dollars are being spent to recover what was lost.

Like the Toronto Railway Company, the TTC has become a robber baron, squandering the capital of a well-built, well-run transit system, and its employees' morale, because it is too proud to confront its failures, and because it lacks professional dedication. Soon it will be our turn to clean up the mess.

STEVE MUNRO, an amateur technocrat, is Chairman of Streetcars for Toronto, the “irritating citizens group” mentioned in his article. He is also a computer programming expert with the Toronto Board of Education.

THOMAS LANGAN professes philosophy at Saint Michael’s College, but when young almost became a railway executive. He is the author of *The Meaning of Heidegger*, and an active Roman Catholic layman.