

To the TORONTO TRANSIT COMMISSION
From Dr Philip Webb, Cities Centre, University of Toronto
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Re Trolleybuses

Report 5 proposes a major reshaping of the TTC's diesel bus policy.
In general, it make a lot of sense & you should largely adopt it.

One proposal is to retire prematurely the "hybrid" diesel-electric vehicles.
In itself, given the serious maintenance & reliability problems which these buses have given to your staff, this is unobjectionable.
However, the history of this part of your bus fleet needs to be outlined & some conclusions drawn from it.

The story started in the 1980s, when TTC staff wanted to eliminate its 40-year-old all-electric trolleybuses ; co-incidentally, the Ontario Ministry of Transport was keen to promote natural gas as a fuel, hoping to gain a wider market for its protégé OBI (later Orion), which had developed a prototype natural-gas bus.

Despite strong public protests, led by the then City of Toronto, in which most of the trolleybus system operated, the alliance succeeded in replacing them by 1994 with a new fleet of 150 natural-gas buses.

By 2000, however, the defects of natural-gas technology were apparent & TTC bus management started to push adoption of "hybrid" buses, ie vehicles driven by an electric motor, but powered by a diesel generator assisted by batteries which were recharged when the brakes were employed.

Altogether, 691 buses using this complex technology were delivered 2006-9 with the enthusiastic support of your diesel bus management.

At the traditional life-span, they should stay in service till 2024-7, but the report expects them to go 2017-21 : will they last even that long ?

The joint result of these two disastrous flirtations by your staff with unproven technologies has been some serious loss of public funds & a future total reliance on fossil-fueled greenhouse-gas-emitting straight diesel buses, whose capacity has now dropped to c 50 riders.

Financially & operationally, the TTC would have been at least as well off to have renewed its trolleybus system in the 1980s, as the citizenry wanted.

Today with regular renewals, it would have had 150 non-polluting vehicles to add to its street cars & subway trains in facing the non-fossil future.

During that time, Toronto's West Coast rivals have done just that.

In 2008, Vancouver bought 228 new trolleybuses from New Flyer in Winnipeg ; Seattle, whose system was almost wiped out by 1970, has rebuilt it & is currently taking delivery of a new fleet, as is San Francisco.

All three cities also have light-rail lines like Toronto's.

It is time for the TTC to take a fresh look at trolleybuses, as part of its range of vehicle technologies, to replace some diesel buses.

There will be an initial capital cost for substations & overhead supports, but once built those items last a very long time, upto 70 years.

The vehicles themselves are more expensive than straight diesel buses, but they also last a lot longer : the old fleet survived 45 years (1947-92) & some trolleybuses have run for as much as 50 years in Switzerland, South America & today in Eastern Europe. Maintenance costs are also lower for the simple electrical equipment which trolleybuses use & some of the costs will be shared with the street cars, reducing the overall expenditure on both systems.

In the past, one objection staff had to trolleybuses was inflexibility, but a new fleet will have traction batteries, like those in Vancouver, which allow emergency operation away from the wires ; it also allows simpler wiring at intersections & a largely unwired storage yard (one extra advantage is that trolleybuses can be stored outdoors in winter).

On the other hand, no-one has denied the further advantage of trolleybuses, their better acceleration, providing faster & more popular service & reducing the number of vehicles needed to move a given ridership.

Riders & residents everywhere have long defended trolleybuses, as they did in Toronto in the late 1980s. It has always been managements, composed mainly of men who were trained in automotive equipment, which have lobbied relentlessly to remove them. You must make sure that a fresh review of the question makes full use of TTC expertise in the existing departments for light & heavy rail & is independent of your diesel staff, who have no interest in electrification.

You should also consult managements in the West Coast cities, other excellent trolleybus operators like Zürich & Geneva and Canada's own trolleybus manufacturer New Flyer.

Above all, trolleybuses need to be seen, not as funny buses, but as the lightest form of light rail, & need to be managed as such.

Your CEO is keen to tell us how quickly he is "modernising" the TTC.

There is nothing at all modern about creating a fleet of 2000 buses composed entirely of straight diesels. That was in fact the policy adopted by London Transport in England 60 years ago, when they ordered the replacement of the World's largest trolleybus system with diesels.

A genuinely modernised TTC will face upto the urgent need to deal with the greenhouse gas crisis & the end of the fossil-fuel era, which loom ever larger on the horizon. A revived trolleybus system would be an excellent example of a real commitment to the 21st Century.

We will very soon have a new federal government which has promised to restore Canada's international credentials in environmental policy.

It is likely to revive a program of financial assistance for cities which make more use of alternatives to fossil fuels for transit operations :

the TTC should be prepared to take full advantage of such an opportunity.

The TTC Commission never formally decided not to renew its trolleybuses :

the question was left up in the air after it rejected a report in 1995 & threatened not to pay the consultants for their incompetence.

It is time to do what your predecessors should have done back then & restore trolleybuses to your range of environmentally sound equipment.

Sincerely