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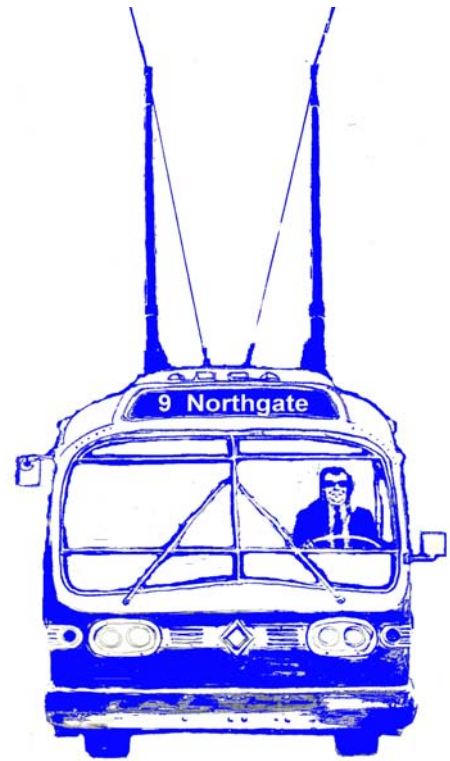


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To Northgate, to Northgate . . .??

In the next weeks, Edmonton Council will deliberate the city's budget for 2006. Among the items up for consideration is the extension of the trolley system to Northgate, which would allow trolley buses to operate over the full length of Route 9 (from Southgate to Northgate) as well as on Route 134 (Northgate to Downtown).

More than half of Route 9 already has trolley wires in place, and the 3.4 km section on 97 Street from 118 Ave. to Northgate also has many of the special poles to support trolley wires from a previous move to expand the system.

If approved, construction of the extension would take place over two years, with completion in 2007. According to previous estimates from Epcor, the capital cost would be between 2 and 3 million dollars; the city administration is quoting \$5.8 million. Initial capital investments are typically amortized or pro-rated over the life of the asset, which in the case of trolley bus wires and infrastructure is about 30-50 years. Federal green project programs are one source of funding available to the City to expand trolley operations.

According to the city administration, some of the existing trolley buses would be refurbished to operate the extension until the trolley bus fleet comes up for renewal. The life span of the current vehicles is to 2012.

Why look at extending the trolley system now?

In North America, nine cities operate trolley buses as a part of a larger bus network. Every single one, except Edmonton, has moved to buy modern, accessible trolley buses within the past seven years, and all but two, Edmonton and Philadelphia, have built extensions in the past decade.

More than ever, a key motivator for retaining and expanding electric transit is the rising cost of petroleum fuels. According to Edmonton's 2006 proposed Business Plan, the base cost of oil has risen 107.5% since 2000, and the city's 2006 budget foresees a fuel cost increase of 15% during the upcoming year. At this rate of inflation, fueling diesel buses will entail a cumulative additional cost to taxpayers and transit users in excess of \$80 million over the next ten years.

To compare, the increase in electricity prices since 2000 is only around 30%. Electric transit not only offers greater fuel price stability, but expanding trolley operations has a payback for Edmontonians in higher Epcor dividends.



Oil prices on the rise:
Base cost of oil to the City
has risen 107.5% since 2000

“Edmonton can get a step ahead of rising diesel prices by extending the trolley system now.”

Across North America, transit systems depend heavily on diesel fuel, and prices have risen markedly over the past two years. According to the American Public Transportation Association, fuel increases in 2005 alone are predicted to cost public transit systems in the United States more than \$750 million dollars. A Canadian figure for this year is not yet available.

Transit providers struggling to cover budget shortfalls have resorted to service cuts and fare increases. As the volatility of oil prices becomes more a fact of everyday life, it is clear that alternatives to diesel powered buses must be sought out, even if the initial vehicle purchase costs happen to be higher. While diesel buses have served transit well, there is little point in buying buses that transit won't be able to afford fuel for in ten years.

In a city like Edmonton that already has an investment in a trolley system of some 130 kms, with eight power substations and an estimated asset value of \$73 million, extending that system is a sensible option. Trolleys are well suited to busy routes in the heavy traffic conditions of the urban core, where diesel buses exhibit high fuel consumption, high emission levels and high noise levels from starting and stopping. By extending the wires and using trolleys on more of Edmonton's core routes, the City can reduce its dependence on petroleum fuels and increase the sustainability of its transit system while enhancing Downtown quality of life.

In fact, the Centre for Sustainable Transportation (www.cstctd.org) recommends greater use of electric vehicles like trolley buses and LRT as the best long term investment in sustainable transportation. These vehicles constitute the only proven 100% non-petroleum alternative to petroleum fuelled buses (diesel and natural gas) at this time.

If Edmontonians are to benefit from a viable public transit operation in future years, the City needs to realize the value of its trolley system and look toward maximizing the use of this fuel alternative.



Report shows New Low Floor Trolleys a Sound Investment



The Edmonton group *Citizens for Better Transit* recently released a study sent to them by a Master's student at Queen's University in Ottawa. As her master's thesis, Annika Hui completed an economic analysis of using trolleys vs. diesels on Edmonton's Route 9. The report is timely, given that this question is under consideration in the 2006 budget.

Hui's analysis looked at "life cycle costs" for brand new low floor trolleys of the type Vancouver is buying vs. new low floor diesels. Life cycle costs are the total costs incurred over the entire life of the vehicle. Professional evaluations that compare the viability of different options typically rely on life cycle costing formulas.

Hui's report is conservatively based on current cost figures provided by the city administration and Epcor. It did not look at future fuel cost scenarios. The report presents some interesting findings. In all cases, trolleys were found to be cost competitive with diesels. According to the analysis, the vehicle with the lowest life cycle costs was a new 60 foot, articulated trolley bus. It showed up as 4.4 to 6.2% cheaper than similar sized diesels. 40 foot standard sized trolleys were slightly more expensive, but with the 10% additional ridership that trolleys typically bring, they also came out financially ahead of similar sized diesel buses. The trolley's cost advantage was found to reside in the fact that Edmonton has so much trolley infrastructure (power supply network) already in place. The investment for moderate extensions to the system to increase trolley utilization ends up benefiting operating costs.

The report also looked at buying wind generated power, which would make the trolleys a totally green system. Currently, wind power retails for a higher price than regular electricity. But even with the premium for wind electricity added into the cost, trolleys still came out competitive with diesel buses.

The report's conclusion: Edmonton should complete the extension to the trolley overhead on Route 9 all the way to Northgate, and purchase new, state of the art low floor trolley buses.

[Source: Annika Hui, "Wherever Money Takes You: A Comparative Life Cycle Cost Assessment of Diesel Buses and Electric Trolleys for Edmonton Transit System Route 9. School of Urban and Regional Planning, Queen's University, Nov. 2005.]

Canadian and International News Forum

Kyoto Cash Call!



Environment Minister Stephane Dion announced in early November that his ministry is close to finalizing agreements with ten provinces on allocating billions of Federal dollars for greenhouse gas reduction. Included are \$2-\$3 billion for Kyoto friendly technology and infrastructure projects. Clean coal technology for power generation and the phasing out of old, high polluting power plants as well as the development of an east-west power grid are projects that could be funded under the agreement. The project is designed to cut Canada's greenhouse gas emissions by 55 to 85 megatonnes each year. Dion promised a fair distribution of funds among the provinces. [Source: CP News]

Philadelphia to get new Low Floor Trolley Buses



Philadelphia's transit authority SEPTA is reported to have accepted a bid from New Flyer Industries for the supply of 38 new low floor trolley buses of a design similar to those being built for Vancouver. Included in the contract is an option for a further 23 vehicles. The electrical equipment for the trolleys will be supplied by Kiepe Elektrik and will also be similar to that used in the new Vancouver vehicles. The home of the Liberty Bell has also called for bids on revamping its overhead wire system. [Source: ETB News/R. C DeArmond]

Rising Diesel Costs cause Deficit for Vancouver area Transit



Coast Mountain Bus Company, the transit service provider for the Vancouver area, is projecting a deficit of about 1.7 million for 2005 as a result of the soaring cost of diesel fuel and lubricants. At June 30th, fuel and lubricants were already over budget by \$3.1 million. Coast Mountain had anticipated paying 0.67 per litre for diesel in 2005, but the actual rack (bulk) price averaged 0.82 per litre for the first half of the year. An overspend of \$6 million is predicted by the end of the year.

The deficit would be greater if it were not for Coast Mountain's fleet of 231 trolley buses that do not depend on diesel fuel. Economists at BC banks anticipate oil prices will reach \$100 per barrel in two years. [Source: TransLink, Second Quarter 2005 Revenue and Expenditure Forecast, presented September 21, 2005]

Transit Professionals Gather in Salzburg

Conference Topic: Trolley Buses – Sustainability and Urban Quality of Life

Bus manufacturers, transit managers and transportation professionals from across Western Europe and around the world gathered in Salzburg for the annual International Transportation Symposium on September 29th and 30th. The focus of this year's event was sustainability and urban quality of life. In center stage was the trolley bus, the only proven bus technology to offer complete sustainability and minimal environmental impact.

"The trolley bus is becoming an important factor in the bus industry again," said Horst Schaffer, transportation expert from Zurich, Switzerland. "Athens made a move to trolley buses in preparation for hosting the Olympic Games, and Vancouver is now getting new trolley buses [for the 2010 Olympics]. Beijing also wants to present itself as a model of technological advancement and is making an investment in trolley buses for the 2008 Olympics."

Trolley buses are characterized by quick acceleration and good performance on hills, explains Schaffer. They have a longer life expectancy than diesel buses. New models can achieve energy savings of 25% through regenerative braking, and operating costs are competitive with diesel buses. Although building a trolley system requires a higher capital investment than a diesel system, it has almost twice the longevity. Over the long term, costs are reduced because trolley buses are more energy efficient, so a trolley system recoups its investment, he emphasized. Schaffer estimates trolley systems are economically feasible in cities of 100,000 or more population.

The city of Salzburg celebrated 65 years of trolley bus service on October 1st by opening an extension of its trolley Route 1 to the Salzburg Soccer Stadium using new 15 m articulated low floor trolleys with the latest in propulsion systems. “Trolley bus service for soccer fans is just one of our new services,” explains Managing Director of Salzburg CityBus Gunter Mackinger. “In December, we’ll be opening a new trolley bus route, as Obergnigl is added to the trolley bus network after twenty years of service with diesel buses. We’ll be fulfilling our promise to area residents.” Salzburg currently operates 8 trolley routes.

As the city celebrated its growing trolley bus system, the neighborhood of Maxglan declared a “car free” day as a parade of trolley buses passed through the area. The trolley bus anniversary celebration drew over 15, 000 visitors to Salzburg. CityBus data shows trolleys attract 16% more commuters to transit than diesel buses. Says Mackinger: “Switching to trolley buses makes good sense however you look at it.”

[Sources: www.stadtbus.at; www.salzburg.com; *Der Standard*, October 3, 2005; *Salzburger Nachrichten*, October 5, 2005. Originals in German.]



Above: Transit professionals and manufacturers from Western Europe and around the World gathered at the annual “Regionale Schienen” conference in Salzburg. The conference focussed on the trolley bus and its growing popularity as a tool for sustainable transport.

Below: European bus manufacturers show off their latest electric vehicle designs in Salzburg. Left: Skoda-Irisbus Model 24 TR. San Francisco’s new trolley buses are based on a Skoda design. Right: Ganz-Solaris. [Photos: www.trolleymotion.com]

