

## Extract of Letter from G. Leicester, Manager, Implementation Planning, TransLink

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### RE: NATURAL GAS BUSES

"Our experiences with operating natural gas buses are as follows:

Currently TransLink operates 50 natural gas buses out of a fleet of 1,100 buses. The remaining 1,050 include 244 electric trolleys and over 800 diesel buses. Natural gas buses are currently stationed in Port Coquitlam, the only depot set up to accommodate natural gas buses. The depot includes a high speed fueling facility as well as special tooling required to repair natural gas buses. The 50 natural gas buses are currently used on relatively light duty cycle routes in the Tri-Cities and Maple Ridge/Pitt Meadows. The location of the depot does not lend itself to the operation and maintenance of routes in the City of Vancouver without significant deadhead and travel time costs to TransLink.

TransLink is currently not planning to acquire anymore natural gas buses. Experience with operating the buses indicates that they have higher operating and maintenance costs and suffer more frequent breakdowns than diesel or trolley buses. Much of the problems stem from the temperature that natural gas combusts, which results in more frequent burnouts of valves and other parts. Because of the volatility of the fuel, there is an added requirement for specialized detector devices on the buses as well as special spark free tooling. The former in particular is subject to failure causing reliability problems that lead to more frequent service disruption to customers. Finally because of the weight of the fuel tanks, natural gas buses must be used on relatively light duty routes because passenger capacity is typically 15% lower than diesel or trolley buses. The higher weight of the vehicles also results in more frequent brake replacement and stresses on the frames of the bus. CNG is cheaper than diesel fuel, but requires 20% more to operate the same amount of time.

Insofar as emissions are concerned, natural gas buses emit considerably less particulate matter than diesel buses, due to a more efficient burning cycle. On the other hand they produce roughly similar amounts of NO<sub>x</sub> and CO<sub>2</sub> to the latest version of diesel buses and roughly double the amount of carbon monoxide. From a noise perspective, they produce about 75-dBA compared to less than 70-dBA for an electric trolley. Trolley buses by comparison are the only true pollution-free vehicle in Vancouver. We believe the overhead wires are a small price to pay given the benefits of clean air and reduced noise. TransLink will work very closely with the Park Board to ensure that trolley overhead wires are installed in the most sensitive way possible."