

NYC Transit Riders Council

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Alternative Bus Fuel Technologies Rival CNG on Clean Emissions

The call for NYC Transit to buy only compressed natural gas (CNG) buses is misguided, according to a [report](#) released today by the New York City Transit Riders Council (TRC). In recent months, several elected officials and environmental advocates have urged NYC Transit to buy only compressed natural gas buses as an alternative to diesel buses. The Council's report, *Analysis of Alternative Fuel Technologies for NYC Transit Buses*, notes that there are more effective options for reducing emissions from NYC Transit's diesel buses.

"We are concerned about the large number of diesel buses that NYC Transit plans to buy in the 2000-2004 Capital Program," said Chairman Andrew Albert. "Diesel buses contribute to the poor air quality in New York City, and NYC Transit has an obligation to do its part to clean the air. However, based on our research, we believe that a complete commitment to compressed natural gas is not the way to go."

In its study, the Council found that other options rival CNG for cleanliness. New technologies have emerged that perform equally as well or better for emissions of particulate matter, nitrogen oxide, carbon monoxide, and hydrocarbon, the four regulated pollutants. In emissions tests, hybrid diesel-electric buses have equaled CNG buses on emissions of particulate matter and nitrogen oxide and outperformed CNG buses on carbon monoxide and hydrocarbon. Hybrid diesel-electric buses are powered primarily by electric batteries.

Questions have emerged about the cleanliness of CNG. Several studies suggest that natural gas engines generate more ultrafine particles than diesel engines. These smaller particles are thought to pose the greatest threat to human health. CNG buses release high levels of carbon dioxide and methane, two powerful greenhouse gases.

Converting to CNG would pose several obstacles for NYC Transit. The agency would have to spend hundreds of millions of dollars and defer much-needed bus purchases to ready its depots for natural gas fueling. CNG is lighter than air and will collect at the ceiling level if there is a leak. The vapors will ignite explosively if they come into contact with a spark or open flame. NYC Transit might need to spend nearly \$100 million to replace the bus capacity that would be lost under an all-CNG plan.

Critically, CNG buses are only an interim measure while manufacturers develop an engine technology that offers the potential for zero emissions: fuel cell buses. These vehicles generate electricity through the reaction of hydrogen and oxygen. They should be widely available within a few years. The Chicago Transit Authority is testing prototypes in revenue service, and NYC Transit is in discussions with a New York State fuel cell manufacturer about doing a demonstration project.

"When so many questions remain unanswered, we do not think that it makes sense to invest substantial resources in compressed natural gas," said Mr. Albert. "The policy would also do a disservice to riders at a time when we need more buses to meet the phenomenal growth in ridership since 1996."

Based on its findings, the Council offers several recommendations. Most notably, it recommends that NYC Transit not be required to commit fully to CNG. The Council does believe that NYC Transit should phase out the purchase of diesel buses and buy only as many as are needed to meet service requirements while hybrid buses are evaluated more fully. For existing diesel buses, the TRC recommends that NYC Transit use only reduced-sulfur diesel fuel, which has demonstrated the potential to reduce particulate emissions to the same levels as CNG when used with particulate filters. Particulate emissions are negligible when low-sulfur diesel fuel is used on a hybrid bus.

Complete details on the Council's findings and recommendations may be found in the Executive Summary of the report, which is included with this release. Copies of the full report are available upon request and on the Council's website at www.pcac.org.

The TRC was created in 1981 by the New York State Legislature to represent the interests of subway and bus riders. The fifteen volunteer members are appointed by the Governor upon the recommendations of the Mayor (five members), the Public Advocate (five members), and the Borough Presidents (one each).

[DOWNLOAD THE REPORT](#) (PDF format).