

DIESEL CAPITAL:
Particulate Pollution from Buses in New York City
and Strategies for Control

Eric Hangen

Submitted in Partial Fulfillment of the Requirements for an
Honors A.B. in Environmental Studies
Brown University
May 17, 1991

ABSTRACT

Animal testing and epidemiological studies show substantial evidence for the carcinogenicity of particulate matter in diesel exhaust (PM10). This health hazard is of particular concern in New York City, where large numbers of diesel-powered transit buses contribute to high ambient concentrations of particulate matter. Using risk factors derived from these studies and rough estimates of the ambient concentration of particulate matter in New York City, there may be anywhere from 30 to 500 excess cancers per year among New York's 7 million inhabitants. Levels of particulate matter can be stabilized or reduced through the use of control technologies such as particulate traps or alternative fuel engines, in conjunction with the implementation of an inspection and maintenance program. In choosing between control technologies, however, transit companies and government policymakers must weigh concerns over health against the need for an efficient and equitable public transportation system, as well as a balanced budget. This study recommends the short term use of particulate traps on buses combined with an inspection and maintenance program for buses and trucks as the most cost-effective manner in which to confront the current "PM10 pollution deficit," although the use of alternative fuels should be considered in the long run. Additionally, more careful monitoring of PM10 levels in New York City is needed to determine the appropriate level of pollution control.