Chapter 16
.....Planning for Sustainable Systems

ADDRESSING "BEHIND THE SCENES" ECOLOGICAL CONCERNS ASSOCIATED WITH THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE OF AN URBAN TRANSPORTATION SYSTEM– A NEW YORK CITY TRANSIT PERSPECTIVE ON SUSTAINABILITY

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In 1999, The New York City Transit's (NYCT) Department of Capital Program Management achieved ISO14001 certification- Environmental Management Systems. Today, sustainable design is an integral part of all design, construction, procurement and operations and maintenance activities. This paper outlines NYC Transit's adoption of sustainable business practices which exposed significant opportunities to reduce the impact to ecologies. These practices encompass high-performance building designs, renewable energy applications, conservation of energy, water and natural resources, waste reduction, recycling and reuse, environmentally responsible procurement and total life cycle analysis. A cause-and-effect benefit is then demonstrated for many of these sustainable practices encompassing both local and geographically distant ecologies.

Some examples include the inadvertent procurement of Azobe (an unsustainably over-harvested tropical hardwood from Africa) used as rail ties in the design and construction of rail tracks; the demand for large quantities of energy to move rolling stocks, contributing to toxic emissions fallout from regional power plants; the contribution to poor ambient air quality as a result of non-regulated off-road diesel equipment emission from construction sites. In recognition of the need to reduce our ecological footprint, NYCT took upon itself a proactive role to establish a rigorous environmental management program and to identify, control and reduce those activities that lead up to "behind the scene" ecological impacts.