METRO NEWS

December 8, 1994

CONTACT: GREG DAVY/JIM SMART
MTA PRESS RELATIONS
(213) 244-7048, 244-6347
FOR IMMEDIATE RELEASE

LACMTA, NORTHROP GRUMMAN CORPORATION UNVEIL FIRST LIGHTWEIGHT BUS TEST ELEMENTS OF ADVANCED TECHNOLOGY TRANSIT BUS PROJECT

The MTA and Northrop Grumman Corporation, Dec. 8, unveiled a pair of bus-shaped "test beds" that are the first physical evidence that the Advanced Technology Transit Bus (ATTB) program is moving forward in its quest to produce a lightweight public transit bus of the future.

"The goal is to design a new public transportation vehicle weighing nearly 10,000 pounds less than a conventional bus, thus setting the stage for a revolution in the manufacturing methods of buses," said Michael Antonovich, MTA's chairman and a Los Angeles County Supervisor. The bus would be made from composite materials similar to those used in Northrop Grumman's B-2 Stealth Bomber, providing light weight yet very high strength.

The "structural test bed" and the "mobile test bed" are the latest developments of the technology validation phase of the project, now in its second year. The structural test bed is essentially the outer shell of the bus, and is manufactured from a lightweight glass composite that is similar to, but stronger than, traditional fiberglass. Attached to it are the breastplates, suspension and wheels.

The mobile test bed is another version of the bus shell that will be equipped with a front and rear suspension system, wheel motors, a generator and an engine mounted on the rear of the structure. It will be subjected to numerous operations-related tests in the next year and a half to see how well the structure and its fuel system performs during on-road conditions.

(MORE)

In December of 1992, MTA chose the Northrop Grumman Corporation, the Los Angeles-based aerospace firm that designed and built the B-2 Stealth Bomber, to help the transit agency in its quest to develop a lightweight, low-floor public transportation vehicle. With first-year Federal Transit Administration and local funds of $5 million in place, Northrop Grumman began the first of four project phases: concept and design.

The second phase, technology validation, began in March, 1994. It was during this period that ideas originally confined to graph paper and computer memories were transformed into physical specimens to be used for stress and operations testing.

"We have wired the bus frame to a monitoring computer, much like a newborn baby in a hospital, to record the inner stresses that occur during testing," said Robert L. Graham, one of Northrop Grumman's ATTB project directors. "The structural frame will be subjected to every kind of stress test imaginable, from lowering each corner of the bus, jostling it at various speeds, and crashing a car traveling at 25 mph into its side to test its ability to hold together."

In March, 1995, the mobile test bed is scheduled be brought to MTA's emissions testing facility for testing on a dynamometer that will evaluate engine performance and emissions.

"The ATTB can accommodate a number of different kinds of fuels," said Franklin E. White, MTA's chief executive officer. "We realize that alternate fuel technology is constantly in flux, so the ATTB must be designed to be flexible." Among possible fuels that could power the future bus are compressed or liquefied natural gas, fuel cells or electricity. Plans call for the use of compressed natural gas to fuel the first ATTB's engine.

The third phase of the project -- building six prototype buses -- is scheduled to begin in 1996. Northrop Grumman's engineers are preparing for this phase by

(MORE)

evaluating issues that will affect passenger comfort and safety, including location of the rear door, weight distribution, turning radius, passenger flow, and location of seats.

When the prototype buses are completed sometime in 1998, they will be used in several cities around the nation for in-service tests in a variety of climates and terrains.

"As ATTB development continues, there will no doubt be many changes and configurations, especially with the rapid pace of fuel technology advancement," White said. "That is one of the many exciting aspects of this project -- to work with constantly improving technology to bring the bus passenger of the early 21st century a state-of-the-art vehicle that will set a new standard in our industry."

As currently envisioned, the bus would seat 43 passengers with room for 29 standees. Its light weight would reduce fuel consumption substantially and minimize road damage and maintenance costs. The doors would be wider than those in a conventional bus to facilitate better passenger flow and minimize "dwell time," the length of time a bus is stopped at a bus stop. The low floor would eliminate steps and allow disabled passengers in wheelchairs to more easily board the bus via a ramp from the curb.

It is hoped that the life expectancy of an ATTB bus will be much longer than a conventional bus. It is designed to run on four tires instead of the customary six and would incorporate a disc brake system similar to those on automobiles, further reducing maintenance costs. Finally, the buses will be able to be customized by transit properties wanting to add various components.

# # #