

1. To advance the technology of ground transportation, including both railroads and more advanced systems.

2. To conduct research and development to make possible the design and demonstration of advanced ground transportation equipment, systems and services.

3. To develop cost and performance data on proposed systems.

The range of research and development runs from relatively close-in systems, largely represented by advanced rail technology to systems which are possible in the next 15 to 25 years. The R. & D. on many of these systems, particularly the more advanced, would almost certainly not be done without Federal Government sponsorship. The large number of alternative advanced concepts, their large scale, and their dependence on extensive public action for adoption, inhibit private industry from going forward with research and development on their own. It is simply unlikely that any new systems such as automated highways or guided air cushion vehicles can be developed solely through private action. With Federal Government direction and support, private industry has shown that it will respond with meaningful and substantial participation, including the expenditure of their own money.

The high-speed ground transportation demonstrations are designed to measure and evaluate the public response to new equipment, faster speeds, variations in fares, increased safety and comfort, and more frequent service.

A project has been established by the Penn Central Railroad to demonstrate high-speed railroad passenger service between New York City, N.Y., and Washington, D.C. The demonstration is intended to provide information about patronage response to improved intercity rail passenger service. The information obtained will be used for the determination of transportation needs of the northeast corridor. The data will be useful in projecting the impact on patronage of further changes in rail passenger transportation and will provide important information about the costs of rail passenger service. It should also be useful to the railroad and to the State and local transportation planning agencies. Under the terms of the contract, the Penn Central Railroad has completed substantial upgrading of track, structure, and terminal facilities between Washington and New York, ordered 50 high-speed MU cars which are being tested for acceptance, and assisted A. T. & T. in developing and installing public telephones in the cars. Suburban parking stations at Lanham, Maryland and Metro Park, N.J., will be built and grade crossings improved or eliminated in sections of Maryland and Delaware.

A demonstration using new gas-turbine-powered trains with advanced technical features is scheduled for operation between Boston and New York. The Government has contracted with United Aircraft Corporate Systems Center for lease and maintenance of two trains for the test period. The service will be operated by the New Haven Railroad. The demonstration will test market response to a substantially improved service including a reduction of 1 hour in transit time below the present best schedule, new meal service techniques, and reservations for coach passengers. A more far-reaching objective of the project is to test a revenue service equipment designed to (1) negotiate curves at speeds faster than equipment of conventional design, with increased passenger comfort, and (2) produce significant savings in operation and maintenance costs through application of aircraft-type, free-gas-turbine power and mechanical transmission.

A comprehensive survey of airport ground access travel has been completed covering users of the three Washington-Baltimore airports. Further studies will determine the desirability of conducting an airport access demonstration using either conventional roadbed and equipment or an available advanced transportation system.

To measure public response to these demonstrations an integrated data system has been developed utilizing datatag reports from Penn Central Railroad and New Haven Railroad, onboard sample surveys on Penn Central Railroad and a sample household survey of travel by all modes in the northeast corridor. Analysis of these data will provide valuable inputs to the northeast corridor transportation project.

C. Program director

Dr. Robert A. Nelson, Director, Office of High-Speed Ground Transportation.