It is hoped that your efforts here will benefit UMTA in the formulation of a maintenance research program and will assist your peers throughout the country by discovering and disclosing existing practices that can improve maintenance performance for all.

We all know that the public bus mass transportation industry has suffered a decline in the experience level of the maintenance work force. It is estimated that approximately 50 percent of bus maintenance workers nationwide have 5 years or less experience on the job. Many people are wringing their hands over the prospect of losing federal operating subsidies. The huge sums of federal support for capital and operating expenses in the past, although important in restocking and refurbishing mass transit systems, still leave us with maintenance performance problems. The causes of this condition are complex. But let us not debate the causes. Let us recognize the problem and identify solutions.

Two ongoing UMTA demonstration projects offer great promise for improving maintenance performance. At the Detroit Department of Transportation, an improved, maintenance manual format, called a job performance aid (JPA), is being developed and tested. The JPA modules supplement maintenance manuals supplied by manufacturers. Initial results show enthusiastic acceptance on the part of supervisors. Houston is adopting the Detroit JPA even before the final evaluation is completed.

An automatic bus diagnostic system (ABDS) is being developed and tested at the Queens Village Garage of the New York City Transit Authority. This system has two units: a fuel island unit and a maintenance area unit. The fuel island unit provides a short (less than 3-minute) check of the condition of a bus and a printout of results that indicates all values measured and an identification of any out-of-tolerance condition. The fuel island unit checks 12-15 parameters and records fuel use. The maintenance area unit is used to provide a comprehensive test of buses that fail the fuel island test. It does routine preventive maintenance checks (it has 75 test sequences) and diagnoses symptoms that are not understood.

What should we be considering during this workshop? Perhaps we should ask ourselves some questions today in preparation for tomorrow. We need to ask ourselves whether we are doing enough to support maintenance personnel. We need to ask whether we are providing enough clear and unambiguous technical information and the proper tools and support equipment. As managers, we need to ask ourselves whether we are collecting sufficient maintenance information so that we can analyze problems and sort out the differences between equipment problems, people problems, and incorrect procedures. We need to ask ourselves whether we are taking advantage of support equipment and techniques that exist today.

For the future, UMTA must carefully plan research projects that will help to improve maintenance productivity in the near term. It is hoped that the deliberations here will help us do that.