

# PREPARING TOMORROW'S TRANSPORTATION WORKFORCE

## INTRODUCTION

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As President of the National Academy of Sciences, I also serve as Chairman of the National Research Council, of which the Transportation Research Board is the oldest and largest unit. It is a privilege to write the introduction to an issue of *TR News* that focuses on my favorite subject—education.

*TR News* readers perhaps know better than I that transportation is a major activity in this country; some estimate that it may employ directly or indirectly as many as one of every seven workers in the United States. It is essential that young people be made aware of these opportunities and gain the knowledge and higher skill levels demanded by employers today and into the future. This issue of *TR News* highlights partnerships and other innovative programs that have been developed to this end among educational institutions, private-sector transportation entities, and public agencies.

This issue also fits into the broader context of what the Academy is doing in the area of education. I do not have to tell you that there is nothing more important for the future of this nation than the education provided to our children and the opportunities offered to adults to broaden their education and training. I also do not have to tell you that we have not been doing an adequate job in this regard. I do not think we will ever be completely satisfied with our schools, and I am not sure we should be. What I do think is that we are at a crucial time in terms of educational opportunities.

We live in an increasingly technological society, one in which many jobs demand skills in the sciences and mathematics. Employers say they cannot hire many high school graduates because the students lack the necessary skills and training. The same is true for many of those already in the workforce who have problems changing jobs or advancing as job requirements change. Unless education is dramatically improved, both the country and the workforce are going to be severely disadvantaged. Individuals who do not have the skills or ability to be productive in this technological society can easily become alienated, a development that is destructive for both those individuals and the nation.

How can we resolve this dilemma? First, we must recognize that science and mathematics are critical for all students, not just those who may aspire to be scientists or engineers. Second, we must recognize that science and math are about learning how to solve problems. Science education should be based on inquiry—offering real-world problems and hands-on curricula that motivate students, regardless of their age or background. Third, we need to connect science and math to social studies, to history, so that they are embedded in a rich context. Transportation is everywhere, and it offers an especially effective and practical means for helping students recognize the relevance of science and math to their everyday lives.

The Academy recently created a Web site called RISE ([www.nas.edu/rise/](http://www.nas.edu/rise/)), which provides resources to scientists, engineers, and others interested in helping schools on matters related to science and engineering education. There is a growing community of professionals across America who are working to help teachers and trainers do a better job, and to help students and workers become better prepared for the jobs of the future.