

Federal Strategy for Transportation Research and Development

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The efficiency, flexibility, and low cost of transportation in the United States makes our transportation system the envy of the world. But our system faces unprecedented demands for improvement and renewal. A fast-paced, information-intensive economy is changing the places to which people want and need to travel, and new production and management methods are radically reshaping the shipping needs of businesses. At the same time, the nation's transportation system is expected to meet unprecedented standards for reliability, cost, timeliness, safety, and environmental impact.

Public investment in transportation-related research is critical for ensuring the vitality of this key national infrastructure resource and for ensuring the competitiveness of an industry that directly employs nearly one-fifth of American workers. This nation spends more than \$1 trillion on transportation services each year—almost 17 percent of our gross domestic product. Advances in transportation technology offer key opportunities for America today—for safety, convenience, a clean environment, and new American industries and jobs.

The importance of transportation to our economy is reflected in the priority placed on transportation research and development (R&D) by the President's National Science and Technology Council (NSTC). The Committee on Transportation R&D, one of nine NSTC committees, is charged with ensuring that federal investment in transportation research conducted by all agencies is (a) coordinated to ensure efficient use of federal funds related to this mission; (b) focused on projects identified by manufacturers, users, and other affected groups as being the most critical to achieving agency missions (getting input on this is one of the main purposes of this forum); and (c) limited to areas in which it is clear that major public benefits can be achieved only through cost-shared federal research. The committee is cochaired by Mortimer Downey, Deputy Secretary of Transportation, and Lionel Johns, Associate Director for Technology for the White House Office of Science and Technology Policy. Wesley Harris, Associate Administrator for Aeronautics for the National Aeronautics and Space Administration (NASA), serves as vice chairman.

The committee has developed an integrated approach to addressing the issues, needs, and priorities of federal transportation R&D that cuts across traditional transportation modes. This new approach focuses on such critical issues as physical infrastructure, information

infrastructure, and vehicle technologies, as well as such systems issues as measuring, monitoring, characterizing, and modeling system performance and behavioral sciences and human performance in transportation systems.

Last year the committee prepared the Strategic Implementation Plan, which presents the federal government's vision of the future of transportation in the United States and a framework for establishing national priorities in transportation R&D. We realize that the plan is only a beginning. In this forum we are seeking input and ideas on future directions in transportation R&D for use in setting national goals and priorities.

The committee also played an important role last year in determining the Clinton administration's science and technology investment priorities. These priorities are reflected in the President's 1996 budget, which was submitted to Congress on February 6, 1995.

The budget is based on a clear sense of priorities. It terminates 130 programs, consolidates 271 others, cuts back on many more, and dramatically restructures agencies—including the Department of Transportation (DOT)—to achieve total cuts of \$144 billion from last year's projected budget for fiscal year 1996. However, it is also a budget that reflects President Clinton's commitment to investing in science and technology. Despite overall cuts in discretionary spending, the administration's proposed investments in science and technology have been increased from fiscal year 1995 levels.

I am particularly pleased that Transportation Secretary Federico Peña, who serves as a principal on NSTC, is actively supporting research and technology as integral to DOT's mission. In a period when the department's total budget is being reduced and the department itself is being restructured, the fiscal year 1996 budget for transportation R&D is being increased by 10 percent.

As a result of the committee's work last year, physical infrastructure for transportation is highlighted as a national priority in the fiscal year 1996 budget. Five agencies are proposing \$321 million for physical infrastructure R&D, an increase of \$74 million, or 30 percent, from the 1995 level. This increase will enable us to accelerate R&D on new materials and design methods needed for making low-cost, long-lasting highways, bridges, airports, and other structures; on low-cost methods for nondestructive testing and repair of existing structures; and on diversification of partnerships with industry and with state and local governments to accelerate technology deployment.

The Partnership for a New Generation of Vehicles—the "Clean Car" initiative—is another NSTC priority for fiscal year 1996. This partnership with U.S. industry is designed to ensure global competitiveness of the U.S. automobile industry and its suppliers and to improve environmental quality. The combined budget proposal for the eight agencies participating in this initiative is \$333 million in 1996, an increase of \$87 million, or 35 percent, from 1995.

The budget also proposes \$434 million for the highest priority NASA aeronautics initiatives—the High-Speed Research and Advanced Subsonic Technology programs—an \$87 million, or 25 percent, increase from 1995. These programs will develop and validate the technologies needed to facilitate (a) commercial development of a new generation of safe subsonic and high-speed civil transport aircraft that far surpasses today's aircraft in affordability, efficiency, and environmental compatibility and (b) development of a safer, more efficient, and more productive air traffic management system.

The committee's Information Infrastructure Subcommittee is leading the way in identifying the information and communication technologies that will be needed to create a truly seamless intermodal transportation system of the future, building on our emerging, national information infrastructure. The federal government has an important role to play in the development of an intelligent transportation system that provides carriers and their customers with information that can enhance safety and improve efficiency and timeliness. Meeting this goal will require unprecedented levels of cooperation among transportation system users, including federal, state, and local governments; research and academic institutions; and private-sector transportation providers.

I also would like to note that a related and important product of NSTC during the past year was the development of the President's National Space Transportation Policy. Access

to space is important to traditional civil, national security, and commercial users and is key to our ability to use space to better understand the environment, compete in information-driven industries, cooperate with other nations, and ensure public safety. The administration's policy is both practical in its focus on improving existing expendable launch vehicles and visionary in laying the basis for next-generation reusable space launchers. We have recognized the growing importance of commercial interests and the changed international environment. Recognizing that budget constraints mean that the federal government is not able to do all it might like, enhancing the productivity of our space transportation fleet promises to be a high-leverage investment.

We still have plenty to do, but as President Clinton has said, this nation has what it takes to sustain progress over the long haul. We are blessed with smart, hard-working people. During the past 10 years, our industrial managers have learned a great deal, the hard way, about how to pull ahead and stay ahead in a world full of tough competitors. We have a solid global lead in science and technology and the strong reaffirmation of this administration to keep that lead. We have a powerful new commitment to investment in people, and we have a new dedication to forging partnerships with industry, workers, universities, and state and local governments to strengthen national performance. The most important measure of success will be our ability to make a difference in the lives of the American people, to further dedicate science and technology to improving the quality of life and economic vitality of our nation.