Need for Federal Support for Transportation Research and Development

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I am happy to join you at this forum because I believe a commitment to technological progress is tantamount to a commitment to the future. I'd like to talk about three subjects:

1. Why it is important for the federal government to help develop transportation technology,
2. What the Clinton administration sees as the federal role in supporting technology development and deployment, and
3. The threats we see to continued government support of research.

Need for Government Support of Technology

The Clinton administration is strengthening America's ability to compete in tough global markets and create good jobs here at home by supporting technological innovation. Government support of technology is especially important when we recognize the increasing pressures on our infrastructure and our environment and the challenges of the global economy.

The Cold War's end has given us a unique opportunity to adapt advanced technologies developed for the military to civilian uses. At the same time, we can continue to maintain the productivity and innovation of our defense industries. This use of technology for both defense and civilian applications lowers the cost and increases the manufacturing capabilities of both sectors. This is critical in an age of diminishing resources, when we cannot afford to maintain two separate industrial complexes.

We can also adapt space program technologies used to explore the cosmos to problems here on earth, moving from black holes to potholes and applying scientific advances to daily life.

Nowhere is there greater potential for these dual uses than in transportation. It is important to remember that a sixth of our gross domestic product—more than $1 trillion annually—is spent on transportation services and products. Just a 1 percent improvement

in transportation system efficiency thus could save the American economy $100 billion over a decade.

The technologies we are developing are also the seeds of new American industries, producing not only for domestic markets, but also for export. But there is more at stake than economic growth because these new technologies also can help us overcome the traffic congestion, accidents, and pollution that erode the quality of life for millions of citizens. Those problems cannot be permanently solved with the conventional responses of adding more highway lanes or airport runways: we cannot continue to build our way to swifter traffic flows or cleaner air. Instead, we must develop ways to better manage existing resources and infrastructure, using technology to move beyond the false choices between environmental quality and economic growth.

America can, and should, lead the world in new technologies that maximize the use of our existing systems by making our roads and bridges more durable and by producing vehicles that are safer, quieter, and less polluting. We can also harness technology to improve mobility and independence for senior citizens and those with physical challenges and other special needs—ensuring that all Americans can play a full role in our society.

Government's Role in Supporting Technology Development

We have repositioned the Department of Transportation (DOT) to support these goals, moving well beyond our traditional roles as a grant-making and regulatory agency. We are committed to fostering new technologies from conception and research to operational testing, deployment, and commercialization.

We see three key roles for the federal government. The first is as a catalyst—a source of seed money and expertise from the great federal laboratories that were instrumental in helping us win the Cold War. DOT, through the interagency Technology Reinvestment Project, is helping develop new dual-use technologies applicable to both military and civilian purposes. Indeed, about half of the first-year Technology Reinvestment Project grant awards were transportation related, increasing government investment in transportation research by roughly $400 million and leveraging another $400 million in private-sector matching funds.

A second key role, and one that only the federal government can play, is that of standard setter. We want to forge consensus on national, and even international, technological standards to create a stable, common ground that will encourage entrepreneurs to invest in these new technologies. The standards will also provide uniformity for consumers, companies, and the interstate movement of people and goods.

At the same time, the open architectures we support will allow these new technologies to stay flexible and accommodate further progress. Establishing such standards is especially important for evolving information technologies, such as global positioning systems (GPSs) and intelligent transportation systems (ITSs). These are technologies in which the federal government has led development.

The third role we see for the federal government is as a facilitator and promoter of technology development. This means building new alliances with American industry to advance projects that are in the national interest. The most dramatic example of this, and a model for other industries, is the Partnership for a New Generation of Vehicles. This partnership links the federal government with Detroit's Big Three automakers to secure America's position in the worldwide motor vehicle industry of the next century. Our goal is to develop a commercially viable automobile that will be virtually pollution free and three times more efficient than today's cars. It is a target as ambitious as the Apollo space program, and it will have far greater benefits here on earth by helping reduce the environmental impact of exploding transportation use. Our support also means ensuring that American industry has a fair opportunity to compete in the global marketplace.

The Clinton administration is not a spectator in this process. We are promoting these new technologies at home and around the world. We have been active in supporting Amer-

ican businesses as they fight for a foothold in tough international markets. For example, we actively supported our aerospace industry in its overseas marketing efforts—most notably in Saudi Arabia, where a multibillion-dollar jet contract was awarded to Boeing and McDonnell-Douglas.

Threats to Continued Progress

One of the federal government's key roles is to provide seed money for research. Over the past 2 years we have raised DOT's budget for research by more than 25 percent—to $749 million in 1995, not counting the resources devoted to dual-use projects. We did this because we believe adequate funding of research and development (R&D) is critical. Technology is no place to stint on investment. As the saying goes, "No bucks, no Buck Rogers" (from *The Right Stuff,* by Tom Wolfe).

But some people do not agree. The House Appropriations Subcommittee on Transportation recently voted to rescind more than $700 million from DOT's 1995 budget. That rescission proposal includes $80 million for research and technology programs, nearly $25 million of which was intended to support ITS projects. And we expect Congress to make cuts in our proposed 1996 budget.

We understand the need to reduce federal spending if we are going to continue to control the deficit and provide the tax relief that middle-class Americans need. Indeed, we have proposed canceling $400 million in congressionally earmarked highway demonstration projects in 1995. We have also proposed an overall department budget for 1996 that is $2 billion less than this year's budget. But that budget also targets investment in certain key areas, such as R&D, which would be increased to $956 million in 1996. It includes support for key programs, such as $113 million for development of GPSs—up 26 percent from this year—and $356 million for the development of ITSs, including $100 million for a trailblazer program that will create the infrastructure for advanced travel information systems and for nonstop electronic clearance of trucks across borders.

We need such investment to maintain the technological leadership that has made the United States the most economically efficient nation in the world. This efficiency is what sustains our prosperity and ensures our continued economic security.

The technological leadership that makes this possible is something we shouldn't abdicate for short-term savings. We have seen what can happen when we do. In the past, new technologies developed in America by American inventors and geniuses were forced abroad because of lack of support, instead of being commercialized in this country. For example, Americans developed low-cost GPS receivers for use by aircraft. Now the U.S. military is buying these receivers from a Japanese company. Americans developed tilt-train technology that allows intercity trains to take turns safely without reducing speed. Now Amtrak is looking to buy these trains from several European nations. Americans developed the earliest magnetic levitation technology, which could revolutionize high-speed rail. But it is being commercialized in Germany and Japan. We virtually gave away our technological expertise in these areas, and now we are paying for it.

There was a saying among early American settlers—"Don't eat the seed corn." If you do, you will not have the seed to start next year's crop, and then you'll surely starve. That is where we are today with technology. Our funding of R&D is our seed corn. We need to sustain it if we are going to benefit in the years to come. I hope that the full Congress, as it moves through the budget process, recognizes this simple fact: you cannot reap what you do not sow.

Conclusion

We in the Clinton administration understand that we can only reap what we sow, and we have been supporting the new generation of American transportation technology. This

commitment will only deepen as the need for advanced technology grows. We will redouble our efforts to

- Increase the federal government's outreach to entrepreneurs and inventors,
- Build partnerships with universities and private industry, and
- Fight for more funding for transportation R&D.

Most important, we will demand real results—technologies that truly improve Americans' lives and advances that will have impacts as great as the steamboat, the automobile, and the airplane did in generations past.

We look forward to working with you—government agencies, private business, and the academic research community—to develop and deploy the technologies that will transform America.