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Speech

EARTH OBSERVATIONS, WEATHER RESEARCH, AND TRANSPORTATION

Remarks of
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The Forum on Earth Observations
Institute for Global Environmental Strategies

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It is a great privilege to be here today representing Secretary of Transportation Norm Mineta at this Forum on Earth Observations. The Secretary regrets that he could not be here, particularly after spending all day yesterday in and around Pensacola, Florida, surveying hurricane damage at the request of President Bush. The impact of weather on our quality of life, our Nation's economy, and our transportation system is not an abstract or academic issue for any of us these days, particularly in a number of our southern states.

But the truth is that the goals and objectives you are gathered here to discuss today are never abstract or academic at DOT. I am grateful, therefore, for the opportunity to be here, and to share our views in more detail.

It really should come as no surprise that DOT strongly supports efforts to improve our earth observation capabilities. We see the Strategic Plan for the U.S. Integrated Earth Observation System, released in draft earlier this month, as a solid step moving us in that direction. Specifically, Secretary Mineta sees this long-term plan for creating an integrated, international earth observation system as wholly consistent with his broader vision for the future of our entire transportation system. That vision is spelled out in DOT's own Strategic Plan – one that maps out the Department's objectives for the next five years. That document calls for a system that is safer, simpler and smarter, and lays out specific strategies for how we can increase mobility and improve safety while also being good stewards of the earth's environment.

In pursuit of those objectives, we have gone to great lengths to improve working relationships with our federal agency partners in this area, and those efforts have produced concrete results.

Road Safety and Weather Research

We all know that weather poses difficult safety challenges across our transportation system, especially in terms of road safety. That's why we have placed such a strong emphasis on using research and technology to improve our ability to predict changes in the weather and manage more effectively their impact on our surface modes of transportation. To give you a sense of the magnitude of these challenges, in 2001 there were nearly 7,000 fatalities and over 600,000 injuries that occurred under adverse weather conditions on our nation's roadways. The human and economic costs attributable to these mishaps are staggering.

At the same time, we estimate that 15 percent of traffic congestion across the country is due to rain, snow, or reduced visibility. Weather-related delays in metropolitan areas amount to an estimated $3.4 billion in additional freight costs each year. The impact of weather on the safety and efficiency of our highway system, in other words, is a powerful argument for decisive action by policy makers and stakeholders alike.

Our Federal Highway Administration has a long history of working with its constituents to develop effective solutions. In its early years, the focus was on building highways—notably our Interstate Highway System. Over the past decade, however, the agency has increasingly shifted its focus to maximizing the potential of our existing highways by helping states operate the system more effectively through the deployment of modern technologies. Under the leadership of our great Federal Highway Administrator, Mary Peters, and her predecessor, Ken Wyckle, we have made significant progress in using weather information to improve safety and efficiency. Much of that progress has been accomplished through the impressive technological advances we have seen in recent years, like more intelligent traffic signal control systems as well as 5-1-1 and other traveler information systems.

Creating a Next Generation Air Transportation System

Another mode of transportation that clearly benefits from improved earth observation capabilities, of course, is aviation. More than half of our flight delays are attributable to complications due to weather. Air traffic managers in the FAA will tell you that addressing adverse weather conditions more effectively is the single most important thing we could do to increase the capacity of our increasingly congested air transportation system. The fact that air traffic demands have now returned to near pre-9/11 levels and are expected to grow steadily in the years ahead makes the need all the more critical.

That is why, earlier this year, Secretary Mineta launched a *Next Generation Air Transportation System* initiative – an initiative that is designed to do nothing less than triple the capacity of our nation's aviation system by 2025.

The transformed system we envision will be able to handle multiples of the current level of demand while maintaining the flexibility to deal with new kinds of aircraft, new commercial air services, and new airline business models. For that reason, Secretary Mineta is overseeing the preparation of an integrated national plan to develop this system of the future. We are working with senior leaders and staff from the Departments of Homeland Security, Commerce – primarily

NOAA -- and Defense as well as NASA and the White House's Office of Science and Technology Policy. Most notable in this process is that we have already made a great deal of progress in the area of weather research, outlining a long-term plan for the specific areas that need to be addressed and the methods for ensuring cooperation among all the agencies involved.

The DOT/NOAA Partnership

The Next Generation initiative is just one of the reasons why I am so excited about the strong partnership that DOT and NOAA have been building together. By combining DOT's understanding of our Nation's transportation system with NOAA's vast scientific expertise we know we can accomplish a great deal. We are already seeing the results of our collaboration.

For example, we are also working together to develop a high-accuracy Nationwide Differential Global Positioning System, and are in the process of locating NDGPS equipment at sites across the country to deliver a positioning service with far greater precision than that available from the basic GPS signal. Accurate positioning is absolutely essential for surface transportation, especially in making vehicles safer and moving them through the system in a much more efficient way.

But here's the best part: In addition to the transportation benefits of these NDGPS stations, we are also installing monitoring devices there to collect water vapor data as part of NOAA's efforts to improve weather forecasting technology. It is a classic example of a win-win project that uses taxpayer dollars more effectively while helping both agencies carry out their respective core missions.

Building on that track record, we are now expanding our collaboration to address road weather management. First, we produced a study called the *Weather Information for Surface Transportation National Needs Assessment Report* – the so-called "WIST Report." It was released in 2002 and laid the foundation for our coordinated approach. It marked the first time the weather community has worked with the surface transportation community to articulate in a comprehensive way our collective needs for weather information.

The National Research Council published a report of its own on road weather research in January 2004, building on the WIST report and laying out both a vision for the road weather system of the future and the research needed to get there. Addressing the needs of our surface transportation system requires some very specialized information. The baseline provided by the WIST and NRC reports will allow everyone involved to make more effective contributions to the success of this new model, and will also allow developers to make the most of their investments in advanced surface transportation weather systems.

It has been a great privilege to work on this effort with NOAA's superb Administrator, Admiral Conrad Lautenbacher, just as it was to help him launch the WIST Report. We at DOT are very grateful for his personal commitment to improving the weather information available to transportation planners, and we look forward to continued close collaboration with NOAA.

Emergency Transportation

Transportation is an essential lifeline for our communities, and during a disaster it is one of the critical ingredients in helping a community get back on its feet. To provide a centralized, effective program, DOT's Office of Emergency Transportation, in our Research and Special Programs Administration, performs coordinated crisis management functions for the entire array of potentially critical situations.

To ensure the Department's readiness, DOT operates a Crisis Management Center to collect, analyze, and disseminate critical transportation infrastructure information. It makes sure that communications and other equipment are ready at any time, trains DOT staff for disaster functions that are essential but – thankfully -- not performed very frequently, and works with other Federal and state agencies to ensure that the necessary relationships and protocols are in place before the stress of disaster response begins. Improved earth observation capability will assist the Department as it responds to these crises.

Climate Change

Another important area of interagency collaboration is in climate change research. DOT's Climate Change Center is cooperating with the U.S. Geological Survey, NASA and EPA to evaluate the potential impacts of climate change and variability on transportation systems and infrastructure along the Central U.S. Gulf Coast.

The purpose of this study is to develop knowledge and tools that will help transportation decision makers use environmental and climate trend information in transportation system planning. The project will use information about potential effects of climate change and variability on transportation infrastructure and systems to develop tools to assist in assessing risks and evaluating response strategies. I expect the effort to produce a template that we can apply to a great many other regions of the country.

Conclusion

At the Department of Transportation we have an important vision: system-wide improvements in our predictive capability that can make our transportation system safer and more efficient under all types of adverse weather conditions. By realizing that vision, we can help save lives and keep our economy moving forward. We will also create a system that allows those who use our transportation networks – drivers, shippers, transit operators, and many others – to make more informed decisions.

By integrating intelligent weather information with intelligent transportation technology we can deliver on Secretary Mineta's vision for a safer, simpler, and smarter transportation system. We look forward to working with all of you to help make this vision a reality. Thank you again for inviting me to speak here today.

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