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EXCERPTS OF SECRETARY VOLPE'S REMARKS BEFORE THE AMERICAN INSTITUTE OF  
AERONAUTICS AND ASTRONAUTICS - ASTRO HALL - HOUSTON, TEXAS, THURSDAY,  
OCTOBER 22, 1970, 8:30 p.m. CDT

We all know that the aerospace industry has been one of those hard hit by defense cutbacks. A lot of people are looking for jobs after giving their service in the greatest technical adventure of all time. We landed on the moon -- we proved we could do it. Now we face a much tougher transportation challenge: how to break through the multimodal traffic jams that are strangling the earth.

We have laid the foundations for much faster progress. The New York Times stated the other day that the Nixon Administration has made its most clear-cut gains in the field of transportation.

In the space of about 5 months we have persuaded the Congress to pass an Airports-Airways Bill, a Rail Safety Bill, and an Urban Mass Transit Assistance Bill. Our Rail Passenger Service Bill is awaiting the President's signature. These bills have passed by overwhelming majorities because the Congress and the public realize that we can't possibly meet the transportation demands of 1975 and 1980 with today's facilities.

Transportation is on the launching pad -- it's ready to lift off. And that's where you fellows come in. The transport modes of the future must be based on aerospace technology. That's the only way we can meet the physical demands on the overall system.

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Smooth connections between modes will be treated as top priority problems. Exotic methods of supporting vehicles such as air cushions and magnetics will be developed to permit smooth, high-speed movement.

Today quiet vehicles, safety and low-emission propulsion systems are being demanded, and only technology can provide them.

Much of the technological base we developed in the aerospace industry will be necessary to solve these problems -- systems design, computers, vehicle dynamics, light-weight structures, propulsion, micro-circuitry, sensors, and many more.

The high-speed trains of the future, supported and guided by hydrostatic bearings, propelled by linear induction motors, and subjected to aerodynamic loads will require design solutions at least as challenging as those required of aircraft.

Considerations such as isolating passengers from roadway and aerodynamic vibrations, packaging and cooling of electronic equipment at levels of hundreds of thousands of watts, stabilizing reaction rails under mechanical and thermal loads, and reliable design of power pickup devices - all require top-notch engineering talent.

The Department of Transportation's role will be to demonstrate, to show the way, to provide the seed money on which private industry can build its own momentum.

Our Department is already vigorously involved in this process of stimulation and demonstration on many fronts. Four months ago we absorbed the former NASA Electronics Research Center at Cambridge and transformed it into a Transportation Systems Center. The high motivation of the Center team to transfer their capabilities to the solution of transportation problems has been an inspiring harbinger of the new spirit we anticipate on a broad scale in the private sector.

In the realm of command-and-control systems, for example, the Center is already working on harbor advisory radars for the Coast Guard, phased array radars for the FAA, crash sensors for the Federal Highway Administration, and alcohol detectors for the National Highway Safety Bureau. In communications we are studying wayside systems for tracked air-cushion vehicles and data links from ground controllers to cockpit displays.

Computer systems are being adapted to automated scanning of highway traffic films and simulation of ground and air traffic patterns controllers must learn. The architecture of large, real-time computers for air traffic control systems is also under study. These are just a few of the 60 or more projects underway at the Transportation Systems Center.

In our first three months, the match of the Department of Transportation's needs with the Center's personnel and facilities has proven even better than we had hoped. Naturally, we have had to add engineers with mechanical and civil backgrounds as well as economists and sociologists. The point, however, is that a group threatened with dissolution now enjoys a critical role in the design of safer, quicker, cleaner, more comfortable transportation for the American people, and they will lead the way for a much broader industry participation.

This increased level of technology is inevitably going to mean more jobs for the innovative engineer. And those will be stable jobs, too.

I hope I have made my point. Transportation is going to be one of our major national concerns throughout the 70's until we get it straightened out. But we can't straighten it out unless we fully exploit that fabulous reservoir of aerospace engineering brains, systems expertise, and managerial genius.

Together, we can create a true transportation system for this country -- not a mere network with a tangle of competing modes, but an integrated, automated, intermodal and fully balanced system that will usher in a new age of urban and interurban mobility.

This Administration intends that transportation is going to stop being a problem and start being the road to opportunity for all Americans.

I trust you will want to join us in that vital effort.

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