



DEPARTMENT OF TRANSPORTATION

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REMARKS BY SECRETARY OF TRANSPORTATION JOHN A. VOLPE, THE
POLYTECHNIC INSTITUTE OF BROOKLYN COMMENCEMENT EXERCISES,
BROOKLYN, NEW YORK, JUNE 2, 1972

I am honored to have been invited to share these ceremonies with you here today. This great institute is well known in the Department of Transportation for its scholarly and innovative contributions to improving transportation in America. We are working together in several areas. And with that partnership goes great admiration -- not only for your academic excellence -- but also for your determination to apply that excellence toward solving the transportation problems of the cities. You could not have a better laboratory -- with more problems to be solved -- than the New York City area.

As you are all well aware, the applications of technology are undergoing a very careful public examination these days. Environmentalists are demanding -- and rightly so -- that technology not bring disaster and destruction. Others demand a new degree of excellence in technology -- a new emphasis on evaluation and assessment prior to technological development. And still others -- acting, I suspect, mostly out of ignorance or fear -- demand a turning away from technology altogether. They yearn for simpler days -- days without computers, electronic controls, or automation.

All of these demands, of course, contain some degree of astute relevance -- a grain of wisdom that should be of concern to all of us in the technology field. They all express a genuine public concern for technological quality -- a realization that our high technology systems are not working as well as they should, that they aren't totally responsive to human needs and human desires.

Much of this new awareness I believe must be attributed to America's space program. With its massive coverage by television, radio and the press, the space effort has demonstrated throughout the world our capacity for technological genius. Moon landings are now accepted without fuss and anxiety. Space capsules, while still the objects of curiosity, are now viewed as the natural result of American craftsmanship. These evolutionary realizations have created a new demand among all Americans for excellence in public facilities -- an excellence clearly demonstrated by the Apollo projects.

But there is one element in the space program that still captures our full attention -- no matter how many flights, how many space walks, how many perfect splash downs. That element is safety. We are still concerned about the ability of technology to insure individual safety.

And I credit the space program for demonstrating that technology can be harnessed and moulded to fit human standards. We have seen four giant thrusters lift a ten-story rocket toward the moon without ever harming those two or three fragile bodies perched on top. And the result is a new public demand that other technological systems operate just as efficiently -- and just as responsively to human control.

The safety factor gives the framers, thinkers and builders of technology a new yardstick for excellence. It gives them a new set of criteria to meet -- a set of human factors by which all technology must be judged. And these challenges sit squarely on the shoulders of Brooklyn Polytechnic graduates.

The real miracle of space travel is not that a rocket went to the moon -- but that it took men there safely and brought them back. And in earthbound transportation the principle is the same. It is no longer enough to invent an airplane, a tracked air cushion vehicle, a monorail or a hovercraft. Rather, that invention must be produced in concert with all facts of its support system. It must be judged for compatibility with such social factors as community acceptance, the environment and user acceptability. And it must deliver people and goods with the kinds of comfort, efficiency, economy, safety and speed that people demand. This also is your challenge.

Today's engineer must shape his products to meet the needs of the human environment. Not only is he a technical scientist but a sociologist and psychologist as well. He plans and constructs the buildings we live and work in, the roads we travel, the parks we play in. And he must keep in mind at all times that community interaction and community welfare are the reasons for his existence.

The National Academy of Engineering Committee on Transportation recently presented our Department with an illuminating report on this subject. The report states: "Urban transportation programs should increasingly focus on providing better quality of urban life, not just better transportation."

And I agree with that statement. We must look up from our slide rules long enough to confer with the "software" scientists and the humanists. We must crank their findings into the engineering formulas. And we must demonstrate that an interdisciplinary approach to problem solving is the best way. Until that principle is perfected -- until all sciences begin working more effectively together -- we cannot truly improve the quality of urban life.

In the Department of Transportation, we are pointing all our urban programs in that direction: Encouraging public involvement and encouraging a new planning-engineering coalition based on social goals. We have wasted too much energy already in blaming the urban condition on one element or another -- on the automobile, on housing, on government, on public transit, on land use policies, or some other urban segment. Now is the time to work together -- to realize that transportation, like housing, is just one segment of the total urban problem. We must co-ordinate our efforts and structure a new socio-technical mechanism for urban problem solving.

Our Department is wrestling right now with a transportation problem that involves all of these factors. I refer to the development of a short-haul aviation system commonly referred to as V-STOL -- Vertical -- Short Take-Off and Landing. This challenge is thoroughly familiar to those of you from the Department of Aerospace Engineering and Applied Mechanics -- a Department which I happen to know is one of the best in the world. In fact, I understand some of your students and professors have already designed a STOL prototype.

We know the potential benefits of a short-haul aviation system in connecting airports, cities and intermodal terminals. But the development of a V-STOL system is constrained from ready application by a number of factors dealing with the total acceptability of service.

Locating terminals in downtown or suburban areas raises serious problems related to community safety and noise levels. This fact alone implies the need for new land use policies, new zoning requirements, new airport designs, and an aircraft that is considerably quieter than most of today's versions.

I announced a program only last week to try and solve these problems -- to combine governmental responsibility for public planning with private industry's capacity for technological development. We want to build the social and political requirements of the system into the technological development process. We are making this a team effort of the kind it took to get America into space. And I am confident of success. I add that personal observation because I believe so strongly in "confidence" -- setting a goal and striving for it.

Sir Kenneth Clark the eminent British art historian, says that "It is the lack of confidence, more than anything else, that kills a civilization. We can destroy ourselves by cynicism and disillusion," he said, "Just as effectively as by bombs."

That's why I hate to hear people say New York is an unmanageable city -- an impossible city. And that's also why I am so proud of Brooklyn Polytechnic Institute. You are addressing the problems of this area. And your efforts are still alive with confidence and vitality. I urge each of you, as graduates of the class of 72, to extend that spirit to all your endeavors in the years ahead.

We are in fast changing times, a world that requires confidence and steadfastness in adapting to change and in setting new courses. President Nixon's trip to Moscow has set a number of new courses for this nation and for the world. He has acted forthrightly and with confidence in signing a number of agreements -- ten, in all. By putting his pen to those papers he has altered the course of world affairs. He has created a new level of hope and promise throughout the community of nations.

For the engineer, the scientist, and all graduates of colleges across the nation, a new world of international opportunity now exists. Hopefully, we are going to see new dimensions to world trade and world co-operation -- new peaceful challenges for technology and mankind. It is an exciting time to be graduating from college.

You stand on the brink of a technological revolution in an expanding world of mobility. Right now we are experimenting with technology that may make the wheel obsolete: tracked air cushion vehicles powered by linear induction motors, magnetic levitation vehicles, tubular systems that rely on gravity or magnetic forces for propulsion.

And at the same time we are forging a new level of quality from existing technology: emission control systems for the internal combustion engine, "air bags" and other passive restraint safety systems for automobiles, experimental safety vehicles built for maximum environmental and safety protection, new electronic aviation control systems for routing and for collision avoidance.

The list is endless in both categories. You have probably heard that we are presenting an International Transportation Exposition -- TRANSP0 72 -- right now at Dulles Airport near Washington. It's a phenomenal success. So far, over 600,000 people have attended. And as I've watched the grounds of the TRANSP0 exposition, which ends on Sunday, I see an array of technological wonder that the world has never known. It's now our task to perfect it, put it all together, and integrate it with society's needs and objectives.

These are the things you will be doing in the exciting new world of mobility that awaits. And I assure you that the rewards will be many -- in satisfaction, fulfillment, and worldly recognition.

The technical experts, the scientists, the technologists are still our Nation's most dynamic human asset. I stand in awe of your talent.

The Japanese, with whom you will soon be competing in many technological fields, have a charming custom. Instead of honoring their outstanding citizens with knighthoods or medals, they give them the respectful title, "National Human Treasure." I can think of no greater reward for any person to attain -- no matter what the country or what nationality the person.

As you leave these ceremonies today, always count yourselves among America's National Human Treasures.

I wish you Godspeed in all the years ahead.

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