

The Federal Government and Coordinated Transportation

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•A FEW weeks ago, in preparation for this meeting, I was privileged to inspect what seems to me the world's most marvellous transportation system. And I hope every breast here will swell with pride when I report that it was built by Americans, with 100 percent American materials, for Americans.

I refer, of course, to the 3,250-mile long, 24-foot wide Royal Road of the Incas, built through the Andes of Peru a century before the arrival of Columbus. And when I saw that magnificent transport system—every stone still perfectly joined after half a millenium, in a straight line up and down the highest peaks in the hemisphere—I said: "This is something I've got to share with my friends at the Highway Research Board Conference."

The ancient Incas solved their transportation problems. They even did it without the wheel, which wouldn't have worked on those grades, anyway. So my message today is: if the Incas could do it, we can do it. What's more, we have the wheel. We can do even better.

As a matter of fact, in many parts of our transportation system we've done amazingly well.

Take transportation by sea. The very first United States Congress, in 1789, enacted a tariff that gave a ten percent reduction in customs duty to goods imported into the United States on American vessels. In 1845, Congress authorized mail subsidies to United States steamship lines. Since the Merchant Marine Act of 1936, we have been providing liberal subsidies for both the construction and the operation of our merchant fleet. In recent years, we have been awarding close to \$300 million a year in these subsidies, not to mention tax benefits, cargo preferences, and the sale of surplus ships at bargain prices.

Take inland waterways. From the original land grants of the last century to our present policy of building inland waterways and letting the users use them for free, we have built up the world's leading public inland waterway system. In the last decade alone, \$5.6 billion in federal money has been spent on these waterways.

Or air travel? More than \$6 billion of federal funds have been spent for air travel, more than \$750 million in subsidies for local service airlines alone. We are now engaged in allocating an additional \$1-2 billion for the supersonic transport, designed to lift you, complete with sonic boom, from Washington to Paris in three hours instead of seven. But until very recently—and I'll come to this in a moment—Uncle Sam's research interest in how to get you from the airport to your home, or how to get someone who lives in the central city to his job in a suburban factory, or someone who lives in a suburb into the central city, or how to get someone to another city 300 miles distant—was nil, null, and nonexistent.

What about automobiles and trucks? We started our federal road-building program with the Cumberland Pike, completed as far as Vandalia, Illinois in 1838 at a cost to the federal government of \$7 million. In 1956, the federal government accepted almost exclusive financial responsibility for the 41,000-mile interstate network. To date, federal highway expenditures have exceeded \$40.5 billion. An additional \$48 billion will be spent before the I-system is completed.

But we've been remiss in developing transportation to serve the millions of people in the large cities or in the densely packed corridors with whole strings of cities, like the corridors from Boston to Washington, from Milwaukee through Chicago to Cleveland and Detroit, or from San Diego to San Francisco. To meet this gap in our transportation system, we ought to be working on wholly new transport systems.

Obviously, ocean liners, canal boats, or supersonic jets are not the answer. Propeller and ordinary jet airplanes are efficient and fast between airports, but not from midtown to midtown in large cities.

Nor is the automobile a complete solution. I am not against automobiles. I believe that our great I-highway system is indispensable in binding together the nation and its economy. But within the crowded cities, and between them in congested corridors, the automobile-highway system as a total solution can impose unacceptable costs. More expressways can bring on more congestion rather than relieving it. More cars using more expressways will greatly increase the menace of air pollution. And good highways for more cars will need more land where space is precious for many other high-priority purposes.

Already there are revolts against the automobile. In San Francisco, the county government stopped construction of the Embarcadero Freeway because the people revolted against feeding more of the city to an insatiable expressway system.

In my city of Milwaukee, one of our classically beautiful downtown buildings was the Layton School of Art, built in the 1880's by a meat-packing philanthropist. It was torn down ten years ago, to make a needed parking lot. Happily, a new Layton School of Art was built, a jewel of a modern building on the bluff above Milwaukee's lakefront. Now the expressway people are going to tear down the new Layton in order to build an expressway!

Because transport systems in cities and in inter-city corridors have broken down, we cannot fully and agreeably use our marvellous airplane service and our interstate superhighways.

We cannot make a forthright attack on poverty, because the poor who live in the central ghettos cannot link themselves to job opportunities elsewhere in the metropolitan area. The McCone Commission, reporting to the Governor of California on the Watts riots, pointed out that the despair which pervaded the area was "intensified by what may well be the least adequate network of public transportation in any city in America." As the McCone Commission pointed out, jobs, shopping, and medical care were inaccessible to the residents of Watts without an automobile. And so the Watts residents found themselves overextending their credit to buy automobiles, because they were the only means available to them to break out of their circle.

Until very recently, transportation within cities and along corridors between cities as a method of solving our transportation problem was effectively disregarded in the councils of Washington. I am happy to be able to report that times are changing. Let me tell you what is happening.

1. The bill establishing a Department of Transportation was signed into law by President Johnson on October 15, 1966. The President gave it what he rightly called "a mammoth task—to untangle, to coordinate, and to build the national transportation system for America that America is deserving of." To be sure, there are large gaps in the transportation authority of the new Department. The Maritime Administration, for the present at least, remains outside. But the new Secretary of Transportation will have under his wing transportation by air, by rail, and by highway, as well as the administration of the High Speed Ground Transportation Act. Alan Boyd has been hard at work for months on his difficult assignment, and I'd like to take this opportunity to congratulate him on his well-earned official recognition this week as Secretary of Transportation.

2. The high speed ground transportation program, enacted two years ago and to be administered by the Department of Transportation, is focusing primarily on the Northeast Corridor between Boston and Washington. Two of its demonstration projects are expected to become operational next year—high speed trains running between Boston and New York, and New York and Washington, to run at speeds of around 125 miles

per hour. The program also sponsors basic research to investigate unconventional transportation systems, such as 300-mile-per-hour vehicles operating in tubes or tunnels, and vehicles operating on air cushions. The know-how developed from these projects can help us in other crowded metropolitan areas.

The federal government is in the high speed ground transportation business because the job to be done not only crosses state lines, but transcends state and local fiscal resources as well. But the federal funds so far devoted to this program have been meager. The entire authorization for the three-year high speed ground transportation program was \$90 million. But the appropriations have been much less—\$18.2 million for fiscal 1966, and \$22 million for fiscal 1967. Compare this investment, if you will, with the government's recent investment of \$80 million in the biological satellite which was literally lost in space!

3. The new Department of Housing and Urban Development came about because of the congestion of our city streets and slums, the movement of the more affluent to the suburbs, mounting air and water pollution, increased crime and juvenile delinquency. The question of transportation within the metropolitan area is now in the Department of Housing and Urban Development. Within a year, the President must sort out whether urban transportation stays in HUD, or goes to the Department of Transportation. I suggest as the criterion of whether HUD keeps it, or DOT gets it, should depend on whether HUD's 1967 approach to urban transport is vigorous or lackadaisical. If the job is being well done by HUD, and coordinated well with DOT's intercity function, there should be no reason for a change.

4. HUD continues to administer the Urban Mass Transportation Act of 1964. This authorized \$375 million in federal grants to states and localities over a three-year period to assist public and private transit companies in providing adequate mass transport in the nation's cities. The 1966 amendment to this Act authorized an additional \$300 million for two more years.

Much of the federal help under this Act has gone to patching up existing inadequate systems of urban transport. In Peoria, Illinois, HUD saved the local bus system with a loan to make possible guaranteed seats and improved schedules. It has helped the Washington, D. C. minibus, a 138 horsepower vehicle which provides short rides for a nickel. Atlanta, Washington, and Boston are pressing ahead with plans for new or extended subways. In the San Francisco Bay area is the largely self-financed \$1 billion Bay Area Rapid Transit (BART), where electronically-controlled, lightweight aluminum commuter cars will carry passengers at an average speed of 150 miles an hour within three years. In Pittsburgh, again with some HUD help, Westinghouse Electric Corporation is testing its new sky bus, consisting of 30-passenger, rubber tired cars on an elevated guideway. About \$349,000 in federal aid helped put a five-mile extension in operation between Chicago and suburban Skokie. The number of daily commuters has climbed sharply from the original estimate of 1,500 a day to its present average of 7,000.

5. The trouble with the Urban Mass Transportation Act is that, by and large, it has helped out by providing for new buses and subway cars, but has done little or nothing to provide for wholly new systems of transportation. Without wholly new systems, I believe our cities are doomed.

I was unwilling to settle for the idea that the people who split the atom and are about to put a man on the moon are incapable of working out their transportation destinies here on earth. With this in mind, I have for the past two years pressed for legislation which would require the federal government to show the same research leadership in urban transport that it showed in the Manhattan District Project for splitting the atom, and in our space program. I asked that the Administration pull together the best brains from industry, government, and the universities and foundations, and block out a moon-shot-type of program for urban transport, and then come back to Congress in a year and tell us what private industry and local, state, and federal governments need to do to translate research, development, and demonstration, on a systems analysis basis, into a solution "that will carry people and goods within metropolitan areas speedily, safely, without polluting the air, and in a manner that will contribute to sound city

planning"—in the words of my bill. I am glad to say that the bill became law last October 15.

Today, under the vigorous leadership of Assistant HUD Secretary Charles M. Haar, HUD is well launched on the first phase of Operation Breakthrough. Universities, research institutes, corporations in the fields of transportation and aerospace and electronics, are now competing for contracts to show us how to improve present modes of urban transportation, and how to evolve radical new technologies and then combine them into entirely new systems.

Space-age techniques can help in Operation Breakthrough. Solid state circuitry can enable us to schedule and control vehicles to an extent far beyond our capacity a few years ago. Our new knowledge of aerodynamics and propulsion systems can tell us much about ground operations at high speeds. Lightweight equipment for space vehicles can be applied to surface vehicles, thus substantially increasing the payload.

By the time the second session of the 90th Congress convenes next January, I am looking for HUD to table before the Congress a five-year breakthrough program which will make our space and atomic efforts look earthbound and old hat!

So, belatedly, Washington is moving on the transportation front. We have two new departments, concerned largely with the safe, swift, and pleasant movement of people and goods. We have a Northeast Corridor high-speed rail program, and a dramatic new research and development program which can lead to entirely new systems of mass transit within metropolitan areas.

Where do we go from here? I have two suggestions whereby our transportation people, in Washington and in the states and cities, can make these good research and action programs even better:

1. Research in Washington. As I have said, HUD, under Assistant Secretary Haar, is working on a massive new R & D program for new systems of metropolitan mass transit. Obviously, this will include many, many things beyond highways. But the urban highway is going to continue. Today the Bureau of Public Roads has some \$14 million a year available for urban highway R & D. Of course, we're going to continue to need research on conventional problems of highway safety, highway design and engineering (better culverts and bridges), and traffic flow (computers).

But the new urban highways of the future must be part of the integrated urban transportation system, with all its new types of mass transit, that HUD is about to propose. The total complex will need, in addition to everything else, new forms of highways—automated highways on which new vehicles like the commucar can move, new propulsion systems for buses and automobiles which don't pollute the air, new methods of deep tunneling in highway building.

So, in at least part of its highway research effort, the BPR should get aboard the HUD team. An integrated transportation system for our cities needs, right now, integrated research by our various transportation agencies. Both HUD and DOT are enjoined in their Congressional charters to coordinate their research. Research into new systems of metropolitan transport is a good place to start coordinating.

2. Action by the states and localities. New systems of transport, within cities and between cities, are going to evolve as the research program progresses. The states and localities must pull up their socks and get ready to use them when they evolve.

Planners of the Boston-Washington high-speed rail corridor are finding that their biggest obstacle is governmental. From Boston to Washington, some 150 separate and independent political jurisdictions have responsibility for transportation planning. What shall it profit man to build a world-beater of a new high-speed system from Boston to Washington if it turns out to be incompatible with new local systems of scores of communities along the way?

If the states and cities want help from Washington in the months and years to come for their inter-city and intra-city transport, it will not do to hand out 1970 technology to 1870 administrative and governmental arrangements. Specifically, I would like to see the governors of the inter-city corridor states—and this means at least the Boston-Washington corridor, the Milwaukee-Chicago-Detroit-Cleveland corridor, and the San Diego-San Francisco corridor—and metropolitan-planning agencies in all the communities

big enough to have a mass transit problem, take action now to bring into being the governmental mechanisms that will be needed to translate new transportation systems into reality.

Magnificent research into new systems of transportation by Washington is of no use unless governments where the people who need the transportation live are equipped to use them. Vigorous action by the states and localities in solving the transportation muddle is of no use unless research develops these new systems. If the transportation people in Washington, and the transportation people in the rest of the country, will do the job I know they can do, the new Departments of Transportation and of Housing and Urban Development will prove to be not mere bureaucratic shells, but the best thing that ever came down the pike.

Discussion

QUESTION: What was the name of the law called "Operation Breakthrough?"

HENRY S. REUSS: That law was technically part of the Urban Mass Transportation Act of 1966. That Act did several things. One, it continued the existing program and put an additional \$300 million into it for two years. Then it had a separate section providing that the Department of Housing and Urban Development should forthwith in conjunction with the industries, universities, and state and local governments of this country, block out within 18 months a 5-year program of research development and demonstration designed to produce entirely new systems of transporting people, and goods within cities and metropolitan areas, that would move people speedily, safely, without polluting the atmosphere, and in such a manner as to contribute to good city planning.

What we have set up is, first, a preliminary period of about 18 months, during which HUD decides what are feasible approaches to the actual operation. Then, HUD will come back to Congress to report to us what kind of a program there ought to be. Then, Congress will mull that over and, I hope, enact whatever is a sense-making program. This will need some money and there are competing demands for federal money. But I can't think of any research outlay that would be of more value to more people than how we move them speedily, safely, and in a pleasant manner around our cities.

E. H. HOLMES—Bureau of Public Roads: It seems to me that the efforts that we are making and hope to make in improving our transportation in urban areas are directed toward the expectation of continuing the city in its traditional form. I wonder if there is any reason to think that with the forms of transportation we might expect in the future, or perhaps even with those that we have available today with the present technology, there is equal reason to take a look at the form of the city we might have if we were to take full advantage of advances in transportation. Recognizing the increasing affluence of the nation in which we live, is there opportunity for improvement in the form of the city, and do we, in fact, need to preserve the traditional type of city that has brought to us the many problems that we are now trying to solve through transportation improvement?

HENRY S. REUSS: There is indeed. Included in the terms of reference governing this new research organization within the Department of Housing and Urban Development is not only a study of vehicles and needs for propulsion and all that, but also the basic question of whether, on a cost-benefit basis in a cosmic sense, we wouldn't be better off with new ways of living in our cities whether they be cluster cities, satellite cities, or corridor cities, decentralized cities or whatever the ingenuity of our city planners think up. Thus in the terms of reference the question of city planning is specifically listed, and I hope they will think big, as you suggest they should. That certainly was the intention of Congress.

QUESTION: In your comments you suggested that the governors and the administrative heads in major metropolitan cities start to prepare the groundwork for cooperative

effort. It appears that on the one hand you have technology beginning to develop which will enable the transportation and urban planners to develop techniques and tools leading to a systems engineering approach. On the other hand, it is eventually going to come down to the problem of raising money, a power usually vested in legislative authorities at all levels of government. I think there is a real communications gap between the technical side, in the one case, and the legislative side that is going to have to operate in many different political subdivisions. Do you have any further comments on how this gap can be bridged effectively in the public domain?

HENRY S. REUSS: You certainly appreciate perfectly what the problem is. The irony is that if we go on as we are going, we're likely to solve the more difficult problem considerably before we solve the relatively easier problem. That is, we are likely to make some scientific breakthroughs to new systems of transportation and new ways of building cities and thus come to grips with the dreadful muddle we now face. But then our cities and regions will lack the governmental and financial mechanisms available to take advantage of these new systems. So, what I have been urging this morning, and in some other speeches I have been giving around the country, is this: Let's allow our local people—our governors, our mayors, our planning directors of metropolitan areas—to begin now to make the most concrete plans for preparing their governments' organizations to handle these new transport systems and to supervise their financing properly.

Specifically, I mean that in the mid-western corridor starting in Milwaukee, Wis., and going all the way to Cleveland and Detroit, the governors of those six or seven mid-west states ought to be getting together right now and setting up at least an informal committee or at most a kind of interstate authority whose task it will be to work out the financing of future systems and work out the governmental mechanisms for operating them. Then, when the scientists place on the table the results of their research and development, we shall be able to use them. I should hate to see these precious years—the next two or three years or about five years—wasted at the local level. I am confident that they won't be. I might add that in the mid-west some things are already going forward along the lines of the idea I have expressed.

QUESTION: Do we have to wait for the individual localities or for the state governors? Isn't it possible, using the examples of the Tennessee Valley Authority or Appalachia, to form regional or even national authorities to deal with the complex problems of the great Eastern, Midwestern, and Pacific Coast urban corridors?

HENRY S. REUSS: Your question has to do with techniques of bringing about these regional and local governmental and national authorities which will be capable of taking hold of the new technology and translating it into reality. You have suggested that maybe we shouldn't wait until the state and local people do it, but take a lead from TVA, where admittedly Uncle Sam set up the authority because the states were disinterested or bankrupt, or even Appalachia, where Uncle Sam did take the legislative leadership although the states were very much in the picture.

Although I am listed in the books of political science as a liberal democrat, a believer in strong Washington government, I am not about to write off our state and local governments. I think that unless we in Washington start giving state and local governments some responsibilities of their own, they are soon going to atrophy. This would be a very bad thing for this country. Reapportionment in the state legislatures is now going on apace. The idea of metropolitan institutions in our big cities is now taking hold more than it has in the past. There is increased emphasis, in which you highway people play a big role, on planning. So, I would hope that these trends will stimulate some response to this plea which we are making here. I hope that states and localities will pull up their socks and start inventing new local or regional governmental and financial organizations equipped to receive the forward pass of new technology when it's thrown from Washington. If they don't, if our pleas go unheard, it will then be time to consider whether maybe Uncle Sam ought to step in. But I want to give an all-American chance to the states and localities before we come to that gloomy conclusion.