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A 1976 report on Federal Short Takeoff and Landing (STOL) Transport Programs was summarized. The major thrust of the report was to recommend reassessment of the needs and priorities for short haul transportation systems. It noted that the Department of Transportation sees improved rail systems and better use of existing air transportation facilities as the preferred solutions to congestion in high density corridors. The National Aeronautics and Space Administration, however, is proceeding with research on STOL transports to solve airport congestion despite the fact that little or nothing is being done to resolve questions concerning the need and timeliness for a new shorthaul system. Air Force contractors involved in the development of STOL cargo aircraft see no commercial or cargo market for this type of aircraft. There is no real agreement on the specific requirements for a commercially viable STOL system. Long term actions are being taken to improve existing air traffic capacity and to develop competing rail service. If successfully completed, they will alleviate the need for a STOL short haul passenger system. Development of jet STOL transport technology appears to be ahead of other system components such as terminal facilities, airports, routes, and air traffic control. (RRS)

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STATEMENT OF

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BEFORE THE

SUBCOMMITTEE ON TRANSPORTATION,
AVIATION AND WEATHER

COMMITTEE ON SCIENCE AND TECHNOLOGY

HOUSE OF REPRESENTATIVES

ON

FEDERAL SHORT TAKEOFF AND LANDING
TRANSPORT PROGRAMS--STATUS AND NEEDS

Mr. Chairman and Members of the Subcommittee:

We appear this morning at your request to summarize for the record our report, "Federal Short Takeoff and Landing Transport Programs--Status and Needs," issued on October 4, 1976.

The major thrust of our report was to recommend that the Congress and the several executive agencies involved, primarily Department of Transportation, Department of Defense and the National Aeronautics and Space Administration, reassess the needs and priorities for short haul transportation systems. In essence, we noted that the Department of Transportation sees improved rail systems and better use of existing air transportation facilities as the preferred solutions to

congestion problems in high density corridors. NASA, however, is proceeding with research on short take-off and landing (so called STOL) transports to solve airport congestion in the same markets. This, despite the fact that little or nothing is being done to resolve the significant questions concerning either the need and timing for a new short-haul system or the ground and air facilities that would permit efficient utilization of large STOL transports. It is also interesting to note that the Air Force contractors involved in the development of STOL cargo aircraft for military applications see no commercial passenger or cargo market for this type of aircraft and do not now intend to invest corporate funds in a commercial program.

Several years ago a Government study recognized the need for the various agencies to work together to resolve the complex problems of initiating a STOL system. In 1974 a divergence of opinion surfaced concerning solutions to these problems and the cooperative approach was discontinued. As a result, each of several agencies appears to be pursuing its own solutions based on its specific areas of responsibility and interests. The current problem, therefore, is whether these solutions are all worth investing public and private funds in and whether they are paced or even compatible with each other and with long term transportation needs.

I would like to briefly discuss some of the background to this problem and the significant points covered in our report.

IDENTIFICATION OF NEED

A short-takeoff and landing (STOL) air transportation system has long been discussed as a possible solution to existing and forecasted constraints on the growth of air transportation in the United States.

A 1971 joint Department of Transportation and National Aeronautics and Space Administration policy study concluded that solutions to the air and ground congestion problems at major hub airports should have the highest priority, second only to seeking solutions to the aircraft noise problem.

The study also concluded that solutions to the complex problem of airport congestion requires an organized effort directed at the combination of air traffic control, runway capacity, ground control of aircraft, terminal processing, access and egress, parking, airport location, acquisition, and development.

The two agencies stated that STOL aircraft was the leading contender for a new short-haul system and that there was a need for a coordinated effort to assure that all system elements were integrated and proceeding at a consistent pace.

The study suggested that a special office be established in the Department of Transportation to manage a coordinated program to alleviate terminal congestion, and that joint

enterprises between Government and industry be considered for major experimental hardware and demonstration programs.

COORDINATED FEDERAL RESPONSE - A SYSTEM APPROACH

As a result, a special office was established in the Federal Aviation Administration and a working group composed of representatives from FAA, NASA, Civil Aeronautics Board, Department of Defense, and the Office of the Secretary of Transportation was formed to coordinate Government actions.

Other significant events were that:

--In 1971, NASA initiated a program to develop the technology for quiet short-haul takeoff and landing jet transports to serve high density markets.

--In November 1972, the Air Force awarded contracts to two companies to develop, and flight test experimental transport prototypes employing two different lift concepts for achieving short takeoffs and landings.

In 1973, both the FAA special office and the working group drafted plans proposing actions to improve short haul air transportation. Like the 1971 Policy study, the plans considered a new STOL system to be the leading contender for alleviating terminal congestion. A steering committee composed of prominent people in the aviation community was also organized to provide industry advice.

DISCONTINUANCE OF MULTIAGENCY SYSTEM APPROACH

However, no plan for coordinated action was ever adopted. A divergence of opinion had surfaced concerning solutions to

short-haul transportation problems. Department of Transportation officials saw improvement of rail transportation in high density corridors and better use of existing air transportation facilities as preferred solutions to short-haul transportation problems.

Also, FAA no longer considered downtown STOL ports, as envisioned in the 1971 policy study, feasible because of environmental and safety considerations. In addition, the problems of terminal congestion appeared much less urgent because of (1) the utilization of wide-body jets, (2) the economic downturn, and (3) the 1973-74 fuel crisis, all of which contributed to a reduced number of aircraft operations, and later to a smaller rate of growth.

In 1974, FAA's special office was abolished. Although certain cooperative research and development efforts between the Air Force and NASA and between FAA and NASA continued, the multiagency approach to explore means for improving the air transportation system was discontinued. In reporting these changing circumstances, we also noted that NASA research and development expenditures through 1979 are estimated to total approximately \$203 million, with follow-on efforts through 1984 still under study. The Air Force is spending \$229 million through 1978 to build and test its four full-sized prototypes. If approved, the Air Force will spend another \$250 to \$500 million in full-scale development of its prototypes.

Before the technology being developed by NASA and the Air Force could be used in the civil transportation field, substantial additional Federal resources will be required to develop the STOL system. In addition to aircraft technology, air traffic control system and airport development, the Federal Government may be required to participate in the development of production aircraft, market demonstrations, and ground feeder systems. As I mentioned earlier, we think it is extremely significant that the two major commercial aircraft producers in this country see no market for a commercial passenger STOL aircraft. We were told, emphatically, that development and production of such an aircraft would have to be funded by the Government.

Because of the sizeable investments required and their long-run budget implications, at both Federal and local levels, we sought to determine whether the anticipated long-term needs, constraints and investments provided a rational basis for continuing STOL R&D. We found that:

1. There is no real agreement on the specific requirements for a commercially viable STOL system. It appears that what is needed, as a minimum is (1) an aircraft that could operate at a seat-mile cost competitive with other short-haul systems, (2) ground facilities convenient to major downtown areas, and (3) an air traffic control system for relatively slow aircraft operating differently than current airliners.

2. Long-term actions are being taken to improve existing air traffic capacity and to develop competing rail passenger service. If successfully completed they will tend to alleviate the need for a STOL short-haul passenger system. These actions include: upgraded air traffic control systems, reduced separation standards, jet wake detection, closely spaced parallel runways, capital improvements at primary airports, plans for additional general aviation airports, and plans for capital improvements and construction to upgrade intercity rail passenger service.

The Department of Transportation recently reported that if current trends continue, additional public investments in airports and airways from 1975 through 1990 will total about \$39 billion - \$17 billion to replace worn out or obsolete equipment and structures, and \$22 billion for expansion. None of these expenditures is directed towards the unique problems of a short-haul STOL system - but rather towards the improvement of the current air transportation system.

By the year 1980, grants and loan guarantees to sustain intercity rail passenger service are expected to be about \$700 million per year. Beyond this

annual operating subsidy, the Federal Government is expected to provide \$1.2 billion for capital improvements and \$1.7 billion for construction of the Northeast Corridor.

3. Because of the progress being made by NASA and the Air Force, development of jet STOL transport technology appears to be ahead of other system components--airports, terminal facilities, routes, air traffic control and connecting transportation. Development of these other components are tied to complex governmental decisions at the Federal, State and local levels, that have not been made.

I should mention that neither the Department of Transportation nor NASA agrees with our assessment that the STOL technology is ahead of other system components. DOT states that the current National Aviation System can accommodate STOL technology today. The 1971 policy study and subsequent feasibility studies, however, show that although STOL transports could be used in the existing system they would not realize the full benefits of their unique capabilities and would interfere with current airline operations.

We proposed that the Department of Transportation clarify its position concerning long-term transportation needs, constraints and investments. We

also suggested that NASA reassess the scale and pace of its research directly supporting the development of a STOL system with the purpose of bringing it more in line with the emerging Department position, and that the Office of Management and Budget reassess the Federal research and development activities.

AGENCIES RESPONSES AND OUR RECOMMENDATIONS

The Department of Transportation, NASA, and Office of Management and Budget agreed with the basic proposal that Federal programs should be reassessed, but the Department of Transportation and Office of Management and Budget stated that this is being done. The agencies generally concurred with the scale and pace of the NASA STOL technology program. The Department of Transportation stated while there is no agreement on when or if the STOL transport technology will be applied, there is general agreement that the technology is needed to provide future policy choices. If the STOL vehicle technology program is going to provide future policy choices, we believe it should be guided by, and responsive to, the requirements of the transportation system within which it will operate and by assessments of the market which it seeks to influence.

In summary, our report primarily questions the relevance and effectiveness of NASA's STOL research and development program because it is not part of a coordinated effort to

solve the congestion problem and it is not user or market oriented. We believe the Congress should take the lead in establishing a national transportation policy and in directing those research and development programs that would be consistent with that policy.

The amounts that are involved in developing either a workable STOL system - or in upgrading other forms of transportation - make it imperative that the costs and benefits of all competing and complementary systems be examined carefully.

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Since the issuance of our report, the Secretary of Transportation has issued the "NATIONAL TRANSPORTATION TRENDS & CHOICES (TO THE YEAR 2000)," dated January 12, 1977. It restates many of the observation and policy issues made in previous Department of Transportation documents cited in our report. In regard to airport congestion, it stated:

1. Rate of growth in air travel is expected to decline substantially in the next 15 years.
2. Current research, engineering and development programs will provide substantial improvements in the existing airway system including substantial gains in airport capacity.
3. Public investments in airport and airways will total about \$39 billion over the next 15 years if current trends in new airport investment continue.

4. Increased attention is being given to non-capital or relatively low-capital means of increasing airport capacity. For example, implementation of operational policies that shift general aviation concentrations in peak-periods to periods of excess capacity or to other airports could reduce overall capacity requirements for large hub airports by as much as 30 percent.
5. For most major airports, severe congestion problems during peak-periods occur on the internal circulation system within the airport boundaries. Improvements in this area offer the greatest potential for congestion reduction and improved airport access.

For intercity rail passenger service the report noted:

1. Financial viability studies of rail-passenger markets have shown the New York to Washington, D.C. corridor to be the most promising. "The United States Railroad Association's Preliminary System Plan" identifies 16 short-to-medium-distance corridors (300 miles or less) in densely populated areas (end points of 1 million persons or more) outside the Northeast Corridor in which upgrading of rail passenger service might return "substantial" public benefits.
2. Increasing commitments to AMTRAK and to improving the Northeast Corridor have been made without any serious analysis of the public benefits and cost involved, or any evaluation of alternative uses.

3. It is essential that the AMTRAK experiment be restudied to ascertain the best use of the resources available and to permit an evaluation and policy decision on the future of rail passenger service. This decision point should be reached by 1985 at the latest.
4. Any review must pay close attention to the effect of liquid fuel shortages on traffic congestion on the highway system now projected for 1990.

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Mr. Chairman, this concludes my prepared statement. I shall be happy to answer any questions at this time.