DEPARTMENT OF TRANSPORTATION | NEWS

FEDERAL AVIATION ADMINISTRATION

WASHINGTON, D.C. 20590

REMARKS PREPARED FOR DELIVERY BY
JOHN H. SHAFFER, ADMINISTRATOR
FEDERAL AVIATION ADMINISTRATION
EVERGREEN SAFETY COUNCIL 40TH ANNIVERSARY MEETING
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The growth of air transportation is perhaps the most remarkable development of the twentieth century. It provides virtually unlimited mobility to hundreds of millions of people all over the world. In so doing it has opened up vistas of economic development in and between the world's most remote and hitherto inaccessible regions. In the United States, air transportation is counted as one of this nation's most important national resources and daily becomes more so. Indeed, more than 7,000 new passengers are turning to air travel each day. By 1985 we conservatively predict that U.S. airlines will be carrying close to five times 1971's number of passengers--somewhere in the neighborhood of 800 million. The projections for the growth of air freight are even more impressive, and the experts believe that this element of air transportation by the early '80's will constitute an even larger business opportunity and greater revenues than the transport of people.

If this projected growth comes to pass, and there is every indication that it will, a vast market for civil aircraft must certainly emerge. In fact, a sales potential of more than $100 billion for new aircraft by 1985 is forecast. About sixty per cent of these sales will be for aircraft not yet certificated; that is, aircraft to the large extent still on the drawing boards. There's no doubt that Boeing will be among the U. S. contenders for this market and certainly the major beneficiaries will be all of the citizens of America.

In the past, military aviation has paced aeronautical technology, with civil aviation as the beneficiary. But today, as many of you may know, civil aviation has begun to press heavily on technology in its own right to meet the public transport demand. The United States has produced 80 per cent of the transport aircraft used in the free world and our industry is one of the principal forces at work on our balance of payments problem. Other industries that export a large amount of goods are virtually counterbalanced, sometimes outweighed, by imports of similar goods. This situation does not exist yet in our aviation industry and it is for this reason that the economy of the United States is so dependent upon the quality of our civil aircraft. It is also for this reason that we must look to technology to maintain our competitive stance.

The great nations of Europe are joined together in one of the most powerful economic blocs the world has ever known via the common market. Those nations are also joining into manufacturing consortiums aimed squarely at capturing the world aircraft market. Strategies aimed at cornering a lion's share of the hundred billion dollar market of the next decade are being vigorously pursued. Cases in point are the British/French supersonic Concorde, the subsonic Twin-Jet A-300 airbus and the Mercure, all slated to enter world airline inventories in the near future. For your information, I might add, Sir George Edwards has estimated that the supersonic Concorde will gross $75 billion in airline orders before production of the type runs full course. And, I regret to say, the United States also has no real contender ready for the French shorthaul A-300 airbus now nearing certification. Once more for emphasis, if we are to realize our share of the rapidly growing aviation market, we must look to our technology.

Today the two great technological constraints on the growth of air transportation in America, indeed, throughout the world, are pollution and congestion. There is an insistent demand that technology pay full attention to minimizing noise and reducing exhaust pollution. Fortunately, we can see our way through the worst of the noise problem. The noise level of first-generation jets, for example the Boeing 707, can be reduced by retrofitting them with acoustically treated nacelles. But I would remind us all that this approach will be very costly.

It may never be possible to completely eliminate aircraft noise, but engineers have made great strides in reducing it to acceptable levels. I submit you will all become acutely aware of this shortly with the more common operation of our new "gentle giants" --The Boeing 747, McDonnell-Douglas DC-10, and the equally impressive new Lockheed L-1011. And, regarding exhaust emissions, more than a decade ago aircraft manufacturers cut engine air pollution in half, just by converting from piston-powered aircraft to jets. In 1970, airline planes accounted for only 1.2 per cent of all air pollution, and that small percentage is decreasing steadily because of improved engine technology.

Today, the industry is working on a quiet engine program, and we hope to demonstrate in about two years the technology for a jet engine about one-half as noisy as the present conventional jet engine without major performance penalties. Now I don't know how many of you have seen the new Lockheed L-1011 or have heard it fly past on takeoff, but it's certainly a tribute to the engine industry's efforts to reduce sound at its source. Yet, we believe we can still improve on the technology of engine sound reduction. We are convinced that it is possible to achieve noise levels of about 90 EPNDB (effective perceived noise decibles) by the end of this decade for the subsonic transports of the 1980's and beyond. This amounts to approximately the engine sound generated by an average motorcycle passing twenty-five feet away. Considering the size of our larger airports, this suggests that aircraft engine sounds by the late '70's and certainly by the '80's will, for the most part, be confined within the airport perimeter. I believe you must agree we have "a handle" on the environmental problems of emissions and sound.

Our progress in airport development is not going as well as I think it should. Inefficiencies are surfacing in the orderly flow of air travellers and air traffic because airport development and ground transportation facilities have lagged aircraft development. As many of you are aware, even at some of our modern airports the simultaneous arrival of conventional jet transports -- 707's, DC-9's, and 737's, are creating in-terminal congestion and delay. In fact, terminal-area delays are estimated to cost the airlines at least $160 million per year. This ultimately represents increased costs to the passenger and shipper, but it's also symptomatic of the inability of some terminals to handle more traffic. As the new wide-body large capacity jets, The Boeing 747, DC-10 and L-1011 join airline fleets in increasing numbers (some 55 more of them yet this year), the specter of wall-to-wall people jammed in terminal buildings and chaos at the curbside is a distinct possibility.

There are a number of ways to alleviate this problem. Larger aircraft can carry carry more passengers withoutincreasing traffic density but they also reduce the flexibility of the transportation system. The solution, I am convinced, lies in secondary airports serving shorthaul routes with suitable aircraft designed specifically to reduce the load at the most congested hub airports. There is little

doubt in my mind that the day is approaching and faster than most think when the large jet transports will be serving the major urban complexes while shorthaul transports operating from secondary airports will serve the shorthaul markets. Transcontinental service from major hub to major hub must inevitably be just that. Passenger service fanning out from the major hubs to less densely populated and rural areas must inevitably be relegated to shorthaul aircraft specifically designed for the market.

This suggests that a family of two, three, and even four-engine shorthaul transports must come into being to complement the long-haul fleet. Commuter and air taxi movements now dramatically increasing are indicative of the requirement. The steady migration of industry to rural and suburban America lend additional emphasis to the efficacy of such a system plan -- the true shorthaul jet powered aircraft. An all-pervasive arterial network of air transport effectively linked to the regions they serve by surface systems is finally starting to take shape.

Interestingly and significantly, several promising approaches to satisfy the shorthaul transport need are under way leading upward from the small Canadian DeHavilland "Twin-Otter" to a 100-160 passenger short-range conventional-takeoff-and-landing aircraft yet to be offered but almost certain to be ready in this decade. Parenthetically, I might add, the FAA has taken the leadership role in the development of a quiet takeoff and landing aircraft -- Q/TOL -- and has a special projects office with the mission of implementing a comprehensive plan for the development of a safe, convenient, viable, and environmentally acceptable new system -- aircraft, runway, ATC procedures.

I am certain that our development program will generate great public benefit. Currently we envision a turbine-powered aircraft by 1977-78 that will transport more than 100 passengers, capable of operating from 4000-feet balanced field lengths while producing no more than 95 EPNDB (sound) -- optomistically 85-90.

Looking toward the future in other areas of air transport, I am confident that by 1980 we will also see increasing numbers of rotorcraft transports capable of speeds of 275 miles an hour. I am just as confident that America will reestablish the supersonic transport development that Congress shelved last year. One day we will have an American supersonic transport because in transportation "speed is best". I can assure you it will be capable of operating within the environmental limits imposed by the same Federal Aviation Regulation Part 36 under which The Boeing 747, DC-10, and L-1011 were certificated. And before the end of this century, we'll see the introduction of jet transports into the U. S. fleet weighing 500 tons -- more than twice the size of the 747 -- with intercontinental range, dual passenger/cargo roles, and capable of all-weather -- not just foul weather -- operation.

The Federal Aviation Administration is moving rapidly to update, to modernize, and to expand the national aviation system to meet the demands of the more than two and one-half million persons expected to be flying the airways daily in the next decade. This is possible, as you know, because President Nixon has determined that the United States must have an all pervasive transportation system linking village to town, town to city, and market to market. Programs for strengthening and improving our various surface systems and waterways are also well under way.

The power source for the thorough modernization program needed has been the enactment of the President's landmark legislation program for transportation -- UMTA and for airport/airway development most specifically. As with any major new program, ours got off to a moderately slow start, but all facets of the program are now accelerating. Under terms of the Act, the FAA is authorized to expend nearly five-and-one half billion dollars in airport and airways development, new construction, expansions, modernization and automation of the National Aviation System. Operating generally on an equal-share basis with state and local participation, the FAA will oversee the spending of well over $11 billion in this decade for the building of the finest airways and airport system in the world.

The fact is, this nation is on the threshold of a growth in transportation unparalleled in history. But at this moment we are facing a challenge to the security of our transportation system that threatens us all as never before. We have been threatened by an increasing variety of unlawful acts, aerial piracy, extortion and sabotage.

I suppose that it was inevitable that the criminal and the mentally unstable would find some means of preying upon the system that means so much to this nation's economy. But I can tell you we intend to bring aircraft hijackings, extortion threats, bomb threats, and vandalism and thefts at our airports to an abrupt and decisive halt.

There were 125 hijacking attempts involving U. S. carrier aircraft during the period from May 1961 to the present, with most occurring since 1968. Reported bomb threats, in reality hoaxes, against U. S. air carrier aircraft averaged approximately 500 annually from 1966 to 1970. In 1971, there was a dramatic increase with about 1, 200 threats reported.

A method for detecting potential armed hijackers has been available for almost two years. A majority of the air piracies in the past six months could have been prevented had the FAA's system been used correctly, conscientiously and to the fullest extent. The system identifies potential hijackers during the ticketing and preboarding procedures. For those concerned with adherence to the letter of the law, I might add, the courts have declared the use of the system to be constitutionally acceptable. In early February, the FAA issued an emergency regulation requiring most airlines to screen all boarding passengers and their hand luggage. Prior to that time the screening program had been voluntary. Use of the system by <u>all</u> air carriers

did not become mandatory until President Nixon ordered its imediate implementation on March 9, as well as the establishment of certain other security precautions, techniques and procedures. Rule making action by the FAA regarding airport security measures to prevent vandalism, cargo theft and pilferage was also ordered and will become effective within sixty days.

Security is getting tighter day to day -- don't be misled by last Friday's "double header" -- neither should have succeeded. Our Office of Air Transportation Security is working closely with air carrier management and airport operators on details for the development of a completely effective ground security program. All segments of the airline industry are working at top speed to implement effective security measures all across the system.

We are acutely aware that airports and airplanes are in the business of moving people and cargo rapidly and for the purpose of making a profit. However, the times demand that an adequate balance be maintained for the security and safety of passengers and cargo. During the past six months almost every U. S. airline has been victimized by bomb threats -- at an average of about 90 threats per month. The major problem, of course, is that all must be checked thoroughly.

To put the cost of a bomb threat into proper perspective, let me recite the cost of one such recent incident. The flight threatened was a Boeing 747 belonging to an international carrier. The plane was ordered to an emergency landing at the nearest airport where its passengers and crew were evacuated by emergency escape procedures. No bomb was found but the emergency cost the airline $57, 000. -- 30, 000 for deployment of escape chutes alone . . . a sad commentary, ladies and gentlemen , when one ten-cent phone call can wreak such economic havoc, not to mention endangering the lives of passengers and crew.

The thrust of our effort is to prevent hijackers from getting to the aircraft. Currently, we have air transportation security officers covering the airports from which 75 per cent of U. S. passengers enplane. They coordinate the law enforcement support acitivities of the Bureau of Customs and the U. S. Marshals Service. The total Customs security officer strength stands at 1, 300. The U S. Marshals Service furnishes an additional 230 Deputy U. S. Marshals in support of the anti-hijacking effort. Collectively they are responsible for the security of operations at the 531 airports which have air carrier operations.

I am proud to say that law enforcement efforts are proving effective and successful. Nine of the past sixteen hijackings ended with the capture or death of the criminal. One committed suicide to prevent capture; another surrendered to Royal Canadian Mounted Police and was turned over to U. S. authorities; another who successfully exited the aircraft by parachute was captured by the FBI in a Colorado wheat field. In two hijackings, the criminals were taken into custody by the FBI at the scene of the crime; in another, the hijacker was overpowered by the crew. In three other cases, one was captured after his escape from the aircraft, one was shot and wounded by the FBI during capture, and one was killed as he tried to escape with a hostess as hostage.

But especially newsworthy has been the success of law enforcement officers who serve on the ground in preventing armed potential hijackers from boarding aircraft. During the past six months, U. S. Marshals and Customs Security Agents together have arrested 403 persons attempting to board commercial aircraft with concealed deadly or dangerous weapons and seized a number of dangerous or potentially dangerous items from air travellers. In addition, thousands of other dangerous weapons were temporarily "borrowed" by customs security officers to prevent their being carried aboard flights.

Many of the persons arrested, upon investigation, were found to have extensive psychiatric histories but the vast majority of the arrests are being successfully prosecuted in both Federal and state courts.

I am also pleased to say that local law enforcement units are beginning to provide the very necessary backup support for the effort. As of April 1972, local police were operating in this capacity at 40 airports in addition to those airports manned by Federal law officers. I applaud these efforts. To achieve our national goals for total safety of those to fly, communities must take on their share of the burden. Community leaders must be made to realize that their airport deserves at least the protection afforded their business and residential areas. Adequate local police protection must be provided to the airport for certainly it is an important resource, contributing much in the cultural, social, and economic sense. As does other community industry, the local airport provides jobs, payrolls, tax revenues, and vital public services.

In closing I would like to take this public opportunity to commend the news media, newspaper, radio and television, for their fine response to the plea of the Federal Aviation Administration and of the airline industry for judgement in reporting and restraint in news and broadcast coverage of threats and "real time" hijackings.

In the past, news of hijacking attempts, bomb and extortion threats spawned a wide range of similar threats and alleged plots throughout the world's air transport system. The more sensational and rapacious the account of an incident by the press, the greater the incidence of additional threats. More unfortunate, I believe, was the odd rationalization among a few journalists who likened our latter-day pirates to "folk hero." And sometimes, a reporter's zeal for news beats often disclosed some of our most discrete methods of operations and techniques of apprehension and frustration. Some stories indeed provided virtually a "do-it-yourself kit" of guidelines of do's and don'ts for the potential hijacker.

In March executives of U. S. news media were invited to a conference in Washington. In essence, this was said: None of us in government, nor in the aviation industry, advocate any type of blackout of news regarding aerial hijackings, except disclosure of law enforcement strategy in combatting the crime under way. For one thing, such a news blackout would be a two-way sword. Such a blackout would inevitably escalate false rumors that could easily destroy public confidence in its national aviation system. On the other hand, hijackers, extortionists, air pirates by and large, are mental cases; they follow patterns of startling similarity. Those who have been apprehended have told investigators their source of inspiration and modus operandi have come entirely from news reporters television and motion picture dramas.

We asked for judgement in reporting, cooperation in not revealing law enforcement techniques and strategy and finally a reporting emphasis on the fact that hijackers are not bold revolutionaries or glamorous folk heroes. We asked that the press consider the hijacker for what he is in fact; inept, insecure, psychotic and criminally adolescent, doomed to failure. To this plea in the national interest, the nation's news media has responded magnificently.

Commercial aviation in the United States has a commendable record of service and safety. By working together we can keep it that way. And we must. The aviation system is one of America's most critical national resources, socially, economically, and geopolitically. Unless we keep this system working at full throttle, freedom may not ring for our children's children.

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REMARKS PREPARED FOR DELIVERY BY
JOHN H. SHAFFER, ADMINISTRATOR
FEDERAL AVIATION ADMINISTRATION
NATIONAL AVIATION DAY CELEBRATION
DAYTON, OHIO
AUGUST 18, 1972

It has been 69 years since the Wright brothers flew at Kitty Hawk. During the years intervening through technological innovation, development and test, sometimes bitter defeat and awful tragedy, aircraft have become mechanized masterpieces. And as the public demand for the rapid, safe and efficient mobility has mushroomed, the size of our air transportation sytem has reached formidable proportions.

Last year the national aviation system served more than 173 million commercial passengers moving intercity aboard scheduled air carriers and handled more than 5 billion ton miles of air freight. Business, corporate and private units of the nation's general aviation fleet, consisting of some 133,000 aircraft, are estimated to have moved some 50 million passengers intercity during the same twelve months. There is little doubt that the economic strength of the United States domestically, indeed, our strength internationally, both militarily and in the commercial market places, has come to depend in large measure upon this nation's aviation industry and the pervasiveness of its air transportation system.

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Even with the decline in civilian aerospace and airline employment during the past two years, a situation I am pleased to note is reversing. These two segments of the aviation industry in combination are among the nation's largest employers -- as a matter of fact number two and trying harder. Today, the United States enjoys a well-recognized position of world leadership in every aspect of aviation, though I hasten to add we are being hard pressed to maintain that posture. Currently, the seven largest free-world commercial air carriers are U.S. airlines. What's more, the United States exports over 2½ times as many general aviation aircraft as the rest of the world combined.

But in our vigorous development of ways and means to get people and goods from where they are to where they want to be, we haven't paid proper and sufficient attention to the interconnections, delivery systems and circulation patterns at either end. Autos and trucks jam the highway portals between cities and airports. Cargo and baggage clog ship, rail and air terminals. The airplane provides fast travel between widely separate city pairs, to be sure. Airports and runway systems are often glowing displays of America's architectural and engineering genius. But behind the mystique of jet travel and the convenience of "up, up, and away," lie serious problems that have been growing more acute year to year.

Development trends in aviation, as with other modes of transportation, have been represented almost exclusively by technological emphasis on the speed, economy and dependability of the vehicle. Until recently, little more than cursory consideration has been devoted to environmental problems associated with flight or to the desperately needed funding and development of ground side facilities needed to support the airside of the national aviation system. Today, the airlines with their wide-body jets, the DC-10, the L1011 and the intercontinental 747, are in excellent shape to handle the rapidly expanding passenger enplanements required in this decade and predicted for the next. Their origin and destination centers, I regret to report, for the most part are not ready.

While congestion may not seem important to some of you here today as a deterrent to the continued growth of aviation, I can assure you that it is a very real problem and daily becomes more so. I don't know how many of you have occasion to fly in to Chicago's O'Hare, Los Angeles International, or New York's John F. Kennedy International, but I can tell you that vehicular traffic at all three is a staggering problem. Congestion has resulted in major losses to both the airlines and to the public they fly as well as to general aviation users. Terminal traffic delays cost the airlines $160 million last year. This waste, of course, ultimately results in increase air passenger fares -- not to mention more than 22 million passenger travelling hours lost in the process.

The solution obviously lies in expanding the national aviation system. With the passage of the landmark Airport/Airway Development Act

which President Nixon signed in May 1970, we are moving, though not as rapidly as I believe that we should, both qualitatively and quantitatively toward solution of the national airport network problems. As most of you are aware, under terms of the act, the FAA is authorized to expend nearly $5.5 billion in airport and airway development and airport construction, expansion and modernization programs. Operating generally on an equal-share basis with state and local participants, the FAA will oversee the spending of well over $11 billion in this decade for improvement of our airports and airways.

The Federal share for airport development during the FY 1971-1980 period is $2.5 billion. In combination with matching funds from the private sector, a total of some $5 billion is slated for airport development during this decade. But the mere infusion of dollars into the airport system cannot provide the necessary new airports. The decision to build, when to build, and where to build are local prerogatives. But I must say this and in all sincerity: if state and local planners are to provide for their region's economic well-being in the decade ahead, if they are to meet system demands of the 'eighties, the time for decision is now.

Significant improvements in airways facilities, air traffic control, landing systems, etc., require seven years' lead-time from design to fully operational status. But the location and development of new airports, even major expansions of existing facilities, including land acquisition, environmental impact studies, highway easements and construction require a minimum of five to ten years from conceptual planning to operational use. In view of the fact that the FAA predicting an annual growth in passenger traffic reaching to 800 million passengers by 1985 -- five times the number of passengers carried last year -- it's already later than we think. The layout of facilities, means of access, support and ground movement of arriving and departing passengers, and cargo and aircraft handling have grown haphazardly, without benefit of master planning. Actually, there's little wonder the non-flying public has become annoyed with the sounds of aviation and engine pollutant emissions.

Fortunately, we can see our way through the worst of the noise problem. The aviation industry has made great strides in the reduction of objectionable engine sound and smoke emission pollutants and more progress is technically and practicably achievable. But the best noise suppression programs in the world will be to no avail if local communities are permitted to continue the practice of residential development right up to the airport fence. The obvious solution is appropriate land use planning from the outset. Zoning should permit only airport-compatible activities. Surrounding airports with compatible activity zones, parks, light industry, warehousing, etc., is the sensible and effective solution to the worst of aviation induced or sourced pollution.

Today, the industry is working on a quiet engine program, and we hope to demonstrate in about two years the technology for a jet engine about one-half as noisy as the present conventional jet engine without major performance penalties. Now I don't know how many of you have seen the new wide bodies or have heard them fly past but they are certainly living tributes to the engine industry's efforts to reduce sound at its source. We can still improve on the technology of engine sound reduction. We are convinced that it is possible to achieve noise levels of about 90 EPNDB (effective perceived noise decibels) by the end of this decade to power the subsonic transports of the '80's and beyond. Considering the size of our larger airports, this suggests that aircraft engine sounds by the late '70's and certainly by the '80's will, for the most part, be confined within the airport perimeter. I believe you must agree we have "a handle" on the environmental problems of emissions and sound.

Looking toward the future in other areas of air transport, I am confident that by 1980 we will also see increasing numbers of rotorcraft transports capable of speeds of 275 miles an hour. I am just as confident that America will eventually reestablish the supersonic transport development that Congress shelved last year. One day we will have an American supersonic transport because a maxim in transportation is "speed is best." I can assure you that when we build our SST it will be capable of operating within the environmental limits imposed by the same Federal aviation regulation under which the Boeing 747, the Douglas DC-10, and Lockheed L-1011 were certificated. And before the end of this century, we may see the introduction of jet cargo transports into the U.S. fleet bigger than the 747F, with truly intercontinental range all-weather capability -- not just foul weather but under absolutely grim conditions. Parenthetically, I might add, the FAA has also taken the leadership role in the development of a quiet takeoff and landing aircraft -- Q/TOL -- and has a special projects office with mission of implementing a comprehensive plan for the development of a safe, convenient, viable, and environmentally acceptable new system -- aircraft, runway, and ATC procedures.

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reason that the economy of the United States is so dependent upon the quality of our civil aircraft. It is also for this reason that we must look to technology to maintain our competitive stance.

Powered flight, the heritage provided to America by the Wright Brothers less than three-quarters of a century ago, has since become a vast national resource. It is an asset of singular importance to our Nation's economy, its culture and its social well being. And as we face the decade ahead, though we stand on the threshold of a generation of peace promised by President Nixon, it would be well for us all to remember that we face a new battle -- a battle for economic security, a battle of competitive prowess in the arenas of international markets. No one is more aware of this than President Nixon who has charted a steady course toward achieving American economic viability.

The only area in which America industry really holds a big edge is in aviation. If the aviation industry and its associated airline industry are to remain strong, and both will, we must look to our technology. We must expand our national aviation system and the Nation's mobility. Vast resources have been provided by our government for these purposes. But in the final analysis, only the people of this great Nation can put these vital resources to work. Our future, yours and mine, America's, is at stake. I'm confident of our future for the heritage of the Wright Brothers is in good hands.

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