

STATEMENT OF JOHN BURT, EXECUTIVE DIRECTOR FOR SYSTEM DEVELOPMENT,
FEDERAL AVIATION ADMINISTRATION, BEFORE THE HOUSE COMMITTEE ON
PUBLIC WORKS AND TRANSPORTATION, SUBCOMMITTEE ON AVIATION, ON THE
MODERNIZATION OF THE AIR TRAFFIC CONTROL SYSTEM. MARCH 3, 1992.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to appear before you today to discuss the accomplishments of FAA's Capital Investment Plan (CIP) and its impact on the continuing modernization of our Nation's air traffic management system. I will also discuss ongoing and future plans. Accompanying me today are Martin Pozesky, FAA's Associate Administrator for System Engineering and Development, John E. Turner, Associate Administrator for NAS Development and Norbert Owens, Deputy Associate Administrator for Air Traffic.

As FAA's Executive Director for System Development, I oversee FAA's capital investment and research programs. Prior to being named Executive Director for System Development in December 1991, I served as Executive Director for Acquisition, working to improve the management of FAA acquisition efforts. During this time, I believe the agency made strong progress in achieving a more structured and disciplined acquisition process, and we are committed to building on this progress.

For example, the interdisciplinary matrix management concept, based on successful Department of Defense (DOD) management practices, is now in place. This has strengthened our team effort, including our partnership with industry, and is improving

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our ability to meet customer needs both within and outside the agency. One goal has been to delegate authority for carrying out procurement activities to the lowest feasible level.

We also moved toward a system in which we look to a single program manager to be the focal point of all aspects of the acquisition of new equipment for the National Airspace System. The program manager's job begins when we decide to buy a new system, and continues until we have fielded the system. The program manager is the FAA spokesperson for the program at all times and is responsible directly to the Administrator. Each program manager has a separate charter defining the position, responsibilities and limitations, signed by the Administrator. We also adopted formalized training for all of our program managers.

We have also instituted a top-down commitment to fully systems engineer our facilities and equipment requirements up front. Requirements are now fully validated, and mission need statements are accomplished prior to initiating projects. We have also taken steps to collocate our procurement organization with the engineers they support to streamline contracting activities. In addition, the OMB A-109 process was formally integrated into the FAA acquisition process, resulting in stricter adherence to its requirements.

The NAS modernization has been a massive technical and managerial challenge for the agency, and we have not always made the progress

we have sought as quickly as we would like. Having said that, it is important to recognize that we have achieved a substantial upgrading of our Nation's aviation infrastructure, while maintaining the safe and efficient operation of the world's most sophisticated air traffic management system. Further, we have moved aggressively to implement additional programs to accommodate planned growth of the system beyond that originally envisioned by the NAS Plan. We have positioned ourselves to take advantage of technological opportunities, such as those offered in the satellite navigation area by recent international developments.

In addition, we have established and widely circulated our vision document for the air traffic control system for the 21st Century. Concepts and Description of the Future Air Traffic Management System for the United States, published in April 1991, includes widespread use of satellites for both data and voice communications; adoption of Global Positioning Satellites (GPS) for sole means navigation and precision approaches; widespread use of data link for airspace and airport use; and synthesis of technology to enhance safety and efficiency, particularly in terminal airspace and on the airport surface.

Our vision document provides direction not only for efforts currently underway, but for subsequent investment decisions, particularly in research and development areas. This vision also provides the detail necessary to facilitate community dialogue on components of FAA's Strategic Plan which in turn, implements

aviation plans and programs of the National Transportation Policy.

In the two years since the FAA appeared before you to discuss the modernization of the NAS Plan and the subsequent enactment of the FAA's 1990 reauthorization legislation, much has occurred. We are in the third year of our CIP, which remodeled the former NAS Plan process in order to more accurately reflect the realities of capital investment and to better distinguish between near-term and long-range planning.

Benefits from the current CIP continue to grow. Savings totaling \$24 billion have been realized from completed and partially completed projects through 1991. These came from savings in FAA operational cost, passenger time, aircraft fuel, and user equipment cost as well as improvements in safety and efficiency. Benefits to be realized from future project implementation are estimated to be \$258 billion. These savings are balanced against the current cost of the CIP, which from fiscal year 1982 through fiscal year 1992, totals \$13.4 billion and is expected to be an additional \$18 billion from fiscal year 1993 through the end of the decade. Attached to my prepared statement is a complete listing of our CIP accomplishments to date.

Our NAS Plan status shows, that to date, delivery has begun on 85 percent of the original NAS Plan projects. Forty percent of these projects are complete. Ninety-six percent of all of our original NAS Plan projects are currently under contract. The last original

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NAS Plan major contracts, Terminal Voice Switch Replacement (TVSR) and Radio Control Equipment (RCE), are contemplated for award later this year and in fiscal year 1993 respectively. To date, over 5,700 pieces of NAS Plan equipment have been installed in our facilities. Other major accomplishments include:

- o In September 1991, both the United States and the Confederation of Independent States (CIS), formerly the Soviet Union, offered the services of their respective satellite navigation services as a practical starting point for the ultimate development of a truly international global navigation satellite system. Formal agreements have been signed between FAA and DOD regarding international civil aviation use of GPS and with the CIS in September 1991 for integration of GPS with the GLONASS Satellite System.
- o The first segment of the Advanced Automation System (AAS), the Peripheral Adapter Module Replacement Item, is ahead of schedule, with equipment commissioned at Seattle, Atlanta, Chicago, Jacksonville, and Cleveland.
- o A production contract was awarded in December 1991 for the Voice Switching and Control System (VSCS), and a prototype has been delivered to the FAA Technical Center for preliminary operational test and evaluation.

- o The Aeronautical Data Link program has implemented predeparture clearance service at 29 airports, resulting in reduced flightcrew and controller workload, reduced voice frequency congestion, and more timely clearance delivery.

- o With strong industry support and participation, we established a program to evaluate the Aeronautical Telecommunications Network in an operational environment using satellite, Mode S, and VHF data links by 1993.

- o Significant progress has been made on weather programs to provide pilots and air traffic controllers with accurate and complete information. Since August 1991, 48 automated surface observation systems (ASOS) have been installed; the twenty-third and final meteorologist weather processor (MWP) installation has also been completed; and the first phase of direct user access terminal system (DUATS) has been successfully implemented in Alaska. In addition, the initial Terminal Doppler Weather Radar (TDWR) was installed in December 1991, at the FAA Academy for training and testing. The first operational TDWRs are scheduled for delivery to Memphis and Houston this June.

- o The ASDE-3 Airport Surface Detection Equipment Radar System has successfully completed all of the contractor "inplant" testing as well as the "on-site" contractor field test and evaluation at the Greater Pittsburgh International Airport.

Additional ASDE-3 systems have been delivered to the FAA Aeronautical Center in Oklahoma City, the FAA Technical Center in Atlantic City, and to San Francisco International Airport.

Much has been accomplished in the critical area of capacity improvements. In order to prevent a doubling of the number of airports experiencing delays by 1998, we have instituted a multifaceted capacity improvement program. This program covers airport development such as, new runways at the Dallas/Fort Worth and Chicago O'Hare airports. It also addresses airport and airspace capacity improvements such as modified arrival and departure routings for St. Louis and Kansas City terminal airspace. We are expanding the use of technology to reduce the capacity differential between instrument flight rules (IFR) and visual flight rules (VFR) conditions to provide pilots and controllers with enhanced visual displays, to improve management efficiency on the airport surface, and to optimize airspace and airport use through better planning and prediction capability.

Other capacity enhancement projects include the award of construction contracts at Dallas/Ft. Worth for the new east and west air traffic control towers, for surveillance radars, and for new navigation facilities; the beginning of construction on the new Southern California TRACON, which we estimate will result in an annual savings of \$23 million. Finally, construction is well underway for the air traffic control tower and the TRACON at the new Denver International Airport.

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We will submit our reauthorization proposal shortly. Our proposal will support appropriations requirements that will fund improvements in air traffic control and airway facilities services. Among the major programs targeted for funding under our proposed reauthorization are the AAS, the VSCS, Long Range Radar (ARSR-4), and the Microwave Landing System (MLS).

- o The AAS will implement a new level of automation in the enroute and terminal air traffic control environment. It will provide new work stations, computer software, and processor capability necessary to handle projected air traffic loads into the 21st Century.

- o The VSCS will provide voice communications for the initial sector suite systems and area control facilities. It will be an integrated air/ground and ground/ground voice communications system that will meet current and future operational and maintenance requirements. The VSCS will permit standardization of console equipment, switching system interfaces, and radio control equipment.

- o The ARSR-4 is intended to replace long-range search radars and height finder radars at selected Joint Surveillance System sites to meet FAA and U.S. Air Force air traffic requirements. The U.S. Navy is purchasing three radars for drug interdiction.

- o The MLS will provide greater accuracy and adds approach path flexibility in congested terminal areas.

In support of the first year of our reauthorization package, the President's fiscal year 1993 budget requests \$2.7 billion for facilities and equipment. This represents a 12.8 percent increase over fiscal year 1992 funding. Included in this request are capital needs contained in the CIP, including AAS, VSCS, Terminal Doppler Weather Radar and Long Range Radar, to improve weather services and replace obsolete en-route radar.

Other major new starts for fiscal year 1993 include provision of new ARTS IIA equipment to support increases in aircraft tracking and transponder equipage and the addition of Mode C intruder capability. We will enhance and integrate oceanic systems such as Oceanic Display and Planning System (ODAPS), to meet the rapid growth in oceanic traffic and increase the avionics capability of air carrier aircraft. We also plan to begin replacement of approximately 200 older instrument landing systems that are approaching the end of their life cycle. Provision will also be made for increased interfacility communications through the establishment of new microwave radio systems. Provisions will also be made for increased reliability, availability, and cost effectiveness of critical and essential FAA-owned and leased communications circuits to reduce the threat of telecommunications outages experienced in the past.

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While we are proud of what we have accomplished, much more needs to be done. We must not only continue to plan for evolution of the airspace system in an orderly way, but we must retain the flexibility to quickly take advantage of new technological opportunities as they arise. Principal opportunities that we see include satellite-based communications, navigation and surveillance services; automation, including the integration of ground-based air traffic management automation and flight management computers via data link; and new capabilities for sensing, predicting, and disseminating weather information, which can offer tangible safety and efficiency improvements to our Nation's air travelers.

The FAA, in collaboration with airspace users, industry, academia, other agencies, and the international community, plans to provide continued leadership in formulating and implementing future aviation system designs based on user needs and evolving technologies to maintain and enhance the continued safety of the Nation's airspace system. An aggressive and well-planned capital investment plan, which complements and integrates with airport development efforts, is key to our Nation's economic progress. I can assure you that the FAA recognizes the importance of this program and that we are committed to maintaining the momentum we have achieved with your support and encouragement.

Mr. Chairman, this concludes my prepared statement. We would be pleased to answer any questions you may have.