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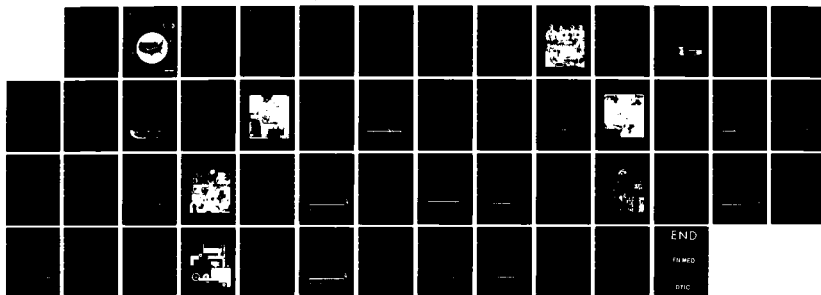
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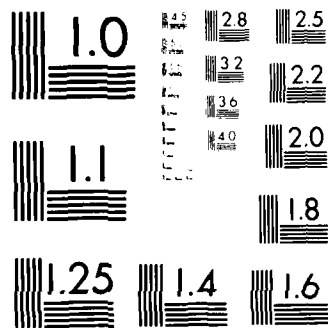
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US Department
of Transportation
Federal Aviation
Administration

NATIONAL AIRSPACE REVIEW

Implementation Plan

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*Supplemental
AD A145379*

JANUARY 1985

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Prepared for the
Federal Aviation Administration
by



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U.S. Department
of Transportation
**Federal Aviation
Administration**

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Washington, D.C. 20591

This document has been developed for planning and programming the implementation phase of the National Airspace Review, covering recommendations in the implementation cycle as of this update. The plan will continue to evolve as additional recommendations are processed and disposition decisions reached.

A handwritten signature in dark ink, appearing to read "Michael J. Fenello".

Michael J. Fenello
Deputy Administrator

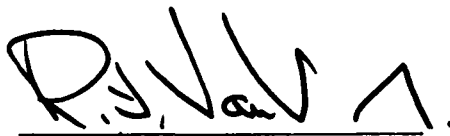
NATIONAL AIRSPACE REVIEW
IMPLEMENTATION PLAN

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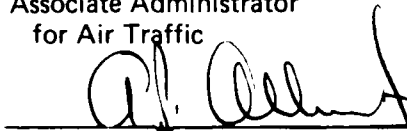


Michael J. Fenello
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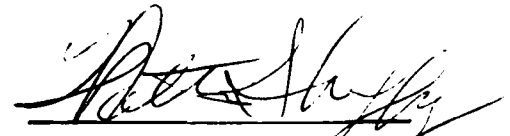
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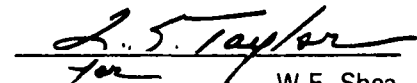
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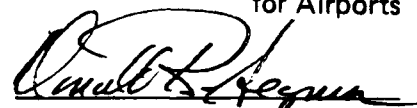
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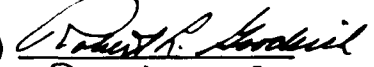
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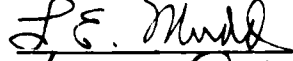
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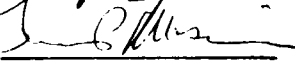
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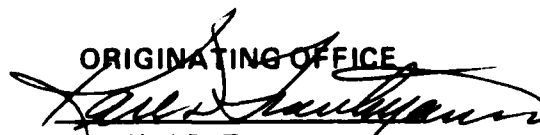
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CHAPTER I

EXECUTIVE SUMMARY AND INTRODUCTION



EXECUTIVE SUMMARY

Since the summer of 1982, the Federal Aviation Administration (FAA) has been hosting task group working sessions of the National Airspace Review (NAR). The NAR is a cooperative venture by the aviation industry and government. Using a synergistic approach, the NAR is comprehensively reviewing current air traffic control procedures, flight regulations, and airspace for the purpose of validating the current system or identifying near term changes which will promote greater efficiency. As a component of the *National Airspace System Plan*, the NAR will provide the operational framework for moving into the next generation National Airspace System.

In the area of procedures, task groups have covered: terminal services, weather programs, traffic flow management, helicopter operations, separation standards and the National Flight Data System. In the regulations area, task groups have covered: regulated terminal airspace rules, and some aspects of airways and routes establishment and revocation. In the area of airspace, task groups have covered: terminal and en route airspace configuration, routes, United States/Canada/Mexico interface, charts, Air Route Traffic Control Center infrastructure, and airspace reclassification.

Study areas remaining to be reviewed are FAA Handbooks, several regulatory areas, and international airspace. Working sessions covering these areas will extend to the fall of 1984.

Existing task group recommendations have been grouped within five major System Areas and further categorized into Enhancement Areas which indicate improvements within each system. The results are reflected in this *NAR Implementation Plan*. The plan defines the implementation phasing of system enhancements by projecting recommendation implementation over time, based on Agency processing requirements and system needs. Accordingly, the plan will be updated and expanded as additional recommendations are generated, estimates of implementation dates become firmer, and actual implementation dates become known.

To gain total comprehension of the NAR Program and recommendations which are reflected by this plan, it is necessary to refer to the *Federal Register* announcement of the NAR, task group staff studies which analyze and set forth the recommendations, and the forthcoming NAR Interim and Final Reports.

INTRODUCTION

The National Airspace Review (NAR) is a cooperative venture by the aviation industry and government. Formal announcement of the program occurred on April 22, 1982, in the *Federal Register* (47FR17448), and the first task groups began work on June 7 of the same year. The NAR program was slightly revised on February 3, 1983, *Federal Register* (48FR5202), and again on April 13, 1984, *Federal Register*, (49FR14823).

- Identify and implement changes that will promote greater efficiency for all airspace users.
- Simplify the Air Traffic Control System.
- Match airspace and air traffic control procedures to technological improvement and fuel efficiency programs.

PURPOSE

Using a synergistic approach, the NAR is comprehensively reviewing current air traffic control procedures, flight regulations, and airspace for the purpose of validating the current system or identifying near-term changes which will promote greater efficiency and provide the operational framework for moving into the next generation National Airspace System. Specifically, purposes of the NAR are:

- Conduct an in-depth study of airspace and procedural aspects of the existing air traffic system.

The realization of these purposes is dependent upon active cooperation from people in virtually all aspects of aviation. For this reason, task group membership, as well as National Airspace Review Advisory Committee (NARAC) membership, is composed of representatives from the aviation industry, state governments, and the Federal Government.

Under the NAR, task group topic assignments are grouped into five major study areas which are depicted in Figure 1-1.

Study Areas

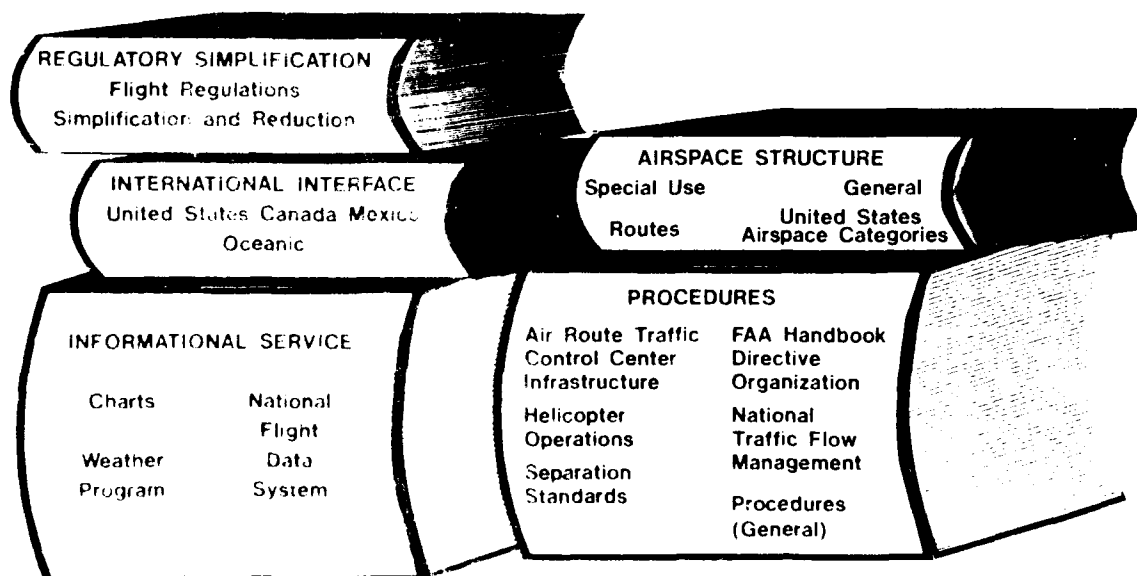


Figure 1-1

OBJECTIVES

As shown in Figure 1-1, the NAR is conducting a comprehensive analysis of specific demands currently made on the national airspace and making recommendations for improvement. As such, the NAR is one component of the *National Airspace System Plan*, focusing on airspace, flight regulations, and procedural aspects of the Air Traffic Control System with the following specific objectives:

- Development and incorporation into the Air Traffic Control System of a more efficient relationship between traffic flows, airspace allocation, and system capacity.
- Review and then elimination, wherever possible, of governmental restraints to system efficiency levied by Federal Aviation Regulations and FAA handbooks.
- Revalidation of air traffic control services in view of state-of-the-art and future technological improvements.

ORGANIZATION

The NAR organizational structure consists of: an Executive Steering Committee (EXCOM), a Program Manager, a Program Management Staff, and Task Groups. The National Airspace Review Advisory Committee (NARAC) provides industry participation throughout the NAR. Figure 1-2 depicts the membership of the EXCOM and the organizations of the NARAC.

PROCESS

The NAR process consists of several levels of activity as depicted in Figure 1-3. Using the NAR Plan as its basis, information packages relating to task group study areas are prepared in advance of task group meetings. Information packages contain all relevant operational material and studies which are to be used by the task groups during their working sessions, as well as an agenda and specific areas of consideration. Task groups consist of 10 members selected from the NARAC, with each organization limited to one member each, and an F. A. Chairman who serves to facilitate the working

Organization

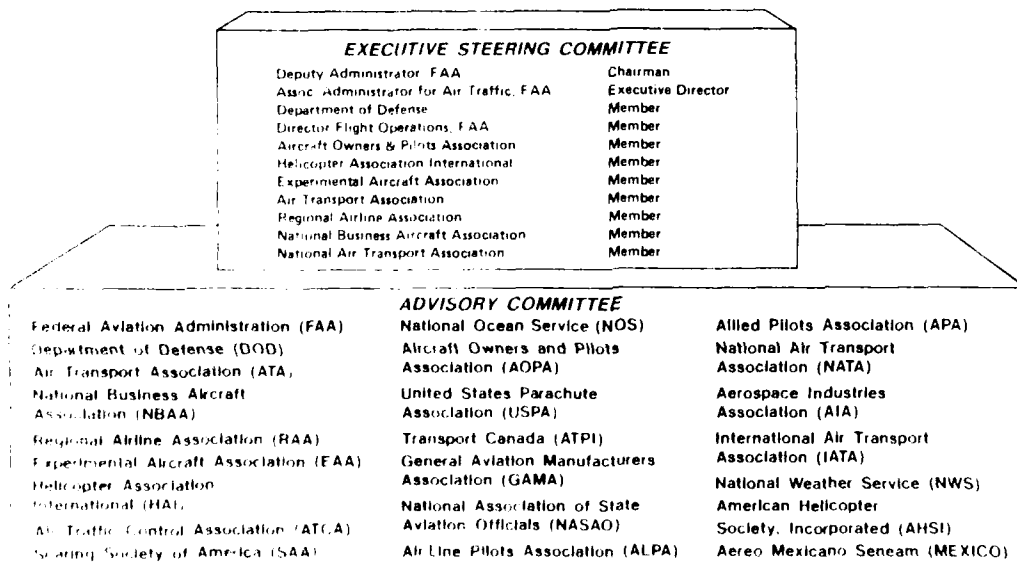


Figure 1-2



session. Other meetings include those organized by Program Management Staff representatives and technical staff group presentations from Engineering and Economics Research and Development, Vienna, Virginia. All task group meetings are open to the public and user comment settings are announced in the *Federal Register*. Task group meetings follow a relatively uniform format of presentation, verbal commentary, review, and designated subject areas of interest and to reach a consensus on recommendations, however, the volume of material and the viewpoints there are also provided to the action decision of which task groups may validate current projects of airspace, flight regulations, or ATIS procedures.

After task group meetings, staff studies are prepared which explain the groups' decisions with regard to the subject areas under review. The staff study contains summary statements of task analysis and recommendations or regulations of each group. These studies are submitted within FAA and to the NARAC members for comment prior to being presented to the EXCOM. Subsequently, the Administrator

The EXCOM meets once each quarter where four to seven task group staff studies and attendant recommendations are reviewed. All comments received on the individual staff studies are also provided to the committee. Unless alternative direction by the EXCOM is indicated, all recommendations, comments, and EXCOM viewpoints are passed to the Administrator. The Administrator receives the foregoing information and exercises one or more of the following options: clear the recommendations for FAA processing, direct alternative action, or specify special implementation studies. Additional review topics may also be specified which are incorporated into future NAR task group meetings.

As Figure 1-3 shows, the next step in the NAR process involves Offices of Primary Interest (OPIs) processing. The OPIs are specific divisions within FAA which are primarily responsible for subject areas addressed by individual recommendations. Recommendations received by OPIs are integrated into their work flow on a priority basis, receiving nonregulatory or regulatory processing as appropriate. Nonregulatory processing usually involves development of pro-

Process

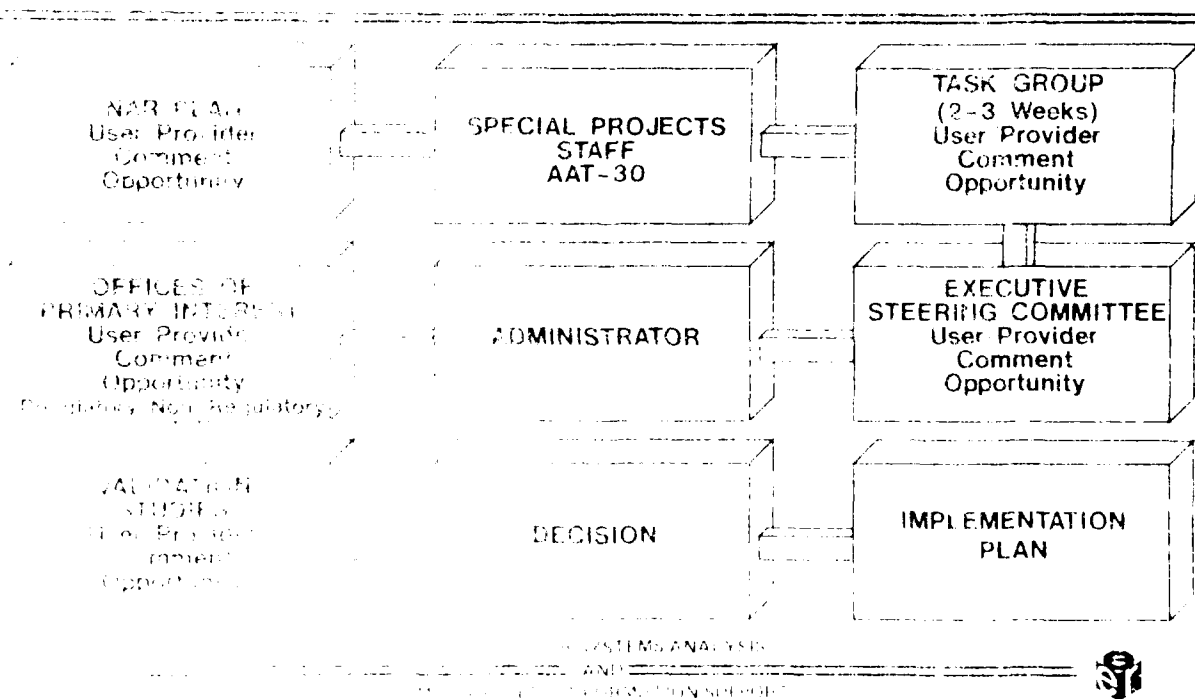


Figure 1-3

AIRWAYS/ROUTES ENHANCEMENT MILESTONES

The Airways/Routes Enhancement Area depicted in Figure 3-2 represents 46 recommendations that address modifications to airways/routes standards, en route navigational aid networking, simplification of establishment of

airways by rulemaking, and the gradual phase-out of published jet routes commensurate with random RNAV route implementation. Airways/Routes implementation begins in the First Quarter of 1986, but extends to the Fourth Quarter of 1992 to complete action on all recommendations in this set. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

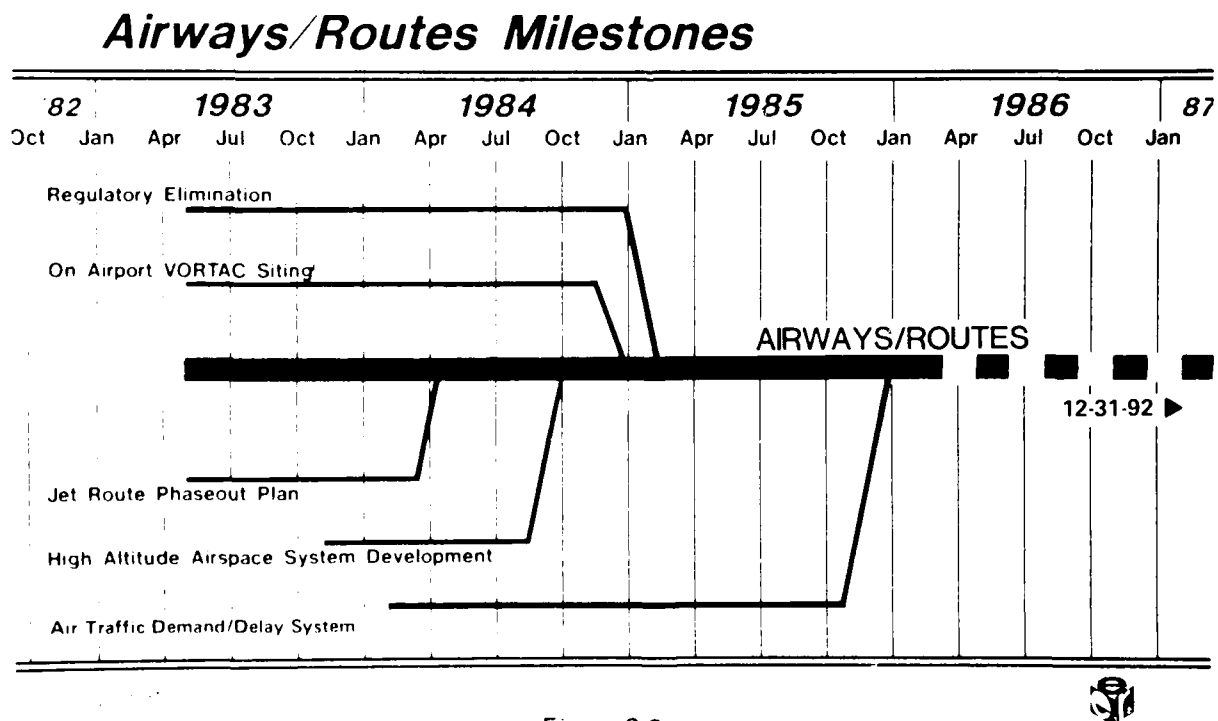


Figure 3-2

EN ROUTE SYSTEM ENHANCEMENTS

Recommendations affecting the operating criteria of the En Route System focus on facilitating Area Navigation (RNAV) integration through operational and procedural changes and revisions to airway/route design and structure. Recommendations identified as En Route System improvement actions currently fall into four Enhancement Areas:

- Airways/Routes
- Area Navigation Integration
- Air Route Traffic Control Center Resectorization
- Flow Management

The En Route System and each of the foregoing Enhancement Areas are depicted in Figure 3-1. The central thick line in Figure 3-1 represents 120 recommendations that relate to the En Route System with projected implementation predominantly complete early in the Fourth Quarter of 1986, but extending to the Fourth Quarter of 1992 to complete action on all recommendations in this area.

Each of the Enhancement Areas identified for the En Route System in Figure 3-1 is expanded in Figures 3-2 through 3-5 to include recommendation milestones.

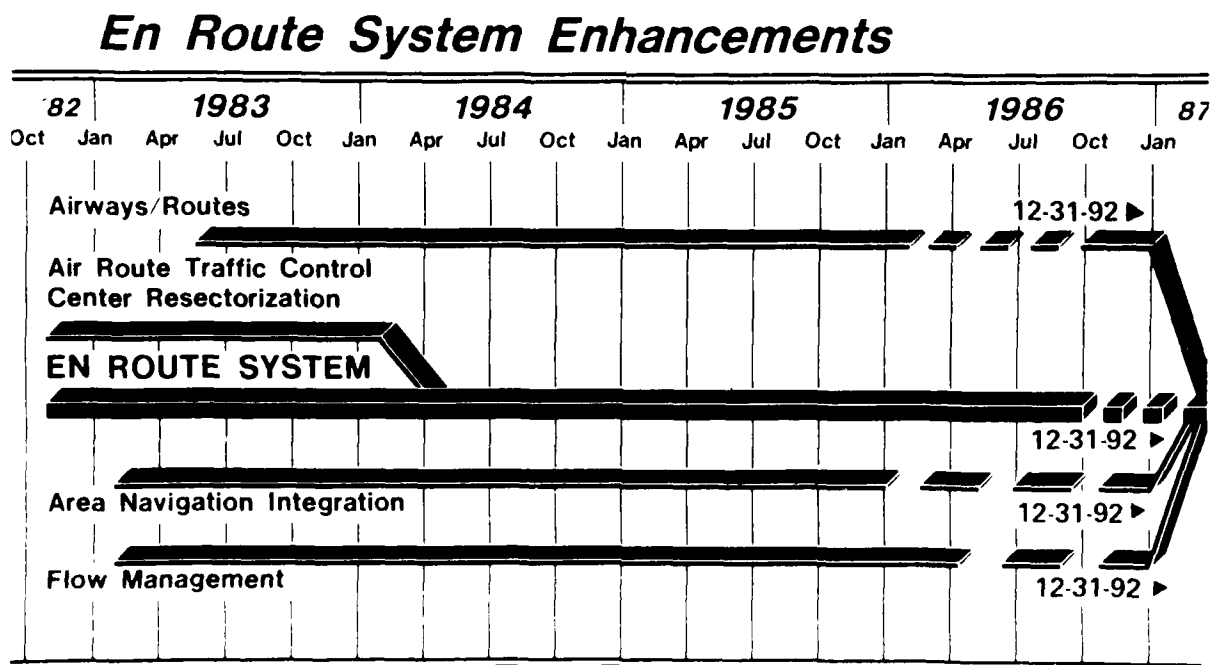


Figure 3-1



EN ROUTE SYSTEM

BACKGROUND

Today's en route system is largely the product of incremental growth over more than four decades. A long series of singular events and problems has driven decisions regarding airspace classifications, airways, jet routes, and en route center and sector airspace allocations over this time period. Airspace for special use has been established throughout the country to adequately and safely support military operations

as these mission requirements become known. Airways and jet routes were established as traffic flows developed, and they had the added effect of providing the basic structure for en route operations. Among the current Air Route Traffic Control Centers (ARTCCs), sectors were developed to accommodate the growth of air traffic flows between terminal areas. Within this context, the NAR task groups have developed recommendations that are aimed toward modernizing the en route system.

CHAPTER III EN ROUTE SYSTEM



RADAR SERVICES ENHANCEMENT MILESTONES

The Radar Services Enhancement Area depicted in Figure 2-4 represents 17 recommendations that address services provided under the

National Terminal Radar Program, stressing simplification, standardization, and expansion. Radar Services implementation begins in the Second Quarter of 1985. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

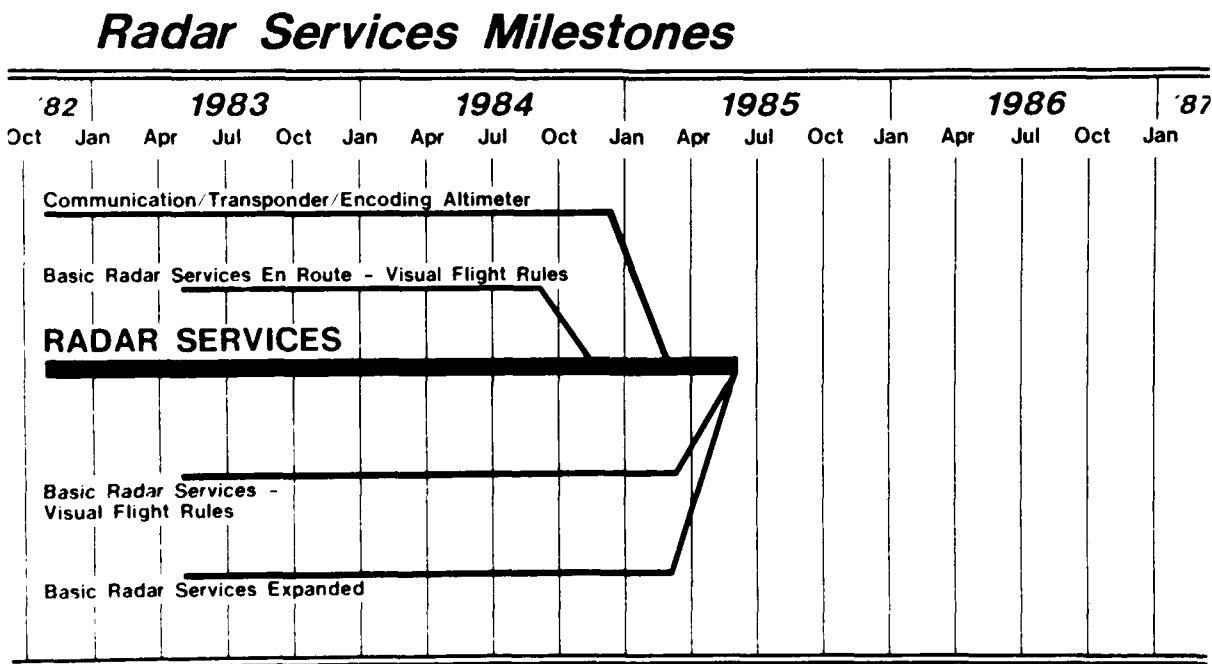


Figure 2-4



The ARSA Enhancement Area depicted in Figure 2-3 represents 24 recommendations that suggest the discontinuance of TRSAs and estab-

lishment of "Model B" airspace, including the type of services provided and mandatory communications requirements. ARSA implementation begins in the Second Quarter of 1985. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

1982				1983				1984				1985				1986				1987
Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan			
Model B Designated Model B Services ARSA Basic Radar Services - Visual Flight Rules Basic Radar Services Expanded																				

Figure 2-3

TERMINAL CONTROL AREA (TCA) ENHANCEMENT MILESTONES

The TCA Enhancement Area depicted in Figure 2-2 represents 41 recommendations that are supportive of the TCA concept while suggesting

modifications to TCA categories, design criteria, separation, and pilot education. TCA implementation begins in the Third Quarter of 1985. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

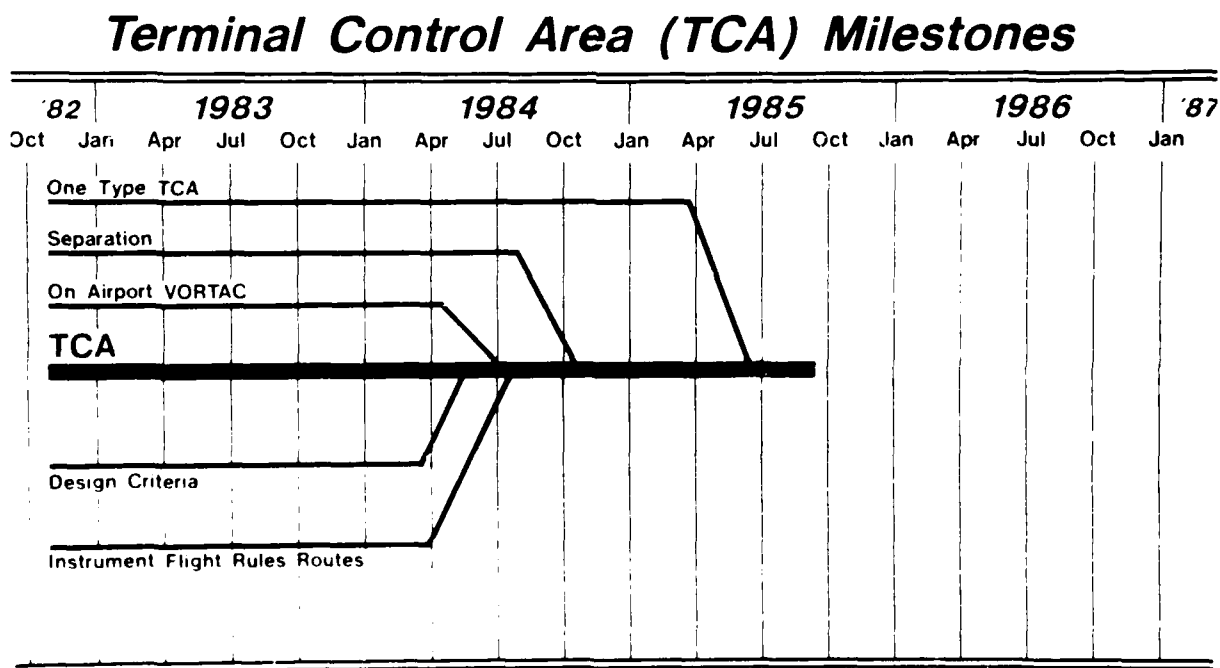


Figure 2-2



TERMINAL SYSTEM ENHANCEMENTS

Task group recommendations in the Terminal System deal with simplification of terminal operations in Terminal Control Areas (TCAs) and Terminal Radar Service Areas (TRSAs) through design modifications and standardization of basic Radar Services to Visual Flight Rules (VFR) aircraft. Recommendations identified as potential Terminal System improvement actions currently fall into three Enhancement Areas:

- Terminal Control Area
- Airport Radar Service Area
- Radar Services

The Terminal System and each of the foregoing Enhancement Areas are depicted in Figure 2-1. The central thick line in Figure 2-1 represents the integration of 173 recommendations that relate to the Terminal System with projected implementation predominantly complete by the Fourth Quarter of 1986, but extending to the Fourth Quarter of 1992 to complete action on all recommendations in this area.

Each of the Enhancement Areas identified for the Terminal System in Figure 2-1 is further elaborated in Figures 2-2 through 2-4. Recommendation milestones have been selected and depicted to represent specific events along the path to achieving overall enhancement in each particular area.

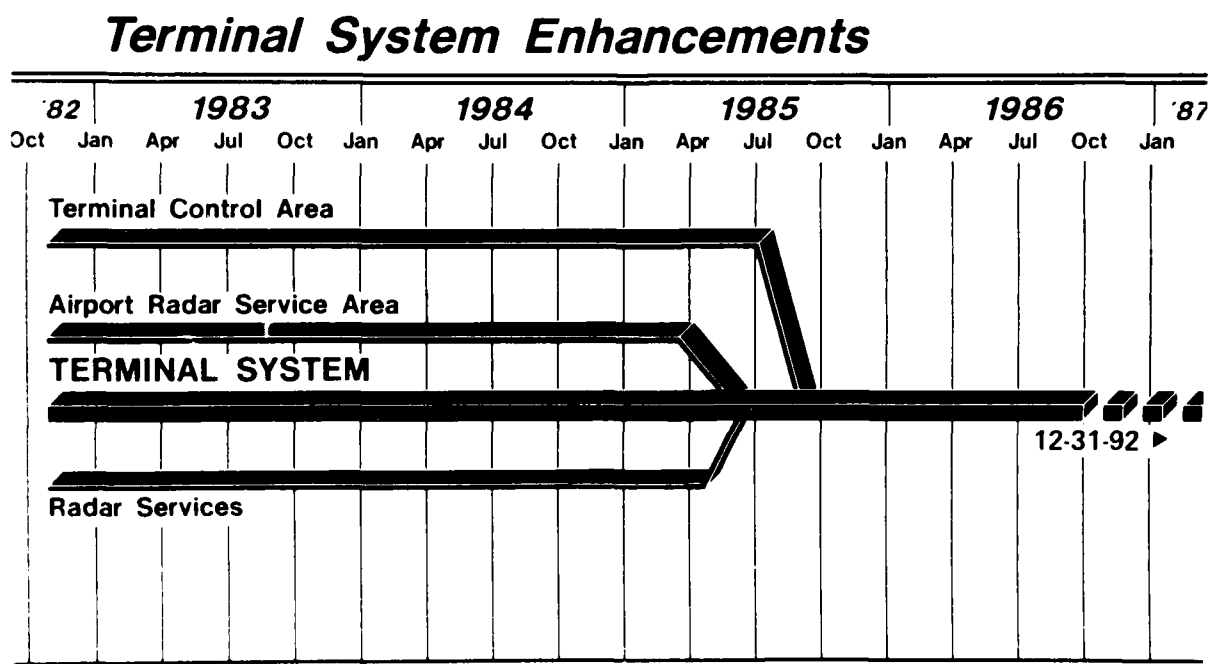


Figure 2-1

TERMINAL SYSTEM

BACKGROUND

Over the years, airspace in the terminal environment has developed several redundancies and overlaps by taking such forms as control zones and control zone extensions, airport traffic areas, Terminal Control Areas (TCAs), Terminal Radar Service Areas (TRSAs), and transition areas. The types of ATC service provided, particularly to VFR aircraft, also have a degree of variability and complexity depending upon location. Growing concerns over these present complexities of airspace classifications, as well as the types of ATC services provided, have established the framework for NAR recommendations in this System Area.

OPERATIONAL CONFIRMATION

A new concept emerged from the review of TRSAs that proposed to establish a standard class of airspace at all level III, IV, and V terminal radar facilities presently having a TRSA. Labeled by the task group as "Model B" airspace, it is now called Airport Radar Service Area (ARSA) airspace and is recommended as a

replacement for TRSAs. Moreover, the concept goes beyond airspace designation, dealing with changes to the basic radar services provided by all terminal radar and en route facilities.

Operational confirmation of the ARSA concept has been completed at Austin, Texas, and Columbus, Ohio. Early in 1984, the radar facilities at these two locations implemented the NAR recommendations dealing with Model B airspace and basic radar services. The confirmation of ARSA at these two lead sites was completed in November of 1984 and the FAA has decided to identify further candidate locations and proceed with the rulemaking process.

FUTURE NAR ENHANCEMENTS TO THE TERMINAL SYSTEM

VFR terminal routes will be studied because of concern about VFR flight paths in and around metropolitan areas having large volumes of traffic. A study of special helicopter instrument approach procedures and related weather information dissemination will also be conducted.

CHAPTER II

TERMINAL SYSTEM



RELATIONSHIP TO OTHER FAA PLANS

As a part of the *National Airspace System Plan (NAS Plan)*, The NAR's focus is on airspace, flight regulations, and the procedural aspects of the Air Traffic Control System. It is designed to synchronize with the *NAS Plan*, covering near-term changes which will set the stage for modernization of the National Airspace System. Further, it is recognized that some changes identified through the NAR process may require modification to the *NAS Plan*.

The NAR program also includes coordination of NAR-generated recommendations with the objectives of the *NAS Plan for Engineering and Development*, *Rotorcraft Master Plan*, and the

forthcoming *National Plan of Integrated Airport Systems*.

While the NAR program proceeds along its scheduled course and task groups formulate recommendations for modifications to current standard operating practices, the effects of each approved recommendation are categorized into System Areas aligned, generally, with the *NAS Plan* System Areas. In this manner, the unified goal of FAA-sponsored plans maintains the following thrust: accommodate future demands and technology, improve vital safety services, increase productivity, constrain costs, reduce the Federal role, allow for a rational system evolution, and recognize the user's desires for minimal restrictions on use of the airspace.

Figure 1-6 describes the structure of the *NAR Implementation Plan*. As depicted, all recommendations are classified based upon their relationship to one or more of the five System Areas. Time line identification begins at this point, using OPI provided projected implementation dates. In general, projected implementation dates are the dates in which the FAA could be in a position to initiate implementation. However, final implementation decisions will be predicated on the results of special studies, regulatory and nonregulatory processes. It is conceivable that further modifications may be required, thereby changing the implementation dates. Analysis of the resultant recommenda-

tions within each system produces homogeneous, topically significant sets of recommendations which are called Enhancement Areas. Certain recommendations within each Enhancement Area are identified as milestones which represent significant events along the path to achieving an overall enhancement in the particular area.

The *NAR Implementation Plan* is, by design, flexible and expandable to permit incorporation of requirements dictated by sets of recommendations which will be subsequently formulated and transmitted to the Offices of Primary Interest within the FAA.

Implementation/Planning Structure

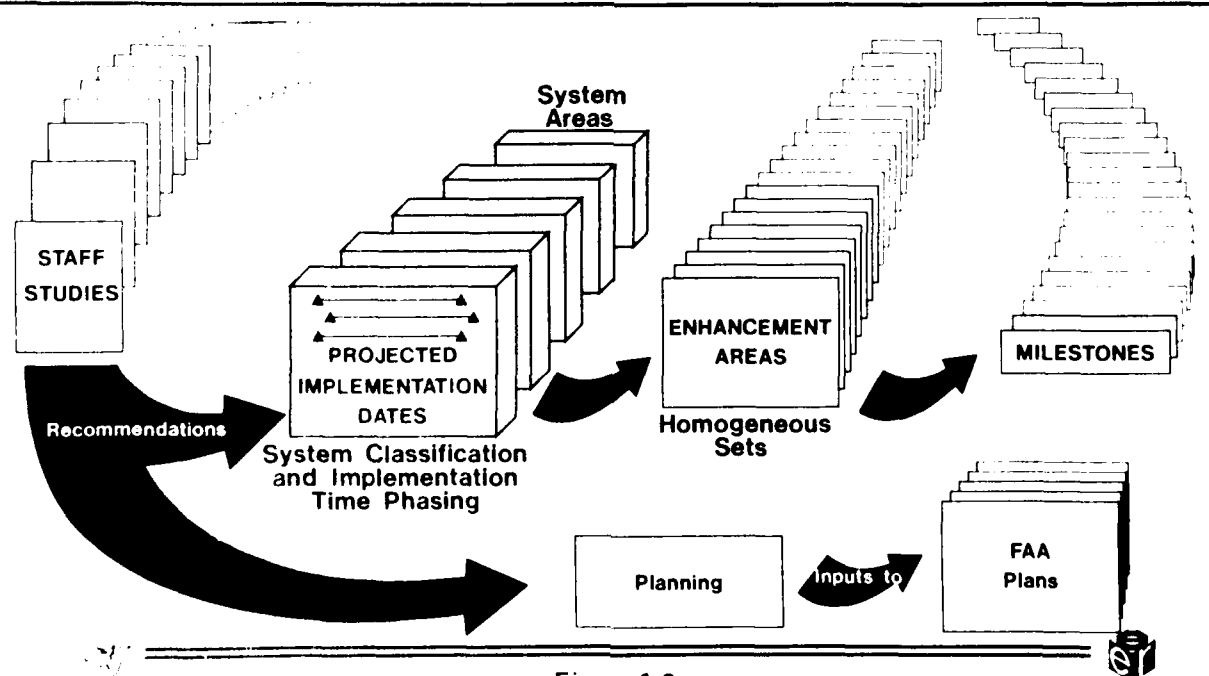


Figure 1-6

IMPLEMENTATION PLAN

This *NAR Implementation Plan* has been developed for planning and programming the implementation phase of the program. As depicted in Figure 1-5, task group recommendations have been grouped within five major System Areas and further categorized into Enhancement Areas which indicate improvements within each system.

The *NAR Implementation Plan* has been designed as a working tool for managing, analyzing, categorizing, and tracking the recommendations which have been cleared by the EXCOM and the

FAA Administrator. As a management tool, the plan fulfills the need for processing the recommendations, from task group initiation through assignments to the appropriate Offices of Primary Interest. Used as an analysis tool, the plan relates the thrust of accumulated, adopted recommendations which must be integrated with systems acquisition detailed in the *NAS Plan*.

Categorizing and tracking functions inherent within the structure of the plan include: time line identification of projected recommendation implementation schedules, tabulation of recommendation categories identified as Enhancement Areas, and implementation milestones for each Enhancement Area.

Systems Classification

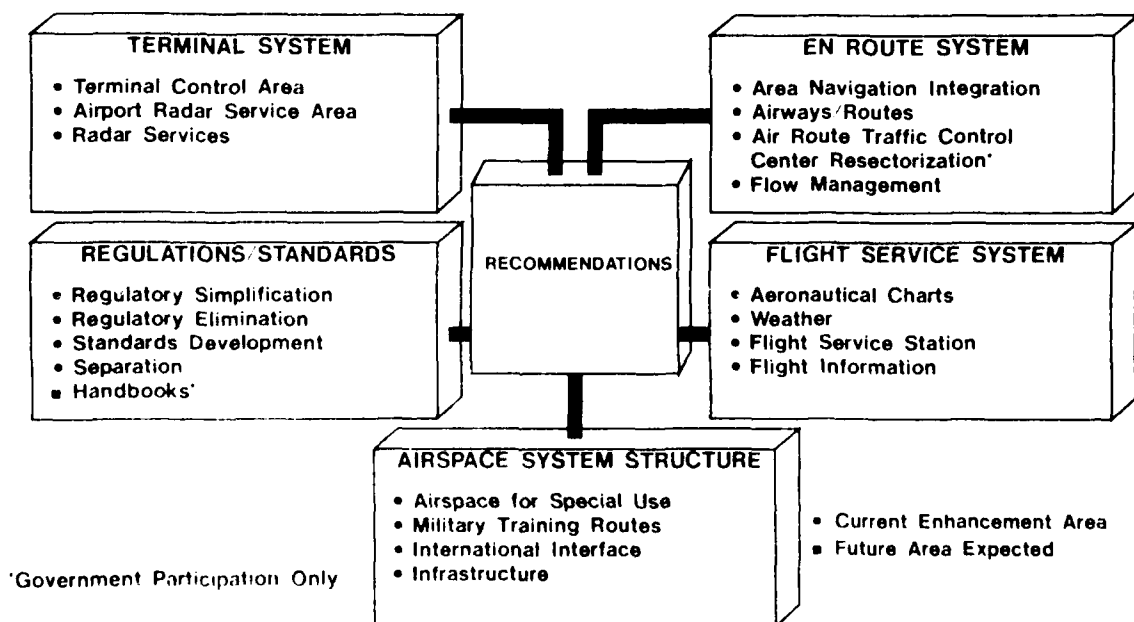


Figure 1-5

posals which are circulated for comment before final decision making. Regulatory processing involves compliance with the Administrative Procedures Act. Simultaneously with these actions, the OPIs provide projected implementation dates for recommendations. These are used to develop the *NAR Implementation Plan*. Upon completion of either type processing, the OPI promulgates action taken or proposed regarding each recommendation. These actions are subsequently reported and integrated into the *NAR Implementation Plan*.

PHASES

To effectively accomplish program objectives, the NAR consists of three phases which are conducted concurrently in many cases. The Study Phase consists of task group working sessions which review data related to the study areas. Upon completion, the task groups either validate current airspace, flight regulations, or procedures or make recommendations for improve-

ment. The Implementation Studies Phase occurs in those cases where testing, modeling, or operational confirmation is determined to be necessary before moving to full implementation. The Implementation Phase of the program deals with actual implementation of the NAR recommendations. Figure 1-4 shows these phases. The plan for the Implementation Phase is described in subsequent chapters.

As the NAR transitions from the study phase to actual implementation, system pacing elements, such as charting, publication, and computer update cycles, will exert a measure of influence over the actual time phasing. The need for widespread pilot education and controller training in some areas will also be strong influences, as will the NAR processes of validation or implementation studies and the programming and budgeting requirements of the *NAS Plan*. In the final analysis, the National Airspace Review will provide a comprehensive, operational set of adopted recommendations that will be fully integrated into the *National Airspace System Plan* in a timely manner.

Phases

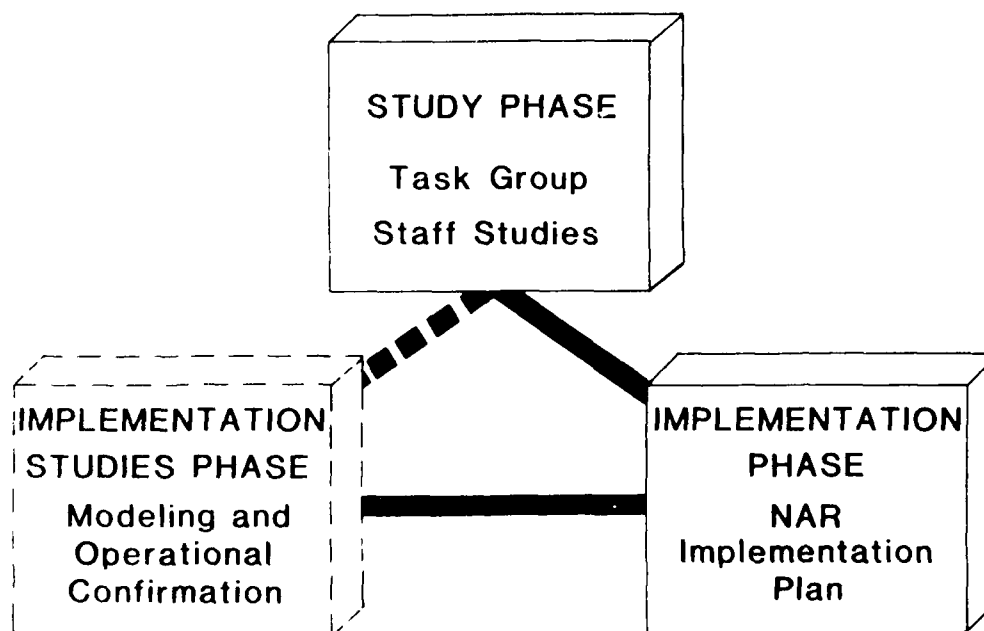


Figure 1-4

AREA NAVIGATION (RNAV) INTEGRATION ENHANCEMENT MILESTONES

The RNAV Integration Enhancement Area depicted in Figure 3-3 represents 33 recommendations that focus on identifying problem areas which inhibit effective RNAV integration into the system, the need for an RNAV Planning/En Route Chart, compatible airborne and ATC ground equipment standards, and measures to encourage an immediate increase in random RNAV routes. RNAV Integration implementa-

tion begins in the First Quarter of 1986 for the majority of recommendations, but extends to the Fourth Quarter of 1992 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

Early in 1984, unrestrained random RNAV routings were implemented in the en route system at and above FL 390, and planning is currently being conducted which will eventually lead to a broadened program.

Area Navigation (RNAV) Integration Milestones

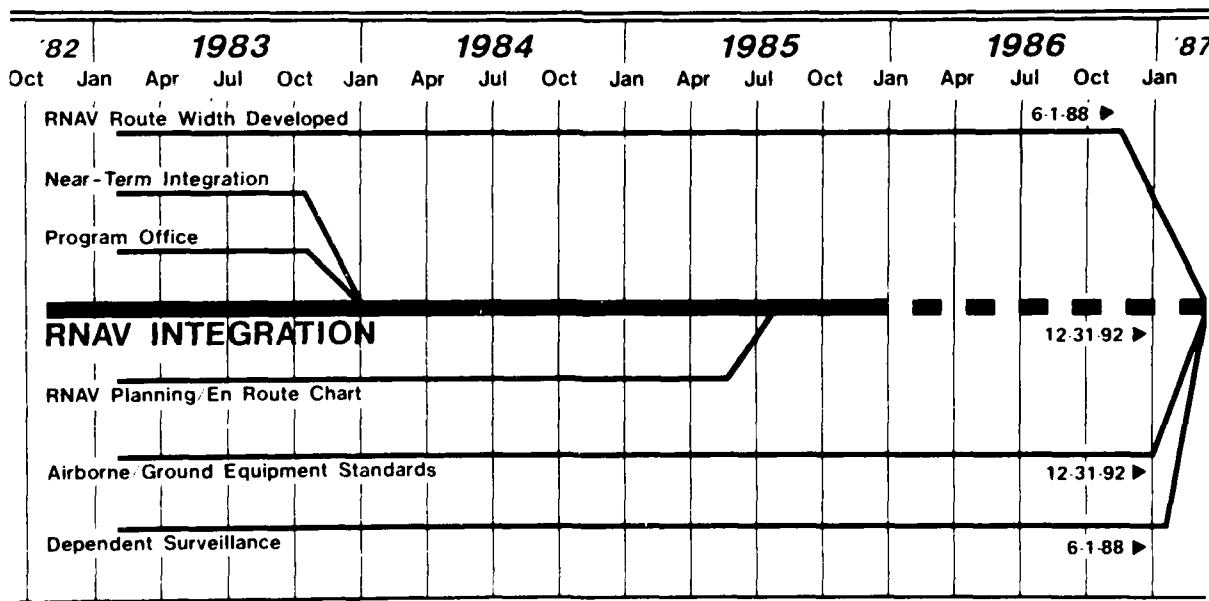


Figure 3-3



AIR ROUTE TRAFFIC CONTROL CENTER (ARTCC) RESECTORIZATION ENHANCEMENT MILESTONES

Although initially planned for NAR task group work, the exigencies of the controller strike required commencement of the ARTCC sectorization review before the NAR charter was final. The National Resectorization Program was designed to improve system layout, optimize airspace, improve productivity, and reduce costs utilizing current technology. Considerations such as flexibility, growth, fuel efficient procedures, great circle routes, and metering programs were an integral part of the program. The basic criteria of the program involved the principle that 200 nautical miles of airspace be provided to en route centers containing the 22 major airports in the United States to accom-

modate en route metering, establishment of a 135-nautical-mile ring around these airports to provide optimum descent profile procedures (80 nautical miles for shuttle operations), sectorization to support random route operations, sectorization to support major axis flows within the United States, and sectorization to support unique operations (helicopters, flight testing, military operations, and training). The basic program is nearing completion and will result in greater airspace efficiency through increases in usage and flexibility, a reduction of delays, and an increased level of safety.

The ARTCC Resectorization Enhancement Area is depicted in Figure 3-4. ARTCC Resectorization implementation begins in the Second Quarter of 1984. Implementation begins earlier for ARTCCs in some FAA Regions, as indicated by the milestones depicted.

Air Route Traffic Control Center (ARTCC) Resectorization Milestones

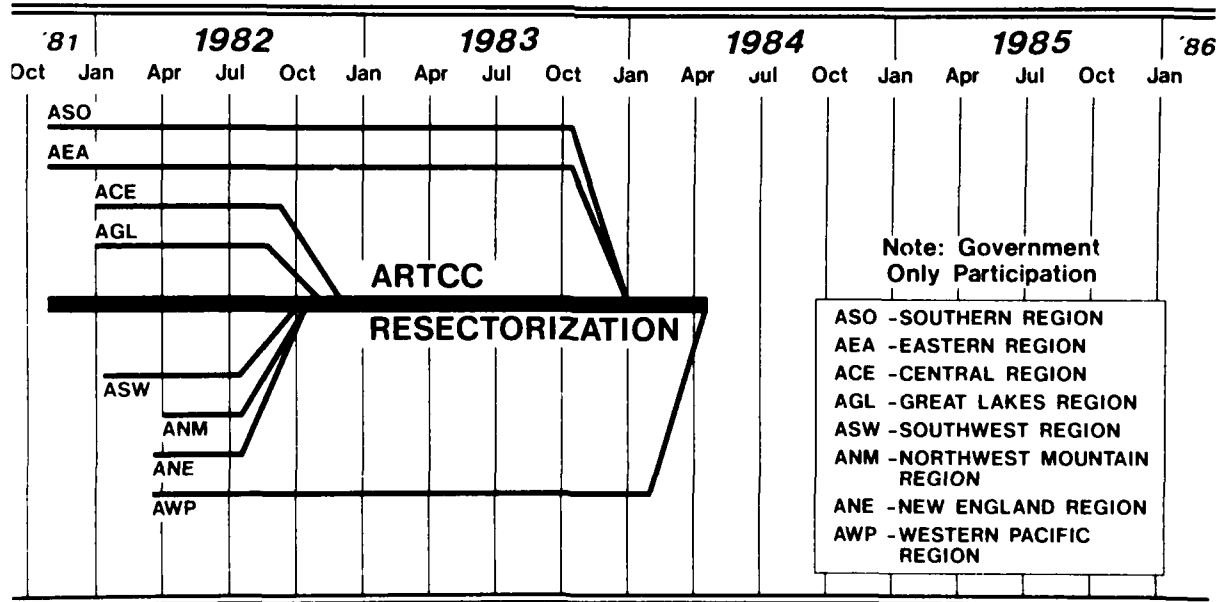


Figure 3-4

FLOW MANAGEMENT ENHANCEMENT MILESTONES

The Flow Management Enhancement Area depicted in Figure 3-5 represents 42 recommendations that focus on Traffic Management Units' (TMU) functions, provision for adding weather and military coordination functions to the TMU, need for ATC system demand and delay program for real-time analysis purposes, expansion of delay reporting airports with an objective of including all airports when the automation capability exists, need for seminars with user organizations regarding development

of traffic management concepts, reestablishment of regional Air Traffic Advisory Committees, and a review of interfacility letters of agreement to ensure that traffic flow restrictions which are imposed are applied only when necessary and unnecessary restrictions are eliminated. Flow Management implementation begins in the Second Quarter of 1986 for the majority of recommendations, but extends to the Fourth Quarter of 1992 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

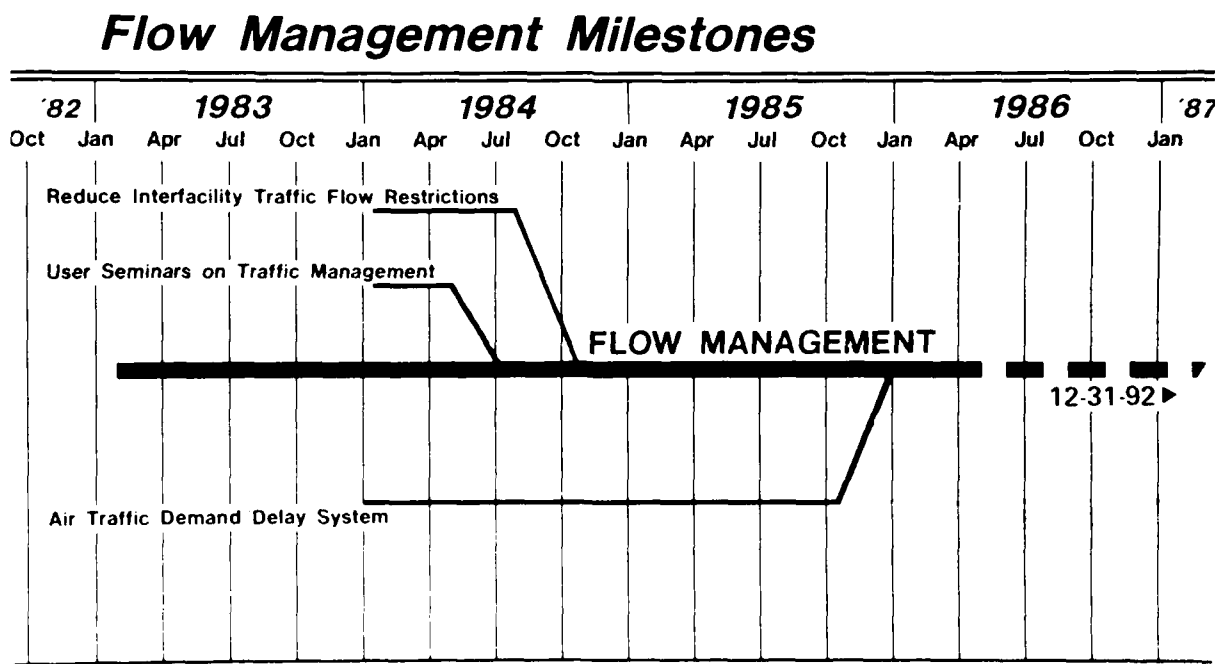
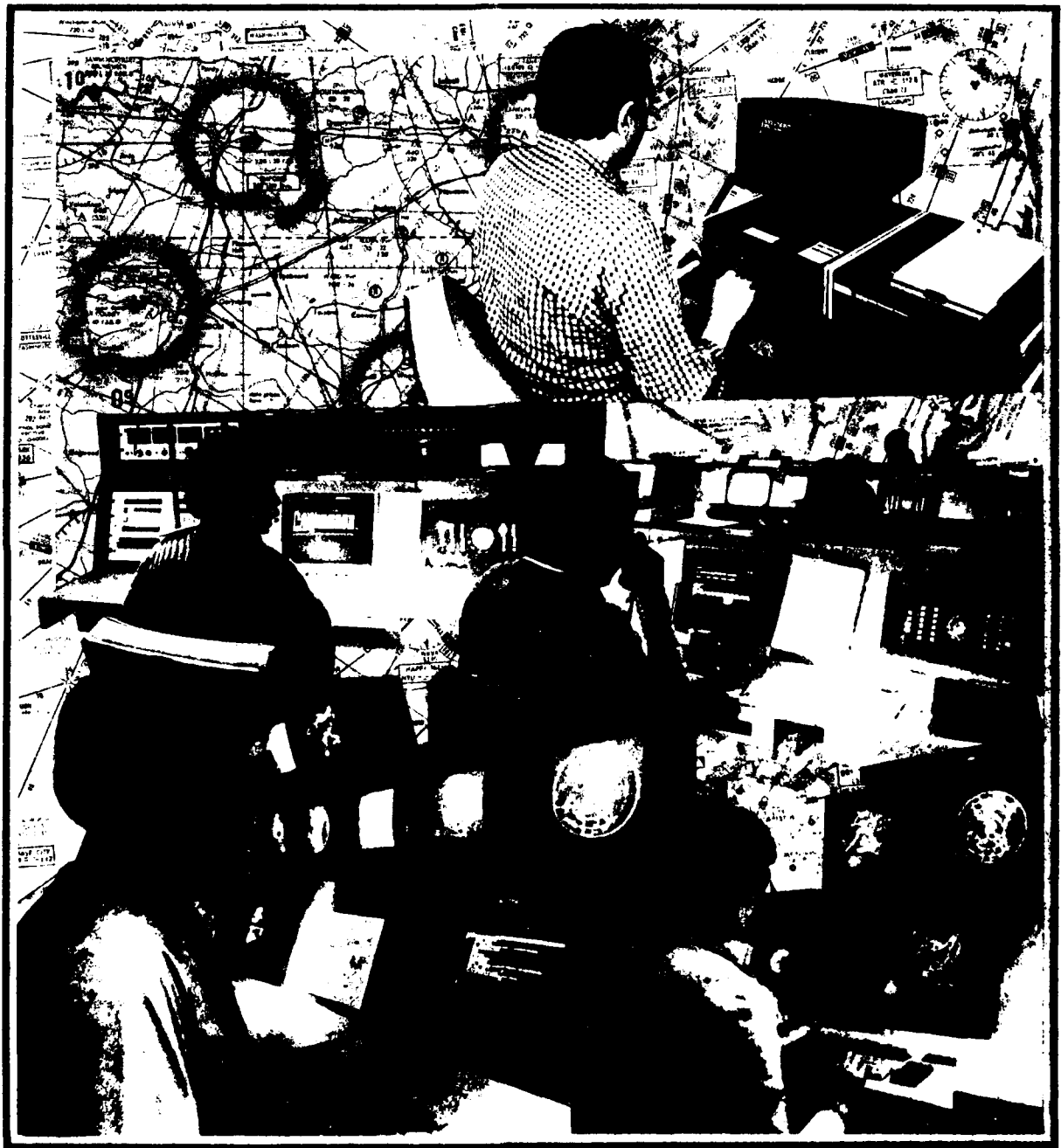


Figure 3 5



CHAPTER IV FLIGHT SERVICE SYSTEM



FLIGHT SERVICE SYSTEM

BACKGROUND

Although a considerable amount of work has been underway in recent years, the user community has stated that the FAA currently lacks the basic systems for gathering and disseminating several types of flight data for users of the National Airspace System. These involve information relative to weather, military operations, and aeronautical chart products which meet user needs. Within this context, NAR task groups have formulated numerous recommendations aimed at causing rapid improvements in this crucial area.

AERONAUTICAL CHART PROTOTYPING AND OPERATIONAL CONFIRMATION

The Airspace, Rules, and Aeronautical Information Division and Cockpit Technology Office of the FAA, have promulgated and issued

prototype charts which are in compliance with the Interagency Air Cartographic Committee (IACC) specifications and recommendations formulated by the Charting Task Groups. *User input suggested that readability and reduction of clutter were prime concerns.* Circulation of the prototypes and special inflight operational confirmation will elicit further comments which will be considered prior to adopting the revised charts.

FUTURE NAR ENHANCEMENTS TO THE FLIGHT SERVICE SYSTEM

Military flight plan formats and requirements will be studied for commonality and possible combination into one, simple, uniform format. Airport information service broadcasts will be reviewed to identify essential and nonessential information in order to ensure that broadcasts are short and concise.

FLIGHT SERVICE SYSTEM ENHANCEMENTS

Recommendations in the area of flight services center on improving products and information dissemination. Recommendations identified as Flight Service System improvement actions currently fall into four Enhancement Areas:

- Flight Service Station
- Aeronautical Charts
- Flight Information
- Weather

The Flight Service System and each of the foregoing Enhancement Areas are depicted in Figure 4-1. The central thick line in Figure 4-1 represents 392 recommendations that pertain to the Flight Service System with projected implementation predominantly complete at the beginning of the Fourth Quarter of 1986, but extends to the end of the Fourth Quarter of 1992 to complete action on all recommendations in this area.

Each of the Enhancement Areas identified for the Flight Service System in Figure 4-1 is expanded in Figures 4-2 through 4-5 to include recommendation milestones.

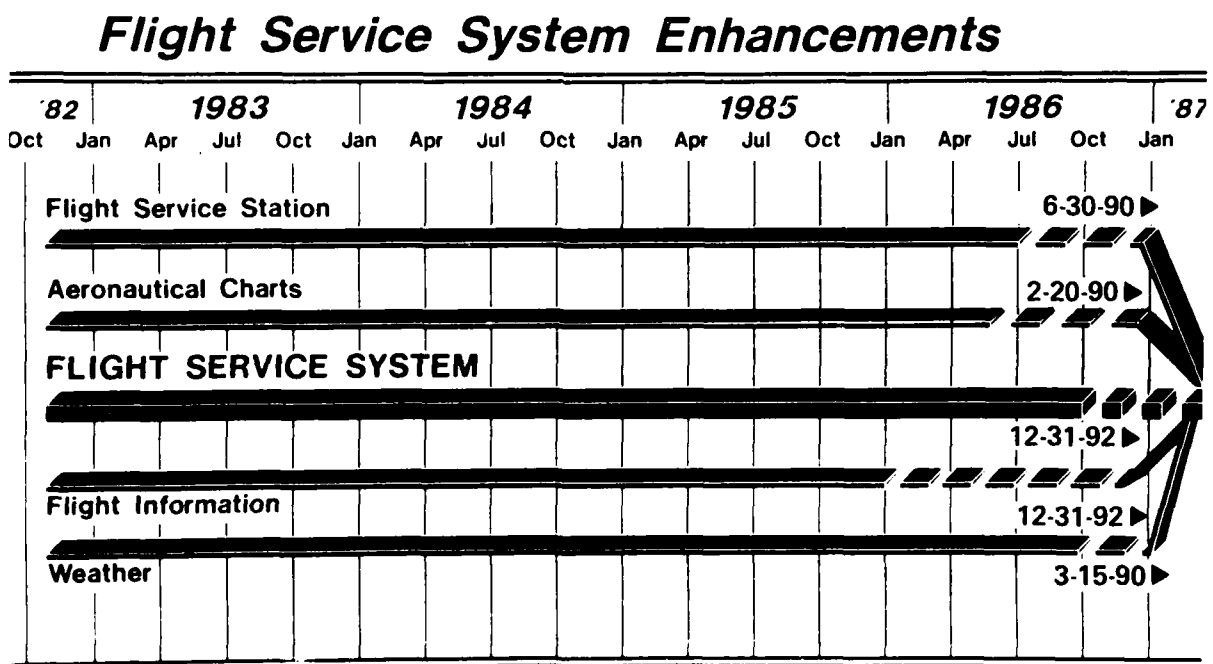


Figure 4-1

FLIGHT SERVICE STATION (FSS) ENHANCEMENT MILESTONES

The FSS Enhancement Area depicted in Figure 4-2 represents 34 recommendations that specifically address improvements in Flight Service Stations' ability to disseminate data concerning military flight activity on Military Training Routes and in Special Use Airspace, improved pilot briefing capability through access to real-

time information, replacement of the Service A teletypewriter system, improved dissemination of weather information, and FAA prioritization of resources to Flight Service Stations. FSS implementation begins in the Third Quarter of 1986 for most recommendations, but extends to the end of the Second Quarter of 1990 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

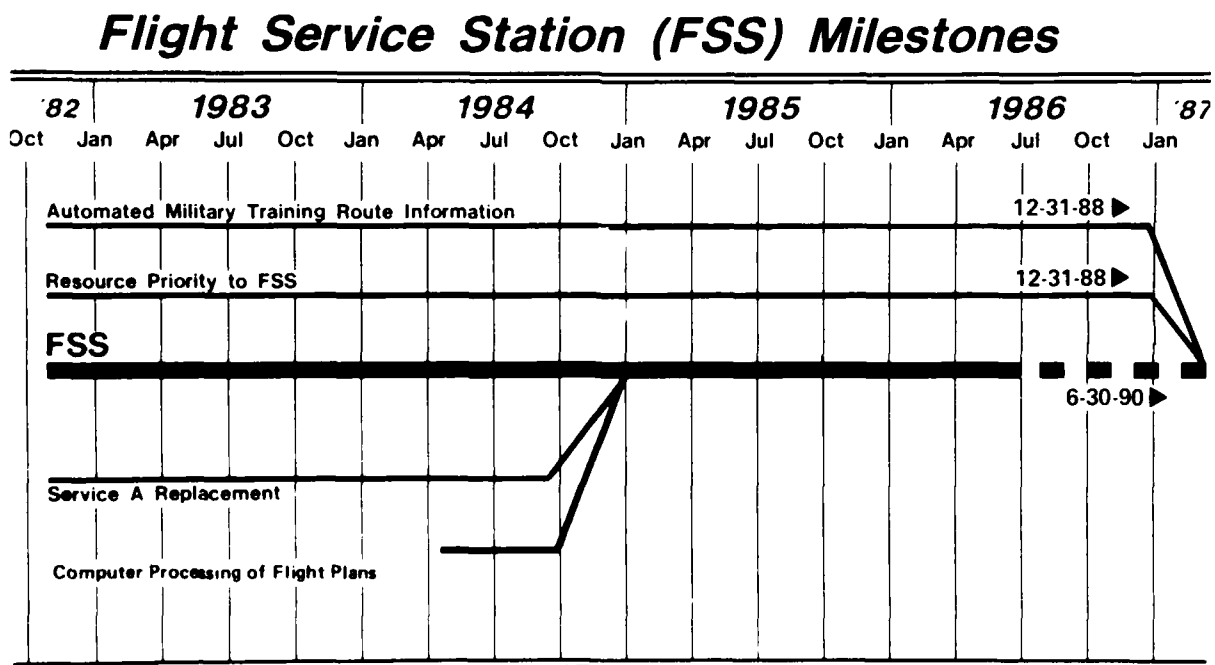


Figure 4-2

AERONAUTICAL CHARTS ENHANCEMENT MILESTONES

The Aeronautical Charts Enhancement Area depicted in Figure 4-3 represents 232 recommendations that address specific improvements to RF/IAP/VFR charts, suggest that prototyping be extensively used in the future, and

recommend reinstatement of the Flight Information Advisory Committee. Aeronautical Charts implementation begins in the Second Quarter of 1986 for the majority of recommendations, but extends to the First Quarter of 1990 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

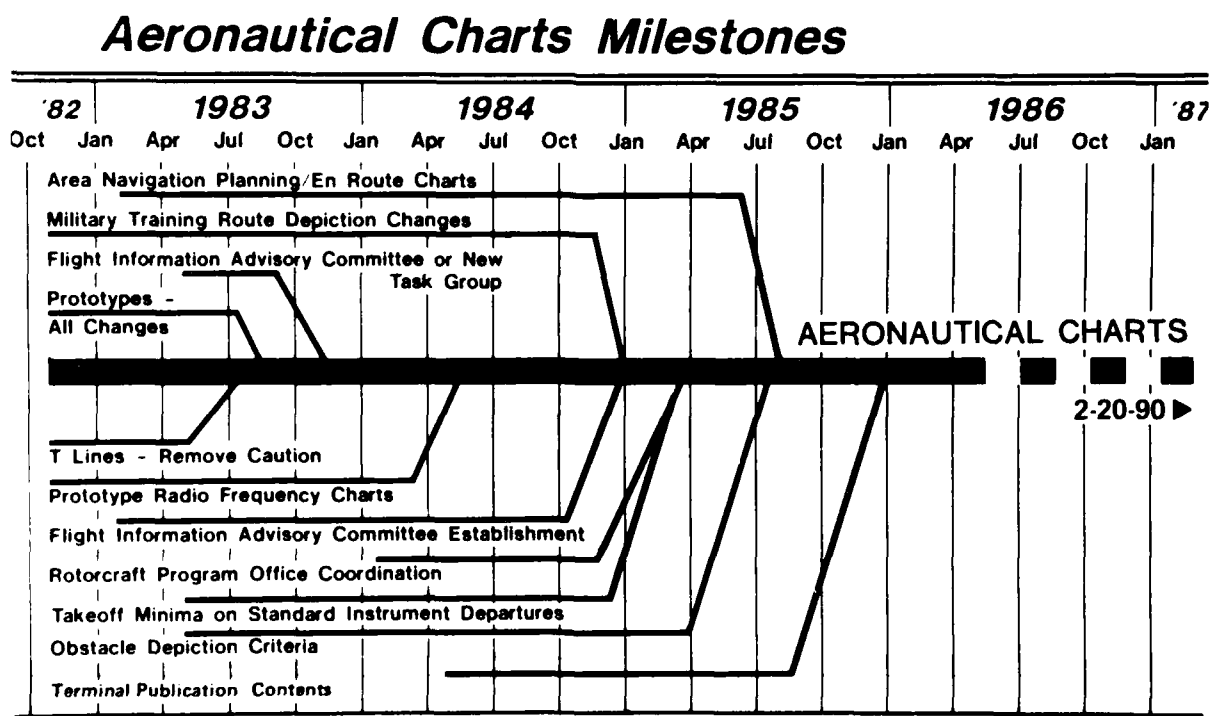


Figure 4-3



FLIGHT INFORMATION ENHANCEMENT MILESTONES

The Flight Information Enhancement Area depicted in Figure 4-4 represents 125 recommendations that focus on improvements to the NOTAM system, modifications to NOTAM criteria, and several specific changes to nearly all flight informational products (excluding

aeronautical charts which are covered under the Aeronautical Charts Enhancement Area). Flight Information implementation begins by the First Quarter 1986 for most recommendations, but extends to the end of the Fourth Quarter of 1992 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

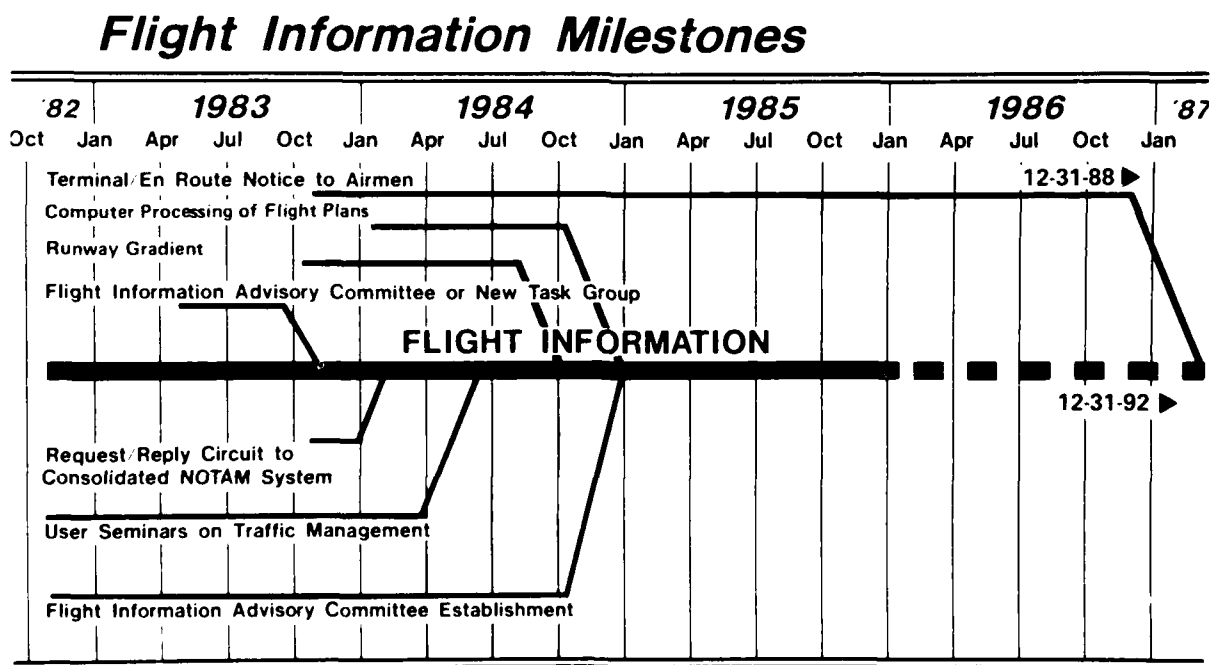


Figure 4-4

WEATHER ENHANCEMENT MILESTONES

The Weather Enhancement Area depicted in Figure 4-5 represents 36 recommendations that focus on improvements to weather products, user requirements, the weather data dissemination system, need for an FAA Weather Program

Office, and user access to real-time hazardous weather data. Weather implementation begins by the Fourth Quarter of 1986 predominantly, but will extend to the First Quarter of 1990 to complete action on all recommendations in this area. Several recommendations have been implemented, as reflected by the milestones depicted.

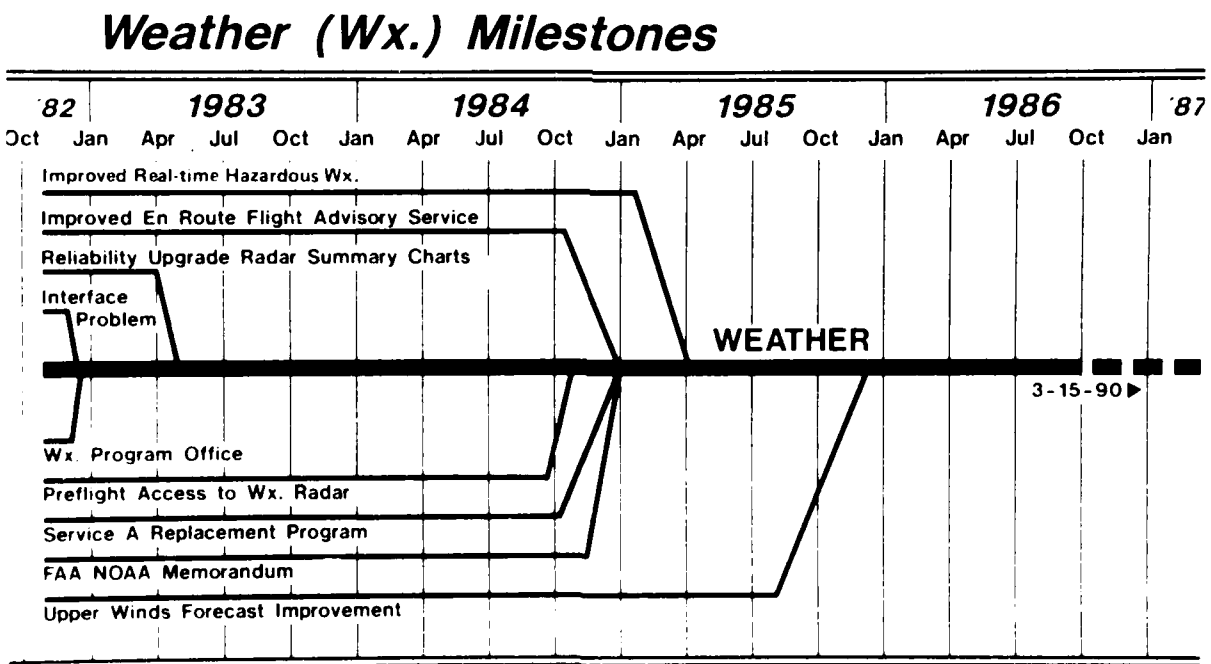


Figure 4-5



CHAPTER V AIRSPACE SYSTEM STRUCTURE



AIRSPACE SYSTEM STRUCTURE

BACKGROUND

Airspace classifications throughout the National Airspace System (NAS) are complex and, in many cases, redundant and overlapping. Yet, airspace is a fundamental component of the system that is a finite asset. Accordingly, airspace structure constitutes a separate System Area which cuts across all operations within the NAS. For this reason, recommendations from the NAR that address parts of the airspace structure are being grouped separately as they are formulated. This will assist in identifying fundamental changes to the NAS structure which need to be fully integrated with the Federal Aviation Regulations, ATC procedures, and flight informational services.

AIRSPACE RECLASSIFICATION

As a part of the NAR study areas, Task Group 1-7 conducted a review of an FAA developed model for reclassifying United States airspace. Other proposals were also studied, such as the pending Canadian airspace reclassification and various proposals being considered by ICAO. Concurrently, Task Group 1-5 conducted a review of the United States/Canada/Mexico interface. From the task groups, several recom-

mendations were developed which address airspace reclassification in the United States.

In conducting these reviews and developing recommendations, the task groups were not necessarily embracing reclassification as a vitally needed action in the near-term. Rather, most recommendations were intended to be advisory to the FAA, as the agency evaluates U.S. airspace classifications with respect to international changes. Moreover, the immensity of such a task gave rise to numerous questions regarding cost effectiveness and effect on flight regulations and ATC procedures since these are interrelated and interconnected in many cases to airspace classes. Accordingly, the Airspace, Rules, and Aeronautical Information Division of the FAA, has used these recommendations and associated comments to formulate an Advance Notice of Proposed Rulemaking (ANPRM) on the subject of airspace reclassification which will be circulated for public comment early in 1985. The ANPRM comment period will extend for 90 days to give all interested parties ample time to evaluate the proposal and provide cogent comment.

Recommendations concerning airspace reclassification have been included in the Infrastructure and International Interface Enhancement Areas of this plan.

AIRSPACE SYSTEM STRUCTURE ENHANCEMENTS

Task group recommendations concerning Airspace System Structure focus on improvements in terminal airspace design/simplification, modifications to the high-altitude en route structure, airspace compatibility with Canada and Mexico, airspace reclassification, and design criteria/policy dealing with airspace for special use and military training routes. Recommendations identified as Airspace System Structure improvement actions currently fall into four Enhancement Areas:

- Infrastructure
- International Interface

- Airspace for Special Use
- Military Training Route

The Airspace System Structure and each of the foregoing Enhancement Areas are depicted in Figure 5-1. The central thick line in Figure 5-1 represents 109 recommendations that relate to Airspace System Structure with implementation predominantly complete in the First Quarter of 1986, but extending to the Fourth Quarter of 1992 to complete action on all recommendations in this area.

Each of the Enhancement Areas identified in Figure 5-1 is expanded in Figures 5-2 through 5-5 to include recommendation milestones.

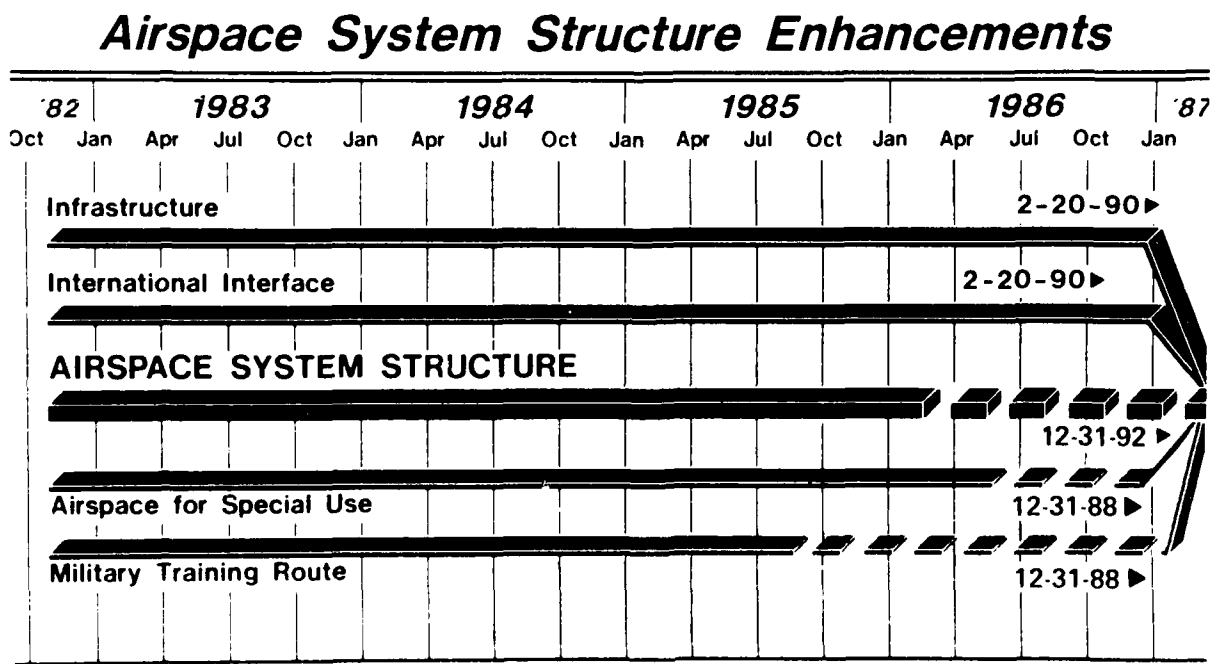


Figure 5-1

INFRASTRUCTURE ENHANCEMENT MILESTONES

The Infrastructure Enhancement Area depicted in Figure 5-2 represents 52 recommendations that address fundamental changes to our current system to focus attention on recommendations that may have system engineering implications for the near and far term. These include reclassifying airspace with its attendant ramifi-

cations to Federal Aviation Regulations, operations, and procedures; expanded random RNAV route operations and jet route phaseout; changing TCA categories; the ARSA concept; and modification to control zones and airport traffic areas. Infrastructure implementation begins in the First Quarter of 1990. Implementation may begin earlier for some recommendations in this set, as indicated by the depicted milestones.

Infrastructure Milestones

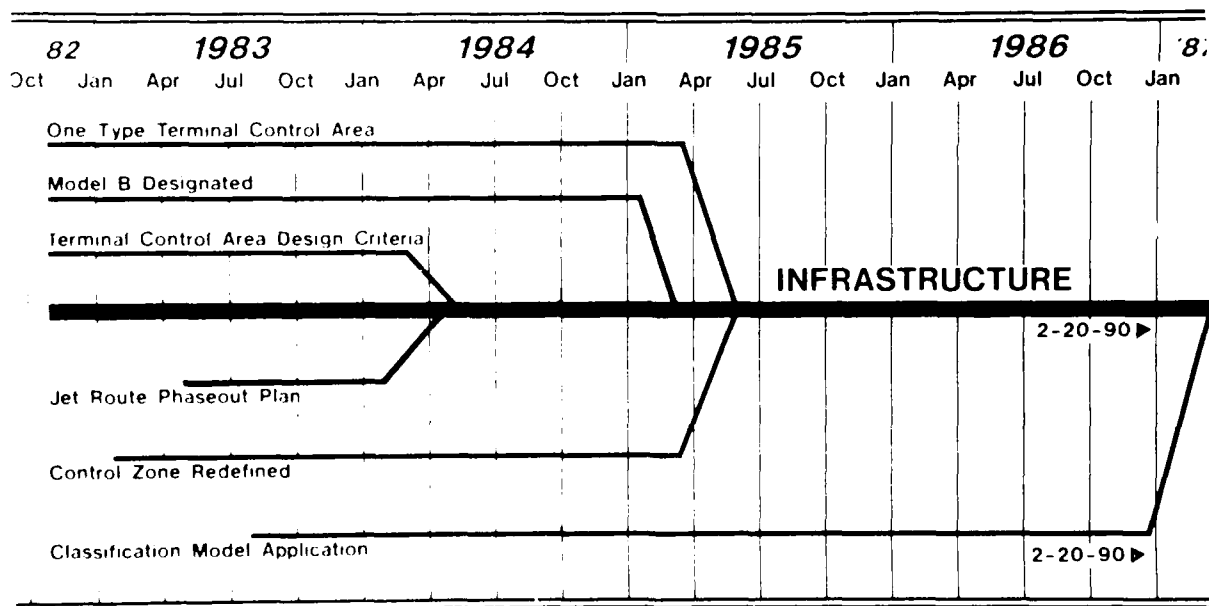


Figure 5-2



INTERNATIONAL INTERFACE ENHANCEMENT MILESTONES

The International Interface Enhancement Area depicted in Figure 5-3 represents 36 recommendations that address the need to simplify U.S. airspace classification, its compatibility

with Canada/Mexico and ICAO, and an airspace classification model to be used as a basis for further consideration by the FAA. International Interface implementation begins in the First Quarter of 1990. Implementation may begin earlier for some recommendations in this set, as indicated by the depicted milestones.

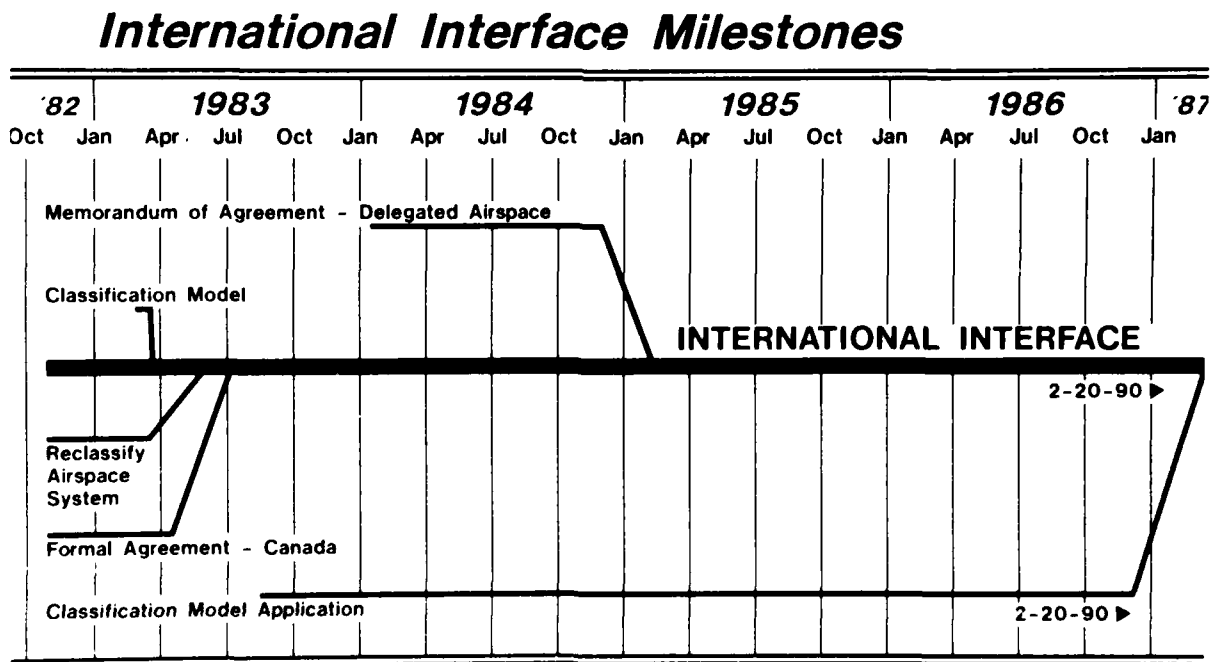


Figure 5-3



AIRSPACE FOR SPECIAL USE ENHANCEMENT MILESTONES

The Airspace for Special Use Enhancement Area depicted in Figure 5-4 represents 43 recommendations that stress the need for greater pilot awareness/education, improved utilization of all types of special-use airspace, specific information to be contained in Letters of Agreement and Procedure, improved proce-

dures for handling non-routine/short notice DOD requirements for Military Operations Areas, and improvements to dissemination of information by Flight Service Stations. Airspace for Special Use implementation begins by the Second Quarter of 1986 for the majority of recommendations, but extends to the Fourth Quarter of 1988 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the depicted milestones.

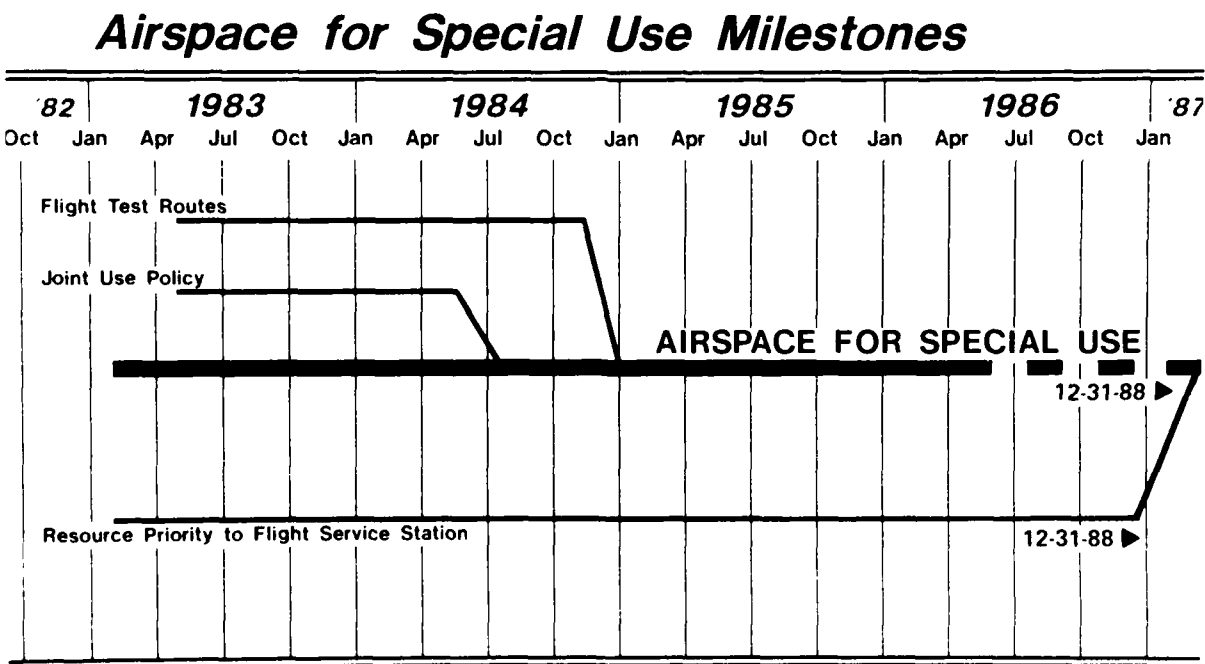


Figure 5-4

MILITARY TRAINING ROUTE (MTR) ENHANCEMENT MILESTONES

The MTR Enhancement Area depicted in Figure 5-5 represents 41 recommendations that address the need for improved pilot education and awareness of military flight activity on MTRs, methods of disseminating real-time information concerning this activity, modifica-

tions to MTR development criteria, and establishment of policy concerning high speed operations. MTR implementation begins in the Fourth Quarter of 1985 for the majority of recommendations, but extends to the Fourth Quarter of 1988 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

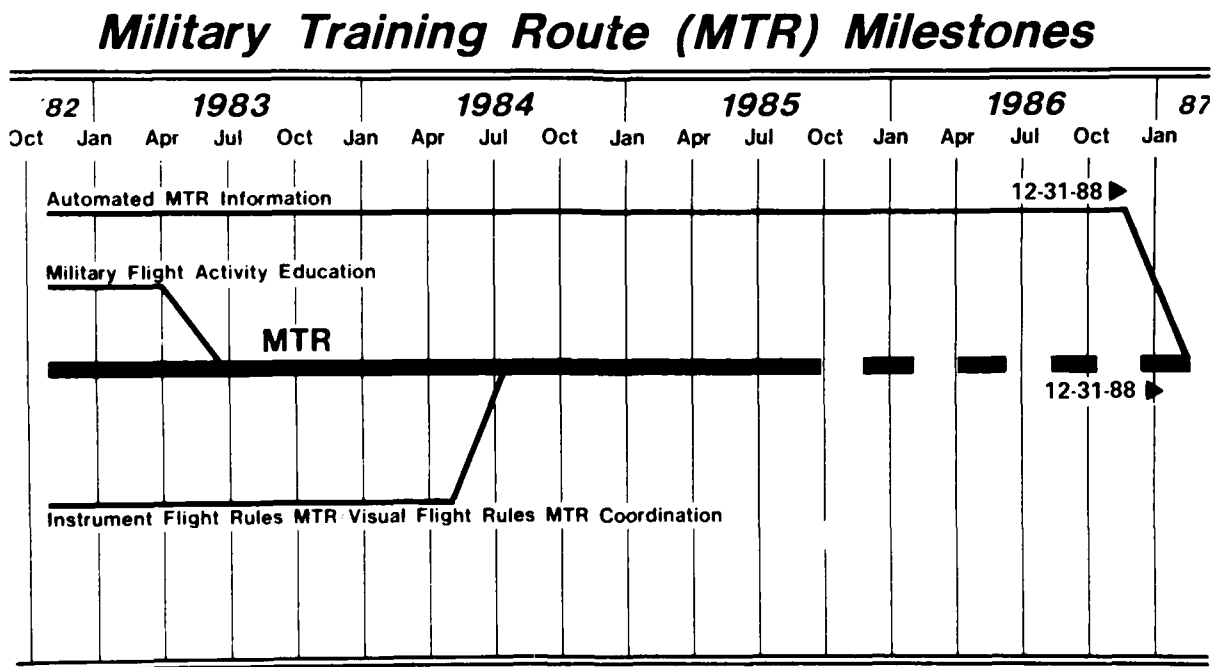


Figure 5-5

REGULATIONS/STANDARDS

BACKGROUND

One of the NAR program objectives is to review and eliminate, wherever possible, governmental restraints to system efficiency levied by FARs and FAA Handbooks with the aim of reducing complexity and simplifying the ATC system. Through their ongoing work, the NAR task groups have developed numerous recommendations in this area and have added aviation standards (including ATC separation) to basic regulations as an area of concern.

FAA HANDBOOK AND AERONAUTICAL PUBLICATIONS STUDY

The FAA is currently conducting a special implementation study of selected FAA Handbooks and aeronautical publications to develop guidelines for improving the format, content, production techniques, distribution and publi-

cation schedules. The guidelines are expected to encourage commonality among the publications and improve format, text, style, graphics usage, packaging and their distribution. This is especially timely because of the many handbook change recommendations from the NAR. In conjunction with this study, a review of regulations and user requirements pertaining to the publications is being conducted.

FUTURE NAR ENHANCEMENTS TO REGULATIONS/STANDARDS

Further regulatory simplification is expected to result from the study of FAR Part 75 which addresses fixed routes from FL 180 through FL 450. The studies of FAR 91 (Subpart B), FAR 77, and Holding Pattern Criteria are also expected to yield several recommendations in this System Area.

REGULATIONS/STANDARDS ENHANCEMENTS

Recommendations identified as Regulations/Standards Enhancements are concerned with the simplification or elimination of regulatory rules, development of essential standards affecting future operations, modification to ATC separation standards, and numerous modifications to policy orders in support of other recommendations. Recommendations identified as Regulations/Standards improvement actions currently fall into four Enhancement Areas:

- Standards Development
- Regulatory Simplification
- Regulatory Elimination
- Separation

The Regulations/Standards area and each of the foregoing Enhancement Areas are depicted in Figure 6-1. As indicated, Handbooks is expected to be added in a future revision. The central thick line in Figure 6-1 represents 222 recommendations that relate to Regulations/Standards with projected implementation predominantly complete by the Fourth Quarter of 1986, but extending to the Fourth Quarter of 1992 to complete action on all recommendations.

Each of the Enhancement Areas identified for Regulations/Standards in Figure 6-1 is expanded in Figures 6-2 through 6-5 to include recommendation milestones.

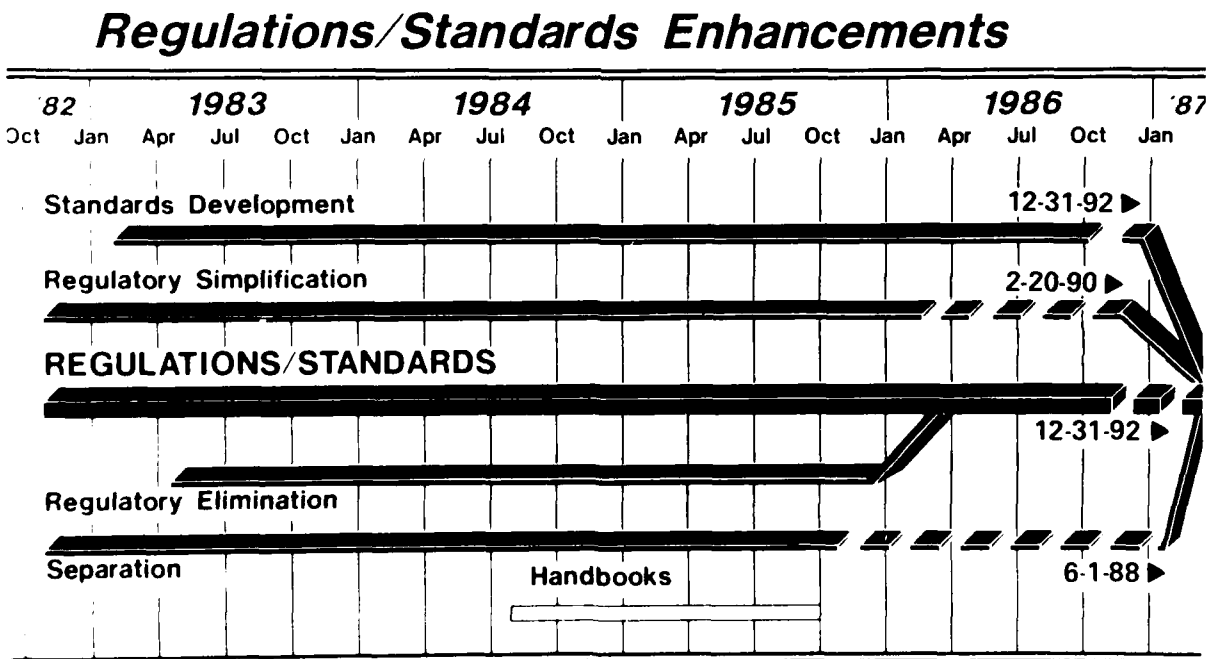


Figure 6-1

STANDARDS DEVELOPMENT ENHANCEMENT MILESTONES

The Standards Development Enhancement Area depicted in Figure 6-2 represents 94 recommendations that address airborne and ATC ground equipment standards development for RNAV operations regardless of ground radar coverage, design standards for ARSA airspace/control zones/control tower areas, change to standard radar services provided VFR aircraft, standard RNAV route width development,

changes to VORTAC standard service volumes, development of new standards that address dependent surveillance systems for the future, and helicopter operations in terminal and other areas, such as the Northeast Corridor. Standards Development implementation begins in the Fourth Quarter of 1986 for the majority of these recommendations, but extends to the end of the Fourth Quarter of 1992 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the depicted milestones.

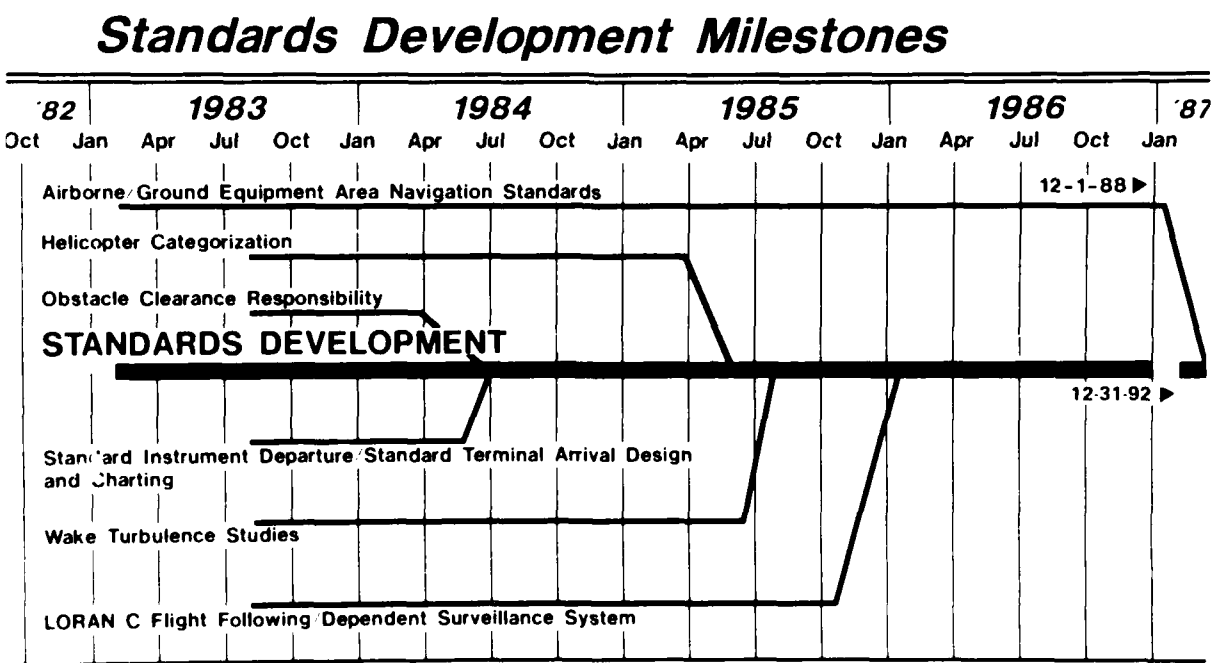


Figure 6-2

REGULATORY SIMPLIFICATION ENHANCEMENT MILESTONES

The Regulatory Simplification Enhancement Area depicted in Figure 6-3 represents 35 recommendations that address modification of TCA classifications to one type, changing control zone dimensions to nautical miles, change from Airport Traffic Area to Control Tower Area with the same basic dimensions as control zones, proceeding to direct rule when

Restricted Area changes have no aeronautical impact, elimination of rulemaking action for certain airways/routes, and concluding that Flight Sensitive Areas do not need to be established by rule. Regulatory Simplification implementation begins in the First Quarter of 1986 for the majority of recommendations, but extends to the First Quarter of 1990 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the milestones depicted.

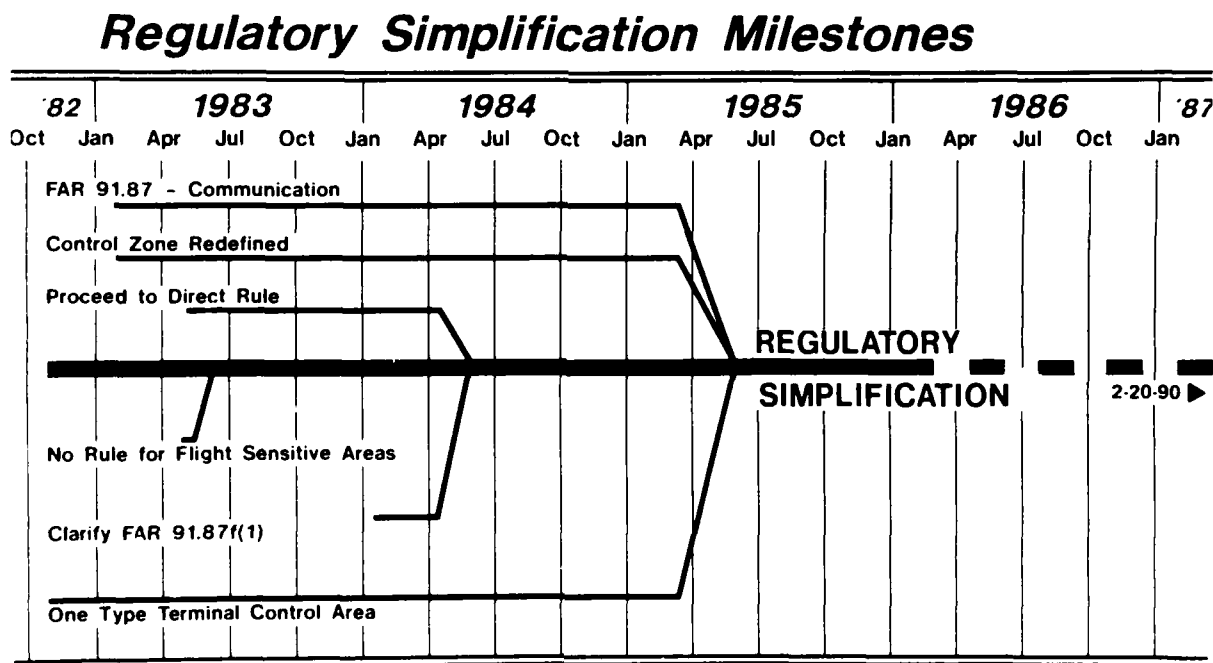


Figure 6-3

REGULATORY ELIMINATION ENHANCEMENT MILESTONES

The Regulatory Elimination Enhancement Area depicted in Figure 6-4 represents 5 recommendations that address elimination of certain airways/routes from the rulemaking process.

Several additional recommendations are expected to be included in this Enhancement Area from future NAR task groups. Regulatory Elimination implementation currently begins by the Second Quarter of 1984 and continues to the Second Quarter of 1986 to complete action on all the recommendations in this area.

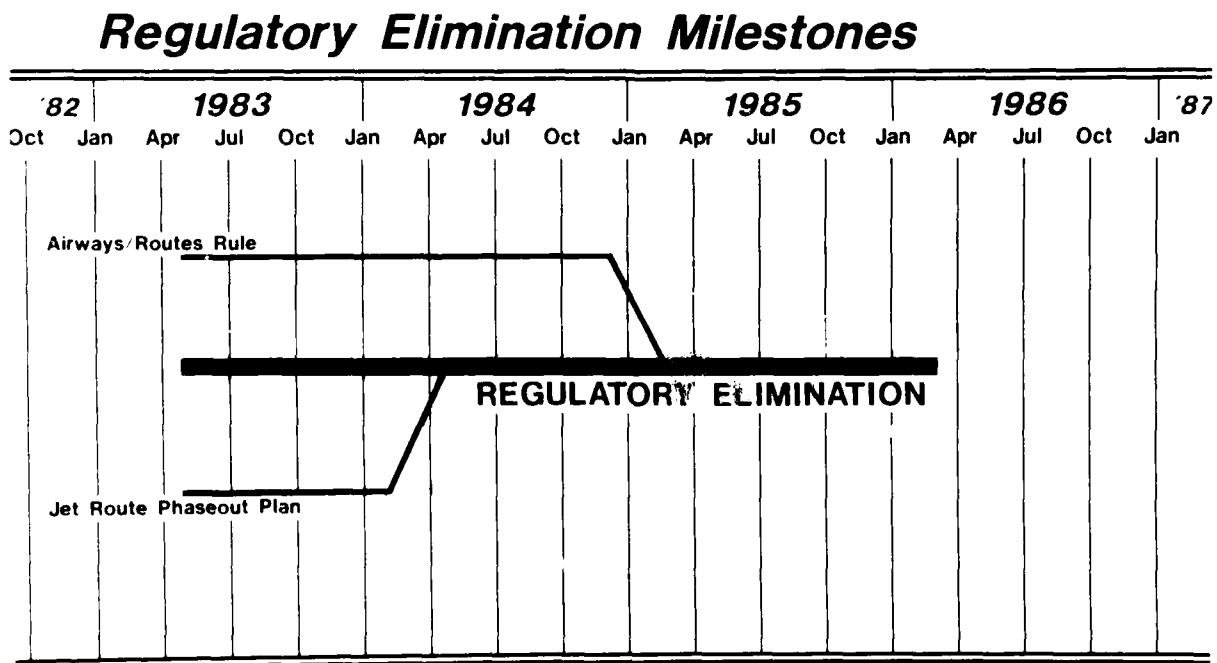


Figure 6-4

SEPARATION ENHANCEMENT MILESTONES

The Separation Enhancement Area depicted in Figure 6-5 represents 63 recommendations that address various modifications to current ATC separation standards. Separation implementa-

tion begins in the Fourth Quarter of 1985 for the majority of recommendations, but extends to the Second Quarter of 1988 to complete action on all recommendations in this area. Implementation may begin earlier for some recommendations in this set, as indicated by the depicted milestones.

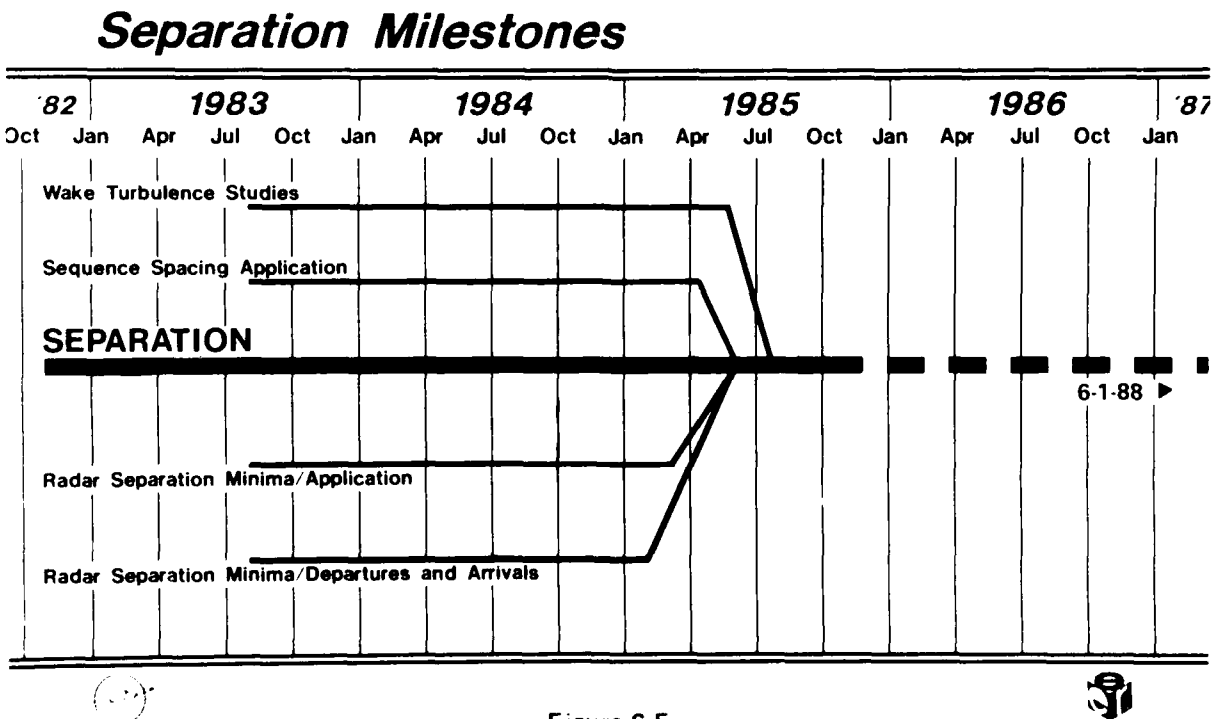


Figure 6-5

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