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# CIVIL AVIATION STUDIES AND INTERAGENCY COORDINATING ORGANIZATIONS

VOLUME I

DECEMBER 1974

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U.S. Environmental Protection Agency  
Washington, D.C. 20460

**CIVIL AVIATION STUDIES AND  
INTERAGENCY COORDINATING  
ORGANIZATIONS**

(A Background History, with  
Emphasis on Organizations  
Dealing with the Aircraft Noise  
Issue.)

DECEMBER 1974

Prepared by

Carl Modig  
Under Contract 68-01-2229

for the

Office of Noise Abatement and Control  
U.S. Environmental Protection Agency

This report has been approved for general availability. The contents of this report reflect the views of the contractor, who is responsible for the facts and the accuracy of the data presented herein, and do not necessarily reflect the official views or policy of EPA. This report does not constitute a standard, specification, or regulation.

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#### LIST OF ABBREVIATIONS

AAC	Aviation Advisory Commission (1973)
ACC	Air Coordinating Committee (1945-1960)
AACB	Aeronautics and Astronautics Coordinating Board (1960-present)
AMB	Airways Modernization Board (1948-1957)
ANDB	Air Navigation Development Board (1948-1957)
ASEB	Aeronautics and Space Engineering Board of the National Academy of Engineering (1967-present)
BOB	Bureau of the Budget (now OMB--Office of Management and the Budget)
BBN	Bolt, Beranek and Newman, Inc.
CAA	Civil Aeronautics Administration (succeeded in 1958 by Federal Aviation Agency)
CAB	Civil Aeronautics Board
CAPB	Congressional Aviation Policy Board (1948)
CARD	Civil Aviation Research and Development Policy Study (1971)
CMLC	Civilian-Military Liaison Committee (1958-1960)
DOC	Department of Commerce
DOD	Department of Defense
DOS	Department of State
DOT	Department of Transportation

EPA	Environmental Protection Agency
FAA	Federal Aviation Agency (1958-1968) Federal Aviation Administration (1968-present)
FANAP	Federal Aircraft Noise Alleviation Program (1966-1967) of the Office of Science and Technology of the Executive Office
FHA	Federal Housing Administration
HUD	Housing and Urban Development
IANAP	Interagency Aircraft Noise Abatement Program (1968-1973)
ICAO	International Civil Aviation Organization
IGIA	Interagency Group on International Aviation (1960-present)
JONA	Joint DOT/NASA Office of Noise Abatement (1971-present)
MANAPS	Metropolitan Airport Noise Abatement Policy Studies
NACA	National Advisory Committee for Aeronautics (1915-1958)
NASA	National Aeronautics and Space Administration
NASC	National Aeronautics and Space Council (1958-1973)
OIAA	Office of International Aviation Affairs of DOT
OMB	Office of Management and Budget
ONA	Office of Noise Abatement of DOT
OST	Office of Science and Technology (1962-1973) of the Executive Office
PAPC	President's Air Policy Commission (1974)
PEDC	Program Evaluation and Development Committee (1966-1967) of FANAP
RADCAP	Research and Development Contributions to Aviation Progress, a DOD sponsored study (1972)

R&D      Research and Development  
RTCA      Radio Technical Commission for Aeronautics (1935-present).

Section 1

INTRODUCTION

"We ought not to look back unless it is to derive useful lessons from past errors, and in the purpose of profiting by dear bought experience."

George Washington

This report presents a compilation of facts about organizations and studies concerned with the coordination of federal activities and policies in the field of civil aviation. As part of its duties under the Noise Control Act of 1972, the EPA Office of Noise Abatement and Control is now in the process of considering what sort of mechanism might best ensure coordination of future federal efforts to reduce aircraft and airport noise. It was thought that a look at past inter-agency coordination efforts might prove useful.

SCOPE AND METHODOLOGY

Suggestions from the staff of the Office of Noise Abatement and Control of EPA provided the initial list of candidate organizations, and others were found in the course of our research. It quickly became obvious that there were two types of organizations:

1. Those temporarily engaged in studying some aspect of the problems of interagency coordination, either directly or as part of a larger study.
2. Those engaged in interagency coordination (two or more agencies or departments).

For simplicity, we have called the latter coordinating organizations and the former study groups. We chose a representative sample of coordinating organizations and study groups that have been active since World War II,

especially those with noise-related functions. Most of the coordinating organizations chosen were involved with more than three agencies. Industry-inspired groups such as SAE and ASTM were excluded, as were groups whose sole function was coordination of aspects of the federal SST program. While some chosen organizations coordinated on a broad scale, many concentrated on coordination of federal research. We then collected as many documents by or about each organization or study as was possible in the time available. With the help of this documentation, we were able to develop a uniform set of facts about each, based on the following outline:

1. Origins and outline history. (How was the organization or study set up?)
  - 1.1 Specific authorization
  - 1.2 Preauthorization history
  - 1.3 Outline history
2. Operation. (How did it function?)
  - 2.1 Formulation of objectives
  - 2.2 Membership
  - 2.3 Activities
  - 2.4 Staff
  - 2.5 Use of contractors
  - 2.6 Relations with other groups
3. Outputs, (What were its outputs?)
  - 3.1 Reports
  - 3.2 Proposed laws and/or regulations
  - 3.3 Public relations and information dissemination
  - 3.4 Proposed coordination of federal agency activities
4. Impact, (How were its outputs used?)
  - 4.1 Legislation
  - 4.2 New organizations or major changes in existing organizations
  - 4.3 Coordination of federal agency activities

5. Monitoring and updating of organizational goals and updating of organizational operations. (How were monitoring and follow-up accomplished?)

5.1 Monitoring progress toward objectives

5.2 Updating objectives

5.3 Revision of organizational structure

We tried to follow the outline for each description, but the fine points have been omitted when they did not fit. Also, in many instances, study organizations were ad-hoc in nature, and organizations expired at the completion of the study. In such cases the section on monitoring and updating obviously did not apply.

One methodological problem arose from the fact that, although each of the institutions discussed was concerned with coordination, the degree of coordination, and even the meaning of the word as understood by participating parties, varied. In some institutions, coordination was understood to be largely the process of facilitating better communication—putting agency programs on the table, so to speak. As a result, the degree of change in individual programs was a voluntary matter, depending on the degree to which individual agency interests were not threatened and/or in conflict. In other cases, there was an active effort to persuade autonomous agencies to agree on policies and, equally important, to implement decisions. Only rarely did coordination include the right of the coordinating organization to make binding decisions and to obtain sufficient resources to monitor the progress toward implementation of such decisions. In this compilation, we have included institutions that exercised various degrees of coordination.

Another basic problem was the familiar one of trying to decide whether there was a causative relationship between two events simply because one preceded the other. We relied on the basic documents to provide this insight wherever possible.



While this report may ultimately be used in evaluating the effectiveness and limitations of the various institutions, a necessary prior task was to establish the facts. We made the assumption that partial analysis of a complete set of facts is better than premature study of a partial set of facts. To that end, we have included basic data such as membership lists, bibliographies, excerpts from documents, and texts of Executive Orders.

#### ORGANIZATION OF THE REPORT

Coordinating Organizations, as a group, are treated first, followed by Studies. For the convenience of the reader, organizations are included in the list of abbreviations in the front matter. In addition, the organizations can be found in Figure 1, which places them in time. Certain entities appearing in Figure 1 (RTCA, ANDB, AMB, and the Finan Report) are not treated separately but are discussed in the sections on the Air Coordinating Committee (ACC), the Harding Report, and the Curtis Report.

So as not to clutter the text, such things as compilations of basic data and excerpts from documents are provided as appendices.

We have deliberately stopped short of describing what the ideal organizational structure should be for coordinating federal aircraft noise research or federal aircraft noise policy, for the ideal form and structure partly depend on the contemporary environment rather than on the past. However, the reader should find this material useful in synthesizing his own conceptions of model coordination systems.

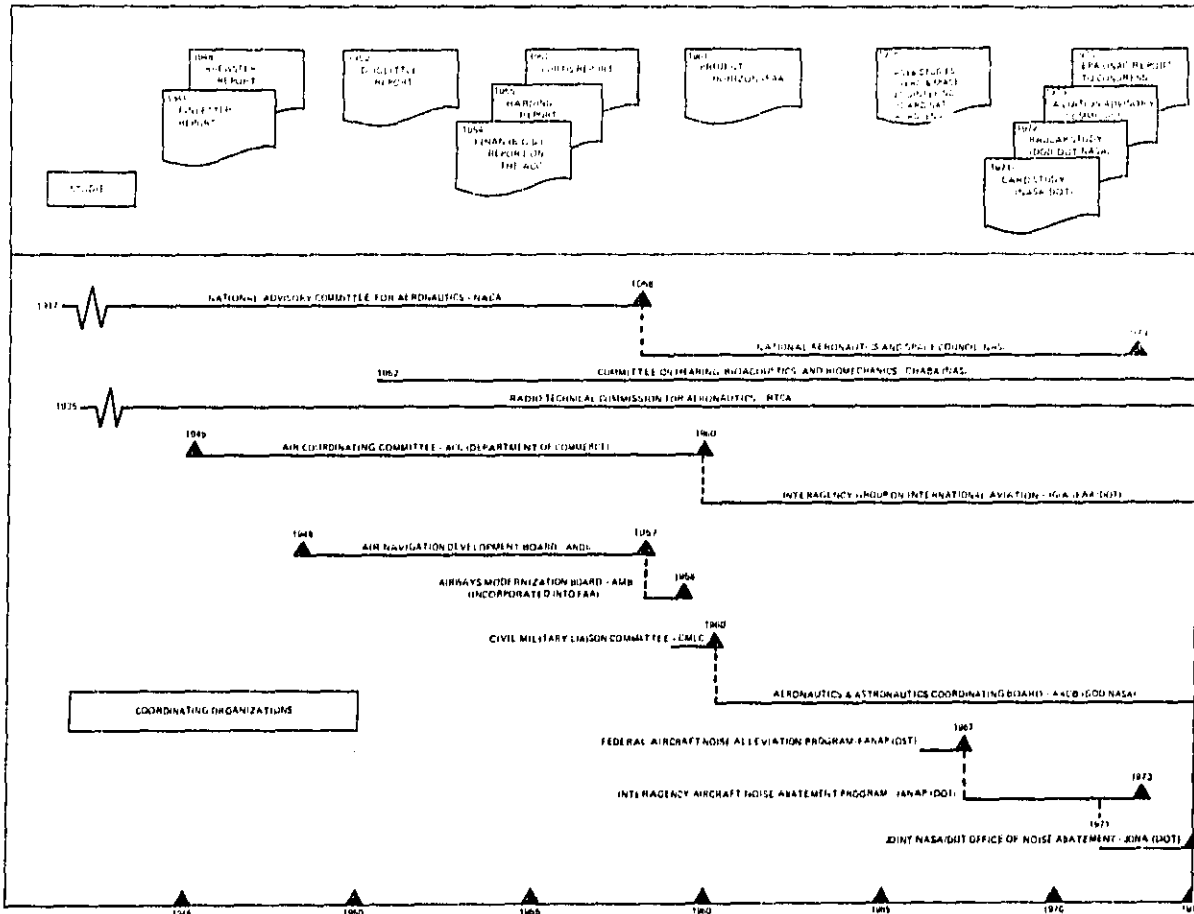


Figure 1. Selected National Aviation Studies and Coordinating Organizations 1917-1973

(Note. Organizations in parentheses provided administrative support)

## Section 2

### SUMMARY AND CONCLUSIONS

This overview first examines the long-term trends in interagency coordination and attempts to put past coordinating organizations into better chronological perspective. The distinction is made between coordination of research and development and coordination of civil aviation system operations and policies.

The emphasis then shifts to general observations about common patterns and problems that seem to have recurred. These observations are necessarily tentative in nature since the source documentation was more complete for some profiles than for others and because errors of emphasis or omission may have entered during the process of reducing the large amount of information that was collected. In addition, some of the material is open to a variety of interpretations. It is for these reasons that we have included as much detailed information as possible—including excerpts from documents—in the text and appendices, and that we suggest that the reader rely on this information as well as the summary in forming his own conclusions.

#### CHRONOLOGICAL PERSPECTIVE

In the years immediately following World War II, there were clearly designated organizations for coordinating civil aviation research and system operations. However, mechanisms for ensuring coordination between these organizations were less clearly defined.

The National Advisory Committee for Aeronautics (NACA) had the primary responsibility for coordinating the research needs of private, commercial, and

military research, in addition to its function of performing fundamental and applied research (Finletter Report, 3).\*

The Air Coordinating Committee (ACC) had the primary responsibility for coordinating all Federal aviation activities excluding research and development. (Finletter Report, 3; Brewster Report, 3). In practice, the ACC also became involved in research and development activities related to air traffic control and navigational aid systems, while staying out of the area of aerodynamic research and development of new aircraft and aircraft engines. This involvement was through the activities of the committees in the ACC Technical Division (ACC, 2.6).

#### COORDINATION OF RESEARCH

By 1960, NACA had been abolished and there was no longer a single coordinating mechanism capable of ensuring a national policy for civil aviation research and development.

The successors to NACA that were created in 1958 were NASA, with an operational space mission, and the National Aeronautics and Space Council (NASC), for research policy coordination. NASC, however, emphasized problems concerned with the space effort and was less active in coordinating aeronautical research (NASC, 4, 5).

NASA, DOD, and FAA each had their own policies and programs for research. As a U. S. Senate committee concluded,

Policy is a composite of the separate policies of the various agencies . . . primarily NASA, DOD, and FAA (now a part of DOT)

Conclusions of Senate Committee on Aeronautical  
Space Sciences, Report No. 957, Jan. 31, 1968,  
p. 21.

\*Numbers in the references correspond to sections of the topic outline presented in Section 1 of this report.

The use of bilateral mechanisms such as the Aeronautical and Astronautics Coordinating Board (AACB) increased. The problem was mitigated in the area of bioacoustics-related aircraft noise research by the coordination role played by CHABA, the Committee on Hearing, Bioacoustics, and Biomechanics of the National Academy of Sciences. The problem of research coordination was one of the factors leading to various studies such as the ASEB study (1967-68), CARD study (1968-71), and the report of the Aviation Advisory Commission (1970-72).

#### COORDINATION OF OPERATIONAL POLICY

By the early 1960's, in the area of national aviation system operations, the ACC had been abolished and a centralization of powers had occurred that made ACC-style coordination less necessary.

The problem of coordination of operations was mitigated by the centralization of many functions in the Airways Modernization Board in 1957, succeeded by the FAA in 1958. Included in the FAA were most ACC functions, as well as responsibility for safety. Thus, for the development of air facilities (airports, the traffic control system, navigational aids) there was less need for coordination of the type performed by the ACC, the Air Navigation Development Board (ANDB), and their member departments and agencies (Harding Report, 1. 2; Curtis Report 3. 2, 3. 3).

While most ACC functions went to FAA, coordination of civil international aviation policy went to the Interagency Group on International Aviation (IGIA), created in 1960. The secretariat of this interagency committee was housed in FAA. Its organizational procedures were similar to those of the ACC.

#### COORDINATION OF AIRCRAFT NOISE ABATEMENT

In the early 1960's there was no institution actively coordinating federal aircraft noise abatement activities.

The aircraft noise problem was developing while centralized coordination institutions for research and development were declining, as previously outlined. FAA responsibility and authority in the operational areas of air traffic control, safety, facilities development, and air space allocation were evidently sufficient to enable that agency to act effectively. However, FAA was less active in the area of noise abatement.

It was in that context that President Johnson directed the Office of Science and Technology (OST) to initiate what he called an "action program" in 1966 (Ref. FANAP, 1. 1; Appendix F). Under this program, the Federal Aircraft Noise Alleviation Plan, participating federal agencies (FAA, NASA, HUD, DOC) began to agree upon and implement measures aimed at alleviating the problems of aircraft noise in the vicinity of airports. (FANAP, 1, 2). The principal measure was introduction of legislation requiring noise certification of new aircraft (FANAP 3, 4; Appendix F, No. 3).

The action program started by OST became less active when it was transferred to DOT in 1967 as the Interagency Aircraft Noise Abatement Program (IANAP). The primary focus of IANAP shifted away from operational innovations toward more research, and the type of coordination shifted from new agency program commitments toward exchange of views and information (IANAP, 2. 1, 2, 3, 4).

The lack of clearcut coordination arrangements evident in the 1960's persists today. Congress and the Aviation Advisory Commission both expressed hope that NASC would evolve into a centralized coordination mechanism for civil aviation research and development within the Executive Branch (AAC, 3). However, NASC was abolished by a Presidential reorganization order in 1973.

#### GENERAL OBSERVATIONS

##### CONGRESSIONAL IMPETUS

The existing impetus for better coordination for all federal aviation policy, including noise abatement, has come chiefly from Congress.

- Congress inspired the CARD study (1967-71) to try to get NASA, DOT and FAA within DOT to work more closely together (CARD, 1, 3).
- Congress created the AAC (1970-72) to examine the long-range needs of civil aviation, including organizational needs (ACC, 1.1, 1.2, 2.1).
- Congress mandated EPA, under Section 4 of the Noise Control Act of 1972, to coordinate federal noise research and control programs, including those for airport/aircraft noise.

#### COORDINATION

Coordination efforts that have gone beyond the "exchange of information" stage have included those of the AACB (1960-present), FANAP (1966-67), IGIA (1960-present), some elements of IANAP (1967-1973), JONA (1971-1974), and CHABA (1963-1972). All have done more than facilitate exchange of information. AACB claims harmonization of Defense/NASA plans for joint use of research facilities and for the space shuttle program. IGIA has unified U.S. positions at ICAO. FANAP activities included paving the way for noise certification of new aircraft in FAR 36. IANAP panels identified technology gaps. CHABA helped shape federal research on human response to noise. AACB has drawn Congressional praise as a model for other coordination efforts. JONA was established to integrate NASA and DOT (including FAA) plans for aircraft noise research and development. (Profiles on AACB, IGIA, FANAP, CHABA, JONA.)

One possible pattern for a coordinating mechanism for aircraft noise abatement is that used by the Interagency Group on International Aviation (IGIA). IGIA organization and procedures were modeled on those of the ACC. Like ACC, it was created by Executive Order. IGIA coordinates federal agency inputs into recommendations for a unified U.S. position on numerous civil aviation matters (ACC 2.3; IGIA 2.3). Although, in the ACC/IGIA model, it only takes one member's dissent to bring an issue to a higher level for resolution (ACC 4.2, 4.3), ACC had the defect of sometimes failing to surface

controversial issues because it was in the member's short-term interest to keep them hidden.

#### HIGH-LEVEL SUPPORT

"Successful" coordination efforts have evidently been facilitated by high-level agency support and participation as well as the existence of an appropriate coordinating institution. The AACB principals (co-chairmen) are at the Assistant Secretary level; this has also been the level for IGIA principal members. FANAP was created under White House auspices, thus ensuring high-level agency interest.

Active interest at the top (Executive Office) is also essential to successful interagency coordination because the budgetary agency (BOB, now OMB) has control of the allocation of funds and because of the need for the Executive Office to take an active role in deciding unresolved disputes.

If agencies are to implement programs agreed upon through interagency coordination, financial resources must be made available in agency budgets. This requires not only Congressional appropriations but also OMB cooperation, which in turn is a function of Executive Office interest.

One example is the relative ability demonstrated by the CAA and the Bureau of Public Roads in obtaining adequate funding in the mid-1950's. Although both agencies were equally buried within the organizational structure of the Commerce Department, CAA had funding problems, while the Bureau of Public Roads had great success in getting funds for the Interstate Highway Program. "The Bureau was greatly aided in this effort by the fact that it was able to interest President Eisenhower personally in the program" (Appendix Q, p. 1-515). BOB (now OMB) has intervened to play a role in civil aviation coordination through its expertise in the field of government organization throughout the Finan Report/Harding Report/Curtis Report sequence of events in the 1950's. It is presently involved in the ongoing improvement of coordination of federal noise activities.



Active interest of policy level personnel in federal departments and agencies is also a prerequisite for successful coordination.

#### RECURRING PROBLEMS

Whatever the form of an interagency coordinating mechanism, certain problems tend to recur unless positively dealt with:

- The active participation of non-federal government groups must be secured, particularly that of industry, while still insulating actual interagency deliberations from their excessive influence. ACC had this problem (ACC, 2.6, 5.3; also Appendix C, pp. 42-7). The Program Evaluation and Development Committee had this problem (FANAP, 2.6). IGIA procedures show that it is aware of the problem (IGIA, 2.6). The problem also existed in IANAP (IANAP, 2.2, 2.3, 2.6). NASC was encouraged to set up Liaison groups (CARD, 3; ACC, 3) in the form of various study groups. Another aspect of this question is the narrowing of representation that tends to occur when non-governmental representatives must provide financial support (such as travel expenses) while providing technical expertise in the coordination process (CHABA, 2.2, 2.6).
- Member agencies possessing statutory duties cannot voluntarily abrogate them. The history of ACC experience with CAB and FCC provide examples (Appendix C, pp. 11-12). A parallel situation can be seen in the FAA statutory responsibility for air safety, as it may be impacted by noise abatement alternatives.
- When the policy review or agency coordinating mechanisms are too closely tied to one agency, there is a tendency for other agencies not to participate as actively or effectively. The ACC Secretariat was located in the Department of Commerce. By the end of its existence it was widely regarded as being dominated by Commerce (ACC, 2.6, 4.3). Once a coordination mechanism begins to obtain the reputation

that it is dominated by one agency, it may begin to lose its effectiveness. Other agencies may become more reluctant to seriously participate. The host agency is therefore led to do more of the work. But in doing more of the work, the host agency heightens the image of domination.

Section 3

COORDINATING ORGANIZATIONS

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS (NACA)—  
1915 to 1958

ORIGINS AND OUTLINE HISTORY

Specific Authorization

Act of Congress, approved March 3, 1915 (50 U.S.C. 151)

Preauthorization History

The NACA was appointed pursuant to law in 1915. It was modeled after a similar committee established in Great Britain to investigate the scientific problems involved in flight and to give advice to the military air services and other aviation services of the government.

OPERATION

NACA was both a line agency performing research and an advisory committee serving both the agency and the rest of the government.

Formulation of Objectives

The line duties of the NACA were:

1. To supervise and direct scientific study of the problems of flight with a view toward their practical solution.
2. To determine the problems that should be attacked experimentally, and to discuss their solution and its application to practical issues.

3. To direct and conduct research and experiment in aeronautics at the Langley Aeronautical Laboratory, the Ames Aeronautical Laboratory, the Lewis Flight Propulsion Laboratory, and any other laboratories that might be placed partially or wholly under the direction of the Committee.

The functions of the NACA were:

1. To equip, maintain, and operate offices, laboratories, and research stations under its direction.
2. To acquire additional land for, undertake additional construction at, and purchase and install additional equipment for existing laboratories and research stations under its direction.

The coordination responsibilities of the Advisory Committee were as follows:

Under the Policy Statement of March 21, 1946, it is clearly the duty and the responsibility of the NACA to coordinate Government aeronautical research with civilian, industrial, and university programs (Ref. 2, p. 91).

The 17 members of the Advisory Committee were appointed by the President and served without compensation, except for expenses. The law provided that ten of the members would be representatives of specified government agencies, and that seven other members would be selected from "persons acquainted with the needs of aeronautical sciences, either civil or military, or skilled in aeronautical engineering or its allied sciences" (Ref. 1). Five major and twenty-two subordinate committees, similarly organized, assisted the Committee in determining policy and programs—total membership, more than 400. One of the subcommittees was on aircraft noise (see Figure 2).

Nongovernmental employees were appointed for a term of five years, with the exception that any member appointed to fill a vacancy that occurred prior to the expiration of a term would be appointed for the unexpired portion of that term.

**Subcommittee on Aircraft Noise**

Mr. William Littlewood, Vice President, Equipment Research,  
American Airlines, Inc., Chairman  
Dr. H. O. Parrack, Wright Air Development Center.  
Dr. H. E. von Gierke, Wright Air Development Center.  
Comdr. B. K. Weaver, USN, Bureau of Aeronautics, Depart-  
ment of the Navy.  
Mr. Joseph Matulaitis, Office of the Chief of Transportation,  
Department of the Army.  
Mr. Stephen H. Rolle, Chief, Power Plant Branch, Aircraft  
Engineering Division, Civil Aeronautics Administration.  
Mr. B. S. Spano, Civil Aeronautics Administration.  
Mr. Arthur A. Regier, NACA Langley Aeronautical Laboratory.  
Mr. Newell D. Sanders, NACA Lewis Flight Propulsion Labora-  
tory.  
Dr. Leo Beranek, President and Bolt, Beranek & Newman,  
Inc.  
Mr. A. W. Cobb, Aerojet-General Corp.  
Mr. Allen W. Dallas, Director, Engineering Division, Air  
Transport Association of America.  
Mr. Harry H. Howell, Transport Division, Boeing Airplane  
Co.  
Mr. E. J. Kirchman, The Martin Co.  
Dr. Robert B. Lawhead, Rocketdyne Division, North  
American Aviation, Inc.  
Prof. R. W. Leonard, University of California  
Mr. M. M. Miller, Chief, Acoustics Section, Douglas Air-  
craft Co., Inc.  
Dr. Charles T. Molloy, Lockheed Aircraft Corp.  
Mr. John M. Tyler, Pratt & Whitney Aircraft, United  
Aircraft Corp.  
Dr. P. J. Westervelt, Assistant Professor, Department of  
Physics, Brown University.  
Mr. J. F. Woodall, Convair, Division of General Dynamics  
Corp.  
Mr. George P. Bates, Jr., Secretary

*From: National Advisory Committee for Aeronautics, Forty  
-fourth Annual Report, 1958, Washington: U.S.G.P.O.,  
1959, p 91.*

Figure 2. Membership of NACA Subcommittee on Aircraft Noise in 1958

On May 21, 1958, current members were:

- Allen V. Astin, Ph.D., Director, National Bureau of Standards
- Preston R. Bassett, D.Sc.
- Detlev W. Bronk, Ph.D., President, Rockefeller Institute for Medical Research
- Leonard Carmichael, Ph.D., Secretary, Smithsonian Institution
- Frederick C. Crawford, Sc.D., Chairman of the Board, Thompson Products, Inc.
- William V. Davis, Jr., Vice Admiral, United States Navy
- James H. Doolittle, Sc.D., Vice President, Shell Oil Co.
- Paul D. Foote, Ph.D., Assistant Secretary of Defense, Research and Engineering
- Wellington T. Hines, Rear Admiral, United States Navy
- Jerome C. Hunsaker, Sc.D., Massachusetts Institute of Technology
- Charles J. McCarthy, S.B., Chairman of the Board, Chance Vought Aircraft, Inc.
- Donald L. Putt, Lieutenant General, United States Air Force
- James T. Pyle, A.B., Administrator of Civil Aeronautics
- Francis W. Reichelderfer, Sc.D., Chief, United States Weather Bureau
- Edward V. Rickenbacker, Sc.D., Chairman of the Board, Eastern Airlines, Inc.
- Louis S. Rothschild, Ph.D., Under Secretary of Commerce for Transportation
- Thomas D. White, General, United States Air Force

### Activities

The Advisory Committee was required to meet twice each year and could meet more often in special meetings called by the chairman or upon the request of five members of the Advisory Committee. The Advisory Committee actually met on an average of 10 times a year (Ref. 6, p. 24). The average attendance at meetings compared creditably with the most strictly run industrial board. The committee set policy and broadly planned a research outline to be carried out by scientists, engineers, and other persons on the staff of the agency. It was given the responsibility for hiring and firing only three people: director, executive secretary, and associate director.

Coordination was carried on largely through the NACA technical committees and subcommittees. These groups were made up of representatives of the military, civil aeronautical agencies of the Government, the aircraft industry, and educational and scientific institutions (Ref. 2, p. 91). Membership for a typical subcommittee is shown in Figure 2.

Technical committee and subcommittee meetings were held two or three times a year. A NACA career employee served as secretary to each of these groups to ensure continuity of proceedings. The purpose of these committees was to exchange information and make recommendations only; they did not share the decision-making power of the main Advisory Committee (Ref 6, p. 24).

### OUTPUTS

NACA published annual reports ending with its 44th and final Report of 1958 (Ref. 5). These reports described both research activities and coordination activities.

In addition, coordination work was performed by the committees and subcommittees; this was largely coordination in the sense of facilitation through exchange of information.

## IMPACT

As mentioned earlier, NACA was both a line organization conducting research for other government agencies (like National Bureau of Standards today) and an advisor to other agencies through its Committee and various subcommittees. In its advisory role, it was more of a technical than a policy advisor, and that is why it did not play a direct role with organizations such as the ACC. Instead, NACA advised ACC members. Nevertheless, its influence was great, because of the prestige of Advisory Committee members, their numerous informal channels of communication, and the private and governmental expertise of the subcommittees.

It was generally recognized that NACA played a key role in aeronautical research and development as well as serving as a link between government and industry (Ref. 3, p. 119). Because of this, it was remembered with nostalgia in the 1960's, when no single authoritative institution of its kind existed any longer (Ref. 4, p. 16).

## MONITORING AND UPDATING OF ORGANIZATIONAL GOALS AND OPERATIONS

For NACA, an 8000-man research agency, this function was performed by the Advisory Committee described previously. In the case of the Advisory Committee, the committee performed this function for itself, but did so effectively: the organization was capable of changing its goals. During the last decade of its existence the NACA research focus gradually moved away from aeronautics and toward astronautics.

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## THE AIR COORDINATING COMMITTEE (ACC)—1945-1960

### ORIGINS AND OUTLINE HISTORY

#### Specific Authorization

The ACC was established by interdepartmental memorandum between the Departments of State, War, Navy, and Commerce. On September 19, 1946, the ACC was reconstituted by Executive Order 9781, which served from then on as its basic charter. Later Executive Orders added full voting members but did not materially change the terms of reference or functions.

#### Preauthorization History

"The demand for the establishment of an Air Coordinating Committee or some alternative mechanism for interagency coordination became increasingly insistent as the number of federal agencies with a substantial interest in aviation matters grew. However, an immediate factor in the creation of the Committee was the urgent need for a means of developing and coordinating the positions of the United States in connection with the Provisional International Civil Aviation Organization (PICAO) and after April 1947, the International Civil Aviation Organization (ICAO). For some time after the formation of the Air Coordinating Committee it met weekly to develop the United States positions on the numerous annexes under consideration by PIACO and the succeeding permanent organization" (The Finan Report, p. 2). \*

\*In 1954 the Chairman of the ACC, Robert Murray, asked BOB to review ACC organization, functions, and operations. William F. Finan, BOB Assistant Director for Management and Organization, directed the Study, which was completed in November 1954. The Finan Report, Survey of the Air Coordinating Committee, will be referred to as Ref. 1 throughout the rest of this section. Major excerpts from the Finan Report are to be found in Appendix C.

### Outline History

A detailed but not exhaustive outline history may be found as Appendix A.

In brief:

- ACC established by interdepartmental memorandum Mar. 27, 1945
- ACC formally established by President Truman in Exec. Order 9781 Sept. 19, 1946
- ACC published a general national aviation policy statement, prepared for the President on behalf of the Executive Branch (Ref. 7) Aug. 1, 1947
- Release of report prepared by ACC for President: Civil Air Policy (Ref. 4) May 1954
- The Finan Report (Ref. 1) Nov. 1954
- Curtis Report proposed ACC eventually be dissolved May 1957
- FAA established by Act of Congress August 1958
- FAA made full member and FAA representative made Chairman of ACC by Exec. Order 10796 Dec. 24, 1958
- ACC terminated by Exec. Order 108883, effective Oct. 11, 1960. FAA charged with winding up ACC affairs and absorbing most ACC functions and personnel Aug. 11, 1960

## OPERATION

### Formulation of Objectives

The main objective of the ACC as set out in Executive Order 9781 of 1946 was "to provide for the fullest development and coordination of the aviation policies and activities of the Federal Agencies."\* E.O. 9781 further specified:

- The Committee shall examine aviation problems and developments affecting more than one participating agency; develop and recommend integrated policies to be carried out and actions to be taken by the participating agencies or by any other Government agency charged with responsibility in the aviation field; and, to the extent permitted by law, coordinate the aviation activities of such agencies except activities relating to the exercise of quasi-judicial functions.
- The Committee shall consult with federal interagency boards and committees concerned in any manner with aviation activities and consult with the representatives of the United States to the Provisional International Civil Aviation Organization or to the permanent successor thereof and recommend to the Department of State general policy directives and instructions for the guidance of the said representatives.

### Membership

The organization of the Air Coordinating Committee (Figure 3) may be viewed as a group of 50 or more interagency committees, many of which were highly specialized, others of short duration. These committees were arranged in at least four levels, headed by the "Top ACC," which were designed to permit the disposition of aviation matters requiring interagency coordination at the lowest appropriate level. At the same time, the hierarchy made it possible to force unresolved matters or questions involving major policy to successively higher levels until a solution was reached (Ref. 1, p. 5).

\* Full text of E.O. 9781 is in Appendix B.

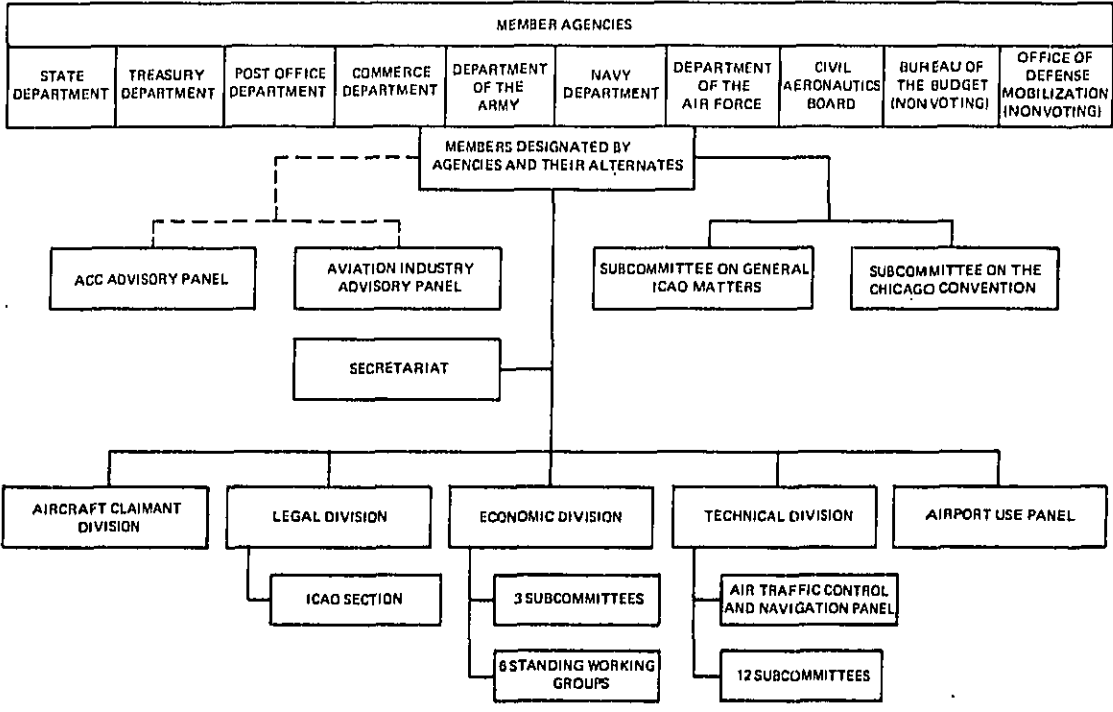


Figure 3. Air Coordinating Committee Organization in 1954.

3-12

The original member agencies in the Top ACC were:

- Voting Members: Dept. of State  
Dept. of War (later replaced by individual Army and Air Force memberships)  
Post Office Dept.  
Commerce Dept.  
Civil Aeronautics Board
- Nonvoting Members: B. O. B.  
Office of Defense Mobilization

Added later were:

- Voting Members: Dept. of the Air Force (added earlier; removed; reinstated 1950)  
Treasury Dept. (1948)
- Nonvoting Members: Office of Defense Mobilization

Other federal agencies could become voting ad hoc members when the subject concerned aviation matters of substantial interest to them. They also had membership on some ACC components. Heads of member agencies appointed their representatives to ACC. They were usually of subcabinet rank, on the assistant secretary or deputy under secretary level. The President of the U.S. chose one of the members to be chairman. The above members constituted the Top ACC.

Each high-level member also had one or more alternate members who attended meetings and voted in his absence. The alternates were also formally responsible for handling most of the decision making on the ICAO portion of ACC business (Ref. 1, p. 4). All decisions of the top Air Coordinating Committee were reached by unanimous vote. In the event of a disagreement among the members of the Committee, the matter could be referred to the President for a decision. Throughout its history the committee meetings fluctuated in

frequency from the weekly sessions of 1945 and 1946 to meetings spaced somewhat less than monthly by the 1950's (Ref. 1, p. 2). Principals of sub-cabinet rank were frequently absent from Top ACC meetings.

Below the level of the top members and alternates were four divisions (see Figure 3). In theory, and to a degree in practice, the members of the divisions were relatively high-level officials better equipped to speak for their agencies than the members of many of the subcommittees (Ref. 1, p. 4).

Decisions of the lower committees were arrived at also by unanimous vote. In case of dissent, matters were automatically referred to the next higher level.

Most of the groundwork in the preparation of ACC papers and in resolving and clarifying issues took place in the subcommittee, in standing work groups and ad hoc committees, and in groups established by and under the divisions. The technical division alone had 12 established subcommittees exclusive of the Air Traffic Control and Navigation Panel, and many of these had working groups and ICAO sections. The Aviation Meteorology Subcommittee of the technical division had, for example, five active working committees dealing with specialized fields of aviation meteorology.

There was also an Airport Use Panel and an Air Traffic Control and Navigation Panel. The Air Traffic Control and Navigation Panel occupied a position under the technical division, but its responsibilities for coordinating the development of the Common System made it one of the most active of the ACC components (Ref. 1, p. 4).

#### Activities

The coordination of international aviation matters continued to be a major function of the Air Coordinating Committee, with some subcommittees still spending as much as 90 percent of their effort on ICAO items. However, as the annexes to the Chicago Convention were developed and approved, and as the major United States policy positions on international civil aviation matters

were determined, the relative importance of the work of the Committee in the international aviation field began to decline.

The coordination of military and civil aviation policies, programs, technical standards, and procedures assumed a greater importance in the work of the Air Coordinating Committee not only because of somewhat reduced pressure from International matters but also because of the expanded use of aircraft and advances in air navigation systems, instruments, and procedures. With only one airspace, the military and civil users and regulators found it impossible to go their separate ways. Therefore, the entire complex of problems involving airspace, a common navigational system, communications, aerodromes, and related matters had to be subjected to continuous and, in some instances, meticulous interagency coordination (Ref. 1, p. 3).

Policy issues in the economic field were also considered. Many committees handled voluminous casework. In 1959, ACC distributed 231 documents, 690 working papers, and 402 ICAO letters to an average of over 50 recipients for each. In the same year the Airport Use Panel decided 58 separate airport or runway location questions (Ref. 5, pp. 56-50).

#### Staff

The following description is from the Finan Report of 1954:

The Air Coordinating Committee is one of the few interagency groups in the executive branch served by an independent, full-time secretariat. The secretariat is charged with performing a wide range of facilitative functions including recording actions taken at meetings, arranging for meetings of ACC components, circulating papers to be considered on an informal action basis or in actual meetings, assisting in the scheduling of items for consideration, helping the chairmen of ACC components increase the effectiveness of their respective units, calling attention to deadlines on matters pressing for ACC action, and a large number of related activities. The secretariat also is responsible for maintaining certain records, such as current airspace maps utilized throughout the Government. Although there are about 25 employees on the staff of the independent secretariat, this group provides only a part of the facilitative work done on behalf



of the Air Coordinating Committee. Most of the subcommittees, working groups and standing working committees have secretaries provided by the agency with the major interest. Some, like the Aviation Meteorology Subcommittee, have special secretarial arrangements because of their relationship to other non-ACC interagency committees. Nevertheless, the major components, that is, Top ACC, the divisions, the panels and such vital subcommittees as those on airspace, search and rescue, facilitation of civil aviation, and international aviation facilities are served by the independent secretariat (Ref. 1, p. 5).

The 1955 budget for ACC was \$174,000. It was contributed pro rata by member agencies (Ref 1., p. 19).

#### Contractors

There was no direct use of contractors.

#### Relations with Other Groups

The ACC was always regarded as a central forum in which industry could be heard. As early as 1946 an ACC Industry Advisory Panel had been organized at the request of industry. At the end of its organizational life, the benefits of ACC as a forum were still being emphasized by government officials. The reaction of industry was to press for as much influence as possible in ACC bodies. Participation was restricted. At times, various elements of industry sought the right to vote. Although the situation varied from committee to committee, industry nonvoting members appeared to vote in some committees, while in others their dissent had "the automatic effect of forcing the matter to a higher echelon--the equivalent of a vote" (Ref. 1, p. 44). The Finan Report was critical of the lack of uniform enforcement of ground rules for industry participation (Ref. 1, pp. 43-47).

At the same time, industry preferred, when possible, to move the forum to another organization in which it had full voting rights: the Radio Technical Commission for Aeronautics (RTCA). According to the Finan Report of 1954:

The Radio Technical Commission for Aeronautics was organized in 1935 through the initiative of the Department of Commerce and is now a nonprofit cooperative association composed of federal agencies concerned with aviation communications and industrial organizations with a similar interest. The Executive Committee consists of representatives of eight federal agencies and seven industrial organizations. The Assembly has about ninety private firms and associations and eight federal agencies in its membership.

The Radio Technical Commission for Aeronautics has provided a means of bringing to bear the knowledge and advice of experts from both industry and the Government on matters relating to radio aids to air navigation, communication, and traffic control. It has conducted a number of studies of the "state of the art" in its field of interest.

In 1947, the Air Coordinating Committee requested the RTCA to undertake a study of the airway problems which were handicapping the development of postwar civil aviation. RTCA established Special Committee 31, which, after thorough study, recommended the establishment of a single all-weather traffic control system. The report further proposed the creation of a permanent Air Traffic Control and Steering Committee to assure continuity in the implementation of the common all-weather system. The present Air Traffic Control and Navigation Panel was established to implement the report and was placed under the Air Coordinating Committee.

The fact that industry has full membership and a vote in RTCA inclines some of the non-governmental participants to prefer it over the Air Traffic Control and Navigation Panel (NAV Panel), as a forum in which to take up matters affecting the common system. On June 8, 1954, with the affirmative vote of the Government members, RTCA established a Steering Committee on a permanent basis to redefine the requirements of the common system. This development has brought into the fore the issue of NAV Panel-RTCA relationships. There is now a risk of friction between elements of the two groups, and the latent uncertainty as to the role of each has been accentuated (Ref. 1, p. 40).

In relations with Congress, the original ACC view was that the ACC, rather than BOB, should provide final coordination of the views of the Executive Branch on draft legislation to be presented to Congress, and "this view had some support in Congress" (Ref. 1, p. 21). However, when Congressional efforts began to give the ACC statutory recognition,

The dangers to the Air Coordinating Committee from becoming an agency in direct communication with Congress were eventually perceived, and the Committee ceased attempting to coordinate the reports of member agencies on pending bills (Ref. 1, pp. 21-22).

For each of its participating agencies, one liaison official of the agency was designated as the contact point for channeling communications to and from the ACC and for coordinating those agencies' numerous representatives to various ACC committees.

## OUTPUTS

### Reports

Annual reports were submitted to the President by January 31 of each year. E.O. 9781 also provided for interim or special reports upon request, such as the Civil Air Policy Report of 1954 (Ref. 4).

### Proposed Laws and Regulations

The ACC did not propose laws but did, in fact, propose regulations and commented on regulations under consideration by member agencies.

### Public Relations and Information Dissemination

ACC documents and reports were directed towards the decision makers in government and industry rather than towards the general public. There was no public information program as such.

### Coordination of Federal Agency Activities

There were two types of coordination outputs: (1) issues referred to the President because no agreement could be reached; and (2) "decisions" unanimously agreed to, which were to be implemented by the appropriate member agencies. The areas in which these decisions were most numerous included ICAO policy questions, airport or runway location issues, and obstruction (radio tower) issues.

### IMPACT

#### Legislation, Regulations, Executive Orders

While implementation was up to the President (executive orders) or member agencies (regulations) there is little doubt that the ACC had a decisive influence on many small but important rules, orders, and regulations. It is also clear, however, that it had only an indirect influence on the major legislation of the 1950's, which led to the transfer of functions from existing agencies to the FAA. That is, the Harding and Curtis groups used the expertise of the ACC as one input but made their own decisions. Those decisions eventually led to a drastic curtailment of the coordinating mechanisms, including the ACC itself.

#### New Organizations or Major Changes in Existing Organizations

Because of the collective nature of its decision-making process (including the unanimity rule), the ACC tended to recommend the expansion of the scope of existing member agencies rather than the creation of new ones. Most typically, it was never able to address itself to major jurisdictional questions. For example, the 1954 Report on Civil Air Policy that the ACC sent to the President was full of generalities concerning what should be done. However, because member agencies could not agree, there were no recommendations on specific agency tasks and deadlines. (For details, see p. 31 of the Finan Report in Appendix C.)

### Coordination of Federal Agency Activities

The two types of coordination outputs were: (1) issues raised to the President and (2) unanimous decisions to be implemented by a member agency.

The ACC did not function well as a mechanism for presenting unresolved interagency disputes for Presidential decision. It was evidently recognized by each agency that if one member persisted in forcing a Presidential decision in which it might gain and other agencies lose, other agencies would do the same in return. It was safer not to rock the boat. Instead there seemed to be two patterns. Either intractable problems were avoided or else agencies compromised incompatible positions to achieve some sort of "decision." In the latter case, the decision was not likely to be as well-reasoned as the original positions, or to really solve the problem.

As to implementation of decisions by members, the ACC had problems seeing that implementation actually occurred. When agency representatives were of insufficiently high rank, they were less able to (a) get their agency to bring problems to the ACC or (b) get their agency to fulfill commitments made at the ACC (Ref. 8, p. I-514). The Department of Commerce implemented ACC decisions better than the military branches because its representative on the Top ACC was of very high rank in DOC and actively participated in ACC. There were other factors in the Commerce performance, however, Commerce had a deep interest in ACC because it ran large parts of the federal aviation program including CAA and the Weather Bureau; CAA voluntarily did much of the ACC staff work; and Commerce also provided office space for the ACC Secretariat. All of these close ties made it more likely that ACC decisions would take Commerce's interests into account, in turn making Commerce more inclined to implement ACC decisions. As the Finan Report summed it up:

The Air Coordinating Committee cannot compel member agencies to implement its decisions. These agencies should, therefore, arrange individually to assure that implementation does take place or that the Committee is advised of obstacles which justify reconsideration of a decision.

One of the criticisms of the Air Coordinating Committee is that it has, on occasion, failed to implement its decisions. Such criticism cannot appropriately be leveled against the Committee for it neither has, nor should have, mandatory powers over its member agencies. It is nonetheless true that in the long run the standing and effectiveness of the Air Coordinating Committee will be strongly influenced by the seriousness with which participating agencies carry out their roles in the implementation of the decisions in which they take part. The most satisfactory approach would thus seem to be for each agency to establish the internal procedures required to advise appropriate officials of the Air Coordinating Committee's decisions and to follow up on actions taken pursuant thereto (Ref. 1, p. 26).

In general, then, the ACC was useful as a mechanism by which

representatives of various Federal agencies meet to debate and, whenever possible, coordinate action on pressing current problems (Halaby in the Harding Report, full text at Appendix I).

As such, it successfully resolved many routine matters. It was also useful for communicating to the top level of the Executive Branch a picture of policies that participating federal agencies were prepared to propose and implement. It was not useful in communicating problem issues to the top level, however. If the Executive Office had wanted the ACC to perform this function, it should have taken more positive steps to induce the ACC to surface the "important" issues. It also should have become more involved in resolving some of these issues so that the ACC could proceed. The ACC by its nature could not perform alone other essentials of effective government action such as coordinated budgetary planning and a unified approach to Congress for appropriations. Evidently, BOB did not completely fill the gap, either because of lack of interest or resources or because member agencies did not present their budgets to BOB in a form that made control possible (e. g., insufficient differentiation of budgetary line items, particularly in military budgets).

At any rate, rapid advancements in the number and speed of aircraft in the postwar years made continuous and rapid improvement of the air facilities system necessary. The ACC mechanism, with its slow progress of issues

from lower to higher levels of committees, became less useful as this particular problem became more acute. The ACC was unsuccessful in reorganizing itself in ways that were within its power. Besides, it was unable to reorganize in any way that would interfere with statutory responsibilities conferred by Congress on individual members like the CAB. Thus the stage was set for the Harding and Curtis Reports and the reorganization by Congress that followed.

#### MONITORING AND UPDATING

##### Monitoring Progress Toward Objectives

The agency liaison officers, together with individual agency representatives to particular committees, were supposed to monitor progress toward objectives embodied in ACC decisions. As critic N. E. Halaby pointed out in the Harding Report, ACC groups often disbanded after writing reports and recommendations, and did not continue to review progress and keep operational requirements up to date (Appendix I, p. 32). The annual reports were also mechanisms for reviewing progress of the ACC bodies and, to a lesser extent, progress of agencies in implementing ACC decisions.

##### Updating Objectives

The entire four-level committee structure was the day-to-day mechanism for revision of specific objectives. Review of policy objectives in their entirety was largely induced by outside requests for special reports, such as the 1947 (Ref. 7) and 1954 (Ref. 4) presidential requests for statements of overall national aviation policy.

##### Revision of Organizational Structure

There were at least two points at which review occurred: in 1954, when ACC Chairman Murray asked BOB to evaluate the ACC organization (Ref. 1) and in 1957, when the ACC prepared a Statement of Organization Functions and Procedures (Ref. 2). The BOB Report of 1954 endorsed the basic goals,

structure, and usefulness of the ACC but also made many recommendations for improving it. (A complete set of the recommendations and the rationales for them is in Appendix C.) There is evidence (Ref. 2) that the ACC attempted to implement many of the recommendations that were directed toward it, including the regularization of industry-ACC relations, the addition of a management committee (which ACC called the Executive Council instead), the addition of the FCC as a full member, and the strengthening of machinery to encourage individual agencies to consult the ACC before making irreversible program and hardware commitments (Ref. 2, p. 23). On the other hand, fewer recommendations directed at the member agencies were adopted. For example, the Post Office was unwilling to remove itself from full membership, unnecessary memberships on committees continued, and ACC time was still burdened with bilateral matters between agencies that could have been settled elsewhere. Also, no Executive Order revising the charter of the ACC was issued.

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## NATIONAL AERONAUTICS AND SPACE COUNCIL (NASC)—1958-1973

### ORIGINS AND OUTLINE HISTORY

#### Specific Authorization

Established by the National Aeronautics and Space Act of 1958 (July 29, 1958; 72 Stat. 427; 42 U.S.C. 2471)

#### Preauthorization History

In the context of the space race with the U.S.S.R., a lead agency was being sought to put the U.S. into space. The agency chosen was an offshoot of the National Advisory Committee for Aeronautics (NACA), which, since 1915, had conducted research and played an advisory and coordinating role for national aviation research and development. The old NACA became the new NASA, a line agency with a mission in space. The NASC, which was created by the same act that established NASA, was supposed to take over the old NACA advisory role. It was first envisaged that the NASC (in initial legislation termed a board instead of a council) would be organized along the lines of the NACA (see section on NACA, Ref. 1). But the NASC that emerged was a cabinet-level committee chaired by the President (later the Vice President) with a sweeping mandate to coordinate "aeronautical and space activities by Federal Agencies" (Ref. 2).

#### Outline History

- Created 1958
- Amended (Vice President instead of the President to be Chairman) 1961
- Secretary of Transportation made a member 1970
- Abolished by Presidential reorganization, imposed by Congress 1973

## OPERATION

### Formulation of Objectives

The objectives of the NASC were spelled out in Section 201 of the National Aeronautics and Space Act of 1958:

(d) It shall be the function of the Council to advise the President with respect to the performance of the duties prescribed in subsection (e) of this section.

(e) In conformity with the provisions of section 102 of this Act, it shall be the duty of the President to--

(1) survey all significant aeronautical and space activities, including policies, plans, programs, and accomplishments of all agencies of the United States engaged in such activities;

(2) develop a comprehensive program of aeronautical and space activities to be conducted by agencies of the United States;

(3) designate and fix responsibility for the direction of major aeronautical and space activities;

(4) provide for effective cooperation between the National Aeronautics and Space Administration and the Department of Defense in all such activities, and specify which of such activities may be carried on concurrently by both such agencies notwithstanding the assignment of primary responsibility therefore to one or the other of such agencies; and

(5) resolve differences arising among departments and agencies of the United States with respect to aeronautical and space activities under this Act, including differences as to whether a particular project is an aeronautical and space activity (Ref. 2, p. 3).

Despite this broad mandate, NASC proved more active in space-related questions than in aeronautical affairs. Between 1968 and 1970, NASC, encouraged by Congress, reformulated its specific objectives to play a larger role in aeronautical policy affairs, specifically by identifying research gaps detrimental to aviation and by playing a coordinating role between the agencies to assist in filling the gaps (Ref. 5., pp. 29-31).

### Membership

The members of the NASC were to be:

- The President of the United States (after 1961, the Vice President)
- The Secretary of State
- The Secretary of Defense
- The Administrator of NASA
- The Chairman of the AEC/Director of National Science Foundation
- One other member from a federal department or agency
- Three individuals from private life, eminent in "engineering, technology, education, administration or public affairs"
- After 1973, the Secretary of Transportation.

### Activities

Annual budgets stabilized at about half a million dollars (\$500,000 for FY '64; \$480,000 for FY '73).

The main focus of the NASC was to coordinate the efforts of all federal agencies with respect to U. S. goals in space and aeronautics. However, meetings proved to be infrequent because membership was made up of such high-level officials. In 1960 abolishment of NASC was proposed. But it remained, largely because alternative plans under consideration by Congress were discarded for one reason or another (Ref. 3). In 1961, on the recommendation of President Kennedy, an Act of Congress made the Vice President chairman of NASC.

After the creation of the Department of Transportation in 1967, DOT representatives participated in NASC meetings until DOT was made a full member in 1970.

### Staff

NASC was housed in the Executive Office. The staff was small relative to the size of the NASC mandate and had to depend on the support of other agencies to do its work (Ref. 5, p. 30). The staff was headed by an executive director (Mr. E. C. Welsh; after 1969, ex-astronaut William Anders). Staff expansion coincided with advent of the CARD study, enabling NASC to establish liason with the CARD group.

### Use of Contractors

The published literature does not indicate use of contractors.

### Relations with Other Groups

It was the primary function of NASC to interact with other federal agency groups. Relations with industry were evidently minimal until the 1969 expansion of staff. One CARD Study recommendation was the increased use of NASC as an interface with industry, presumably in the style of the old NACA (Ref. 6, pp. 6-9).

Relations with Congress included annual testimony at appropriations time and, from 1968 on, almost continual encouragement from the sympathetic House Committee on Science and Astronautics to play a larger role in coordinating aviation research and development (Ref. 5, pp. 24-31).

### OUTPUTS

The primary output required of the NASC was furnishing advice to the President (later, the Vice President) when asked.

Until the mid-1960's other NASC outputs apparently consisted of providing a forum for exchange of information about space programs, and disseminating to the public information about them, various Executive reports on space policy projections were also produced.

After 1967-68, NASC staff provided some advice on the conduct of the CARD Study (Civil Aviation Research and Development) initiated in August 1968 by interagency agreement between NASA and DOT. The subject matter of CARD was precisely the area in which NASC had newly formulated interests (as previously mentioned under the heading Formulation of Objectives). With regard to this study, NASC saw its contributions as twofold:

1. To monitor to identify gaps in the subject outline while the study was going forward;
2. Together with DOT and BOB, to "consider the appropriate level of federal government involvement in aeronautical R & D" (Ref. 5, pp. 40-41).

#### IMPACT

As time went on, despite its expanded aeronautical role after 1969, NASC did not have the reputation of playing an influential role in formulating national policy, even on space matters. As P. W. Charington, an official of DOT during the period, put it in 1972:

In point of fact the Space Council, which is chaired by the Vice President and has a small staff of its own, appears to have been only moderately active in recent years. It has become largely an information exchange on the space program and a public relations vehicle (for space shots and the like), rather than a focal point for major policy coordination and decision-making, en route to the President (Ref. 4, p. 1-529).

Although the CARD Study recommended that NASC be strengthened and used more for coordination in the future, the CARD Study organization roster does not suggest that NASC staff played an overt role in shaping or influencing the study itself (Ref. 6, pp. II-3 to II-11).

NASC was abolished by President Nixon's Reorganization Plan No. 1 of 1973, effective July 1973. The reason advanced for its abolition was that the urgent need for NASC to advise the President on space matters no longer existed.

The NASC may have served a useful purpose vis-a-vis space problems, but its mandate in the area of aeronautics was ignored and its potential for playing a strong coordination role in achieving a unified national aviation policy was never fulfilled.

#### MONITORING AND UPDATING OF ORGANIZATIONAL GOALS AND OPERATIONS

##### Monitoring Progress Toward Objectives

Congress provided some monitoring of NASC from time to time (Ref. 3, 5).

##### Updating Objectives

As mentioned previously, the objectives of NASC were reviewed by Congress in the 1967-1970 period and NASC set itself the goal of taking a larger role in coordinating federal aeronautical research and development.

##### Revision of Organizational Structure

Revision occurred once in 1960, when Congress passed legislation making the Vice President instead of the President the chairman of NASC.

#### REFERENCES

1. U. S. Congress, House, The National Space Program Report of the Select Committee on Aeronautics and Space Exploration, House Report 1758, 85th Cong., 2nd Sess., May 21, 1958.
2. U. S. Congress, House, National Aeronautics and Space Act of 1958, House Report 2166, 85th Cong., 2nd Sess., July 15, 1958.
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4. Cherington, Paul W., "Memorandum on Government Organization for Civil Aviation," in Aviation Advisory Commission staff and consultants,

The Long Range Needs of Aviation, Technical Annex to the Report of the Aviation Advisory Commission, January 1973, Vol. 1, pp. 1-507 to 531.

5. U. S. Congress, House, Issues and Directions for Aeronautical Research and Development, Report of the Subcommittee on Advanced Research and Technology of the Committee on Science and Astronautics, U. S. House of Representatives, House Report 91-932, 91st Cong., 2nd Sess., March 23, 1970.
6. U. S. Department of Transportation and National Aeronautics and Space Administration, Civil Aviation Research and Development Policy Study, DOT TST-10-4 and NASA SP-265, Washington, D. C., March 1971.



## AERONAUTICS AND ASTRONAUTICS COORDINATING BOARD (AACB)—1960

### ORIGINS AND OUTLINE HISTORY

#### Specific Authorization

Established in 1960 by an administrative agreement between NASA and DOD in July 1960. This eliminated the need for a section in a House bill (H.R. 2049) then pending (Ref. 4).

#### Preauthorization History

The specific institution established in 1958 for coordinating aeronautical and space research and development activities of NASA and DOD was the Civilian-Military Liaison Committee (CMLC). Although some effective NASA/DOD coordination was occurring informally, the CMLC had not worked as an institution, and the AACB was created in its place. In fact, the AACB institutionalized the informal coordination machinery that had evolved (Ref. 3, p. 171).

### OPERATION

#### Formulation of Objectives

The main goal was to ensure that NASA and DOD continued to "advise and consult and keep each other fully informed with respect to space activities and related research and development within their respective jurisdictions." Specifically, the AACB was responsible for:

- Avoiding undesirable duplication
- Coordinating activities of common interest
- Identifying problems requiring joint solution
- Exchanging information.

#### Membership

As it was established, the Deputy Administrator of NASA and Director of Defense Research and Engineering co-chaired the Board.

### Activities

The AACB was a managerial type of joint NASA/DOD coordinating board, following a formerly successful pattern already practiced by the two agencies. Because the AACB followed the unsuccessful CMLC, great care was taken in designing its method of operation. The CMLC had suffered from being a third party organization with an independent chairman who evidently had no power base of his own in either organization. Moreover, some branches of the military service were unhappy because they were not directly represented and because the duties of the CMLC were not defined specifically enough.

Before making its decision in regard to the Board, the Committee considered several alternatives, including the establishment of a Military Applications Division within NASA similar to the structure within the Atomic Energy Commission. There appeared to be sufficient differences, however, between NASA's operations and those of the AEC to make such an arrangement impractical. Corollary thought was given to a statutory requirement that NASA and the Department of Defense each establish a panel of technical experts to be permanently assigned to the other agency and to operate under the general supervision of the Board, thereby accomplishing some of the desirable effects of the Military Applications Division-type organizational structure. This idea was not pressed because both NASA and the Defense Department felt it would be unwise to establish such reciprocal panels on a permanent basis, and because the Committee desired to afford the greatest opportunity to responsible officials of both agencies to develop satisfactory interrelationships unencumbered by too much legislative detail.

Testimony provided the committee indicates that coordination of the kind contemplated for the Board is now being undertaken informally, and with general effectiveness, by the two agencies. Nevertheless, the bill is designed to insure that the mechanism of coordination and the responsibilities of the Board be formalized. It is intended that within its proper sphere the Board be a policy and decision-making body, with working groups operating under its supervision.

As established by the bill, the Board would operate under the direction of officers who have managerial functions and

immediate authority to make decisions and get things done. Thus, it is expected that the Board, with the assistance of its working groups, can cut delay, red tape, and duplication of effort to a minimum. The more specific duties imposed on the Board, together with the avoidance of the 'third party' status which has plagued the CMLC, should make the new concept more effective (Ref. 1, p. 6).

The AACB meets regularly—in 1973, for example, it met four times. In September 1972, the AACB was co-chaired by Dr. John S. Foster, Jr., Director of Defense Research Engineering, and Dr. George M. Low, Deputy Administrator of NASA. Besides the Board itself, which is concerned with the broad spectrum of DOD/NASA interaction, there are two panels that are concerned with aeronautics:

- Aeronautical Vehicle Panel
- Supporting Research and Technology Panel

The AACB is not the only DOD/NASA channel. In addition to it, one option earlier considered and rejected by Congress—Military Aircraft Programs Office within NASA—was established to serve as a focal point for NASA programs directly supporting military efforts. Also, DOD technical advisory councils use NASA personnel, and vice versa.

Coordination activities of AACB range from joint testing or development projects to joint planning of new facilities. On joint projects coordinated by the AACB there is no set pattern of contribution; on some projects NASA provided hardware and DOD funds, on others the converse was true. No particular effort is made to keep a detailed set of accounting books for relative contributions of the two agencies. DOT and FAA observer participants are invited to AACB whenever interests overlap.

#### IMPACT

Two results of AACB efforts were cited before a Congressional Committee in September 1972. First, the Army was using some NASA facilities instead of building its own. Second, NASA and DOD had agreed on the three new major

national test facilities to be built for use of DOD, NASA, industry, and others (Ref. 2).

A further accomplishment of AACB was contributing to decisions on development roles for the space shuttle (Ref. 5, p. 4-1).

The AACB gives the impression of being an effective coordinating body (Ref. 6, p. 23). Perhaps coordination is facilitated by the availability of resources, e. g., NASA has underutilized facilities to lend. Also, the two-agency coordination is probably less difficult than multiagency coordination would be.

#### MONITORING AND UPDATING

Feedback and revision of AACB apparently occurs in two ways.

First, it occurs through testimony before Congress, such as that contained in the September 1972 Congressional review of the CARD Study (Ref. 2). The approval or disapproval of an influential congressional committee carries strong weight with agencies in the executive branch. In this instance, the House Committee on Science and Astronautics approved of the AACB work. In a previous instance, Congress abolished the AACB predecessor, CMLC.

Second, feedback is provided by advisory bodies of both DOD and NASA in the areas of science, research, technology, etc.; this makes outside advice available to the top people. And the institution can be modified by the two agencies concerned either by asking Congress for legislation or simply by adding parallel institutions, such as NASA's Military Aircraft Programs Office, by administrative order.

However, except for the annual appropriations hearing ritual before Congress, there is no regular institution for providing outside review or self-review for an organization like the AACB.

#### REFERENCES

1. U.S. Congress, House, National Aeronautics and Space Act Amendment of 1958, House Report 1633, 86th Cong., 2nd sess., May 19, 1960.
2. U.S. Congress, House, Subcommittee on Aeronautics and Space Technology of the Committee on Science and Astronautics, Civil Aviation Research and Development: Policies, Programs and Problems, House Report, 92nd Cong., 2nd sess., September 1972.
3. Rosholt, Robert L., An Administrative History of NASA, 1958-1963. Washington, D. C., NASA, 1966.
4. Aviation Daily, September 15, 1960, p. 84.
5. U.S. Department of Defense, "Statement by the Director of Defense Research and Engineering before the Senate Committee on Aeronautical and Space Sciences, 93rd Cong., 2nd sess., 1974," (Statement by Dr. Malcolm R. Currie).
6. U.S. Congress, House, Issues and Directions for Aeronautical Research and Development, Report of the Subcommittee on Advanced Research and Technology of the Committee on Science and Astronautics, U.S. House of Representatives, House Report 91-932, 91st Cong., 2nd sess., March 23, 1970.

INTERAGENCY GROUP ON INTERNATIONAL AVIATION (IGIA)—1960-Present

ORIGINS AND OUTLINE HISTORY

Specific Authorization

IGIA was established on December 9, 1960 by a formal interagency agreement between the Federal Aviation Administration (FAA), Department of State (DOS), Department of Commerce (DOC), Department of Defense (DOD), and Civil Aeronautics Board (CAB). It was founded in accordance with a memorandum from the President dated August 11, 1960.

Preauthorization History

IGIA was created because of the Department of State's need for coordinated recommendations from all federal agencies on international aviation matters of substantial concern to the agencies. These recommendations were used by the Department of State when formulating instructions for U.S. representatives to the International Civil Aviation Organization (ICAO).

Outline History

- |   |                  |
|---|------------------|
| ● Presidential memo                                       | August 11, 1960  |
| ● Interagency agreement                                   | December 9, 1960 |
| ● DOT assumes FAA's IGIA duties per Executive Order 11332 | November 1967    |
| ● EPA becomes full member                                 | 1973             |

OPERATION

Formulation of Objectives

The objective of IGIA is to provide DOS with recommendations on international aviation matters (mostly ICAO) affecting two or more agencies in addition to DOS.

### Membership

Permanent members are cabinet-level agencies: DOT (Chairman), DOS, DOD, DOC, CAB, and EPA. In addition, other agencies may become ad hoc members with full privileges when matters of substantial concern to them are considered. All representatives to IGIA must be policy-level officials. Other agencies who have designated their ad hoc representatives include OMB, Department of the Treasury, HEW, Agriculture, Post Office, Justice, FCC, and NASA.

### Activities

The budget of IGIA is included in the budget of the Office of International Aviation Affairs (OIAA) of DOT.

Incoming case material may come from other federal agencies or from U. S. representatives to ICAO and its regional organizations. The IGIA Secretariat designates the action agency, gives it the case material, and provides information copies of the material to member agencies. The action agency consults with all interested agencies as well as industry and prepares draft United States Position Papers for the IGIA Secretariat. The Secretariat reproduces and distributes the drafts to IGIA member agencies for approval with a Request for Approval or Comment. Normally, drafts are approved by this informal action procedure. In cases in which it becomes apparent that there is a major divergence of opinion, the Secretariat arranges, with the IGIA Chairman, for a meeting to consider the case further. The Secretary of State is furnished with the agreed-upon IGIA recommendations, together with any dissenting views a substantially affected agency may wish to have transmitted. The many and diverse functional areas of international aviation for which federal policy is thus coordinated include accident investigation, charts, aircraft airworthiness, communications, air traffic control, navigation, meteorology, facilities, flight rules, and user charges. The IGIA/ICAO actions most directly related to noise to date were (1) the adoption by ICAO of a modified form of

the U.S. FAR 36 regulation for certificating noise emissions of new types of aircraft (the aircraft airworthiness functional area), and (2) the consideration of an ICAO proposal that new propeller-driven aircraft be noise-certificated. Working-level personnel represent their agencies in the various functional areas.

#### Staff

The secretarial staff includes a committee director as well as a principal staff officer.

#### Use of Contractors

Contractors are not used.

#### Relations with Other Groups

Relations with industry are primarily between the designated action agency for a particular case and the industries affected. The action agency must record in its drafts any dissenting views of a substantially affected industry group. When the action agency authorizes it, the Secretariat will circulate IGIA documentation directly to industry for its information. Industry may participate in IGIA meetings only in exceptional cases, by invitation from the IGIA Chairman, as an observer without a vote. Relations with state and local governments, to the extent that they exist, presumably are handled in the same way as relations with industry.

#### OUTPUTS

Outputs of IGIA are in the form of recommendations to the Secretary of State and documentation associated with the preparation of recommendations. When there is no disagreement, the recommendations are in the form of IGIA Final Action Papers. When there is disagreement, the Final Action Paper is issued after the Secretary of State's decision. The IGIA Secretariat also produces and sends directly to U.S. ICAO representatives communications of a



factual (not policy) nature. Papers distributed by the Secretariat to its members for approval or comment are termed IGIA Papers. Materials circulated in draft form by the action agency prior to presentation to the IGIA Secretariat are called Agency Papers.

There is an elaborate number system for IGIA documentation. The basic document for IGIA organization is IGIA O/1A, "Membership-Organization and Procedures of the Interagency Group on International Aviation (IGIA)."

#### IMPACT

IGIA provides policy guidance to ensure that the United States speaks with a single voice at international aviation forums.

#### MONITORING PROGRESS TOWARD OBJECTIVES

IGIA obtains feedback on what happens to its recommendations in the form of reports of U.S. Delegations to ICAO meetings. These reports are submitted to the Secretary of State within 30 days after the close of an international meeting, and also to IGIA, where they are circulated with a covering IGIA paper for approval or comment.

#### REFERENCES

1. IGIA Summary Fact Sheet, April 2, 1970.
2. IGIA, "Membership-Organization and Procedures of the Interagency Group on International Aviation (IGIA)," IGIA O/1A Revision No. 4, September 15, 1969.

FEDERAL AIRCRAFT NOISE ALLEVIATION PROGRAM (OST's Program  
Evaluation and Development Committee (PEDC))— 1966-1967

ORIGINS AND OUTLINE HISTORY

Specific Authorization

Created by OST in cooperation with FAA, NASA, and HUD in response to a directive in the Presidential transportation message of March 2, 1966. DOC became involved shortly after.

Preauthorization History

The aircraft noise problem had existed for some time. Several factors helped make it more visible at this time:

1. Increased acuteness of the problem because of more widespread use of jets.
2. Persistent pressure from certain members of Congress.
3. Entree to the President through high-level staff members of the Office of Science and Technology who were sensitive to the problem (Ref. 3).

Outline History

One-day seminar of government and industry aviation and noise experts (The Jet Aircraft Noise Panel)	October 1965
Presidential transportation message	March 2, 1966
OST Report, <u>Alleviation of Jet Aircraft Noise Near Airports</u> , (The "Green Book")	March 17, 1966
Formation of PEDC, Policy Committee, Management Committee (Federal Aircraft Noise Alleviation Program)	Spring 1966

Creation of four PEDC subcommittees at sixth PEDC meeting;	April 19, 1967
Report of PEDC subcommittees on updating and improving Federal Aircraft Noise Abatement Program	July 3, 1967
Transfer of direction from OST to newly created DOT	Fall 1967

## OPERATION

### Formulation of Objectives

Conclusions and recommendations of the March 1966 OST report set the following objectives:

1. The federal aircraft noise alleviation program will provide for:
  - a. Systematically developing and analyzing alternative solutions to the aircraft-community noise problem;
  - b. Establishing a rationale for selecting a "best" solution;
  - c. Achieving an equitable allocation of costs;
  - d. Establishing Federal financial assistance programs where necessary and appropriate; and
  - e. Establishing a functional organization responsible for analyzing, selecting, and implementing preferred solutions in accordance with a time-phased plan (Ref. 2).

These objectives were to be met in a way consistent with the following general understanding of the problem and general form of the solution:

1. The problem is one of conflict between two groups--the producers of air transportation services and those people living and working in communities near airports. A conflict exists because social and economic costs resulting from aircraft noise are being imposed upon certain land users in the vicinity of airports for which no direct benefits are received.

2. The most rational approach to resolving the conflict is to reduce the adverse effect of noise to the lowest practicable level, and to ensure that incurred costs are allocated in the most equitable and expeditious way possible, and to reduce such costs to a minimum.
3. Solutions to the noise problem should be planned and implemented with a minimum of Federal Government control and a maximum utilization of the resources available to the free enterprise system (Ref. 2).

Dr. Donald Hornig of OST later reported to the President:

Your Transportation Message of March 2, 1966 directed me to work with the Administrators of the Federal Aviation Agency (FAA) and the National Aeronautics and Space Administration (NASA), and the Secretaries of the Department of Commerce (DOC) and of the Department of Housing and Urban Development (HUD), to frame an action program aimed at alleviating the problems of aircraft noise in the vicinity of our Nation's airports. I am pleased to report that a comprehensive program was agreed to on April 29, 1966, and that the participating agencies are working actively to implement its several objectives (Ref. 4, p. 527).

#### Activities, Staff Contractors

Three governmental committees were established to provide policy guidance, industry advise, and means for ensuring interagency cooperation:

1. Policy Committee, composed of heads of participating federal agencies and departments,
2. Program Evaluation and Development Committee (PEDC), composed of representatives of Policy Committee members, with industry experts participating in an advisory capacity,
3. The Management Committee, composed of representatives of participating federal agencies responsible for day-to-day conduct of the program.

The PEDC, under OST, met periodically to review progress, secure industry advice and cooperation, and recommend actions to the Management Committee (Figure 4).

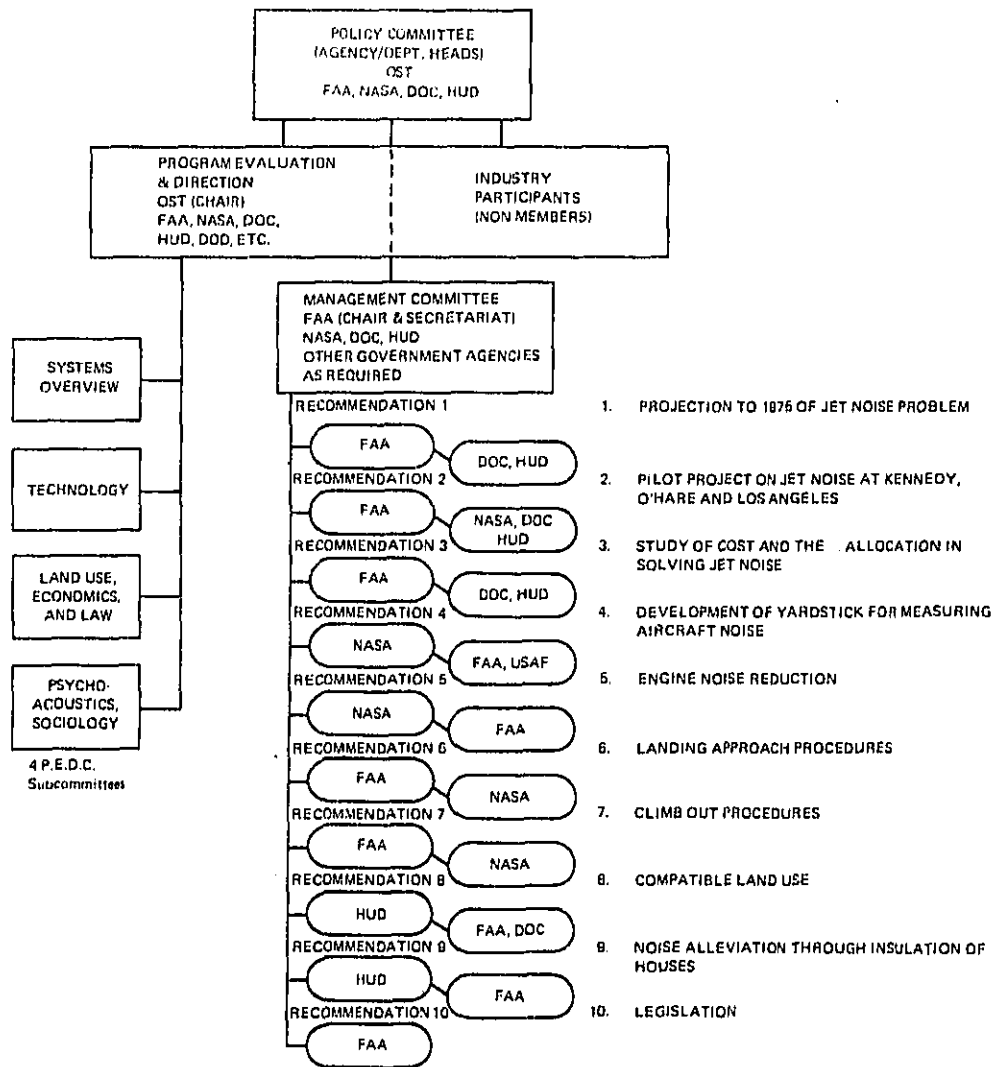
Thus, the PEDC was the coordinating body for information and the development of recommendations; the Management Committee was the interagency coordinating body for implementing programs. The PEDC was a government/industry body. The Management Committee membership was 100 percent government officials. The Management Committee was chaired by and housed in the FAA.

Administrative costs and expenses were paid by OST. Staff was provided by OST as well as by member agencies. Some contract work, paid for by member agencies (e.g., FAA), was used by the PEDC and the other committees.

Such FAA contractors included Bolt, Beranek and Newman (NETs for 1965, 1970, and 1974; August 1967) and University of California at Berkeley (Paul Dygert studies, February 1967). There does not appear to have been any contract work done directly for the PEDC or the other committees and paid for by OST funds. Work initiated by NASA included the 2-year Tracor study.

#### Relations with other Groups

Relations with industry were handled through the PEDC. In fact, industry advisors participated in PEDC as equals, and a caveat in the basic terms of reference (No. 3 in general problem statement) stated that solutions should involve a minimum of government control and a maximum use of the free enterprise system. The objective, which derived naturally from the original OST approach, was to bring key government and industry people together in a completely off-the-record environment in order to arrive at a general approach acceptable to all parties. The persistence of this tone ensured that later parts (recommendations) of the PEDC would be pre-coordinated with industry interests and viewpoints.



Source: U. S. Dept. of Transportation. Office of Noise Abatement. Summary Status Report, Federal Aircraft Noise Abatement Program. April 1, 1968

Figure 4. Organization of FANAP

Relations with Congress, and state and local governments, if any, were not reflected in the formal organization.

Relationships with federal agencies were handled simultaneously at different levels by different committees.

#### OUTPUTS

The original March 1966 OST Report made 10 recommendations (according to Ref. 3):

1. Develop an analysis of noise problems, including formulation of trends at the local airport level (to assist airport operators and communities in coping. . .)
2. Develop a partial alleviation program for use at the local airport level.
3. Decide how additional costs are to be allocated among aircraft manufacturers, airlines, airport operators, aviation users, etc.
4. Develop better measurement methods (physical, acoustical, psychoacoustic, sociological).
5. Reduce engine noise as both a remedial and a preventative measure.
6. Develop quieter landing procedures.
7. Develop quieter take-off procedures.
8. Find a coordinated federal program that would stimulate compatible land use at the local level.
9. (additional recommendation) Evaluate alleviation through the insulation of houses.
10. (additional recommendation) Introduce legislation for aircraft noise certification.

In the year that followed, various member agencies were encouraged to undertake numerous research, demonstration, and test programs as a response to the various recommendations.

A PEDC self-study took place between April and June 1967; the result was the report (Ref. 2) of July 1967, which suggested "re-emphasizing certain aspects of the program and re-orienting others." The "work plan" that stemmed from the report appears as Appendix D. It does not seem to have made any radical changes in the recommendations; it restates the original recommendations, and may be interpreted as giving priority to three specific programs (3a. ". . . the earliest practicable date."):

1. Establishment of noise abatement flight procedures at noise-sensitive airports.
2. Establishment of a retrofit program using immediately available state-of-the-art technology.
3. Modification of federal aid programs to reward communities developing effective, compatible land use plans near airports.

#### IMPACT

While it could be maintained that certain federal actions that occurred later would have happened anyway, there is little doubt that the flurry of activity stimulated within the executive branch by the PEDC and the other committees accelerated these actions. Appendix E contains a summary of part of a status report (Ref. 2) issued by DOT in April 1968, not long after DOT had taken direction of the whole effort.

#### Legislation, Regulations, Executive Orders

Legislation was introduced by the Administration for noise certification of certain new types of aircraft:

1966: S. 359/H.R. 16171

89th Congress/no action

1967: S. 707/H.R. 3400

90th Congress/amended  
version became law



This legislation became P.L. 90-411 in accordance with FAR Part 36, issued by FAA, which became effective in December 1969.

#### New Organizations

FANAP became IANAP within DOT (see page 3-53 of this report).

#### Coordination of Federal Agency Activities

Studies and projects responsive to the ID recommendations of the OST Report were initiated by various member agencies. The ID recommendations were:

<u>Recommendation No.</u>	<u>Work Started/Result</u>
1	NEF studies at 25 airports.
2	Pilot projects at JFK, O'Hare, and LAX (Los Angeles International Airport).
3	Conclusions of Dygert Study and FAA Report 67/WA-1650 of 1967: Federal noise abatement grants to local governments "should be recovered from the aviation industry--in effect from the air travelers and shippers. Such a cost solution would not significantly retard the growth of civil aviation."
4	Methodology for certification extensively developed by NASA and FAA.
5	Numerous contracts to the industry for research or noise reduction, including nacelle acoustic treatment, NASA Quiet Engine, compressor noise reduction, etc.

<u>Recommendation No.</u>	<u>Work Started/Result</u>
6	Two-segment approaches tested including FAA-developed on-board guidance computer for VFR conditions. NASA continued tests of six-degree glide slope.
7	FAA developed and tested a noise abatement take-off profile for four-engine aircraft. "There does not appear to be any constraint that will prohibit implementation of this program" (Ref. 3).
8	Survey of federal agencies organized by HUD showed that over 70 federal programs might be used to give federal leverage on local land use near airports, but that total existing leverage would be slight.
9	Start of HUD-FAA coordination at regional level: Urban Planning Assistance Program and Open-Space Land Program.
9	Noise insulation of houses study prepared by FHA.
10	Noise certification of new aircraft types: FAA government-industry dialogue (the "Blatt letter" of Sept. 1966), ad hoc working groups worked to refine concept. Sixth and final draft finished in Feb. 1968.

The PEDC succeeded in getting things moving. Together with the Management Committee it helped initiate many new research projects. However, except in the case of the aircraft-type certification for noise (far from the most emphasized

of the original objectives), the Management Committee was much less successful in getting its member agencies (e. g., the FAA) to implement abatement programs such as the three priority programs recommended by PEDC in July (see Outputs). The addition of a "research" objective in the April 1968 Status Report is symptomatic of a shift of the program's focus away from programs and toward research studies during and after its move to DOT. For example, one PEDC objective--development of a cost allocation rationale--seemed nearly complete by the end of 1967. But the next logical step--applying it to specific legislative and regulatory proposals--was never taken.

#### MONITORING AND UPDATING

As mentioned earlier, a mid-term self-study review of progress made toward objectives was done by PEDC in July 1967 (Ref. 2). In summary, it proposed specialized subcommittees for PEDC (see Appendix F) and that "the present Management Committee be strengthened at the earliest possible time."

The Federal Noise Alleviation Program moved from OST to become a permanent program under DOT chairmanship in Fall 1967. Combined with the Sonic Boom Panel, which was also transferred from OST, the program was renamed IANAP--Interagency Aircraft Noise Abatement Program.

As mentioned above, the Office of Noise Abatement created within DOT to handle IANAP issued an April 1968 Status Report, which is excerpted as Appendix E. The report monitors progress toward the original OST objectives and updates those objectives. Worthy of attention is the addition of an objective attributed to the March 1966 OST report: coordination of research programs.

#### REFERENCES

1. Stevenson, Gordon M., Jr., The Politics of Airport Noise. Belmont, Calif., Duxbury Press, 1972.
2. U.S. Congress, Recommendations for Updating and Improving the Federal Aircraft Noise Alleviation Program (Executive Summary). Report of the Subcommittees of the Program Evaluation and Development Committee, July 3, 1967.
3. U.S. Department of Transportation, Office of Noise Abatement, Summary Status Report, Federal Aircraft Noise Abatement Program, April 1, 1968.
4. U.S. President, Memorandum to Heads of Departments and Agencies, With the Report of the Science Advisor to the President, "Aircraft Noise and Land Use Near Airports," March 22, 1967.

INTERAGENCY AIRCRAFT NOISE ABATEMENT PROGRAM

IANAP—1968-1973

ORIGINS AND OUTLINE HISTORY

Specific Authorization

Established administratively by DOT as successor to the Federal Aircraft Noise Alleviation Program (FANAP) and the Sonic Boom Panel, both of which were transferred from OST to DOT in Fall 1967 by mutual agreement (Ref. 17 and 28) Specific authority for IANAP, cited by DOT, was the presidential directive that founded PANAP (Ref. 33).

Preauthorization History

The Department of Transportation Act of October 15, 1966 (80 Stat. 931; 49 U.S.C. 1651 note) was the broad authority under which DOT organized its Office of Noise Abatement and took over the coordination of federal activity in the field of aircraft noise abatement. However, the extent of that authority was not clear, and it was a matter of "intense controversy" at the outset (Ref. 27).

Outline History

- DOT established April 1, 1967
- OST's FANAP and Sonic Boom Panel transferred to DOT (Ref. 33) August 25, 1967
- Combined program reorganized and renamed IANAP Early 1968
- IANAP "Summary Status Report . . ." issued for former FANAP Activities and ongoing IANAP activities (Ref. 10) April 1, 1968

- Joint NASA/DOF Office of Noise Abatement (JONA) formed. Head of JONA continued as Chairman of IANAP Coordinating Committee August 1971
- IANAP administratively terminated by DOT. Legislation required the termination of all committees by the end of 1972, unless covered by an Executive Order April 23, 1973

## OPERATION

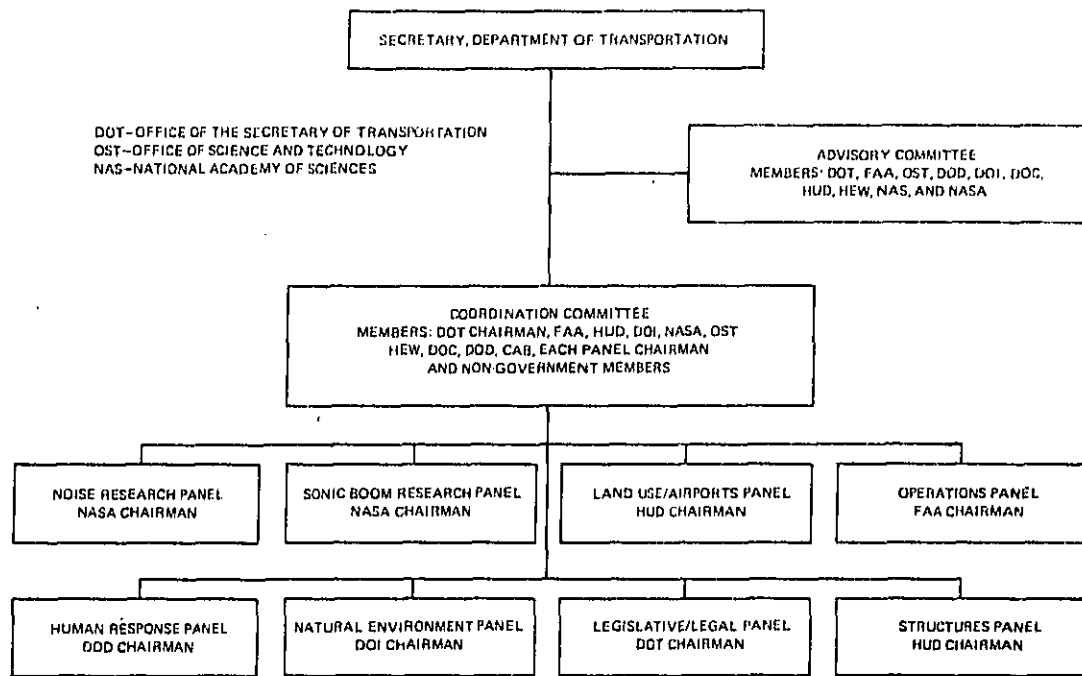
### Formulation of Objectives

The objectives were the same as for FANAP, with the March 1966 OST report cited as the source. The only difference was the addition of an explicit "coordinate research" plank that was implicit in the FANAP (PEDC) statement of its objectives (Ref. 10, pp. 2-3).

### Membership

Membership and organization of IANAP (or at least all but the sonic boom part) as it was inherited from OST is shown in Figure 4. The early organization of IANAP under DOT is shown in Figure 5. As can be seen, the main differences were that membership gradually expanded (DOD, CAB, etc., were brought in) and the four PEDC subcommittees were expanded to eight IANAP panels. Also, PEDC and the Management Committee were merged into the IANAP Coordination Committee, and the Policy Committee became the IANAP Advisory Committee with the same basic function: to resolve, at a higher level, policy problems beyond the competence of the working level Coordination Committee members. Like the previous Policy Committee, it was little used. Total IANAP membership at a typical point in time is shown in Appendix G.

The strong relationship with industry that developed in the PEDC continued unchanged in the IANAP panels right up to the end of IANAP. The panel meetings



SOURCE: U.S. DEPT. OF TRANSPORTATION, OFFICE OF THE SECRETARY  
FIRST FEDERAL AIRCRAFT NOISE ABATEMENT PLAN - FY 1969-1970. NOV., 1969

Figure 5. Organization Structure of Interagency Aircraft Noise Abatement Program, 1968

were sessions at which industry reported to a broader government audience their work conducted under contract or in-house.

Appendix G shows that in early 1972 there were 25 members on the Coordinating Committee, representing 13 different federal departments or agencies. Participating in the Coordinating Committee meetings were the top people from the 11 leading aviation industry groups.

Eight panels were set up in 1968. A proposed reorganization between 1972 and 1973 would have eliminated, or combined with another panel, the activities of the Legislative/Legal Panel, Operations Panel, and Natural Environment Panel.

In 1972 the composition of the panels was as follows:

Panel	Members (Fed. govt. employees)	Advisors (Industry & other nongovt.)	Other (Some fed. employees, some not)
Human Response	9	7	2
Land Use/Airports	5	10	
Legislative/Legal	5	3	3
Natural Environment	9	0	
Noise Research	11	8	
Operations	7	8	
Sonic Boom	9	6	
Structures	8	4	

It can be seen that nonfederal participation varied from panel to panel. The degree to which the member vs. advisor distinction was formalized in documentation also varied. Some individuals participated in more than one panel.

Some panels met more frequently than others. In fact, it seems clear that all aspects of the panels, including membership and operations, were affected to a large degree by inclinations, abilities, and resources of the panel



chairmen. However, it was common practice for member agencies, or their contractors, to present the results and recommendations of specific research projects, often using audio-visual aids. All participants could get copies of materials used at the presentations, together with a short summary report of the actual meeting agenda. The work of compiling, reproducing, and distributing these handouts was done either by the DOT/ONA staff or by the staff of the panel chairman's agency. The meeting summaries, which were done by the panel chairmen, recommended future research and development needed to fill technology gaps and included a brief overview of member and advisor noise-related activities.

The Coordinating Committee met to hear summary reports by panel chairmen concerning the activities of their panels. Once a year the Coordinating Committee issued a report based on the summaries submitted by all IANAP panels, describing the aircraft noise related programs of various member agencies. This report was published as the "National Federal Aircraft Noise Abatement Program" (Ref 12-15). According to its terms of reference, the Coordinating Committee was to review recommendations and programs of the functional panels, endorsing, rejecting, or suggesting modifications in these recommendations, as well as "developing common policy recommendations, establishing priorities and schedules leading to total program integration" (Ref 26, pp. 1-2). Recommendations were to be reached by agreement of all members whose agencies would be parties to actions taken under the recommendation, and in cases of lack of agreement, the matter was to be referred to the Advisory Committee for action (Ref. 26, pp. 3-4). However, a survey of the meeting minutes shows that while reports were heard and discussed, the process did not in practice extend to voting on recommendations or bringing in the Advisory Committee (Ref. 20-25).

The budget of IANAP was that portion of the DOT/ONA budget given for administrative support of IANAP. The time and expenses of all participants, members, or advisors were paid for by their parent organizations. The actual projects and programs discussed at IANAP meetings were those of the member agencies, and they were completely funded by these agencies.

### Staff

Staff support for the IANAP structure came from DOT/ONA. Staff support for the panels came from the panel chairman's agency.

### Use of Contractors

IANAP, as an organization, used no contractors.

### Relations with Other Groups

Relations with various segments of the aviation industry were discussed in the preceding sections: industry initially participated directly in IANAP at every level, \* which led to the diffusion of results of government-sponsored research throughout industry.

IANAP itself had little direct contact with Congress, except insofar as it was mentioned in DOT/ONA or NASA testimony (e. g., Ref. 7, pp. 209-233; "Statement of Charles A. Foster, Director, Office of Noise Abatement, Department of Transportation").

There was some, but not much, state and local representation in IANAP. The U. S. Council of Mayors was represented among the advisors to the Coordinating Committee. About six advisors on the Land Use/Airport Panel represented local jurisdictions. One lawyer on the Legislative/Legal Panel was from the New York Port Authority.

Any federal agency could send representatives to the Coordinating Committee or to panels in which it had an interest. The scope of interest of various agencies can be seen by inspection of Appendix G.

\* Except that after two years the nongovernment advisors to the Advisory Committee were eliminated (Ref. 34).

## OUTPUTS

IANAP outputs were as follows:

- From the panels:
  - Meeting summaries and xeroxed materials presented and distributed to all participants.
  - Reports by panel chairmen to Coordinating Committee.
- From the Coordinating Committee—Review of draft of annual report. "Federal Aircraft Noise Abatement Plan"
- From DOT/ONA:
  - Drafting of the annual report, which summarized the research and other programs done in the aircraft noise subject area by member agencies, as reported by the representatives of those agencies who participated in IANAP.
  - General staff work, including details of a proposed expansion of the subject scope of IANAP to include nonaircraft noise topics in its framework (see Outline History and Monitoring and Updating).

## IMPACT

The President had desired an "action program" to alleviate jet noise problems. This program included research to assess the problem and consideration of various actions the federal government could take immediately to help solve the problem, as well as the launching of research and development work on the technology needed to produce longer-term solutions. By the time FANAP terminated, the options had been developed and new research and development was being started. The Secretary of Transportation assumed responsibility for continuing both aspects of the program (Ref. 16, 17, 18).

With regard to the various available options for action, noise certification was adopted through Congressional action, and IANAP activities continued to support the detailed implementation of FAR 36 by FAA. But other options under

active consideration by FANAP were more controversial, and these became stalled in IANAP. These options included development of a financial plan for allocating costs and establishment of noise abatement flight procedures, including takeoff and landing (Ref. 18). An FAA advisory circular was prepared recommending a new standardized climbout procedure, but observance of this procedure by the airlines was not mandatory (Ref. 19, p. 2). Often the process of formulating formal IANAP recommendations became stalled at the panel level, never getting as far as the Coordinating Committee. For example, in 1970, when NASA was pointing out feasible changes in flight operations procedures (Ref. 20, p. 2), the Operations Panel, chaired by an FAA representative, could not agree on any recommendations to be forwarded to the Coordinating Committee (Ref. 21, p. 4). In fact, there seemed to be some confusion at that time about the role of the panels vis a vis the Coordinating Committee. The minutes of one meeting suggest that programs planned in the panels were to be presented to the Coordinating Committee for endorsement (Ref. 23, p. 1). Other minutes suggest that the Coordinating Committee wished the Operations Panel to report "in a positive fashion that certain operational procedures shall be implemented" (Ref. 22, p. 3). (FAA, which had chairmanship of the Operations Panel, also had sole authority to promulgate recommendations in this subject area.)

Another immediate action option was in the area of federal policy toward land use near airports. Here, IANAP played a role in the conduct of the DOT/ HUD MANAPS studies of four airports, in accordance with Recommendation 8 of the original 1966 OST report.

The Boston-Logan study, one of the MANAPS series, had as its goal:

From the spectrum of possible land use controls and change, alternative flight and ground handling procedures, and airport modifications, the Boston-Logan study will recommend the preparation of alternative actions which can be taken to provide immediate relief from aircraft noise exposure." (Emphasis added.)

This study had been completed before June 1969 (Ref. 36, p. 5) but had still not been published in February 1970 (Ref. 35). More than a year after completion, and after extensive government review and revision, the IANAP Coordinating Committee had not been able to endorse any study recommendations by August 1970 (Ref. 23). Ultimately, HUD was to issue a policy guideline (Circular 1390.2 on Noise Abatement and Control) in August 1971, which set minimum noise quality standards to be met as a prerequisite for federal mortgage assistance for residential property, including property near airports.

Thus as time passed, the Federal noise abatement activities with which IANAP dealt became largely research and development activities.

To assess outputs, it is thus important to understand the type of federal activities that IANAP dealt with and the IANAP understanding of coordination. Like PANAP before it, IANAP was originally intended to coordinate a national noise abatement program (Ref. 10, pp. 2-3), leading to immediate federal actions. But federal activities were to be undertaken unilaterally by the various member agencies, and coordination for IANAP did not and could not involve direct influence over member agency research programs or control of agency resources (Ref. 27, p. 1).

The highly useful functions IANAP could and did perform were its functions of identifying technology gaps and of indicating what additional research needed to be done. Some IANAP panels, such as the Noise Research Panel, were particularly valuable performing these functions, and NASA initiated programs responsive to gaps noted by the various panels.

IANAP also functioned as an information clearing house, for government agencies and industry. This knowledge may have caused certain agencies to "precoordinate" by avoiding initial research in areas in which other agencies had a strong on-going program. Alternatively, in cases in which two agencies had strong but similar projects in progress, knowledge gained through IANAP may have induced them to enter into sufficient bilateral coordination to ensure that the projects were not unnecessarily duplicative—a situation looked on with disfavor by BOB (OMB) or Capitol Hill.

IANAP's lack of direct power probably facilitated this passive type of coordination by encouraging more open communication of IANAP-sponsored meetings.

In its 1972 testimony before Congress, when DOT/ONA presented a diagram showing elements of a true national aircraft noise abatement program, the progression was from "R&D," to "systems analysis," to "decisions" and finally, to "Implementation" (Ref. 7).

Quite clearly, despite 5 years of effort by IANAP and DOT/ONA, except for certification of new aircraft types, the federal government had not succeeded in getting beyond the R&D and system analysis elements to decisions and implementation. From the outset, IANAP and DOT/ONA were simply not organized with clear enough authority, at a level high enough, to stimulate further federal movements (Ref. 27).

#### MONITORING AND UPDATING

The annual IANAP reports were the closest approximation of monitoring progress toward the research goals of various participating member agencies. However, the reports did not constitute a mechanism for monitoring or updating the goals of IANAP itself. As mentioned already, these reports were essentially summaries of the current and projected research projects of the agencies (Ref. 12-15).

The monitoring and updating of IANAP objectives that did occur were done by DOT/ONA. At several points it was proposed that the scope of IANAP be expanded. In 1969-70 there was discussion of the possibility of IANAP becoming an "Interagency Committee on Noise Abatement," to work under a cabinet-level environmental committee (Ref. 2, 5). In 1971, it was proposed to expand IANAP to include surface transportation noise problems, an "Interagency Transportation Noise Abatement Program," (Ref. 25, p. 4). DOT/ONA supported both of these proposals. These proposals would have expanded the scope of IANAP interest without changing its basic method of operation, its orientation toward research activities, or its information exchange function (Ref. 20, p. 1).

These proposals were overtaken by events when the Council of Environmental Quality (CEQ) and the Environment Protection Agency were created and the cabinet-level committee was dissolved.

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JOINT DOT/NASA OFFICE OF NOISE ABATEMENT (JONA) -- 1971 - 1974

ORIGINS AND OUTLINE HISTORY

Specific Authorization

Founded administratively by DOD and NASA in August 1971; located within the Office of the Secretary of Transportation.

Preauthorization History

The two major agencies in noise research were DOT (including FAA) and NASA. To achieve a higher degree of planning and coordination than was possible through IANAP, and to prevent duplication that might hinder OMB approval of future projects, JONA was created as a jointly funded DOT/NASA office. This was done by expanding the already existing Office of Noise Abatement in DOT (DOT/ONA). Mr. Foster, Director of JONA, said at a January 1972 Congressional hearing that the major noise objectives based upon the CARD Study would be the starting point for JONA and that JONA would provide overall leadership "in accordance with the recommendations of the CARD Study" (Ref. 2, p. 211).

Outline History

- JONA created August 1971
- First NASA employee joined JONA (Ref 4) October 1971
- "National Aircraft Noise Abatement Plan,"  
to be completed by July 1, 1972, mentioned  
in testimony before Congress January 19, 1972
- Noise Control Act of 1972 passed; EPA  
empowered to coordinate all Federal pro-  
grams relating to noise research and control October 1972

- Letter from C. R. Foster to NASA, DOT, FAA, and EPA representatives starting the Long Range Aircraft Noise Abatement Plan (LRANAP) development process April 3, 1973
- IANAP abolished March 23, 1973
- Reports of working groups of Long Range Aircraft Noise Abatement Plan completed July-August 1973
- Briefing document on LRANAP prepared by JONA for presentation to top-level DOT and NASA officials August-September, 1973
- Exchange of correspondence between EPA/ONAC and JONA concerning clarification of relationships of the JONA plan to EPA's mandate to coordinate Federal activities October 1973
- Presentation of LRANAP by JONA, as part of DOT/NASA activities and plans, to EPA/ONAC Federal Activities Report review meeting November 1973
- JONA program review meeting, EPA/ONAC observer present (one of a regular series of meetings of the "DOT Noise Abatement Committee" organized by JONA) December 11, 1973
- JONA activity terminated upon withdrawal of last NASA professional September 1974

## OPERATION

### Formulation of Objectives

The initial objectives of JONA, as stated by C. R. Foster, Director, JONA, before House Science and Astronautics Committee, January 19, 1972, were

To provide the overall leadership and to act as a focal point for a national program to attack the noise problems associated with the current and planned transportation systems.

JONA provided a definite means of integrating the efforts of the two government organizations most involved in noise abatement. However, there are other government organizations, such as DOD, HUD, HEW and EPA, also involved, and this joint office will be responsible for integrating noise abatement programs with other agencies through the already established and operating interagency aircraft noise abatement program (IANAP) whose coordination committee I chair

Thus, the original scope of JONA interest included research done in all areas of transportation—both surface and air. But in terms of actual coordination and implementation of program plans as part of the annual budgeting process, its scope was limited to DOT and NASA, and to aircraft noise R & D.

Leaving surface transportation noise activities to the already established DOT/ONA, JONA started an integrated NASA/DOT planning process in 1972 and 1973 for aircraft noise research and development. The objectives of the 1973 planning process were to develop this research and development plan for both agencies to cover "the full spectrum of activity from technology to implementation." The intent was to "develop an initial plan that will provide a basis for management review and program adjustment. Thus, the final plan that evolves will provide an approved guide for detailed program within the line organizations" (Ref. 3).

More specific goals of the plan were stated as follows:

The primary goal of the DOT/NASA Aircraft Noise Program is to provide the technology for the design and development of quiet air transportation systems. More specifically, the goals are:

1. To develop and demonstrate the technology pertinent to the reduction of noise of current aircraft systems;
2. To develop the technology to be used by industry in advanced aircraft and engine designs for further noise reduction;

3. To provide to DOT/FAA, EPA, industry, and the public the advanced technology needed in continuing consideration of possible revisions to aircraft noise control regulations, and the establishment of uniform aircraft noise standards; and
4. To develop a comprehensive understanding of the aircraft noise factors that influence individual and community attitudes towards aircraft operations, and their influence on future noise standards.

The plan covers the following subject matter which forms the outline for subsequent discussion:

1. Community Assessment
2. Regulatory Planning and Support
3. Existing CTOL Aircraft
4. Advanced Subsonic CTOL Aircraft
5. Quiet Powered-Lift Aircraft
6. Advanced Supersonic Transport (AST) Aircraft
7. General Aviation
8. Basic Noise Research
9. Aircraft Systems Noise Analysis (Ref. 3)

#### Membership

JONA was composed of full-time employees of the two agencies (DOT and NASA) whose noise abatement research efforts were being coordinated. See "Staff."

#### Activities

JONA was a two-agency activity, based in the DOT office of Noise Abatement (DOT/ONA), that performed the following functions:

- Coordinated and monitored all DOT and NASA research projects and programs concerned with aircraft noise.
- Represented DOT and NASA at meetings of other federal agencies concerned with aircraft noise, public meetings and conferences, and before Congress and OMB.
- Under (II) prepared an annual plan for DOT/NASA R & D work in the field of aircraft noise abatement technology development.

### Staff

By January 1972, the staff of the JONA/ONA complex had grown to 18 persons (professional and clerical). The director, C. R. Foster, who had headed DOT/ONA since its inception in 1967, also headed the JONA activity. The new deputy director of JONA was from NASA. The maximum size of the professional staff was the original DOT/ONA staff plus two professionals from NASA.

### Use of Contractors

Numerous noise research and development contracts were awarded not by JONA itself but by the various offices within the DOT/FAA/NASA framework JONA coordinated.

### Relations with Other Groups

Relations with other Federal agencies and nongovernment groups were more the province of IANAP than of JONA.

IANAP and JONA both represented DOT and NASA in testimony before Congress.

JONA relations with other federal agencies including those with EPA, were on an informal basis except for attendance and participation at EPA-organized review and coordinating meetings covering noise-related federal activities.

### OUTPUTS

As mentioned previously, the main functions performed by JONA were in-house staff functions: coordination of the joint research plans of DOT and NASA. The outputs were thus largely invisible to the outside world. They included:

- Management of a joint NASA-DOT (including FAA) committee for coordination of all retrofit activities
- Review and assessment of FAA regulatory proposals

- Development of the previously mentioned annual joint agency plan for aircraft noise abatement R&D
- Review of information releases prepared by FAA, DOT or NASA.

The JONA function with regard to retrofit was to monitor the day-to-day progress of all retrofit programs, including the FAA "SAM-retrofit" and the NASA "refan-retrofit" R&D, and to report to and advise top management in DOT and NASA.

The joint-agency plan development cycle was envisioned to be an annual process. However, only one development cycle was completed—from April through fall of 1973, as mentioned in the "outline history" portion of this section. This plan included goals for the phased reduction of noise from various types of aircraft.

#### IMPACT

NASA and DOT policy decisions concerning retrofit were taken at a higher level than JONA, and necessarily involved wider considerations than technological feasibility alone. These decisions were reflected in FAA regulatory proposals of 1974. The JONA contribution was in the area of technology assessment.

The result of the 1973 joint agency planning process was a report that was presented to the three agencies involved. Responsibility for integrating the recommendations of the plan into agency budgets did not rest with JONA, but, rather, the report was an input into the budget development processes of the agencies involved. In light of the original CARD study recommendations, JONA was partly successful in coordinating NASA/DOT research at the planning stage, including that of FAA, for it did "develop an initial plan that will provide a basis for management review and program adjustment" (Ref. 3).



## MONITORING AND UPDATING

The design of the 1973 Long Range Aircraft Noise Abatement Plan provided for monitoring and updating of joint aircraft noise R&D plans. Progress reviews were to occur every 6 months and program updates every year, timed to mesh with the annual budget cycle.

There was no formal mechanism for review of JONA organizational structure.

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COMMITTEE ON HEARING, BIOACOUSTICS, AND BIOMECHANICS (CHABA)  
OF THE NATIONAL ACADEMY OF SCIENCES—1952-PRESENT

ORIGINS AND OUTLINE HISTORY

CHABA is a private advisory organization with federal representative and a quasi-official function. The Armed Forces (Army, Navy, Air Force) sponsored the establishment of CHABA by the National Research Council of the National Academy of Sciences in 1952 to provide a group of informed consultants in the field of hearing and bioacoustics (Ref. 2). Over time, CHABA assumed similar functions for various civilian agencies, including FAA, DOT, and EPA. The period of greatest activity in the field of aircraft noise and sonic boom spanned the period 1963-1971. Originally, there were two separate CHABA working groups established at the request of NASA and FAA for research advice on airport noise and sonic boom. Later, these were expanded into one subcommittee, Subcommittee 5 (Ref. 1). Subcommittee 5 has not been active since 1972.

OPERATION

Formulation of Objectives

According to CHABA terms of reference, purpose and areas of activity are as follows:

CHABA, the Committee on Hearing, Bioacoustics, and Biomechanics (formerly the Committee on Hearing and Bioacoustics) is established by the NAS-NRC at the request of certain agencies of the government (Sponsors).

1. Purposes of the Committee

The Committee provides the following types of advisory assistance to its Sponsors in the areas of hearing, bioacoustics and biomechanics:

- a. application of available scientific information in the solution of current operational problems,

- b. research planning to meet future operational problems,
- c. acquainting scientific investigators with the problems of the Sponsors,
- d. promoting exchange of research information,
- e. encouraging research in areas where there are deficiencies of knowledge.

2. Areas of Committee Activity

The Committee concerns itself with any field of science or technology that it finds necessary in pursuit of its objectives. These fields may include pertinent aspects of biological science, behavioral science, physics, chemistry, mathematics, engineering and medicine.

Examples of specific areas of interest to the Committee include:

a. Hearing

- (1) Measurement and evaluation of hearing.
- (2) Conservation of hearing.
- (3) The ear and associated central nervous system, its functions and means for protection against intense sounds.
- (4) Communications, particularly speech communication in the presence of noise.

b. Bioacoustics

- (1) Non-auditory effects of intense sound fields on man and means for protection.
- (2) Physiological, psychological and social reactions of man exposed to sound, for example, noise produced by jet-planes, rockets, gunfire, weapons, and vehicles.
- (3) Physical and engineering problems of the generation, measurement and control of acoustical energy.

c. Biomechanics

- (1) Specification of the mechanical properties of the human body or its component parts.
- (2) Effects of mechanical force fields (for example - vibration) upon human performance, health, and comfort.
- (3) Protection of man from mechanical force fields.
- (4) Physical and engineering problems of the generation, measurement and control of mechanical force fields.

As a general policy the Committee will undertake work in the above areas only when the required advisory services are not provided elsewhere (Ref. 3).

Membership

Members are appointed by the President of the Academy upon recommendation of the CHABA Executive Council. There were over 300 members in 1973. Most are Council-nominated members drawn from the scientific community. In addition, other members represent government sponsors and other government agencies. These members form a resource pool from which working groups and subcommittees, generally consisting of six to eight members, are formed (Ref. 4). Travel expenses of members while they are participating in CHABA activities are paid either by sponsoring agencies (for their members) or by the National Academy of Sciences (other members).

Activities

Most CHABA working groups have been concerned with problems not directly related to environmental aspects of aircraft noise and have performed ad hoc services over a limited time period, such as the preparation of a single report to the sponsoring agency. Subcommittee 5, however, was a relatively long-lived group that evolved from two working groups. It was the function of

Subcommittee 5 to annually review past federal research activities on human response to aircraft noise and sonic boom and to make recommendations for further research, suggesting priorities.

The question of which agencies were to perform various elements of the recommended program was, strictly speaking, outside the terms of reference of CHABA and was not formally addressed.

An Executive Council has overall responsibility for all CHABA activities, including those of the subcommittees and working groups. There is one voting member from each of the sponsoring agencies and an equal number of voting members nominated by the Council. In addition, there are several non-voting, ex-officio members. The Council nominates one of its members to serve as Chairman for a term of 1 year.

#### Staff

An Executive Secretary with a small staff supports the Executive Council and CHABA as a whole. The secretariat resides at the National Academy of Sciences in Washington, D. C.

#### Relations with Other Groups

CHABA, as a whole, maintains ties with and gives advice to four international organizations: NATO, the International Civil Aviation Organization (ICAO), the Organization for Economic Cooperation and Development (OECD), and the International Organization for Standardization (ISO) (Ref. 4).

Within Subcommittee 5, limited contact with contractors of sponsoring agencies occurred when those contractors were invited to give short presentations to the Subcommittee. About one half day of the Subcommittee's 1- to 2-day meeting time might be allotted for contractor presentations each year.

An important informal coordination channel existed between Subcommittee 5 and IANAP. While the CHABA group developed research recommendations,

agency representatives in IANAP formulated policy recommendations regarding the distribution of implementation responsibility among federal agencies. Coordination was assured by overlapping memberships of several key individuals who served both on the CHABA Subcommittee 5 and on the IANAP Human Response Panel. Meetings of the CHABA Committee and the IANAP panel were scheduled for the same week so that members from out of town could attend both with one visit, which was important because CHABA paid expenses and IANAP did not.

#### OUTPUTS

The chief output of Subcommittees was the list of annual recommendations to government sponsors. For example, in 1972 the CHABA recommendations were:

1. Initiate studies concerning chronic behavioral and physiological effects of noise including adaptation to long-term noise exposures (three to four-year funding, if possible).
  - a. Examine the effect of noise-induced sleep interference upon performance. Continue primate work where applicable. Conduct laboratory studies of adaptation to sleep disturbance over two or three years using physiological measures of arousal. (Laboratory.)
  - b. Threshold studies of noise-induced sleep interference (field study in private homes.)
  - c. Examine the effect of noise in work areas on performance and communication (field studies in areas such as offices and classrooms.)
  - d. Examine the effect of noise and sleep disturbance on special groups such as aged, sick, schools, and infants.
2. Examine long-term health effects of noise and sonic boom on growing urban areas such as Tulsa and Oklahoma City.
3. Airport-noise community surveys should be supported with the following emphases:
  - a. Focus on same group of respondents over longer times to assess:

- (1) seasonal variations
  - (2) differences between day and night
  - (3) evaluation of operational changes, e. g. special utilization of runways
  - (4) changes in attitudinal and other psychological factors over time
  - (5) addition over time of multiple events
- b. Compare hearing levels of airport neighbors with control group
4. Laboratory study of origins of psychological factors, e. g. fear, that contribute to annoyance produced by noise.
  5. Continuing study of the impact of sonic boom exposure on residents of the Antelope Valley, California, area.
  6. Continue piggyback studies of the impact of noise and sonic boom on domestic animals and wild life (Ref. 1).

As previously mentioned, these recommendations were not only given directly to agency sponsors but also were considered collectively by the agencies within the IANAP framework.

#### IMPACT

CHABA recommendations were influential in starting several federal research programs directly connected to the PEDC-FANAP-IANAP series of efforts from 1966 on. One example was the exhaustive series of surveys on community response to aircraft noise and sonic boom, done by Tracor, Inc., for NASA between 1967 and 1969. Such work was an essential part of the implementation of Recommendation No. 4 of the 1966 OST report, calling for developing meaningful yardsticks for measurement of aircraft noise exposure.

Since CHABA Subcommittee 5 meetings included representatives from the various federal agencies, the meetings also served as a means for informal interagency coordination in their own right.



#### MONITORING AND UPDATING OF ORGANIZATIONAL GOALS

Progress toward objectives set by Subcommittee 5 was monitored by comparing previous recommendations with reports to the Subcommittee from agency sponsors on recent federal research activities. This comparison, plus further discussion at the Subcommittee annual meeting, formed the basis for further recommendations. This process was most fruitful from 1963 to 1970. Thereafter the input of CHABA to federal research coordination decreased, mainly because federal agencies were no longer implementing recommended research at previous levels. Obtaining necessary funding was apparently a major problem. Thus, the CHABA lists of recommendations began to look similar from year to year, and CHABA terminated the subcommittee in 1972. During its period of activity, however, the subcommittee served a highly useful function in coordination of those aspects of federal noise research activities with which it was concerned.

#### REFERENCES

1. CHABA, "Minutes of the Third Meeting of Subcommittee 5 Held at Wright-Patterson Air Force Base, Dayton, Ohio, July 11-12, 1972."
2. "CHABA," Noise Control, vol. 3 no. 6, November, 1957, pp. 53-54.
3. CHABA, "Purposes and Procedures for the Operation of CHABA, the NAS-NRC Committee on Hearing, Bioacoustics, and Biomechanics," October 8, 1963.
4. CHABA, "Information Concerning the Committee on Vision and the Committee on Hearing, Bioacoustics, and Biomechanics," July 1, 1973.

## Section 4

### STUDIES

There have been numerous studies of national aviation policies, problems, and goals in the last 25 years, and most of them have touched upon the federal interagency coordination aspects of the problem. Whether they emerged from an interagency task group or a commission, most of the studies were set into motion by a Presidential directive, generally stimulated by Congressional prodding. It is not clear, in some cases, whether the President ever had a personal interest or was only reacting to a strongly articulated recommendation from governmental and nongovernmental interests.

It has typically been the fate of studies to be widely disregarded after their completion. Rarely have the recommendations of studies been transformed into specific legislative proposals, and even more rarely are the proposals acted upon. Such was the case with the Aviation Advisory Commission recommendations in early 1973. This is nothing new. The authors of Project Horizon Report (1961) made much the same comment about previous studies:

The task force also had available to it the reports and studies which have been made since 1948 in the field of aviation. In many instances, the recommendations contained in these reports and studies are as fresh and important today as when they were first written. The unhappy implication of this statement is that far too little attention has been given to important recommendations of the past. It is freely admitted that certain of the goals which we suggest herein have been put forward before. Their reiteration here serves to underscore their urgency, importance, and lack of fulfillment to date (Foreword, p. xiii, Project Horizon Report).

The influence of studies on subsequent events is sometimes hard to measure objectively. When a study has been given widespread credit for an effect, this is mentioned in the summaries that follow. The reports of commissions, task

groups, and ad hoc committees were undoubtedly read, or at least perused by both interested congressmen and members of the aviation community, many of whom had a hand in their creation. Thus, the reports may have had some indirect influence on the thinking and subsequent actions of a narrower group. However, the degree to which this influencing of the decision-makers occurs is even more difficult to measure objectively, and no systematic effort to do so has been made in this compendium.

PRESIDENT'S AIR POLICY COMMISSION (PAPC)—The Finletter Report, 1947

ORIGINS AND OUTLINE HISTORY

Specific Authorization

The PAPC was established and its members were appointed by President Truman in a letter of July 18, 1947. In the letter, the PAPC was established as a temporary commission and charged to submit its final recommendations by January 1, 1948. It was assured of the cooperation of all federal agencies.

Preauthorization History

The PAPC was established in light of the Cold War. Thus, there were twin issues: national security and the development of civil air transportation. In his letter, President Truman said that he was creating the PAPC "upon the recommendation of the Secretaries of State, War, Navy, and Commerce and of the Air Coordinating Committee" (ACC).

Outline History

- |  |                 |
|--|-----------------|
| ● Commissioners sworn in                                 | July 29, 1947   |
| ● Executive Director appointed                           | July 30, 1947   |
| ● Recruitment and organization of working staff complete | Mid-August 1947 |

- Outline for report and commission operating procedures complete End of August
- Formal hearings September 8 to  
December 30, 1947

The PAPC submitted its report on December 30, 1947, on schedule.

## OPERATION

### Formulation of Objectives

The PAPC was instructed to make the broadest kind of survey, including recommendations on revising old policies and the framing of new ones to achieve an integrated national air policy to (1) ". . . protect the Nation's security to the greatest extent possible," and (2) ". . . foster its economic and social interests."

The Commission understood this as a mandate to review the following topics, which were dealt with in its report:

- Significance of air power for national security (including strategy in the atomic age, reorganization of the armed forces, military need for air transport, mobilization planning)
- Aircraft manufacturing industry
- Aeronautical R&D
- Civil aviation (including safety, air mail, economic regulation, international air transport, general aviation)
- Government organization

### Membership

The five appointed members of the PAPC were Thomas F. Finletter, Chairman; George D. Baker, Vice Chairman; Balmer Hoyt; John A. McCone (replaced Henry Ford); and Arthur D. Whiteside.

### Activities

During its short life, the PAPC was extraordinarily active. It gathered information primarily through a series of formal hearings and secondarily by means of field trips to industrial facilities and military installations. The total of 206 PAPC meetings included 96 public hearings and 65 hearings where testimony was taken in executive session. All witnesses were requested to file statements in advance. Full stenographic records were kept of all public hearings and abstracts were made of all statements and testimony. Witnesses represented all government agencies involved, including the military establishment, the domestic and foreign airlines, railroads, aircraft manufacturers, trade and industry associations, and the press. In general, they were either recognized experts in their field or heads of their institutions.

The President provided his own aircraft for several PAPC field trips.

### Staff

There were about 40 technical staff members and about 20 secretarial staff. In accordance with the Presidential letter of July 18, the Department of Commerce provided space, administrative support, and much of the staff. Under the Executive Director (S. Paul Johnson) staff was organized around staff advisors for each of the five topic areas listed under Formulation of Objectives (See Figure 6).

### Use of Contractors

No contractors were used.

### Relations with Other Groups

Industry, state and local governments, and federal agencies were represented by various witnesses. Congress was kept informed, and used the testimony before the CAPB in the preparation of its parallel report (Brewster Report, 1948).

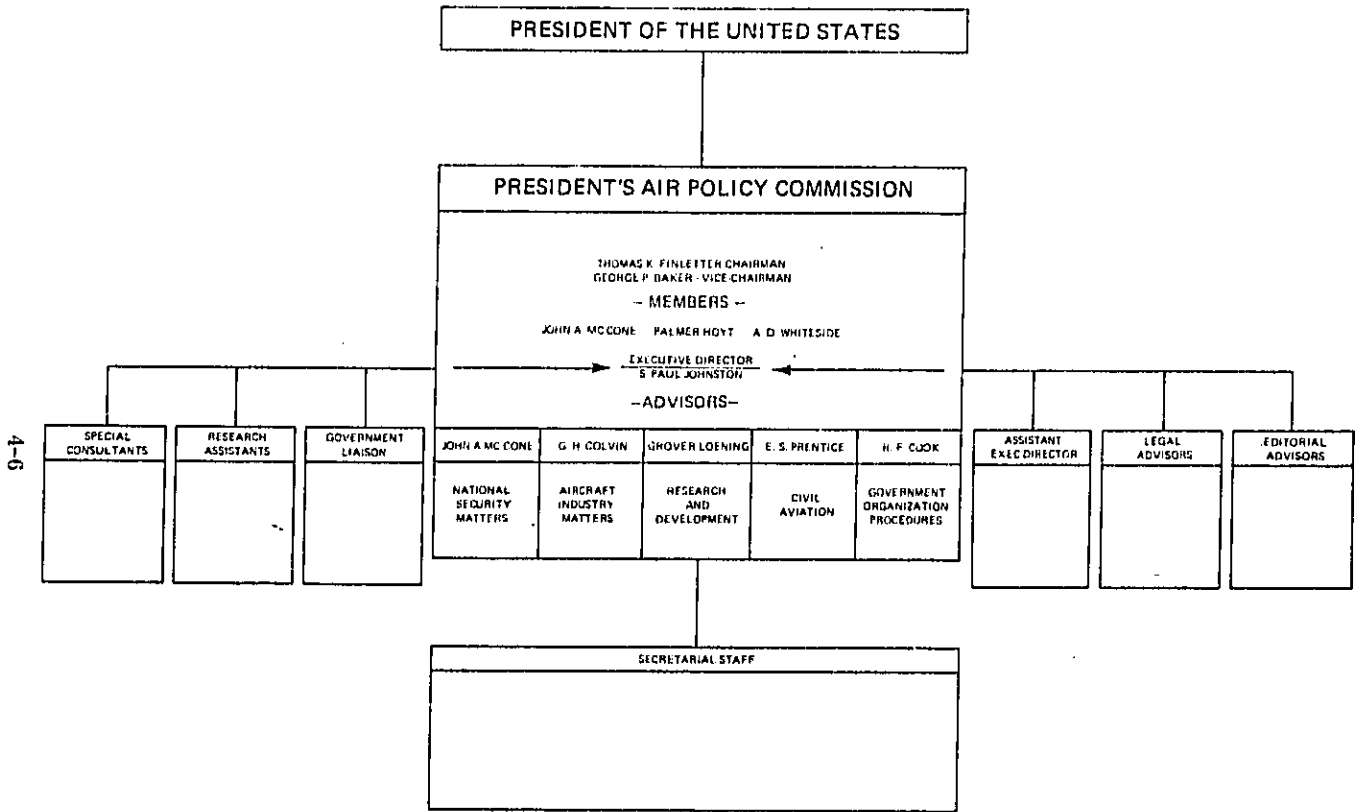


Figure 6. Organization—President's Air Policy Commission

## OUTPUTS

The 166-page PAPC Report, "Survival in the Air Age," was published January 1, 1948. It represented the unanimous opinion of the Commission. It contained sweeping, but not surprising, recommendations in all five general topic areas listed previously. Its main national security conclusion was that hostile forces could have the atomic bomb in quantity by the end of 1952 and that the U. S. should, therefore, have an air defense sufficient to repel atomic attack by that time.

In the area of R&D coordination, it named the recently published Research and Development Board in the military establishment and the NACA on the civil aviation side as the principal coordinating bodies, but ascribed a broader role to NACA in that NACA "coordinates the research needs of private, commercial and military aviation . . ." (Ref. 1, p. 154). It saw proper coordination more in terms of better communication than control (p. 92 of report). The report saw the National Aeronautical Research Policy Statement of March 21, 1946, as clearly giving NACA the duty of coordinating government aeronautical research with civilian, industrial, and university programs. Current NACA coordination was inadequate mainly because of lack of people and money, according to the report.

The main recommendation in the area of government organization was to establish a Department of Civil Aviation within Commerce to absorb most of the functions of the CAA, to keep the CAB semi-autonomous, and establish a new independent board for air safety. The new Secretary of Civil Aviation was also to be the chairman of the ACC—an interdepartmental advisory and coordinating group for examining aviation problems affecting more than one agency. The report recommended that the ACC be lodged within Commerce and that unresolved disputes should be taken from the ACC by the Secretary of Commerce for resolution at the Cabinet level.

Partly because of the support of the parallel Congressional Report of the CAPB (Brewster Report), most of the appropriate recommendations of the PAPC appeared in bills submitted to Congress.



The use of public hearings by the PAPC provided plenty of publicity from the start. The completed report was also well publicized.

#### IMPACT

Little of the proposed legislation ever became law. According to L. E. Loverone, President of the National Aeronautical Commission, the main reason was the inability of various elements of American aviation to unite in the support of almost any proposal:

Almost two years ago the President's Air Policy Commission and the Congressional Aviation Policy Board, after long and complete studies, submitted to the nation strong recommendations for a comprehensive national policy. The Congressional board put its proposals into legislative form and submitted them as bills to Congress. There most of them still are, peacefully reposing in Committees, where they are likely to stay unless enough elements in aviation who want them passed can get together and thus make their voices heard (Ref. 2).

#### MONITORING AND UPDATING

As with most studies, the study group was dissolved at the completion of its report.

#### REFERENCES

1. President's Air Policy Commission, Survival in the Air Age, Washington, D. C., USGPO, January 1, 1948.
2. New York Times, December 17, 1949, p. 10.

CONGRESSIONAL AVIATION POLICY BOARD—BREWSTER REPORT, 1948

ORIGINS AND OUTLINE HISTORY

Specific Authorization

The CAPB was established in 1947 by an Act of Congress, Public Law 287 (80th Congress), to provide for the establishment of a temporary Congressional Aviation Policy Board.

Preauthorization History

There was concern in Congress that, only two years after the end of World War II, national security was threatened (by the Cold War and the existence of atom bombs) as well as the solvency of the civil aviation industry. In January, 1947, legislation was introduced in the Senate to establish a National Aviation Policy Board, presumably to be permanent. After lengthy debate, another bill, H. R. 3587, establishing the temporary CAPB was passed by both Houses and signed by the President (July 1947). A factor in the development of the CAPB was the prior existence of the Presidential Air Policy Commission.

Outline History

The first meeting of the CAPB was held on September 13, 1947, and its report (the Brewster Report) was published in March, 1948.

OPERATION

Formulation of Objectives

The objectives of the CAPB were to develop a national aviation policy that would maximize the ability of "a great aviation industry" and airport and navigational flexibilities of "scheduled dependability" to contribute to air power for the national defense.

Although CAPB was set up to consider both national security and the health of civil aviation, it concentrated on national security. Its rationale was that if military aviation were strengthened the situation of the aircraft industry and civil aviation would improve in the process.

#### Membership

Senator Owen Brewster of Maine was chairman, and Congressman Hinshaw of California was vice chairman of a board consisting of 19 Senators and Congressmen, of whom four were specially selected from the House and four from the Senate, and the rest appointed ex officio as representatives of the House Armed Services Committee, House Appropriations Committee, Senate Armed Services Committee, and Senate Appropriations Committee.

#### Activities

The CAPB used the exhaustive testimony in public hearings already given before the Presidential Air Policy Commission to save time. It proceeded in executive sessions (with an advisor to the board, see below) to develop recommendations in the following areas:

- Combat aviation
- Air transport (including the contribution of general aviation and the upgrading of an aeronautical educational program in the nation's schools)
- Aircraft manufacture
- Research
- Government organization

Some additional testimony was heard and additional research was done by CAPB staff. A 24-man Advisory Council, composed of prominent individuals

from business, labor, the academic community, and government worked directly with the board within the framework of four subcommittees:

- Combat aviation
- Transportation
- Manufacturing
- Government organization

#### Staff

Staff support appears to have been modest. There was one advisor to the board itself, a former director of the Aircraft Division of the wartime War Production Board. One or two professionals staffed each of the subcommittees, in addition to one for the research and development area, and two for the financial area.

#### Use of Contractors

There was no contracted research.

#### Relations with Other Groups

Relations with industry were covered through representatives on the advisory council, as were relations with Executive Branch agencies, including the military. In fact, the work of the board has the appearance of a joint military-Congressional effort. Little or no effort was made to involve state and local government.

#### OUTPUTS

##### Reports

The end product of CAPB work was Report No. 949 of the 80th Congress ("The Brewster Report") which made 92 recommendations in the five areas mentioned above. This was a consensus report in which individual differences were not recorded in separate comments.

In the area of government reorganization, it was recommended that the then existing Air Coordinating Committee (ACC) be given statutory power "to coordinate and recommend aviation policies affecting two or more agencies of the Federal Government" (Rec. No. 77). The strong interpretation of the meaning of the word "coordination" is illustrated by the following excerpt from the Brewster Report (p. 47):

A fundamental weakness of civil aviation is lack of adequate coordination of policy within the executive departments. The present Air Coordinating Committee, established originally by interdepartmental memorandum and later by Executive Order, has encountered insurmountable obstacles in attempting to persuade autonomous departments to agree upon policies involving controversial issues and, particularly, in implementing decisions once reached. This can only be met by establishing a statutory basis for coordination of aviation policy, following the pattern employed in the National Defense Act of 1947 of establishing statutory boards for interdepartmental coordination of military research and mobilization planning. While the Air Coordinating Committee should primarily deal with general policy, certain limited operating functions can best be handled by it to bring about proper balance between military and civil agencies.

The CAPB envisaged that the ACC would be composed of representatives of all concerned agencies, as determined by the President (Rec. No. 77). Decisions would be reached by majority vote, with dissenting members having the right of appeal to the President (Rec. No. 78). The ACC would also have various advisory panels, including liaison with state and municipal governments (Rec. No. 80). Other recommendations (Nos. 82-89) proposed changes to clarify the status and the responsibilities of the Civil Aeronautics Board and the Civil Aeronautics Administration, and to eliminate friction between them. The CAB was to be strengthened and made more independent of the Department of Commerce, and the CAA was to be abolished. A new "Office of Civil Aviation" was to be created in the Department of Commerce to handle the residual of its duties. Other recommendations included setting up a separate office for investigating civil air accidents.

Recommendations for the area of research included approval of the National Advisory Committee for Aeronautics as the coordinating organization for basic aeronautical research (with the Research and Development Board of the National Military Establishment coordinating the application of research results by the military).

#### IMPACT

##### Legislation, Regulations, Executive Orders

Many CAPB organizational recommendations were introduced as proposed legislation, but none of them received prompt attention from Congress. In particular, the idea of granting the ACC statutory authority in order to strengthen its coordination power was never adopted. (See Impact in the preceding discussion on the PAPC.)

##### New Organizations or Major Changes in Existing Organizations

In accordance with Recommendation 80, the ACC set up an advisory panel for liaison with state and municipal governments.

#### MONITORING AND UPDATING

The Brewster Committee was disbanded after completing its study, but not without an attempt to constitute itself as a permanent body within the Congressional Committee framework. This attempt failed, however.

PRESIDENT'S AIRPORT COMMISSION--THE DOOLITTLE REPORT, 1952

ORIGINS AND OUTLINE HISTORY

Specific Authorization

The temporary President's Airport Commission (The Doolittle Commission) was authorized by President Truman in his letter of February 20, 1952.

Preauthorization History

The President had been concerned about a series of aircraft accidents that had taken place in heavily populated areas near airports. This in turn led him to conclude that the nation's policy on airport location and use should be restudied.

Outline History

- Presidential directive February 20, 1952
- Report submitted to President May 16, 1952

OPERATION

Formulation of Objectives

The Presidential letter set the following objectives:

- To study the problems of airport locations taking into account the "safety, welfare and peace of mind" (Ref. 1, p. iv) of people living close to them, as well as the needs of national defense and the aircraft industry.
- Specifically, to study and make recommendations concerning:
  1. The federal, state and local investment in existing civil and military airports and the factors affecting the utility of airports to adjacent communities

2. Actions by federal, state, and local authorities to lessen the hazards surrounding existing civil and military airports
3. Assignment of newly activated military units to existing airports with particular regard for potential hazards to communities involved
4. Site selection for new civil and military airports and the factors affecting relocation of existing airports
5. Joint civil and military use of existing or new airports
6. Legislation and appropriations necessary to carry out appropriate policy.

#### Membership

Members were:

James Doolittle, Vice President of Shell Union Oil

C. F. Horne, Administrator of Civil Aeronautics

J. C. Hunsaker, Head, Department of Aeronautical Engineering at M. I. T.

#### Activities

The commission used hearings, questionnaires, and whirlwind field trips to gather its information within a two-month period. Thirty airports were personally inspected by the commission or its staff, of which 16 were visited by the commission in one nine-day trip. Approximately 70 airport cities answered the questionnaire. Written or oral statements were received from 42 organizations, and 264 individuals were consulted.

#### Staff

Technical staff was borrowed from the military, CAA, CAB, and NACA. The Department of Commerce provided office space and administrative services including editorial and clerical support (eight persons). S. Paul Johnson, who



had served as Executive Director of the PAPC in 1947, was again Executive Director. Five technical advisors each covered a particular technical area. Expenses of the Commission were paid from the President's emergency fund.

#### Use of Contractors

Four contractors were used:

- Adams, Howard and Greeley
- John C. Cooper
- Cornell Aeronautical Labs
- Pogue and Neal

#### Relations with Other Groups

The views of industry, state and local governments, federal agencies, and the public were represented by the testimony of various witnesses in the hearing process.

#### OUTPUTS

In its report, the Doolittle Commission foresaw and stated the emergency airport problem—including the noise problem—accurately, succinctly, and comprehensively. In fact, the report includes many aspects of solutions presently under consideration by EPA. The 20-page "Summary and Recommendations" are attached because they are of more than usual historical interest (Appendix II). For example, it was the commission's opinion that the federal government could and should expand its power to become involved in problems of new residential development near existing airports and of compensation for land owners in situations where there was a compensable 'taking' (pp. 72-78 of report). A major proposal was the certification of airports.

#### IMPACT

The Doolittle Report did not address itself to the federal organizational changes that would be required in order to implement its substantive

recommendations. It was sent by the President to the Air Coordinating Committee with a request for prompt suggestions for putting the report proposals into effect (Ref. 2). Thus, the substantive proposals were dealt with by the hierarchical ACC committee process, whose problems in achieving rapid coordination are described elsewhere (in a previous section on the ACC and in subsequent sections on the Harding and Curtis Reports). As a result, no action was taken on most of the recommendations, including the recommendation to amend the Civil Aeronautics Act to permit certification of airports.

#### MONITORING AND UPDATING

As with all studies, the study group was dissolved once the final report had been written.

#### REFERENCES

1. President's Airport Commission, The Airport and its Neighbors, Washington, D. C., USGPO, May 16, 1952.
2. Aviation Daily, June 6, 1952, p. 211.

## AVIATION FACILITIES STUDY GROUP—THE HARDING REPORT, 1955

### ORIGINS AND OUTLINE HISTORY

#### Specific Authorization

The Harding Report was commissioned for the President by the Director of the Bureau of the Budget, Mr. Rowland Hughes, in a letter to study director William Barclay Harding on May 4, 1955, and similar letters to other Study Group members.

#### Preauthorization History

There was widespread consensus that the aviation facilities system—airports, airways (including air traffic control, navigation, and instrument landing services), and associated communications—was growing too slowly, in piecemeal fashion, and becoming increasingly unsafe. Moreover, it was felt that the federal institutions responsible for solving the problem were proving themselves unable to do so. The CAA had the responsibility for operating the airways, the military operated partially within and partially outside the CAA system, the Air Coordinating Committee had the responsibility for coordinating broad aviation policies, and the Air Navigation Development Board (ANDB) was responsible for coordinating Aviation Facilities development policies. The Radio Technical Commission for Aeronautics, "a government-industry advisory organization with no continuing government status," was also officially recognized as playing a role (Ref. 1, p. 30).

The organization most immediately involved was the ANDB, which was founded in 1948 to keep civil and military agencies coordinated. Specifically, the ANDB was charged with preparing a single budget for all R&D required for a common aviation system, and neither civil nor military agencies were to begin or maintain any R&D without the express authorization of the board. However, the ANDB, set up by mutual agreement of the Secretaries of Commerce and Defense, and consisting of one member each from CAA, the Navy and the Air Force (Ref. 2), was handicapped by a unanimity rule, a

confused relationship with the ACC, and insufficient cooperation between technical and operating people (Ref. 3, p. 105; Ref. 4, p. 51).

#### Outline History

- Established by letter of Director of BOB May 4, 1955
- Report submitted to Director Dec. 31, 1955

#### OPERATIONS

##### Formulation of Objectives

The terms of reference given by BOB were to provide, within a period of several months, recommendations on the following:

1. Should a study of long-range needs (20 years) for aviation facilities and aids be undertaken?
2. What should be the coverage of such a study, if it were made? What specific areas and subjects would seem to require particular attention?
3. How could such a study, if made, best be organized and conducted?

##### Membership

Appointed to the study group were:

- William Barclay Harding, Chairman, New York investment banker with experience in aviation finance and previous experience in government.
- George P. Baker, professor of transportation at Harvard Business School and former member of the CAB.
- Fred Glass, aviation director for the Port of New York Authority.
- N. E. Halaby, lawyer, pilot, and a recent Deputy Assistant Secretary of Defense for International Affairs.
- Harold Harris, former president of Northwest Airlines.

- Jerome Lederer, director of Flight Safety Foundation.
- T. F. Walkowicz, analyst with research experience at Department of Defense.
- J. Gordon Bennett, CAA official and former aviation advisor to the Commerce Undersecretary.

#### Activities

The study group made extensive use of interviews, as discussed below.

#### Staff

High-level BOB assistance was provided. In addition to clerical and administrative support, BOB designated as liaison officers Mr. William Finan, assistant director of the Budget and head of the BOB 1954 study of the ACC; Arthur Kimball, staff director of the President's Advisory Committee on Government Organization; and two Presidential staff assistants.

#### Consultants

No consultants were used other than the study group members themselves, who were nominally temporary consultants to BOB.

#### Relations with Other Groups

During its seven-month life the study group consulted with nearly 300 top officials and their staffs, representing interested agencies, industry groups, and individual airline and aircraft manufacturers.

#### OUTPUTS

The single output of the study group was its Report to the Director of the Budget, Aviation Facilities of Dec. 3, 1955 (Ref. 1). In this report the Study Group strongly and unanimously recommended that a comprehensive study for a 20-year master plan of aviation facilities be made, and produced projections

of the likely future demand on such a system. Facilities were defined to include airports, navigation aids, traffic control devices and communications equipment. The report also emphasized strongly that the study should be directed by a highly qualified individual of widest possible experience and national reputation, backed by the President's authority. It should be set up at the highest possible level independently of any existing operating departments and interdepartmental committees "to assure objectivity and freedom from deep involvement in day-to-day operating problems" (Ref. 1, pp. 4-5). Individual members of the Study Group undertook to write various detailed sections of the report. In his section, J. Gordon Bennett wrote:

There are now over 75 committees, subcommittees, and special working groups addressing themselves to Aviation Facilities matters. The existence of so many groups is not, in itself, an evil, but it is increasingly apparent that the process of coordination is becoming more and more time consuming, and that preoccupation with current issues tends to obscure forward vision (Ref. 1, p. 30).

In his section, which used the ACC as his main example, Najeeb Halaby added:

We find that none of the interdepartmental committees dealing with coordination has any independent executive authority. Their members serve only on a part-time basis and the membership changes frequently. While it was originally intended that, in addition to exercising their coordinating functions, they would be instrumentalities for the development of forward looking policies, they have, in practice, become primarily mechanisms where in the representatives of various Federal agencies meet to debate and, whenever possible, coordinate action on pressing current problems. Furthermore, the coordination among the committees themselves has become a problem, and the delineation of their respective functions is not always clear.

Certain essential elements of effective government action seem to be mission--full time direction, full disclosure of departmental information and plans, closely coordinated budgetary planning and funding, and a unified approach to the Congress in matters of appropriations (Ref. 1, p. 31).

(These sections appear verbatim as Appendix I.)

## IMPACT

The Harding Report was adopted immediately in its entirety by President Eisenhower. In February 1956 he appointed Mr. Edward P. Curtis, Vice President of Eastman Kodak in Rochester, New York, to be Special Assistant to the President for Aviation Facilities Planning. The Curtis Report was issued the following year and became a blueprint for legislation creating the interim Airways Modernization Board and then the new Federal Aviation Administration (see next section, The Curtis Report).

The Harding Report succeeded not only on its own merits, but also because, from its inception, it was already part of a larger White House plan to secure from Congress the legislation necessary for the reorganization of the federal role in air facilities development and operation. This was noted by Eisenhower himself in his special message to Congress of June 13, 1958 (Ref. 5, p. 146).

## REFERENCES

1. U.S. Aviation Facilities Study Group, W. B. Harding, Chairman, Aviation Facilities: The Report of the Aviation Facilities Study Group to the Director, Bureau of the Budget, Washington, Bureau of the Budget, December 31, 1955.
2. "Air Navigation Development Board to be Organized," Aviation Daily, May 24, 1948.
3. Sayen, C. N., President, Air Line Pilots Association, Statement in U.S. Congress, Senate, Hearings on S. 3880 before Subcommittee on Aviation of the Committee on Interstate and Foreign Commerce, 85th Cong., 2nd Sess., May 22, 23, June 4, 5, 16, 17, 18, 1958, Washington, D. C., USCPO, 1958.
4. Younger, J. A., Congressman from California, in U.S. Congress, House, Hearings before Committee on Interstate and Foreign Commerce on House Report 12616, June 24, 25, 26, 27, 30, July 1, 2, 8, and 24, 1958. Washington, D. C., USGPO, 1958.

5. Eisenhower, Dwight D., President of the U.S., Message to Congress of June 13, 1958, in U.S. Congress, Senate, Hearings before Subcommittee on Aviation of the Committee on Interstate and Foreign Commerce, 85th Cong., 2nd Sess., May 22, 23, June 4, 5, 16, 17, 18, 1958. Washington, D.C., USGPO, 1958.



## THE CURTIS REPORT--1957

### ORIGINS AND OUTLINE HISTORY

#### Specific Authorization

Presidential letter of appointment to Mr. Edward P. Curtis, February 10, 1956.

#### Preauthorization History

The Curtis study and report developed naturally from the Harding Report that immediately preceded it. See previous section for details.

#### Outline History

- Presidential letter of appointment February 1956
- Final report submitted to President May 10, 1957
- Contractor reports completed and released May-June 1957

### OPERATION

#### Formulation of Objectives

The Presidential letter of appointment to Curtis set forth the goals and terms of reference for the study. The goals were:

- To direct and coordinate a long-range study of the nation's requirements for aviation facilities.
- To develop a comprehensive plan for meeting in the most effective and economical manner the needs disclosed by the study.
- To formulate legislative, organizational, administrative, and budgetary recommendations to implement the comprehensive plan.

Terms of reference included working closely with and receiving assistance from the Department of Defense and Commerce. The Harding Report was to be used

for more detailed guidance. No specific time deadline was set (Ref. 1, pp. VII-VIII).

#### Membership, Activities, Staff

Curtis established an Office of Aviation Facilities Planning within the Executive Office. A great deal of technical work was required for the study the bulk of which was assigned to contractors. The evaluation of the institutional changes in government organizations that would be needed was conducted in-house.

#### Use of Contractors

Contractors were Airborne Instruments Laboratory, Aeronautical Research Foundation, and Cornell Aeronautical Laboratory.

#### Relations with Other Groups

The Presidential letter of appointment required and guaranteed cooperation from all federal agencies, but singled out the Departments of Defense and Commerce as potentially having the experience most useful to the Curtis group. It required those two Departments to appoint top-level liaison officials to facilitate their investigations.

### OUTPUTS

#### Reports

Curtis' Aviation Facilities Planning, Final Report, was submitted in May 1957 (Ref. 1) together with supporting contractor documents (listed and described in Appendix J). The final report had three sections. Section I outlined future national requirements in terms of air systems handling capacity; Section II drew heavily on the contractor reports to propose a basic technical plan; and Section III outlined the proposed necessary institutional changes.

#### Proposed Laws and Regulations

In the area of federal reorganization, the report proposed both interim legislation and legislation to be enacted within three years.

The interim legislation would create an Airways Modernization Board (AMB) as an independent agency to develop and consolidate the requirements for a future Common System for air facilities, and to select and test new components of the system. The AMB would be composed of a chairman selected by the President, a Defense member, and a Commerce member.

The permanent legislation would establish within three years an independent Federal Aviation Agency into which would be consolidated "all the essential management functions necessary to support the common needs of the military and civil aviation of the United States." This agency would be responsible for long-range planning, safety regulations, and accident investigations. It would absorb the interim AMB described above. In addition, the interim plan proposed that the President appoint a Special Assistant for Aviation to implement the permanent plan.

#### Proposed Coordination of Federal Agency Activities

As described above, it was proposed to consolidate most functions eventually in the FAA and many functions in an Interim AMB. The CAB would lose its safety functions but retain its primary function of economic regulation. The ACC would continue to operate temporarily with the Special Assistant for Aviation as Chairman, but would ultimately be dissolved, and most of its functions would be taken over by an advisory council to FAA (Ref. 1, pp. 17-31).

#### IMPACT

It is remarkable how thoroughly the "blueprint" outlined above was implemented. First, the Administration adopted the whole report as its program essentially without change (Ref. 2). In fact, the Administration bill proposing the AMB had been introduced even before the Curtis Report had been officially

submitted to the President. The President also promptly appointed Elwood "Pete" Quosada to be the Special Assistant for Aviation (Ref. 3).

Second, Congress promptly passed the legislation creating the AMB, as proposed, despite efforts led by Senator Morony to alter it (Ref. 4; Act of August 14, 1957, 71 Stat 349, 49 U. S. C. 1211). Congress also accelerated the creation of the FAA (Federal Aviation Act of August 23, 1958, 72 Stat. 810), partly as a result of several spectacular mid-air collisions that occurred during the intervening period. AMB was duly dissolved and its functions transferred to FAA (Executive Order 10786 of November 1, 1958, pursuant to Federal Aviation Act). ACC was dissolved in 1960 and a new organization, IGIA, inherited its function of coordinating U. S. international civil aviation policy matters.

What factors were responsible for the relatively strong impact of the Harding and Curtis Reports? One was the continuity provided by a two-term President who was actively backing a timely reorganization. Another was the seriousness of the problem.

A reading of the literature shows widespread approval for the general outcome. Nevertheless, the large impact of the two reports had a negative effect on the efforts of federal agencies to achieve aircraft noise abatement. This was because the Curtis Report largely passed over the subject in its definition of a future system. There was a short discussion\* of aircraft noise in one of the back-up documents (Ref. 4, pp. 61-62) but it did not meet the problem squarely, and there was no mention of it at all in the final report (Ref. 1, p. 17). This was unfortunate because, in identifying airport expansion as a possible future system bottleneck, the Curtis group had an opportunity--which they missed--to draw the corollary conclusion that noise might become a big problem. One result of this last opportunity was that the terms of reference supplied to FAA upon its creation did not specifically include a noise control mission.

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\* Included verbatim as Appendix K.

#### REFERENCES

1. Curtis, Edward P., Aviation Facilities Planning: Final Report by the President's Special Assistant, May 1957, Washington, D. C., USGPO, 1957.
2. Eisenhower, Dwight, D., President of the U. S., Message to Congress of July 13, 1958, in U. S. Congress, Senate, Hearings before the Subcommittee on Aviation of the Committee on Interstate and Foreign Commerce, 85th Cong., 2d Sess., May 22, 23, June 4, 5, 16, 17, 18, 1958, Washington, D. C., USGPO.
3. "Quesada to Succeed Curtis as White House Aide Next Week," Aviation Daily, June 14, 1957.
4. U. S. Executive Office, Office of Aviation Facilities Planning, Modernizing the National System of Aviation Facilities, Washington, D. C., USGPO.

## PROJECT HORIZON--1961

### ORIGINS

#### Specific Authorization

"On March 3, 1961, the President directed the development for Presidential consideration of a statement . . . of national aviation goals for the period between now and 1970." This message was conveyed in a letter from President Kennedy to Najeeb E. Halaby, Administrator, Federal Aviation Agency.

#### Preauthorization History

At the same time the President directed that a companion study (Project Beacon) be undertaken to specify requirements for the national air traffic control system. These studies were timed to coincide with the completion of other transportation studies intended to lead to an "action program."

### OPERATION

#### Formulation of Objectives

In his letter, the President directed:

The definition of our aviation goals is essential if the agencies of the executive branch are to work effectively together and with Congress toward common objectives, and if the United States is to have the safest, most efficient, and economical national aviation system attainable. These goals must define the technical, economic, and military objectives of the Federal Government throughout the broad spectrum of aviation, and provide sufficient definiteness to facilitate practicable long-range planning. The goals and programs developed to attain those, should be based on foreseeable technical and financial capabilities and be formulated in terms of the appropriate role of aviation in the Nation's total transportation system. While excluding matters of peculiar concern to combat operating forces, you should take into account those plans of the executive departments and agencies which have a significant impact on aircraft or aviation facilities serving civil and military requirements (Ref. 1, p. iii).

President Kennedy set the date of June 1, 1961 for completion of the task.

Membership, Budget, Method of Operating, Staff

A Task Force was formed to fulfill the President's directive. Fred M. Glass (former Harding Committee member and Director of Aviation for Port of New York Authority) was appointed chairman of the Task Force, which took on the name "Project Horizon." Members of the Task Force were chosen according to their expertise and background in the areas to be covered. Glass selected specific individuals and assigned work in each particular area. Task Force membership and specific assignments were as follows:

- Stanley Gewirtz, Vice Chairman (former Western Airlines official)
- Dr. Leslie A. Bryan, Education and General Aviation (Director of the Institute of Aviation)
- Selig Altschul, Financial (independent aviation consultant)
- Gerald A. Busch, Market Analysis and Forecasts (Director of Marketing and Planning, Lockheed, Los Angeles, California)
- Paul Reiber, International (former ATA attorney)
- John F. Loosbrock, Editorial (Editor of Air Force Magazine and Space Digest)
- Francis T. Fox, Air Terminals (General Manager, Los Angeles Department of Airports)

Financial and administrative support was provided by the Federal Aviation Agency.

Use of Contractors

The Task Force made use of consultants and contractors, including Airborne Instruments Laboratory, National Planning Association, and R. Dixon Speas Associates.

### Relations with Other Groups

An Advisory Board, composed of leaders of the aviation community and individuals with previous experience in the area of aviation policy, was formed to provide counsel to the Task Force.

The Task Force requested that the Advisory Board, government agencies, and representatives of the aviation industry (e. g. , trade associations, labor unions, airline companies, aircraft and equipment manufacturing companies) air their views as to existing and proposed goals. The Task Force conferred with these groups often during the course of the study.

A technical Review Committee, comprised of members from airline/ aircraft companies, provided the Task Force with studies that served as a basis for the conclusions and recommendations made in the final report.

### OUTPUTS

The President's directive resulted in the Report of the Task Force on National Aviation Goals, Project Horizon, Federal Aviation Agency, submitted to Halaby (Administrator, FAA) on September 1, 1961 (Ref. 1). Halaby submitted the report to President Kennedy with a letter dated September 5, 1961.

The report contained 24 specific recommendations, covering the problems of airline financial posture, economic regulation of airlines, government subsidies, safety, research and development, civil-military relations, labor management relations, and education. Most of these were substantive recommendations — for example:

- CAB approach to regulation requires reorientation.
- Air carriers must pursue new marketing and promotional ideas to broaden their base of support.
- The 10 percent passenger transportation tax should be repealed.
- The Railway Labor Act should be replaced by an act tailored to airline needs.



- U.S. international carriers must receive more government support or face subsidy.
- A mach 3 transport should be developed as soon as possible.
- Aviation research and development programs in government should be revamped and stressed (Ref. 4).

There was also a recommendation for new legislation to deal with aircraft noise:

The head-on conflict between aviation interests and communities and property owners adjacent to airports is too important and basic to progress and the Nation's commerce to permit indifferent treatment of the problem by our Federal authorities. The need for the air traveler and air shipper to have available aviation facilities close to his points of origin and destination, and the right of the property owner to the peaceful use of his property without unwarranted interference from aircraft noise and flight, are both in the Nation's interest. The situation calls for a massive technical attack by the National Aeronautics and Space Administration, the Federal Aviation Agency, and private industry on the problem of engine noise, with particular emphasis on turbine powerplants. It is further essential, from an operating standpoint, that the Federal Aviation Agency establish and enforce standards of aircraft noise exposure and noise abatement rules applying to aircraft operations into and out of airports, and that future aircraft be designed against standards reflecting maximum limits for noise output, likewise established by the FAA. This will require legislation.

A corollary consideration, which properly falls to the local communities, is the accomplishment of zoning changes so as to reclassify land and critical areas near airports from residential to industrial or recreational use. The value of good industrial land adjacent to airports has almost universally grown at a rapid rate, and the transition should, except perhaps in rare instances, inflict no economic loss on property owners. As a corollary, the Federal Government should not permit a Federal agency to participate in land development programs which are not compatible with adjacent airport utilization. It is gratifying to note the enlightened position in this regard recently taken by the Federal Housing Administration (Ref. 1, pp. 95-96).

Few of the recommendations, however, dealt with government organization or interagency coordination, probably because the emphasis was on outlining broad goals that the FAA could later use in developing a detailed National Aviation Plan (Ref. 1, p. xiii). However, in the field of research and development, it was pointed out that "aeronautics is running a poor second to space technology" within NASA (Ref. 1, p. 49) and it was recommended that a group should be set up to take over the aeronautical portion of NASC's mandate:

Recommendations:

1. A senior technical group should be established within NASA charged with providing broad leadership, direction, guidance, and coordination to the entire aviation community in aeronautical research and development. This group should have the advice and counsel of an advisory board composed of leading aeronautical scientists from outside the Government.
2. The group should be headed by a qualified aeronautical scientist, rather than an engineer, with the rank of operating director within the NASA organizational framework.
3. NASA should emphasize its in-house applied research effort, with the bulk of essentially development work being carried out by private industry.
4. The work of the Bureau of Research and Development within the FAA should be reoriented in accordance with changing requirements and technology in air traffic control and related systems.
5. NASA should also continuously monitor the basic research sponsored by the Department of Defense and other Government agencies, particularly that being undertaken in support of the missile, space, and electronic technologies, to assure that aeronautical technology derives maximum benefit from the results of such research (Ref. 1, pp. 49-50).

**IMPACT**

The immediate impact of the report was a general Presidential endorsement, and instructions to FAA Administrator Halaby to take the lead in its implementation (Ref. 4). However, the report had been delayed because of "intra-governmental squabbling over its contents" (Ref. 5) and although

Halaby used the President's action directive, he disassociated himself somewhat from the Task Force's report (Ref. 6). Part of the interagency relations problem may well have concerned relations with the Department of Commerce, which had said that Project Horizon was part of a Commerce grand plan for transportation (Ref. 2), or with CAB, criticized for slowness of regulatory action in the report.

At any rate, there were few perceptible results based on the recommendations listed. Noise certification of new aircraft did not come until after the Office of Science and Technology push of 1966-67 (previously described in the section on FANAP), and there was a considerable delay before noise-related standards to be used in the approval or disapproval of all federally assisted construction projects were promulgated by HUD in 1971 (Ref. 3).

In the field of research and development coordination, Recommendations 1 and 2 were aimed at reconstituting a group similar to the main Advisory Committee of the NACA, which had been widely regarded as successful in its operations. These recommendations were not adopted until 1967, when ASEB was created; meanwhile, the NASC remained. Recommendation 5 was, however, implemented when NASA and DOD set up the Aeronautics and Astronautics Coordinating Board.

#### MONITORING AND UPDATING

The FAA was charged with monitoring progress toward the goals outlined in Project Horizon.

#### REFERENCES

1. U. S. Federal Aviation Agency, Report of the Task Force on National Aviation Goals--Project Horizon, September 1961.
2. Aviation Daily, June 6, 1961, p. 226.
3. U. S. HUD, Circular 1390.2, July 1971.
4. Aviation Daily, September 11, 1961, p. 45.
5. Aviation Daily, August 21, 1961, p. 301.
6. Aviation Daily, September 18, 1961, p. 89.

AERONAUTICS AND SPACE ENGINEERING BOARD (ASEB) OF THE  
NATIONAL ACADEMY OF ENGINEERING—CIVIL AVIATION RESEARCH  
AND DEVELOPMENT STUDY, 1968

ORIGINS AND OUTLINE HISTORY

Specific Authorization

The study was selected by ASEB itself and supported by a NASA grant.

Preauthorization History

The National Academy of Engineering (NAE) established the Aeronautics and Space Engineering Board in May 1967 to advise NASA and other agencies of the government. NAE was itself established in 1964 to:

- Provide means of assessing changing needs of the nation and the technical resources that should be applied to those changing needs.
  - (a) Sponsor programs aimed at meeting these needs.
  - (b) Encourage engineering research as may be advisable in the country's interest.
- Explore means for promoting cooperation in engineering in the U. S. and abroad.
- Advise Congress and the Executive Branch (when called upon by a department or agency thereof) on matters of national importance in engineering.
- Cooperate with the National Academy of Science on both science and engineering related matters.
- Recognize outstanding contributions to the nation by leading engineers.

ASEB consists of a chairman, a vice chairman, and nine members, all from different areas of the aviation community.

ASEB acts as an advisor to NASA and other related agencies of the government. ASEB's study was preceded by a report prepared by the Library of Congress for the Senate Committee on Aeronautical and Space Sciences (Ref. 1).

## OPERATION

### Formulation of Objectives

In consultation with NASA, DOT, FAA, the President's Science Advisor, certain interested committees of Congress, and the National Aeronautics and Space Council (NASC), ASEB selected as its first topic of study "An Assessment of Federal Government Involvement in Civil Aviation Research and Development."

### Membership, Activities, Staff, Contractors

In order to study federal government involvement in civil aviation research and development, six ad hoc committees chaired by ASEB members were directed to compile reports in pertinent areas:

- Flight Vehicles and Airbreathing Propulsion (Edward Wells, Perry Pratt, Chairmen)
- Aircraft Operations (Willis Hawkins, Chairman)
- Air Traffic Control (Drs. Allan Puckett, George Solomon, Bernard Oliver, Co-Chairmen)
- Airport and Support Facilities (John Kyle, Jr., Chairman)
- Economics of Civil Aviation (Carlos Wood, Chairman)
- Noise (Dr. Leo Bernek)

Each committee consisted of knowledgeable men from various sectors of the aviation community.

A drafting committee chaired by Dr. Raymond L. Bisplinghoff (an ASEB member) and composed of the ASEB chairmen was responsible for the final report.

### Relations with Others

Various members of ASEB and the ad hoc committees were from the industrial community.

### OUTPUTS

The study of the federal government's involvement in civil aviation R&D resulted in six reports prepared by the ad hoc committees listed above.

A final report entitled "Civil Aviation Research and Development: An Assessment of Federal Government Involvement" summarized the results of the study. The major conclusions as stated in the introduction to the final report were:

- A. The three most critical factors limiting the growth of civil aviation were (1) airport and support facilities; (2) noise; and (3) air traffic control, in that order.
- B. It was necessary for federal aeronautical research and development to be much more closely coordinated:  
". . . knitting together more tightly the civil aviation research and development activities of the Department of Transportation, its major operating unit, the Federal Aviation Administration, and the National Aeronautics and Space Administration, and especially dividing their responsibilities according to capability. The DOT should provide the leadership in conducting systems studies to identify, analyze, and rank civil aviation goals as well as the research and development needed to attain these goals; NASA should be responsible for research and development in all the areas of importance to civil aeronautics; the FAA should, in addition to operating the airways network, be responsible for the systems testing of the resulting operational concepts and hardware (Ref. 2, pp. v-vi).

Thus, the ASEB study was the first to highlight the aircraft noise problem. It also proposed a specific jurisdictional solution that would leave each of the three agencies with important roles. However, it did not address itself specifically to the kind of coordination mechanisms that adoption of such a division of labor implied.

## IMPACT

The major outcome of the ASEB work was not that its recommendations were immediately adopted, but that its thinking shaped the CARD (Civil Aviation Research and Development) Study that immediately followed it (Ref. 3, pp. 19-20). The NAE organized an Advisory Committee to the CARD study staff, which assisted them from the outset. The degree to which the ASEB work facilitated the CARD work is open to question, however. The CARD study, which was initiated in August 1968, soon fell far behind schedule. Later, however, NASA officials said that the ASEB report "had been used extensively in reshaping their aeronautical program" (Ref. 3, p. 71).

## MONITORING AND UPDATING

While the study group itself disbanded after the report was completed, as is typically the case, the Advisory Committee mentioned above continued to monitor developments as the CARD study progressed.

## REFERENCES

1. U. S. Library of Congress, Legislative Reference Service, Policy Planning for Aeronautical Research and Development, Staff Report prepared for the use of the Committee on Aeronautical and Space Sciences, U. S. Senate, S. Doc. 90, 89th Cong., 2nd Sess., May 19, 1966.
2. National Academy of Engineering, Aeronautics and Space Engineering Board, Civil Aviation Research and Development--An Assessment of Federal Government Involvement Summary Report, August 1968.
3. U. S. Congress, House, Issues and Direction for Aeronautical Research and Development, Report of the Subcommittee on Advanced Research and Technology of the Committee on Science and Astronautics, U. S. House of Representatives, House Report 91-932, 91st Cong., 2nd Sess. March 23, 1970.



THE CIVIL AVIATION RESEARCH AND DEVELOPMENT POLICY STUDY  
(CARD STUDY), 1971

ORIGINS AND HISTORY

Specific Authorization

The Civil Aviation Research and Development Policy Study was undertaken jointly by the Department of Transportation (DOT) and the National Aeronautics and Space Administration (NASA) in accordance with a memorandum signed August 6, 1968.

Preauthorization History

According to the report (Ref. 1), one of the first stimuli was a recommendation by Dr. Glen P. Wilson of the Senate Committee on Aeronautical and Space Sciences, 90th Congress. Dr. Wilson had made a preliminary study of the subject in the summer of 1965 (Ref. 1, p. 11-8). Considerable Congressional pressure led to the CARD Study (Ref. 2, p. 38), and its objectives closely followed Congressional recommendations (Ref. 2, p. 41). The ASEB study was an important input of the CARD Study.

OPERATIONS

Formulation of Objectives

The Committee recommended that the study should analyze the benefits to the nation from aviation resulting from various levels of research and development effort.

Membership, Activities, Staff (Details in Appendix L)

Personnel were detailed from the two primary participating agencies (DOT, NASA) as well as from the Department of Defense and the Civil Aeronautics Board. Part-time participation came from the Department of State, the Department of Justice, the Department of Commerce, the Interstate

Commerce Commission, the National Aeronautics and Space Council, the Export-Import Bank, and the National Transportation Safety Board.

A committee (the ASEB Advisory Committee) was organized by the Academy of Engineering to act as an advisor to the joint study.

The work of the study was accomplished under the general direction of a management committee consisting of a chairman, vice chairman, and four other members (two from NASA, one from FAA, and one from DOT).

The joint study staff, under the direction of the management committee, operated with an executive director (DOT), a deputy director (NASA), and members from CAB, DOT, and NASA.

In carrying out the study, individual analyses were made, resulting in a number of supporting papers that were the foundation of the final report.

#### Use of Contractors

Information provided by contractors included:

- "Institutional Factors in Civil Aviation," prepared by Arthur D. Little, Inc., January 1971.
- "A Historical Study of the Benefits Derived from the Application of Technical Advances to Civil Aviation," Vol. I, Summary Report and Appendix A, prepared by Booz, Allen Applied Research, Inc., February 1971.
- A Historical Study of the Benefits Derived from the Application of Technical Advances to Civil Aviation," Vol. II, Appendices B through I, prepared by Booz, Allen Applied Research, Inc., February 1971.

#### Relations with Others

Various professional and industrial organizations offered advice. Relations with Congress have been partially covered in previous paragraphs.

Essentially, Congressional Committees such as the House Committee on Science and Astronautics served as sponsors and, when the pace of the study slowed, as project monitors, accelerating progress by the use of oversight hearings.

#### OUTPUTS

The joint DOT/NASA study was published in March 1971. It attempted to examine thoroughly all the factors affecting the future of civil aviation. During the study, analyses were made of the following:

- Long- and short-haul passenger service
- Air cargo
- General aviation
- Air traffic control
- Airports
- Complementary surface transportation
- Financial considerations
- Institutional and environmental factors
- Foreign competition
- Military Contributions to civil aviation -- benefits
- Several key policy issues

Supporting papers on the above topics were published.

As far as interagency coordination was concerned, the report recommended:

- Program offices to be established in DOT and staffed in part from experts on loan from other agencies, in those cases where responsibilities crossed organizational lines.
- Interchange of technical personnel from DOT, NASA, DOD, and possibly CAB at middle management levels.
- More active use of the NASC as a "focal point for the evolution of national policy related to civil aviation," including a permanent

mechanism for policy review of interagency questions and the establishment of some sort of communications channel by which industry could make its views known (Ref. 1, pp. 6-8 to 6-9).

Another key recommendation was "To take full advantage of the expertise and other resources in the airline and aerospace industries, joint enterprises between the Government and industry should be considered for major experimental hardware and demonstration programs" (Ref. 1, pp 2-8).

#### IMPACT

According to Congressional hearings (Ref. 3) held nearly 18 months after completion of the CARD Study, progress implementation of study recommendations was slow. The NASC had not taken the lead in continuing policy analysis and coordination, and CARD Study priorities had not yet been "formally acknowledged or agreed to by the Administration" (Hearing Finding 1, Ref. 3, p. 1). On the other hand, it was acknowledged that "substantial progress has been made in developing more effective working relationships between NASA, DOT and FAA" (Hearing Finding 7, Ref. 3, p. 10). One of the areas of improved coordination, and in fact, the principal example cited at the hearings, was the establishment of a joint NASA/DOT Office of Noise Abatement.

It was also acknowledged that the problems of setting policy were formidable and that the evidence concerning the divergence of military and civil aeronautical requirements remained inconclusive (Hearing Finding 9, Ref. 3, p. 11), which led to the launching of still more studies (the AAC Study, and the RADCAP Study, respectively).

#### MONITORING AND UPDATING

Since the CARD study group was disbanded and since NASC had failed to take an active role, the chief mechanism for monitoring progress toward CARD study goals was the series of Congressional hearings referred to in the previous sections.

The goal of the CARD Study was to try to determine what level of research and development should be maintained in order to achieve desired results. The study was also to include an analysis of the differences between military and civil aeronautical requirements, and to outline the diminishing benefits of military research and development as related to civilian needs.

The specific objectives as formulated in an expanded charter finally agreed upon in September 1969 were:

#### Objectives of the Study

Consonant with the recommendations of the Committee on Aeronautical and Space Sciences in Senate Report 957, the overall objectives of the study are:

- (a) To analyze the relationship between benefits that accrue to the nation from civil aviation and the level of aeronautical research and development effort.
- (b) To determine or develop criteria for determining the level of civil aeronautical research and development required to maintain U.S. leadership in civil aviation in the future.
- (c) To identify what portion of civil aviation R. & D. should be sponsored by the government.
- (d) To analyze the divergence and commonality of military and civil aeronautical requirements and assess the trends of benefits to civilian needs from military R. & D.
- (e) To identify civil aviation R. & D. anticipated to be undertaken in the private sector (to the end that civil aviation R. & D. efforts of both public and private sector can be viewed in an overall national context) (Ref. 2, pp. 41-42).

#### REFERENCES

1. U.S. Department of Transportation and National Aeronautics and Space Administration, Civil Aviation Research and Development Policy Study, DOT TST-10-4 and NASA SP-265, Washington, D. C., March 1971.
2. U.S. Congress, Issues and Directions for Aeronautical Research and Development, Report of the Subcommittee on Advanced Research and Technology of the Committee on Science and Astronautics, U.S. House of Representatives, House Report 91-932, 91st Cong., 2nd Sess., March 23, 1970.
3. U.S. Congress, House, Committee on Science and Astronautics, Subcommittee on Aeronautics and Space Technology, Civil Aviation Research and Development: Policies, Programs and Problems, House Report 92-1423, 92nd Cong., 2nd Sess., September 1972.

## REPORT: R & D CONTRIBUTIONS TO AVIATION PROGRESS (RADCAP)--1972

### ORIGINS AND HISTORY

#### Specific Authorization, Preauthorization History, Outline History

The RADCAP Study, which followed the CARD Study, concerned itself only with the relevancy of military aeronautical programs to civil aviation R & D needs. It was initiated in late 1971 by DOD following a suggestion in a memo (September 9, 1971) from William McGruder of the White House staff to Deputy Secretary of Defense, David Packard. The first meeting of the Study Team occurred on December 13, 1971. The report was issued in August 1972.

The underlying reason for RADCAP was that the original January 1968 Senate Report (of the Senate Committee on Aeronautical and Space Sciences) that led to the CARD Study suggested that a "detailed analysis of the divergence of military and civilian aeronautical requirements" be made to assess "the diminishing benefits to civilian needs from military R & D." It was felt that the CARD Study had covered civilian needs and benefits but had not covered sufficiently the question of military contribution and relevancy.

### OPERATION

#### Formulation of Objectives

Specific objectives of the study were:

- To identify the major technological advances that have been made in aviation since 1925—including background, sponsor, user, application, timing, and trends.
- To show the relevancy of currently planned and funded DOD aeronautical R & D programs to the R & D needs of civil transport aviation—research and technology, development, application, and transfer process.

#### Membership

Overall guidance and direction were provided by a four-man DOT/NASA/DOD Steering Group. The work was done by a Study Team.

#### Activities and Staff

The Study Team consisted of a working group and nine panels (see Appendix M); the panels made the primary effort in the nine subject areas that led to the nine appendices of the report, and the working group drew together the Summary Report. Maximum use was made of existing data, and the CARD Study was used as the source for civil aviation R & D needs.

The Aeronautical Systems Division and Laboratories of the Air Force Systems Command supplied clerical and support personnel.

#### Use of Contractors

There was no use of contractors.

#### Relations with Other Groups

Relations with industry: The AIAA, McDonnell Douglas, Boeing, Pratt and Whitney, and G. E. all provided technical assistance, comments, and advice at the request of the Study Team.

There were apparently few or no contacts with Congress or state and local governments.

#### OUTPUTS

The only output was the RADCAP Report (Ref. 1).

#### IMPACT

The report has had no apparent impact, in the sense of any significant influence on recontlegislation or regulations.

#### MONITORING AND UPDATING

By its nature, the group working on RADCAP went out of business with the publication of the report. There is no standing body to update its findings. Also, it is worth noting that the focus of RADCAP was on R & D that was accomplished,



rather than on the institutional framework in which the R & D occurred, was coordinated, or was transferred to civil aviation.

#### REFERENCES

1. Joint DOT/NASA/DOT Study, R & D Contributions to Aviation Progress, August 1972, Volume I, Summary Report, Volume II, Appendices 1 through 9:

<u>APPENDIX</u>	<u>TITLE</u>
1	Propulsion and Power
2	Meteorology
3	Avionics
4	Materials
5	Human Factors/Aviation Medicine
6	Air Vehicle Technology
7	Military "R" Relevancy/Civil Aviation R & D Needs
8	Military "D" Relevancy/Civil Transport Aviation
9	Aeronautical R & D Funding

## AVIATION ADVISORY COMMISSION (AAC) -- 1973

### ORIGINS AND HISTORY

#### Specific Authorization

P. L. 91-258 (1970) required by the President and Congress. Both the President and Congress were concerned that the current aviation transportation system would not be sufficient to meet the projected demand in future years.

#### Preauthorization history

In 1969 the Senate Commerce Committee held hearings "to determine the appropriate course of federal action for the coming years in the field of airport/airways development (Ref. 4, title page), with three bills under consideration. At the hearings, Alfred E. Driscoll, former governor of New Jersey and co-chairman of a regional development commission, proposed that a national commission be appointed to specify a long-term optimal national aviation system.

Such a commission can project the air travel demand for the 1980's and onward and define the overall pattern of facilities, equipment and services that will best meet this demand -- taking into account the total costs and benefits and the long-term effects on the general design and environment of the Nation's emerging superregions.

Once the commission has arrived at a general definition of the optimum air system, the continuing detailed airport and airway planning for this system can be carried forward as set forth in S. 2437 -- with compatible vehicle and service development by the appropriate industries and Government agencies.

By its composition, the commission cannot only outline the national air system but can provide for the vital integration of this system with other forms of transportation (particularly highspeed ground service) and with effective land-use programs. In doing so, it can give encouragement to broad regional transportation planning and development as contemplated in S. 2425 which is also under consideration by your committee (Ref. 4, p. 887).

Thus, under the Driscoll proposal, the proposed commission would have a broader mandate than that of DOT to prepare an initial national airport system plan, which was proposed under a different section of S. 2437, the Administration bill.

Senator Boggs incorporated Driscoll's ideas in an amendment to S. 2437 to establish the Aviation Advisory Commission, including terms of reference covering "airport location and size, surround land use, terminal arrangements, ground access, airspace use, air traffic control, airline route structure and administrative arrangements, aircraft design, environmental effects, effect on urban areas, and costs of carrying out the plan (Ref. 4, p. 944).

Boggs added an AAC advisory role to the responsibilities of the Secretary of Transportation, noting that the AAC could solicit ideas from the private sector in the interest of developing a more comprehensive outlook on the problems of civil aviation. He wrote that this advisory role was not designed to "usurp the powers of the Secretary of Transportation," but rather, "in the opinion of a broad range of people who are deeply concerned and involved in the industry who support this amendment," to help him (Ref. 4, p. 943).

The amendment envisioned a somewhat larger Commission than the one that was subsequently established, proposing that the membership include representatives of interested federal departments and agencies, major industry associations, and local regional planning entities.

## OPERATION

### Formulation of Objectives

P. L. 91-258-970, page 5, lists the duties of the Commission. From these requirements, a Commission Goal was established:

To outline to the President and the Congress those long-range needs of our aerospace transportation system which must be met, if, as an integral part of the total transportation system of the world, it is to have sufficient capacity to satisfy the

reasonable demands of all users, is to be technically, economically and politically sound, and can at the same time be operated in harmony with the environment (Ref. 3).

#### Membership

Nine members appointed by the President (list of members Appendix N). The members included one person to serve as Chairman, chosen on basis of education, training or experience, and eight persons specifically qualified to represent commercial air carriers, general aviation, aircraft manufacturers, airport sponsors, state aeronautics agencies, and three major organizations concerned with conservation or regional planning (Ref. 2).

The AAC was authorized an appropriation not to exceed \$2 million to be drawn from the airport and airways trust fund. The Commission did not expend all of the authorized funds.

#### Activities

Two-year study. Major-issue questionnaires were sent out to state, federal and industrial organizations. Studies were prepared by private industry and federal, state, and local government agencies. AAC-sponsored conferences were held, and reports were generated from them.

#### Staff

Average size at any one time was 14 people (see Appendix N).

#### Use of Contractors and Consultants

Several contractor organizations and consultants were utilized (Appendix N).

#### Relations with Others

Appendix N, which lists 56 organizations that helped in the selection of major issues and participated in Commission conferences to develop those

issues. The list includes industry, state and local governments, and federal agencies. Because the Commission was not part of another government agency, the study could be conducted with complete objectivity and without fear of offending a supporting federal agency.

#### OUTPUTS

The Aviation Advisory Commission designed a course of action for the period through 1985. The AAC was confident about being able to meet the system needs during this period. However the Commission was unsure of how the plan would work beyond 1985, since it would be affected by trends in the following areas:

- Population
- Land Resources Available
- Energy Resources Available

To make allowances for these trends, the Commission recommended a periodically updated 10-year National Aviation Plan to be prepared by a newly established Under Secretary for Civil Aviation. Recommendations were made covering immediate and future problems of the aviation transportation system and the implementation of a workable system (Ref. 3).

The AAC made the same recommendation on government organization as the CARD Study had made before it: accomplish interagency coordination of civil aviation activities through the NASC (Ref. 3, p. V-85ff). (See also AAC consultant report in Appendix Q.)

#### IMPACT

After the report was submitted to the President and Congress, little was heard of it. According to Crocker Snow, Chairman of the Commission, the report failed (Ref. 2). Snow believes that a major reason for the failure was the presence of strong dissent on the Commission. He also believes that the only recommendations of the Commission that have been heeded so far are those regarding aircraft noise.

A major recommendation of the report concerning use of the NASC as a coordinating body was modified shortly after the report came out. The NASC was abolished by President Nixon's Reorganization Plan No. 1 of 1973, effective July 1973.

#### MONITORING AND UPDATING

AAC was established only for the study. It was legally disbanded 60 days after the final report was completed.

#### REFERENCES

1. Aviation Daily, February 13, 1974, p. 243.
2. P. L. 91-258 (May 21, 1970).
3. Report of Aviation Advisory Commission, "The Long Range Needs of Aviation," January 1973.
4. U. S. Congress. Senate. Committee on Commerce. Subcommittee on Aviation. Hearings on S. 1637, S. 2437, and S. 2651. Serial No. 91-13. 91st Congress, 1st Session, 1969.

## EPA REPORT TO CONGRESS ON AIRCRAFT/AIRPORT NOISE—1973

### ORIGINS AND OUTLINE HISTORY

#### Specific Authorization

Section 7(a) of the Noise Control Act of 1972 (P. L. 92-574, 86 Stat. 1234) (Ref. 2).

#### Preauthorization History

The legislative history of the Noise Control Act shows a compromise between those who wanted to give EPA authority to promulgate regulations to abate aircraft/airport noise and those who felt this responsibility more properly rested with FAA. The Act required EPA to conduct a study and then to present proposed regulations to FAA. FAA was required either to promulgate the regulations under its existing authority or to explain why it would not do so. The Act also required each federal agency to consult with the Administrator of EPA in prescribing standards and regulations respecting noise and charged EPA with the "effective coordination of Federal research and activity in noise control" (Ref. 2, Section 2(b)).

#### Outline History

- |   |                                  |               |
|---|----------------------------------|---------------|
| ● | Initiation of EPA study efforts  | November 1972 |
| ● | First meeting of Task Force      | February 1973 |
| ● | Final meeting of Task Force      | June 1973     |
| ● | Final task group reports         | July 27, 1973 |
| ● | EPA Report submitted to Congress | July 1973     |

## OPERATION

### Formulation of Objectives

Objectives were spelled out in the Act. To a lesser extent, terms of reference and methods of procedure were also specified:

Sec. 7(a). The Administrator, after consultation with appropriate Federal, state, and local agencies and interested persons, shall conduct a study of the (1) adequacy of Federal Aviation Administration flight and operational noise controls; (2) adequacy of noise emission standards on new and existing aircraft, together with recommendations on the retrofitting and phaseout of existing aircraft; (3) implications of identifying and achieving levels of cumulative noise exposure around airports; and (4) additional measures available to airport operators and local governments to control aircraft noise. He shall report on such study to the Committee on Interstate and Foreign Commerce of the House of Representatives and the Committee on Commerce and Public Works of the Senate within nine months after the date of the enactment of this act (Ref. 2, Sec. 7(a)).

To that end a Task Force consisting of six Task Groups was set up by EPA.

Task Group One, examined the existing legal/institutional structure including Federal interagency coordination problems.

### Membership

In accordance with the provisions of Section 7(a), a participatory and consultative process was used to develop the six task group reports. Letters of invitation to participate were sent to organizations representing various sectors of interest, including other federal agencies, organizations representing state and local governments, environmental groups, pilots, airport proprietors, and airlines, as well as persons or organizations expressing an interest in the study. (Complete list for Task Group 1 is in Appendix O.) However, the membership of the group producing the final task group reports consisted entirely of EPA staff and their consultants.



### Activities

Each of the task groups held four to six working meetings, culminating in a final planning session June 21 and 22, 1973. EPA staff used draft recommendations from participants to write recommendations for each task group. A consensus existed for each recommendation, even though not all the participants agreed on each. Therefore, separate individual and organizational positions were printed in appendices to the task group reports.

### Use of Contractors

Approximately 15 EPA consultants and contractors worked directly with the task groups.

### Relations with Other Groups

As previously mentioned, task groups were themselves interorganizational groups that included representatives from states and municipalities, federal agencies, industry, and other interest groups.

## OUTPUTS

### Reports

The basic output was the July 1973 Report to Congress (Ref. 1) together with backup documents from each of the six task groups (Ref. 3-8).

Two related reports, required by another section of the Noise Control Act of 1972, were also prepared by the EPA Office of Noise Abatement and Control. These documents, the "Criteria Document (Ref. 9) and the "Levels Document" (Ref. 10), help establish the effects of environmental noise on public health and welfare that must be known in order to set ultimate goals for the national aviation noise reduction effort.

#### Proposed Laws and Regulations

A major finding in the Report to Congress was that the federal government should promulgate an airport noise regulation designed to limit cumulative noise exposure in residential communities. It was concluded in a related back-up report (Ref. 3) that this could be done by FAA under existing FAA airport certification processes and that no new legislation was required. Other recommendations included:

- Establishment by states of airport land use commissions.
- A study by Congress and the Executive Branch of financing schemes (with the particular participation of CAB).
- Acceleration of federal regulation of aircraft noise under existing FAA authority.

#### Public Relations and Information Dissemination

The Task Group reports and the Report to Congress were disseminated widely by EPA and released for sale to the public.

The main report to Congress committed EPA to take active responsibility for coordinating federal noise control and noise research activities under Section 4 of the Noise Control Act (Ref. 2).

Specifically, it was noted that the abolition of previous coordination mechanisms for aviation research in general (NASC) and noise research in particular (IANAP) made the coordinating role of the EPA Administrator as established in the Act more important. Moreover, the report stated that the interim informal communications existing in 1973 between responsible officials of DOT, FAA, NASA, and EPA would "be translated into an effective formalized procedure before the end of FY 1974" (Ref. 1, pp 42-43). One function of such a procedure would be to establish and monitor progress toward a comprehensive set of national aviation noise reduction objectives consistent with public health and welfare (Ref. 1, p. 116).

## IMPACT

Since July 1973 the FAA has issued several notices of proposed rulemaking dealing with aircraft noise reduction. These actions may be due in part to the report to Congress and to EPA activity in drafting regulations for presentation to FAA under Section 7(e) of the Noise Control Act.

In January 1974, EPA set up within the Office of Noise Abatement and Control an Aviation Noise Control Requirements Study to develop a plan for the creation of a permanent National Aircraft Noise Abatement Plan, i.e., a comprehensive, integrated federal plan for the abatement and control of aircraft noise (Ref. 11, p. 1). The work of this group is in progress.

## MONITORING AND UPDATING

To date, Congressional oversight hearings in December 1973 and in March, May and July 1974 have been the main forums for review of progress toward an improved federal coordination mechanism. A further mechanism for review will be the periodic report on all federal noise activities called for by Section 4(e)(3) of the Act:

(3) On the basis of regular consultation with appropriate Federal agencies, the Administrator shall compile and publish, from time to time, a report on the status and progress of Federal activities relating to noise research and noise control. This report shall describe the noise control programs of each Federal agency and assess the contributions of those programs to the Federal Government's overall efforts to control noise (Ref. 2, Section 4(e)(3)).

## REFERENCES

1. "Report on aircraft/Airport noise," Report of the Administrator of the Environmental Protection Agency in Compliance with Public Law 92-574, Senate Committee on Public Works, Serial No. 93-8, July 1973.
2. Noise Control Act of 1972 (P. L. 92-574, 86 Stat. 1234), October 27, 1972.

3. "Legal and Institutional Analysis of Aircraft and Airport Noise and Apportionment of Authority Between Federal, State, and Local Governments," Report of Task Group 1, EPA NTID 73.2, July 1973.
4. "Operations Analysis Including Monitoring, Enforcement, Safety, and Cost," Report of Task Group 2, EPA NTID 73.3, July 1973.
5. "Impact Characterization of Noise Including Implications of Identifying and Achieving Levels of Cumulative Noise Exposure," Report to Task Group 3, EPA NTID 73.4, July 1973.
6. "Noise Source Abatement Technology and Cost Analysis Including Retrofitting," Report on Task Group 4, EPA NTID 73.5, July 1973.
7. "Review and Analysis of Present and Planned FAA Noise Regulatory Actions and their Consequences Regarding Aircraft and Airport Operations," Report to Task Group 5, EPA NTID 73.6, July 1973.
8. "Military Aircraft and Airport Noise and Opportunities for Reduction without Inhibition of Military Missions," Report of Task Group 6, EPA NTID 73.7, July 1973.
9. U. S. Environmental Protection Agency, Public Health and Welfare Criteria for Noise, 550/9-73-002, July 27, 1973.
10. U. S. Environmental Protection Agency, Information on Levels of Environmental Noise Requisite to Protection Public Health and Welfare with an Adequate Margin of Safety, 550/9-74-004, March 1974.
11. Schettino, J. C. and H. J. Nozick, Office of Noise Abatement and Control, EPS, "Information Brief on National Aircraft Noise Abatement Management Plan Concept," January 25, 1974.

<b>BIBLIOGRAPHIC DATA SHEET</b>		1. Report No. EPA 550/9-74-019A	2.	3. Recipient's Accession No.
4. Title and Subtitle CIVIL AVIATION STUDIES AND INTERAGENCY COORDINATING ORGANIZATIONS A Background History, with Emphasis on Organizations Dealing with the Aircraft Noise Issue Volume 1, Report			5. Report Date December 1974	6.
7. Author(s) Carl Modig			8. Performing Organization Report No.	
9. Performing Organization Name and Address Informatics Inc. Noise Information Program 6000 Executive Blvd. Rockville, Md. 20852			10. Project/Task/Work Unit No.	
			11. Contract/Grant No. 68-01-2229	
12. Sponsoring Organization Name and Address U. S. Environmental Protection Agency Office of Noise Abatement and Control 1921 Jefferson Davis Highway Arlington, Virginia 20460			13. Type of Report & Period Covered Final	
			14.	
15. Supplementary Notes Volume two contains copies of source documents pertaining to the studied organizations.				
16. Abstracts As background information to the federal noise abatement program, past and present federal organizations set up to coordinate civil aviation policy are described, including those dealing with the aircraft noise problem. Commissions and agency task groups who studied civil aviation problems are also described. Descriptions include membership, authorization, outline history, objectives, activities, staff, outputs (reports, proposals, etc.), impact, and mechanisms for modifications of organizational structure or goals. The evolution of these organizations from after World War II to the present is traced, both those coordinating research and those coordinating operational policy. Typical problems that have been encountered by various organizations are discussed. Some conclusions of the study are: (1) in the early 1960's there was no institution actively coordinating federal aircraft noise abatement activities; (2) much of the impetus for better coordination has come from Congress; (3) successful coordination requires high-level agency and Administration support; (4) the host agency may have difficulty securing cooperation of other agencies.				
17. Key Words and Document Analysis. 17a. Descriptors (* = terms verified already used in GRA/GRI)				
Civil Aviation* Noise Pollution* Aircraft Noise* Interagency Coordination Interagency Committee Presidential Commissions Congressional Commissions Policy Coordination				
17b. Identifiers/Open-Ended Terms				
National Advisory Committee for Aeronautics National Aeronautics and Space Council Aeronautics and Astronautics Coordinating Board Interagency Noise Abatement Program CARD Study Aviation Advisory Commission Committee on Hearing, Bio-Acoustics and Bio-Mechanics			EPA Report to Congress on Aircraft/Airport Noise Office of Science and Technology Federal Aviation Administration Environmental Protection Agency Interagency Group on International Aviation	
17c. COSATI Field/Group		5/D		
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