

DEPARTMENT OF COMMERCE  
CIVIL AERONAUTICS ADMINISTRATION  
WASHINGTON 25

November 4, 1952

TO: AIRPORTS ADVISORY COMMITTEE MEMBERS

Transmitted herewith is a copy of "The Airport and Its Neighbors", the report of the President's Airport Commission, and a copy of the "Preliminary Report on Recommendations 1 - 25 and Recommendations A - V" of the Special Working Group to Study the Report of the President's Airport Commission.

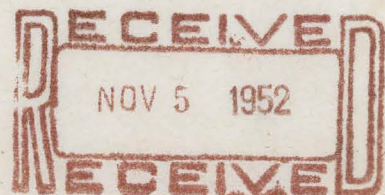
The report of the President's Airport Commission is to be discussed during the meeting of the Airports Advisory Committee being held in Miami, Florida, on November 24, 25 and 26, 1952, and it is desirable that you review the Preliminary Report, which has not yet been adopted, and which outlines the various recommendations, indicates where the responsibility has been placed, the position recommended to be taken by the Department of Commerce, and the proposed implementation program for each of the recommendations.

You will note that the Preliminary Report has been classified as "Administratively Restricted" and it is requested that you therefore treat it accordingly and do not permit its use for publicity purposes. It is also requested that you bring the Preliminary Report transmitted herewith to the Miami meeting for your use at that meeting.

Sincerely yours,

*Paul Morris*  
Paul Morris  
Executive Secretary  
Airports Advisory Committee

Encl.



[attach. 11/4/52]

DEPARTMENT OF COMMERCE  
CIVIL AERONAUTICS ADMINISTRATION  
Washington

Special Working Group  
to Study the Report of the  
President's Airport Commission

Preliminary Report

on

Recommendations 1-25  
and

Recommendations A-V

October, 1952

ADMINISTRATIVELY RESTRICTED

## Preface

The position of the Department of Commerce, with regard to the recommendations contained in the report of the President's Airport Commission is predicated on the understanding that the application of such recommendations is limited (insofar as civil airport facilities are concerned) to those airports served by scheduled and large irregular air carriers engaged in interstate air commerce.

## Authority

The program, proposed herein to implement the recommendations of the President's Airport Commission, can be carried out within the limits of existing authority.

## Coordination

Industry groups, as well as state, county and local governments, will be consulted and their views considered before effecting the programs proposed herein.

Recommendation No. 1. Support required airport development.

New airports will be needed and present airports must be improved. State, county and municipal governments should be prepared to assume their proper share of this expense.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Airports

Position:

The Department of Commerce concurs in this recommendation. The CAA will continue to work with communities in the formulation of airport development programs.

Implementation Program:

1. Continue to make an annual appraisal of airports to determine the development necessary to anticipate and meet the needs of civil aviation.
2. Carry forward the present program for the development of new and the continuing evaluation of existing airport planning and programming standards to assure airport development consistent with the needs of civil aeronautics and national defense.
3. Continue to make known the CAA's estimate of airport deficiencies and work with each community to establish a program for orderly progress in airport development.

Recommendation No. 3. Integrate municipal and airport planning.

Airports should be made a part of community master plans completely integrated with transportation requirements for passenger, express, freight and postal services. Particular attention should be paid to limited access highways and other transportation facilities to reduce time to the airport from sources of air transport business.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense -- Airports of military interest.

CAA responsibility: Office of Airports.

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue to encourage and assist in community planning.

Implementation Program:

1. Continue the preparation of an airport planning booklet which will discuss the techniques of airport planning and their application to the process of overall community planning. This booklet, together with other CAA airport planning booklets already available, should be of invaluable assistance to planning commissions and consulting firms engaged in city and regional planning.
2. Continue actively to support community planning activities, rendering such assistance as is possible within the limitations of available personnel and funds. The emphasis that can be given to this program is directly proportional to the administrative funds made available under the Federal-Aid Airport Program. It must be recognized, however, that adequate planning on the part of individual communities is often very difficult, because:
  - (a) Many communities do not have adequate planning agencies,
  - (b) many planning agencies are without sufficient funds or staffs to carry out adequate programs of comprehensive planning, and
  - (c) most city planning agencies are unable to plan or enforce good planning practices outside of their municipal jurisdictions.

Recommendation No. 4. Incorporate cleared runway extension areas into airports.

The dominant runways of new airport projects should be protected by cleared extensions at each end at least one-half mile in length and 1,000 feet wide. This area should be completely free from housing or any other form of obstruction. Such extensions should be considered an integral part of the airport.

Responsibility:

Department of Commerce -- Airports of civil interest.  
Department of Defense - Airports of military interest.

Position:

The Department of Commerce concurs in the recommendation on the basis that it is primarily for the purpose of safety to people on the ground, that it does not imply that the extension is an over-run area, that it does not preclude the installation of aids to air navigation therein, and that it does not imply any requirement to grade the area except for the purpose of removing an obstruction. The Department of Commerce recognizes that a level area will further contribute to the safety of aircraft but feels that levelling should be accomplished only where economically feasible. The CAA will apply the principle of this recommendation to new airports financed wholly or in part with Federal funds.

Implementation Program:

1. Promulgate a policy of recommending the inclusion of cleared runway extension areas in all new airport sites of a service type of feeder and larger, with such inclusion mandatory for all new airports of this size group developed under the Federal-Aid Airport Program.
2. Amend the required sponsor's assurances incorporated in grant agreements under the Federal Airport Act to include a covenant not to permit any structures in any cleared runway extensions which are owned or otherwise controlled by the sponsor, except for structures required for aids to air navigation.

Recommendation No. 5. Establish effective zoning laws.

A fan-shaped zone, beyond the half-mile cleared extension described in Recommendation No. 4, at least two miles long and 6,000 feet wide at its outer limits should be established at new airports by zoning law, air easement or land purchase at each end of dominant runways. In this area, the height of buildings and also the use of the land should be controlled to eliminate the erection of places of public assembly, churches, hospitals, schools, etc. and to restrict residences to the more distant locations within the zone.

Responsibility:

Department of Commerce

CAA responsibility: General Counsel in consultation with Office of Airports, Office of Aviation Safety and Program Planning Staff.

Position:

The Department of Commerce concurs in the recommendation. The CAA will apply the principle of this recommendation to new airports financed wholly or in part with Federal funds.

Implementation Program:

1. Revise existing zoning standards to incorporate the essentials of the configuration specified in the recommendation.
2. Join with the National Institute of Municipal Law Officers in revising the CAA-NIMLO model airport zoning act and the CAA model airport zoning ordinance to include land-use zoning to the extent found to be legally proper and feasible; and in arranging for and participating in test suits to establish the constitutionality of airport zoning regulations.
3. Encourage the adoption of the revised CAA-NIMLO model zoning act by all states.
4. Increase emphasis on the present policy of advocating protection of approach zones at all new airports of a service type of feeder or larger, by acquisition, positive zoning or otherwise controlling the use of the land and the height of obstructions therein, and study the effect of making such protection mandatory for all new airports of this size group developed under the Federal-Aid Airport Program.

Recommendation No. 5, page 2

5. Amend the required sponsor's assurances incorporated in grant agreements under the Federal Airport Act to include a covenant not to use the approach zones for sponsor-owned places of public assembly, hospitals, schools or other land uses necessitating concentrations of people.

Comments on this recommendation should be submitted to the Department of Commerce, Bureau of Economic Analysis, Washington, D.C. 20540.

Department of Commerce

The responsibility for the development of the approach zones for airports is assigned to the Bureau of Economic Analysis, Office of Economic Policy and Program Planning Staff.

The Department of Commerce is the responsible agency for the implementation of this recommendation. The Bureau of Economic Analysis will study the recommendation in conjunction with the Federal Aviation Administration.

Implementation Program

1. Review the current status of the approach zones for airports and the responsibilities specified in the Federal Airport Act.
2. Study with the Federal Aviation Administration the current status of the approach zones for airports and the current status of the approach zones for airports and the current status of the approach zones for airports.
3. Review the current status of the approach zones for airports and the current status of the approach zones for airports.
4. Review the current status of the approach zones for airports and the current status of the approach zones for airports.



Recommendation No. 6. Improve existing airports.

Existing airports must continue to serve their communities. However, cities should go as far as is practical toward developing the cleared areas and zoned runway approaches recommended for new airports. No further building should be permitted on runway extensions and, wherever possible, objectionable structures should be removed. Operating procedures should be modified in line with Commission recommendations for minimizing hazard and nuisance to persons living in the vicinity of such airports.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Airports, in consultation with Office of Aviation Safety and General Counsel

Position:

The Department of Commerce concurs in the recommendation. The CAA will apply the principles of this recommendation to existing airports hereinafter improved with Federal funds.

Implementation program:

1. Apply the program to implement Recommendation No. 4 (cleared runway extensions) to existing airports of a service type of feeder or larger, to the extent feasible at each location.
2. Apply the program to implement Recommendation No. 5 (runway approach zones) to existing airports of a service type of feeder or larger, to the extent feasible at each location.
3. Apply the program to implement Recommendation No. 15 (single runway system) as it affects existing airports.
4. Apply programs to implement recommendations for better operating procedures to minimize nuisance and hazard wherever they will benefit existing airports.

Recommendation No. 7. Clarify laws and regulations governing use of  
airspace.

Authority of the Federal, State or municipal governments with respect to the regulation of the use of airspace should be clarified to avoid conflicting regulation and laws.

Responsibility:

Department of Commerce  
Civil Aeronautics Board

CAA responsibility: General Counsel

Position:

The Department of Commerce concurs in the recommendation. The CAA will work toward such clarification.

Implementation Program:

1. Continue to intervene or otherwise participate in judicial proceedings in which the problem of airspace use arises just as CAA has intervened in the pending case of All American Airways et al vs. Village of Cedarhurst et al, involving the constitutionality of an ordinance controlling the use of airspace over Cedarhurst, New York, which is presently on appeal to the Second Circuit Court of Appeals.

Recommendation No. 8. Define navigable airspace in approach zones.

The limits of the navigable airspace for glide path or take-off patterns at airports should be defined.

Responsibility:

Department of Commerce  
Civil Aeronautics Board

CAA responsibility: Office of Aviation Safety in  
consultation with General Counsel  
and Office of Federal Airways.

Position:

The Department of Commerce concurs in the recommendation. The  
CAA will continue its efforts toward adequate definitions.

Implementation Program:

1. Develop definitions of approach and take-off airspace and attempt  
to have such definitions incorporated in Civil Air Regulations.

Recommendation No. 9. Extend Civil Aeronautics Act to certificate airports.

The Civil Aeronautics Act should be amended to required certification of airports necessary for interstate commerce and to specify the terms and conditions under which airports so certified shall be operated. Certificates should be revoked if minimum standards for safety are not maintained. Closing or abandonment of an airport should be ordered or allowed only if clearly in the public interest.

Responsibility:

Department of Commerce  
Civil Aeronautics Board

CAA responsibility: General Counsel in consultation with Office of Aviation Safety and Office of Airports.

Position:

The Department of Commerce does not concur in the recommendation. The CAA will not undertake any implementation program.

Comment:

There were two purposes behind this recommendation: first, to make certain that all major airports would conform to defined minimum safety standards; and second, to prevent major airports from being arbitrarily closed or abandoned.

With regard to the first point, there now exists an adequate control over airport use in the CAA operating authorization to scheduled and large irregular air carriers.

With regard to the second point, the assurances made by sponsors of projects under the Federal Airport Act (which includes virtually every major airport) require continued operation of those airports improved with Federal funds.

Since most of the objectives sought by the recommendation regarding airport certification can be achieved under existing authority, no extension of the Civil Aeronautics Act is considered necessary.

Recommendation No. 10. Maintain positive air traffic control.

Certain air traffic control zones in areas of high air traffic density should be made the subject of special regulations to insure that all aircraft within the zone are under positive air traffic control at all times regardless of weather.

Responsibility:

Department of Commerce  
Civil Aeronautics Board

CAA responsibility: Office of Federal Airways in consultation with Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation as an ultimate objective. The CAA will work toward positive control as a stage-development program.

Implementation Program:

1. Continue the promulgation of specific traffic control methods and seek revised air traffic rules designed to reduce collision hazards and to provide more positive control of aircraft in designated areas of high traffic density. At this time, complete implementation of positive air traffic control in terminal areas during VFR conditions would result in a substantial reduction of the capacity of the present air traffic control system.
2. From time to time in the future, as new equipments now under development and designed to increase the capacity of the air traffic control system become available and are proven dependable for general use, review the degree of positive air traffic control that is desirable in each area of high density traffic. Full implementation of positive air traffic control in areas of high density traffic, (with due consideration being given to all users of the airspace) is the ultimate objective of this stage program, but its achievement represents a long-range undertaking.

Recommendation No. 11. Raise circling and maneuvering minimums.

Present straight-in instrument approach minimums are considered satisfactory but the minimum ceilings and visibilities under which aircraft are permitted to circle or maneuver under the overcast in congested terminal areas should be raised.

Responsibility:

Department of Commerce

CAA responsibility: Office of Aviation Safety

Position:

The Department of Commerce concurs in the essentials of the recommendation. The CAA will seek to minimize circling and raise minimums where consistent with safety.

Implementation Program:

1. Re-evaluate on an individual basis circling, ceiling and visibility minimums presently established at airports located near heavily populated areas and raise the minimums at those airports where safety considerations warrant such action.
2. Reduce the number of circling approaches by providing additional straight-in instrument approach procedures utilizing presently established radio navigational facilities.
3. Reduce the number of circling approaches in areas of high population and traffic density by establishing additional radio navigational facilities so as to provide additional straight-in instrument approach procedures.

Recommendation No. 12. Accelerate installation of aids to air navigation.

Research and development programs and installation projects designed to improve aids to navigation and traffic control in the vicinity of airports, especially in congested areas, should be accelerated. Installation and adequate manning of radar traffic control systems should be given high priority.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Federal Airways and CAA  
Member of ANDB

Position:

The Department of Commerce concurs in the recommendation. The CAA will request funds to accelerate the installation of air navigation aids.

Implementation Program:

1. Secure appropriations to meet the immediate objective of the CAA portion of the Common System program by providing for an expedited installation of aids to navigation and traffic control in the vicinity of airports. In addition to the normal budget required for the continued improvement of existing facilities, it is estimated that approximately \$45,000,000 is required for the three-year period ending June 30, 1955, if the program is to be accelerated effectively. In addition to funds for equipment and installation, it will be necessary to secure funds to provide for the maintenance and operation of new facilities as they are completed.
2. Secure appropriations for the Air Navigation Development Board to expedite research and development programs for navigational aids. To provide for an accelerated program, future appropriations at an annual level of approximately \$11,000,000 will be required.

Recommendation No. 13. Revise present cross-wind component limits.

Existing cross-wind component limitations should be reviewed to establish more liberal cross-wind landing and take-off specifications for each transport-type aircraft.

Responsibility:

Department of Commerce

CAA responsibility: Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation. The CAA will work toward such revision of cross-wind components as is consistent with safety.

Implementation Program:

1. Encourage the promulgation of Civil Air Regulations requiring a demonstrated cross-wind value of at least 30 MPH for each new transport-type aircraft.
2. Contact the industry for the purpose of recommending and planning a cooperative flight test program on the Convair 340, Lockheed 649, 749 and Martin 202 airplanes, to determine if cross-wind components of 30 MPH can be established.
3. Determine through a research program in cooperation with industry the maximum allowable cross-wind components under adverse runway conditions (wet, ice, snow, etc.).
4. Ascertain if tests of similar nature have been conducted by the military and if the data obtained would be satisfactory for application to civil operations.
5. Attempt to interest the military in conducting a cooperative test program with the CAA and industry.



Recommendation No. 14. Develop and use cross-wind equipment.

Although modern transport aircraft can operate successfully in any but very strong cross-winds, the further development and use of special cross-wind landing gears should be accelerated.

Responsibility:

Department of Commerce - civil aircraft.  
Department of Defense - military aircraft.

CAA responsibility: Program Planning Staff in consultation with Office of Aviation Safety.

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue to encourage the further development and use of cross-wind equipment.

Implementation Program:

1. Continue the firm policy under the Federal-Aid Airport Program which will tend to encourage the use of cross-wind equipment. This policy as expressed in the "Policy for Administering the Federal Aid Airport Program, 1952-1958," dated August 1952, is as follows:

"Expenditures for runway construction at new airports will generally be limited to a single runway. Its approaches should be acquired, zoned or otherwise protected for the safety and welfare of the people in the aircraft and on the ground. Expenditures for runway improvement at existing airports will largely be restricted to the dominant runway and its approach zones with a gradual 'phasing-out' of the less used runways. An exception to these rules will be made when traffic volume demands additional runway capacity or where adverse wind conditions require an additional runway for safety and operational efficiency. Such exception should be justified after giving consideration to the economic factors of air transportation at that location."

Recommendation No. 15. Extend use of single runway system.

New airports should adopt a single or parallel runway design. This should be adequate except under strong wind conditions, in which case a shorter runway at 90° to the main one may be required. Present airports should plan to develop the dominant runway at the expense of those less used. Airport expansion should be achieved through additional parallel runways.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Program Planning Staff in consultation with Office of Aviation Safety, Office of Federal Airways and Office of Airports.

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue to advocate the use of single runway systems.

Implementation Program:

1. Continue the firm policy stated in "Policy for Administering the Federal Aid Airport Program, 1952-1958," dated August, 1952, as follows:

"Expenditures for runway construction at new airports will generally be limited to a single runway. Its approaches should be acquired, zoned or otherwise protected for the safety and welfare of the people in the aircraft and on the ground. Expenditures for runway improvement at existing airports will largely be restricted to the dominant runway and its approach zones with a gradual 'phasing-out' of the less used runways. An exception to these rules will be made when traffic volume demands additional runway capacity or where adverse wind conditions require an additional runway for safety and operational efficiency. Such exception should be justified after giving consideration to the economic factors of air transportation at that location."

Application of this policy conserves public funds while adequately meeting aeronautical requirements.

Recommendation No. 15, page 2.

2. Develop specific values for wind coverage and traffic volume as related to airport service type and the future use of the airport as a further guide to the application of the policy.
3. Use a 15 MPH crosswind component as the basis for determining wind coverage except for airports whose traffic is predominately aircraft of transport type; in such cases a higher crosswind component may be used, dependent upon the results obtained under Recommendation No. 13 and 14.
4. Emphasize the desirability of orienting all runways so that extended center lines avoid heavily populated areas.

Recommendation No. 16. Meet standard requirements for runway length.

For each category of airport a standard runway length has been established consistent with its future planned use. Airports should bring their runways up to the standard. For intercontinental or transcontinental airports, the length of the dominant runways should be 8,400 feet with possibility of expansion to 10,000 feet if later required and with clear approaches as per Recommendations 4 and 5.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Airports.

Position:

The Department of Commerce concurs in the recommendation insofar as it is compatible with CAA Technical Standard Order N-6a. The CAA will continue to encourage runway development in accordance with this T.S.O.

Implementation Program:

1. Continue with increased emphasis, to establish runway dimensions and load-bearing capacities, for airports of the service types as shown in T.S.O. N-6a.
2. Continue annual appraisals of community airport requirements to fix the service type required for each airport.
3. Continue to reappraise, from time to time, the criteria set forth in T.S.O. N-6a to determine their current suitability. The T.S.O. categorizes types of airports according to anticipated use and establishes maximum lengths that may be constructed with Federal funds. Recommendation 16 is, in general, an endorsement of T.S.O. N-6a. The 10,000 foot length expansion possibility for the 8,400 foot length specified in the T.S.O. is a protective factor in anticipation of future designs. Available data, however, indicate that the 8,400 foot length will suffice for a substantial number of years.

Recommendation No. 17. Accelerate ground noise reduction programs.

Engine run-up schedules and run-up locations should be adjusted to minimize noise near airports. Adequate acoustical treatment in run-up areas and at test stands should be provided.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Aviation Safety to establish liaison with industry (in consultation with Office of Airports)

Position:

The Department of Commerce concurs in the recommendation. The CAA will assist in noise-reduction research.

Implementation Program:

1. Cooperate with other government agencies and with the industry in research projects to develop the best methods of ground noise reduction, including proper location and design of test stands and run-up areas, vegetative growth and topographic configuration to absorb or deflect ground noise, and mechanical baffling devices.
2. Encourage local airports to undertake ground noise-reduction programs.
3. Continue the activity of the National Noise Reduction Committee which is studying this problem.

Recommendation No. 19. Arrange flight patterns to reduce ground noise.

Airways and flight patterns near airports should be arranged to avoid unnecessary flight over thickly settled areas to minimize noise, but only within the limits of safe flight practice.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Aviation Safety.

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue efforts to minimize ground noise through proper arrangement of flight patterns.

Implementation Program:

1. Continue the study of local traffic patterns and where possible rearrange or make deviations to existing traffic patterns to effect a further reduction of ground noise.
2. Continue the application of the preferential runway system at airports where it can be advantageously used.
3. Continue the activities of the National Noise Reduction Committee which is studying this problem.

Recommendation No. 19. Arrange flight patterns to reduce ground noise.

Airways and flight patterns near airports should be arranged to avoid unnecessary flight over thickly settled areas to minimize noise, but only within the limits of safe flight practice.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Aviation Safety.

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue efforts to minimize ground noise through proper arrangement of flight patterns.

Implementation Program:

1. Continue the study of local traffic patterns and where possible rearrange or make deviations to existing traffic patterns to effect a further reduction of ground noise.
2. Continue the application of the preferential runway system at airports where it can be advantageously used.
3. Continue the activities of the National Noise Reduction Committee which is studying this problem.

Recommendation No. 20. Minimize training flights at congested airports.

Flight crew training should be conducted, as far as practicable, away from thickly settled areas and with a minimum number of flights into and out of busy airports.

Responsibility:

Department of Commerce

CAA responsibility: Office of Aviation Safety to establish liaison with industry.

Position:

The Department of Commerce concurs in the recommendation. The CAA will work with industry to keep training operations at busy airports to a minimum.

Implementation Program:

1. Continue to encourage the voluntary elimination of training flights at or near critical airports to the extent feasible, by conducting simulated instrument approaches, take-offs, landings, and simulated missed approach procedures at outlying airports whenever possible, with all other training maneuvers conducted away from heavily populated areas.
2. Encourage carriers to provide more training time in flight simulators which can serve in a large measure to reduce the amount of air time now necessary for flight training purposes.



Recommendation No. 21. Minimize test flights near metropolitan areas.

Production flyaway from aircraft factories under proper conditions is acceptable but all flights of experimental aircraft and test flying of production models near built-up areas should be reduced as far as possible.

Responsibility:

Department of Commerce - Airports of civil interest.  
Department of Defense - Airports of military interest.

CAA responsibility: Office of Aviation Safety to establish liaison with industry.

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue to work with industry to keep test flying near built-up areas at a minimum.

Implementation Program:

1. Prepare Civil Aeronautics Manual material to be published in CAM 1, Part 3, recommending special precautions for operation of experimental aircraft in flight test status while flying over populated areas.
2. Prepare revisions to MOP 2-9 and MOP 2-10 for the guidance of CAA personnel in preparing experimental certificates, briefing flight test crews, and conducting flight tests over populated areas.
3. Continue to include area limitations in experimental airworthiness certificates.
4. Encourage the military to adopt a program similar to that for civil aircraft, as stated in 3 above.

Recommendation No. 23. Separate Military and Civil Flying at Congested Airpor

Military aircraft should not be based on congested civil airports except when it is not economically or otherwise feasible to provide separate facilities for them nor should commercial aircraft operate regularly from busy military airports.

Responsibility:

Department of Commerce  
Department of Defense

CAA responsibility: Office of Airports to develop CAA position for Airport Use Panel.

Position:

The Department of Commerce concurs in the recommendation. The CAA will encourage separation at congested airports.

Implementation Program:

1. Maintain the current CAA position in the Airport Use Panel:
  - (a) Military and civil operations are not inherently undesirable at airports which are not now congested and which will not become congested within the foreseeable future.
  - (b) Military and civil operations are undesirable at airports which are congested or which will become congested in the foreseeable future.
2. Continue efforts to develop within the Airport Use Panel, a firm list of civil airports broken down into categories of exclusive military use, exclusive civil use, and one or more categories of joint civil-military use. Existing laws and present military policies limit the progress of developing such a list.

Recommendation No. 24. Provide more flight crew training.

Every flight crew should be required to have frequent drills in instrument and emergency procedures. This can be accomplished in part in flight simulators. These flight simulators should be located at convenient points and should be available to all operators on a fair basis.

Responsibility:

Department of Commerce - civil aviation.  
Department of Defense - military aviation.  
Civil Aeronautics Board

CAA responsibility: Office of Aviation Safety.

Position:

The Department of Commerce concurs in this recommendation. The CAA will work with industry in its accomplishment.

Implementation Program:

1. Continue efforts to promulgate revisions to the Civil Air Regulations to require more flight crew training. The proposed revision of Part 40 outlines specific minimum requirements which are considered to be generally adequate. These requirements, in turn, provide the Administrator with ample authority to require the air carriers to meet such requirements. The requirements also permit the use of flight simulators in certain phases of the training curriculum. This will, (when a sufficient number of flight simulators are available) permit more over-all training due to decreased training costs and will provide improved training in emergency procedures since those emergencies which cannot be safely simulated in the air can be adequately accomplished in the flight simulator.
2. Encourage air carriers to use improved training methods and provide more flight crew training.
3. Encourage air carriers to acquire flight simulators.

Recommendation No. 25. Develop helicopters for civil use.

Concurrent with military helicopter development, interested government agencies should encourage civil helicopter development for inter-airport shuttle services, and for short-haul use, emphasizing safety, reliability and public toleration factors.

Responsibility:

Department of Commerce  
Post Office Department

CAA responsibility: Program Planning Staff in consultation with Office of Aviation Safety

Position:

The Department of Commerce concurs in this recommendation.  
The CAA will expand its program now under way.

Implementation Program:

Expand the present program in accordance with the following plan:

1. Push forward on revision of present CAR part 6 and discussion of proposed Transport Category in order to get appropriate Civil Air Regulations ready for the certification of large transport helicopters.
2. Since most early commercial transports will be conversions or adaptations of military helicopters, encourage transport helicopter manufacturers to present their models for civil type certification at an early stage of development, with due regard to the manufacturers' military contract obligations, in order to minimize future delays in type certification.

Recommendation No. 25, page 2.

3. Expand present working arrangements with the military services in order to achieve the closest possible harmony between civil airworthiness requirements and military design specifications.
4. Encourage further military procurement of "Off-the-shelf" helicopters.
5. Give further emphasis to statistical and analytical reports of accidents and malfunctions of civil helicopters, and translate same into recommendations for CAA action in terms of:
  - a. Revised CAR, or
  - b. Design information to manufacturers, of the "what not to do" type.
6. Learn everything possible from current military helicopter experience, by expanding present arrangements for receipt of Navy, Air Force and Army accident and malfunctioning reports, together with such summary data regarding the reports as are available, plus related statistical data needed for evaluation of statistical and engineering significance of individual problems. As a second step, data should be statistically processed and both statistical data and individual reports reviewed and evaluated from an engineering viewpoint, resulting in recommendations for CAA action as in #5 above.
7. Continue, through membership on NACA's Helicopter Subcommittee, and NACA Committee on Operating Problems to urge increased NACA emphasis on basic rotary-wing research on such urgent matters as external loads, fatigue, stability, controllability, etc.

Recommendation No. 25, page 3.

8. Assist in processing by CAB of proposed Part 46 (Scheduled Helicopter Operating and Certification Rules) and subsequent release to industry in draft form for review and comment. (Scheduled operators have heretofore been operating under applicable sections of parts 40 and 61; adoption of proposed Part 46 would add important new rules on dispatcher requirements, flight time limitations, weather reporting requirements, etc., which will be of particular importance with the inauguration of passenger service, and would also standardize and regularize procedures under which the three scheduled helicopter airlines operate.)
9. Since proposed Part 46, now before CAB for processing, does not cover IFR operations, proceed with studies and proposals in this area as quickly as operating experience permits.
10. Collaborate in the ANDB program for the evaluation of present Common System aids for civil and military helicopter operations.
11. Study transport helicopter requirements for communications, traffic control, and navigation and landing aid facilities and services through the following related programs:
  - a. The ANDB program for the evaluation of present Common System aids for civil and military helicopter operations;
  - b. The program of airways aids testing involving Los Angeles Airways;
  - c. Similar programs which may be established involving New York Airways and Helicopter Air Services (Chicago), and possible simulated airline operations conducted under P.L. 867 (Prototype Act).

12. Develop special navigational aids for helicopters as may be required as a result of the ANDB evaluation program.
13. Make appropriate provisions in Federal-Aid Airport Program for heliports required for metropolitan area and intercity helicopter services, as the need arises.
14. In anticipation of such need, establish appropriate planning standards to govern the future inclusion of heliports in the FAAP.
15. Establish size and obstruction criteria for heliports capable of accommodating multi-engine craft, as soon as take-off and landing performance requirements have been developed for such craft.
16. Establish standards for identification and lighting of heliports.
17. Broaden the current airport advisory service to include assistance on heliport maintenance and operations problems, as soon as operating experience permits.
18. Develop plans for the testing and simulated airline operation of advanced transport helicopters under the provisions of P.L. 867 (Prototype Testing Act of 1950), as soon as suitable helicopters are available, and secure appropriations to carry out such plans.
19. As a necessary prelude to such testing, draft general specifications for one or more transport helicopters of advanced design, under the terms of section 2.d.l. of P.L. 867.

Recommendation A, Pages 8 and 9:

"The Federal Government should, however, propose model airport protective legislation for enactment by the States, and should help where practicable toward reaching a satisfactory solution of this type of zoning problem."

Responsibility:

Department of Commerce  
(This should be considered in conjunction with Recommendation No. 5).

CAA responsibility: General Counsel, Office of Airports and Office of Aviation Safety.

Position:

The Department of Commerce concurs in the recommendation.  
The CAA will revise existing model legislation.

Implementation Program:

This is covered in Recommendation No. 5.



Recommendation B, Pages 12 and 13:

"The public deserves a clear explanation of necessary airport procedures, accompanied by valid assurances that everything possible is being done to alleviate both noise and hazard. For example in low visibility, incoming aircraft sometimes must be 'stacked' near an airport under precise traffic control to prevent collisions. The public will understand and accept this necessity if it is assured that, within the limit of safe operation, the holding areas are selected so that the stacks will not be a source of nuisance."

Responsibility:

Department of Commerce  
Department of Defense

CAA responsibility: Office of Aviation Information,  
Office of Aviation Safety and Office  
of Federal Airways.

Position:

The Department of Commerce concurs in the recommendation. The CAA will assist in presenting data to the public.

Implementation Program:

1. Continue the activities of the National Aviation Noise Reduction Committee, whose Subcommittee on Public Information is studying the problem of public education.
2. Work with individual communities in preparing public relations programs.

Recommendation C, Page 13:

"A useful step in improving the training of pilots in emergency procedures would be the standardization and simplification of equipment in cockpits. Simplified emergency procedures naturally would follow. The pilot's job would be easier and safety would be increased."

Responsibility:

Department of Commerce  
Civil Aeronautics Board

CAA responsibility: Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation. The CAA will increase its efforts to secure standardization.

Implementation Program:

1. Encourage the revision of present Civil Airworthiness requirements to include further standardization as to the location and actuation of controls used by the flight crew.
2. Work with industry to establish standard practices for the location and actuation of controls.
3. Coordinate the standards set forth above with the pertinent military specifications and AWC Bulletins as endorsed by the Munitions Boards.

Recommendation D, Page 41:

"Airport Versatility. An airport must be flexible enough to perform manifold functions . . . . Finally, necessary provision must be made for helicopter operation."

Responsibility:

Department of Commerce  
(This should be considered in conjunction with Recommendation No. 25).

CAA responsibility: Office of Airports.

Position:

The Department of Commerce concurs in the recommendation. The CAA will promulgate criteria for heliport and helicopter operation from regular airports.

Implementation Program:

1. Encourage airport owners to include facilities for helicopter operation in local airport development programs, as required by aeronautical necessity, in accordance with standards proposed under Recommendation No. 25.

Recommendation E, Page 42:

"Intermingling of aircraft with widely varying performance characteristics reduces the acceptance and departure rate of an air terminal . . . The Commission does not feel that segregation should be imposed at airports where it is not immediately needed for the maintenance of necessary traffic flow. Many airports can now accept a variety of aircraft without undue delay. Establishment of full radar control will make it possible to accept aircraft of widely varying performance with much greater facility."

Responsibility:

Department of Commerce

CAA responsibility: Office of Airports, Office of Aviation Safety, and Office of Federal Airways

Position:

The Department of Commerce concurs in the recommendation. The CAA will work toward increased airport capacities and operational methods that will minimize the necessity for segregation.

Implementation Program:

1. Provide airport improvements in line with Recommendation 6 and Recommendation D, incorporating airport configurations which will provide maximum traffic capacity.

Recommendation F, Page 43:

"For the present, it is believed that the multilane express highway is the best available means of airport access. More such roads are required."

Responsibility:

Department of Commerce

Department of Defense

(This should be considered in conjunction with Recommendation No. 3).

CAA responsibility: Office of Airports (to maintain liaison with Bureau of Public Roads).

Position:

Department of Commerce responsibility has been delegated to the Bureau of Public Roads.

Recommendation G, Page 44:

"The Commission believes that flexible provisions for helicopter operations should be incorporated into airport and air traffic pattern planning. Consideration should be given to navigation and traffic control equipment which can cater to the special needs of helicopters."

Responsibility:

Department of Commerce

(This should be considered in conjunction with Recommendation No. 25).

CAA responsibility: Office of Federal Airways, Program Planning Staff and CAA Member of ANDB

Position:

The Department of Commerce concurs in the recommendation. The CAA will aid in the development of equipment and standards.

Implementation Program:

This is covered in Recommendation No. 25.

Recommendation H, Page 58:

"Designers must anticipate the results of failure of any system or component and must provide for such contingency in a way that will not jeopardize the aircraft's ability to continue flight. This is known as the 'fail-safe' theory of design. The Commission feels it should be applied to all critical aircraft systems. Carrying this concept of safe failures to its logical end requires that the designer also anticipate the infrequent lapses of the crew. Despite the many items which the crew must check before take-off or landing, only a relative few are likely, by their omission, to cause a crash. On airplanes flown by most major airlines, some critical systems are interconnected to make crew lapses improbable-- for example, a pilot cannot advance his throttles to take-off power until he has unlocked his controls. The Commission believes both airlines and airplane builders should extend such 'human fail-safe' measures wherever possible". . . . . "A design objective should be the maximum use of 'fail-safe' automatic devices which will relieve the crew of routine responsibility for many aircraft functions."

Responsibility:

Department of Commerce  
Department of Defense  
Civil Aeronautics Board

CAA responsibility: Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation. The CAA will encourage the maximum use of "fail-safe" devices.

Implementation Program:

1. Issue Civil Aeronautics Manual material and instructions to CAA Type Certification Boards on this subject.
2. Encourage the promulgation of Civil Air Regulations requiring desirable "fail-safe" devices.

Recommendation I, Page 59:

"The designer has still another obligation. For the benefit of the crew, he must reduce the complexity of the modern aircraft and its associated equipment. Literally hundreds of instruments, switches and knobs have replaced the relatively simple control mechanisms in airplane cockpits of a few years ago. Unfortunately, human capability has not increased as rapidly as mechanical complexity."

Responsibility:

Department of Commerce  
Department of Defense

CAA responsibility: Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation.  
The CAA will work toward all reasonable reductions in complexity.

Implementation Program:

1. Encourage simplification wherever feasible, bearing in mind that it is an industry problem and that in nearly every case, the application of devices that increase safety and efficiency add instruments and required controls.



Recommendation J, Page 60:

"A thorough study of pilot aging and allied problems should be sponsored by the Aero Medical Association."

Responsibility:

Department of Commerce (For reference to the Aero Medical Association).

CAA responsibility: Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation.  
The CAA will assist in the study.

Implementation Program:

1. Secure the recommendations of the Aero Medical Association as to the best program for accomplishing the objectives of the recommendation.
2. Collaborate with the Aero Medical Association in the accomplishment of this program.

Recommendation K, Page 60:

"The Civil Air Regulations, in general, provide a sound basis for the safe and efficient supervision of civil aviation. CAA inspectors are constantly checking airline operators, personnel and equipment for compliance with the rules. All airlines are required to give their pilots period checks in compliance with the Civil Air Regulations, but the CAA is now able to participate in only a part of these checks. Thus, day to day inspections and checks must be largely left up to private industry. Industry has discharged this obligation conscientiously and effectively in most cases but the CAA should have a more direct knowledge of the condition of the crews and equipment in the commercial air transport industry than is now possible. It is believed that the number of CAA inspectors should be raised."

Responsibility:

Department of Commerce

CAA responsibility: Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue its emphasis on direct knowledge of crew and equipment condition.

Implementation Program:

1. Increase the emphasis on supervision of air carrier maintenance organizations, facilities and practices.
2. Increase the emphasis on supervision of air carrier operating practices and training procedures.
3. Secure funds for increased complement to permit implementation of 1 and 2, above.

Recommendation L, Page 65:

"Most through traffic is high enough to cause no noise nuisance to the population below. However, with increased traffic and with increasing public concern over the nuisance and occasional hazards of overhead air traffic, there is now reason to examine the case for relocating some airways facilities to avoid congestion and to reduce flying over thickly settled areas."

Responsibility:

Department of Commerce (CAA)

CAA responsibility: Office Federal Airways and  
Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation. The CAA will continue efforts to minimize ground noise through proper location of facilities. To relocate every radio aid which requires enroute flight to be made over thickly settled areas is believed impractical.

Implementation Program:

1. Determine the extent of the noise nuisance and hazard of overhead enroute traffic in large metropolitan areas with high traffic density and where such factors are significant, investigate the possibility of relocating the navigation aids which are being used. A program of this sort would necessarily be carried out on a selective basis after a thorough study of each situation had been made. Following are the considerations which it is believed should govern any action to be taken under such a program.
  - a) It should be definitely established that enroute aircraft create a noise nuisance or a hazard to persons or property on the ground. Generally, such aircraft operate at an altitude sufficiently high that they do not constitute a noise nuisance or hazard.
  - b) Before relocation is considered, investigation be made of reorientating L/MF four-course ranges or using various combinations of omnirange radials to provide a routing around a densely populated area.

Recommendation L, Page 65 (continued)

- c) Relocations of L/MF four-course ranges be made only if the situation is of an emergency nature. L/MF ranges are scheduled for decommissioning and it is expected that by 1958 most, if not all, will have been removed.
  - d) Relocations be made in such a manner as to result in an efficient route structure from a flight operation standpoint.
  - e) Relocations be made with the view of providing the maximum traffic control handling capacity possible.
2. Locate new installations, if feasible, so that flight over thickly settled areas will be avoided.

Recommendation M, Page 66:

"Full radar control in terminal areas offers the best known means of reducing aircraft time in holding patterns to a minimum while increasing total traffic which can be safely handled. . . . The Commission believes that application of positive radar control to civil aircraft operations in terminal areas should be accelerated. Surveillance radars make approaches and departures in low visibility simple and safer."

Responsibility:

Department of Commerce  
Department of Defense

CAA responsibility: Office of Federal Airways and  
Office of Aviation Safety

Position:

The Department of Commerce concurs in the recommendation. The CAA will accelerate the installation and use of radar, including the installation of radar centers in high-density traffic areas as provided for in the program to implement Recommendation No. 12.

Implementation Program:

1. Secure funds necessary to operate all of the ASR and PAR units now either commissioned or in the process of installation.
2. Accelerate efforts to overcome the deficiencies and difficulties which have been encountered in the test of radar control now being conducted in the Washington Terminal Area.
3. Secure funds necessary to operate military radar units at terminal area locations where the military has requested the CAA to assume operation. Successful application of positive radar control to military aircraft will help overcome many objections which some civil operators now have to the positive radar control of civil aircraft.
4. Enlarge and improve the training program for both present supervisory and operating personnel as well as new personnel, in order that an adequate number of personnel with a high degree of proficiency with present and new equipments and procedures can be gained and maintained.

Recommendation N, Page 67:

"Eventually, the airplanes themselves should have some form of light and reliable airborne radar to guard against mid-air collisions en route, to give warning to the pilot of the presence of mountains or other ground obstructions and to avoid thunderstorms and other conditions of excessive air turbulence."

Responsibility:

Department of Commerce  
Department of Defense

CAA responsibility: Office of Aviation Safety and  
CAA member of ANDB

Position:

The Department of Commerce concurs in the desirability of airborne devices to prevent collisions with other aircraft and with the ground and to avoid areas of extreme turbulence. The CAA will follow military developments in this field and will encourage civil application wherever feasible.

Implementation Program:

1. Evaluate equipments that exist or are under development to determine their adaptability to general civil use.
2. Encourage the development and use of standard airborne devices suitable for civil operations.

Recommendation O, Page 67:

"Full use should be made of recording instruments both in the airplane and on the ground in order to obtain as much information as possible on emergencies in flight. These instruments would also monitor compliance with regulations and good practice and act as a further stimulus to safe and sound operations."

Responsibility:

Department of Commerce  
Department of Defense  
Civil Aeronautics Board

CAA Responsibility: Office of Aviation Safety and Office of Federal Airways.

Position:

The Department of Commerce concurs in the recommendation. The CAA will encourage the use of recording devices.

Implementation Program:

1. Continue present CAA-CAB special evaluation committee activity now under way to survey airborne instrument availability, and initiate an evaluation program of a prototype instrument.
2. Encourage the development and use of suitable airborne and ground recording instruments.

Recommendation P, Page 68:

"These (the Civil Air Regulations) were written at a time when aircraft were a great deal slower and more maneuverable and visibility from the cockpit was better. Present-day airplanes have made uncontrolled traffic in highly congested areas unwise. In areas where there are approximately 100,000 or more aircraft operations per year, all traffic should be under positive control -- regardless of the weather -- when in designated control zones."

Responsibility:

Department of Commerce  
Civil Aeronautics Board

(This item should be considered in conjunction with Recommendation No. 10).

CAA responsibility: Office of Federal Airways and Office of Aviation Safety.

Position:

The Department of Commerce concurs in the recommendation. The CAA will work toward positive control as a stage-development program.

Implementation Program:

1. Establish criterion to determine those high density traffic areas in which the Implementation Program for Recommendation No. 10 should be applied.



Recommendation Q, Page 68:

"Early installation of omnirange and distance measuring equipment in all aircraft flying under instrument conditions would simplify en route and terminal area traffic control problems and would improve safety as well as reduce delays in congested areas."

Responsibility:

Department of Commerce  
Department of Defense

CAA responsibility: Office of Federal Airways, Office of  
Aviation Safety and CAA Member of ANDB

Position:

The Department of Commerce concurs in the recommendation. The CAA will encourage the installation of airborne VHF equipment.

Implementation Program:

1. Publish procedures for using Victor Airways and for making approaches to airports using only VHF aids.
2. Resolution of problems pertaining to the required standards of accuracy and reliability for airborne VHF omnirange receivers used in instrument flying.
3. Continue, with increased emphasis program of demonstrations, tests and equipment loans to user groups for purpose of creating demand for DME airborne equipment, thereby lowering price to point where small users can afford to purchase same.
4. Expedite development of miniaturized DME.

Recommendation R, Page 82:

"Integration of airport plans with the present and future highway network is therefore essential in order to assure accessibility and to prevent conflict of proposed highway routes with airport plans."

Responsibility:

Department of Commerce

Department of Defense

(This should be considered in conjunction with Recommendation No. 3.)

CAA responsibility: Office of Airports to maintain liaison with Bureau of Public Roads.

Position:

Department of Commerce responsibility has been delegated to the Bureau of Public Roads.

Recommendation S, Page 96:

"National policy should require thorough planning and coordinating of the construction and use of airports by both civil and military authorities before requests for funds are submitted."

Responsibility:

Department of Commerce  
Department of Defense

CAA responsibility: Office of Airports to develop  
CAA position for Airport Use  
Panel.

Position:

The Department of Commerce concurs in the recommendation.  
The CAA will assist in the development of a national policy.

Implementation Program:

1. Attempt to develop a national policy requiring coordination of the planning, development and use of military and civil airports.

Recommendation T, Page 96:

"If it is necessary to base a military training unit on a civil airport, training should be conducted away from the built-up areas and an auxiliary field, located a safe distance away, should be used for arming. The planes should fly to the auxiliary field unarmed."

Responsibility:

Department of Defense

CAA responsibility: Office of Federal Airways  
(to maintain liaison with  
military)

Position:

No responsibility for this recommendation has been delegated to the Department of Commerce.

Recommendation U, Page 96:

"Navy and Air Force Reserve training should be conducted at the same military airport wherever such consolidation is practicable and where economies will result. This practice becomes increasingly attractive as training shifts from piston-to jet-type airplanes, as existing reserve training airports become obsolete, and if the requirements for new airports are not met by adequate appropriations."

Responsibility:

Department of Defense

CAA responsibility: Office of Federal Airways to maintain liaison with military.

Position:

No responsibility for this recommendation has been delegated to the Department of Commerce.

Recommendation V, Page 97:

"For these reasons, the Commission believes that every effort should be made to arrange the location of new military air bases in accordance with city and regional development plans as an integral part of such planning."

Responsibility:

Department of Commerce (CAA)  
Department of Defense

(This should be considered in conjunction with Recommendation No. 3).

CAA responsibility: Office of Airports

Position:

The Department of Commerce concurs in the recommendation.  
The CAA will assist in the development of a national policy.

Implementation Program:

1. Render such assistance as is desired by the military in its development of a national policy regarding the integration of military air bases into area development plans.