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1940 Airway Construction Program Completed

ADDS 3,432 MILES OF FULLY EQUIPPED AIRWAYS TO SYSTEM—1941 PROGRAM TO ADD ANOTHER 2,500 MILES AND EXTEND AIRWAYS IN TERRITORIES

Record-breaking expansion in all flying activities during recent years has emphasized the need for an expanded Federal Airways System providing adequately lighted airways, fully equipped with radio, communications, and weather reporting facilities, throughout the United States and its possessions.

With air-line traffic expanding at an unprecedented rate, the training of scores of thousands of new pilots under the Civilian Pilot Training Program, and the Army and Navy air expansion programs in full swing, the Civil Aeronautics Authority's network of visual and radio aids to air navigation must be adequate to meet all service requirements of aerial traffic.

To meet these developments, the Civil Aeronautics Authority during the last fiscal year conducted an expansion program on a scale larger than ever before. This program, which included both new construction and improvements to existing airways, added 3,432 miles of new aerial highways to the Federal Airways System. The Authority is now engaged on a new program which, adding another 2,500 miles of airways, will be marked by important expansions in Alaska, United States islands in the Pacific, and the Caribbean area.

At the conclusion of last year's program, 28,745 miles of airways were completed and in full operation in the

continental United States by July 1, 1940. Facilities installed on these airways comprised 2,205 beacons of various types, 296 lighted intermediate landing fields, 105 full power radio range and communication stations with broadcast facilities, 136 medium power range and communication stations, 33 low power radio range stations, 42 nondirectional radio marker beacons, and 45 ultra-high-frequency markers.

With the addition during the 1940 fiscal year of 3,410 miles of teletype circuits for weather reporting, these circuits last July 1 totaled 27,068 miles. Completion of another 1,038 miles of teletype circuits for airways traffic control brought this total mileage to 11,714.

The following new routes were completed and equipped with air navigation facilities during the year ended last June 30:

TERMINAL POINTS	Miles
Omaha-Bismarck	494
El Paso-Albuquerque	233
Tulsa-Kansas City	215
Billings-Great Falls	192
Dayton-Goshen	143
Huron-Minneapolis	259
Springfield-Chicago	170
Cincinnati-Columbus	103
Tampa-Miami	214
Memphis-Tampa	720
New Orleans-Jacksonville	515
San Antonio-Houston	174
TOTAL	3,432

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Airways Program

(Continued from preceding page)

In addition to this new construction, negotiations were completed for the purchase of air navigation facilities, which heretofore had been privately operated, on the Los Angeles-Phoenix, Buffalo-New York City, and Denver-Grand Island airways. Modernization and realignment of facilities on these routes were undertaken. Major relocation projects were also undertaken on the Salt Lake City-Omaha, Phoenix-El Paso, Fort Worth-Wichita, and other sections of existing routes, which involved the construction of nine intermediate landing fields and the relocation of a considerable number of airway beacons.

Radio and Communication Facilities

The construction of new radio and communication facilities was a vitally important part of the program during the last fiscal year. A total of 21 additional simultaneous radio range and communication stations was established to serve new airways. This type of range utilizes a vertical antenna system of five 125-foot steel towers and is used where courses extending over 35 miles from the station are necessary.

Fifteen additional loop-antenna-type radio range and communication stations have been established, primarily to serve airports on established airways so as to permit operations in and out of these airports during periods of instrument weather.

The loop-type ranges are generally identified by a network of wooden poles, 40 to 60 feet in height, and are used where courses up to approximately 35 miles are required.

Surveys have been completed, materials assembled, and work is under way on the installation of 77 fan-type ultra-high-frequency markers. These markers are placed along the radio range courses to provide a geographical fix by which a pilot may establish with accuracy his progress along the airway. A special ultra-high-frequency receiver in the aircraft informs the pilot by

means of a signal light of his passage over a particular fan marker. Installation of the markers was about three-quarters completed as of June 30 and the balance of the installations are being made as fast as the radio equipment is delivered by the manufacturer.

Seventy-eight Z-type positive station location markers were installed at radio range stations not previously so equipped. These markers, operating on the same principal as the ultra-high-frequency fan-type markers, are provided to give a positive signal directly over radio range stations in addition to the cone of silence which normally exists over such stations. Although the cone of silence formerly was the sole means of informing the pilot of his passage directly over a radio range station, this method was never too satisfactory because there is no practicable means of controlling the deviations in pattern and geographical extent to which the cones of silence are subject under various conditions.

During the year numerous other modernization and improvement projects were completed, such as the installation of stand-by transmitters at radio range stations that were not already equipped with this safety feature. A stand-by transmitter comprises a complete duplication of equipment which automatically goes into operation in event of failure of the original equipment. The installation of 31 stand-by engine generators to render radio stations independent of commercial power sources also was completed. This equipment consists of an auxiliary power supply comprising a Diesel or gasoline engine which operates a generator of electric current. In the event of failure of normal sources of electric power the stand-by engine-generator immediately and automatically goes into operation, thus avoiding any interruption to the normal functioning of the radiostation. Then it remains in operation for 10 minutes after the resumption of normal current supply, when it ceases operation until again required for emergency generation.

Ultra-High-Frequency Equipped Airways

The fiscal year 1940 marked the beginning of ultra-high-frequency equipped airways. Vital to the progress and expansion of the Federal airways system will be the outcome of service tests on the New York-Chicago Airway, utilizing ultra-high-frequency radio range stations in lieu of the conventional type radio ranges operating on intermediate frequencies. The ultra-high-frequency range equipment was developed by engineers of the Authority and on the basis of preliminary findings it is confidently anticipated that the service tests to be conducted on the New York-Chicago ultra-high-frequency range equipped airway will bear out the findings of their comprehensive research and prove that the ultra-high-frequency range is at least equal to and in all probability superior to present intermediate-frequency equipment.

Due to limitations in the number of frequencies available in the intermediate bands there are some areas in the United

States where no further development can be made with intermediate frequency because all available frequencies are already in use. Furthermore the use of ultra-high-frequency-ranges is expected virtually to eliminate the serious static difficulties encountered with intermediate-frequency equipment under stormy conditions and will completely eliminate the problems attendant upon congestion of frequencies because of the far greater range of available useful frequencies in the ultra-high-frequency bands.

Following the completion of surveys and plans, contracts were entered into for the establishment of eight stations on the New York-Chicago airway. These stations will be operated on a service-test basis and will produce the necessary information for planning future radio navigation development.

Instrument Landing Installations Planned

Developmental work, tests, and demonstrations of the Authority's instrument landing system reached the stage early in the fiscal year 1940 to justify the purchase and installation of radio landing system equipment at various airports for the conduct of extended service tests.

Air Lines Fly 1¼ Billion Miles Without Passenger Injury

Achievement of a billion and a quarter miles of safe flying by the air lines of the United States was announced August 1 by the Civil Aeronautics Board, in releasing statistics of operation since the date of the last fatal accident on March 26, 1939. The exact figure was 1,249,594,263 passenger-miles flown without injury either to passengers or crews.

The aggregate of passengers carried in the 16-month period was 3,158,159. The figures, in both instances, cover revenue and nonrevenue transportation. The revenue-miles flown aggregated 126,089,643.

Sharp increases in traffic were shown by the monthly tabulations since the beginning of the current year. One hundred and fifty thousand one hundred and two passengers were carried in January; and the estimate for July reached 296,435. Passenger-miles for the same months were, January, 61,355,485; July (estimated), 114,978,000.

Jerome Lederer, the new Director of the Board's Safety Bureau, said of the record: "Air-line management, as well as ground and flying personnel, deserve congratulations for retaining, in the face of a fine safety record, the drive and spirit which makes that record a continuing one. Instead of relaxing with satisfaction, the air lines keep on breaking records for safety by careful selection, training, and control of personnel, by insisting on the continuous airworthiness of flying equipment, by exchange of useful safety information among themselves, and by continuing to adhere to well-known principles of prudent operation."

The Authority's program, which has been endorsed by a special committee of the National Academy of Sciences set up at the request of President Roosevelt, proposes the installation of complete equipment at 10 major airports to be selected from a priority list of 25 submitted to the Authority by the Radio Technical Committee for Aeronautics, a group which represents the air transport industry, the radio industry, the Army and Navy air services, and other radio and aeronautical interests. The list is as follows:

New York (LaGuardia Field); Chicago; Los Angeles (Mines Field); Kansas City; Atlanta; Seattle (Snohomish); Fort Worth; Oakland; Washington, D. C. (Gravelly Point); Memphis; Salt Lake City; Minneapolis; Miami; Pittsburgh; Detroit (Wayne County Airport); Nashville; St. Louis; Columbus; Denver; Philadelphia; New Orleans; Albuquerque; Omaha; Cleveland; and Brownsville.

Investigations are under way, in the order of priority as listed, to determine the suitability of the sites, and negotiations are in progress looking toward the awarding of contracts for six complete installations during the current fiscal year.

Weather Reporting and Traffic Control Communications

Coincident with the establishment of new routes and extensions to existing airways, the teletype weather reporting and traffic control systems were extended to include the establishment of 91 new stations. Included in the teletype project were numerous replacements of obsolete equipment, modernization of existing teletype stations, and various improvements resulting in increased efficiency in the handling of a greater volume of traffic.

Alaska, Trans-Atlantic and Trans-Pacific Operations

Immediately upon the passage of the appropriations act for the fiscal year 1940, preliminary surveys and investigations were undertaken in connection with the establishment of various aids to air navigation in Alaska. Despite severe weather conditions, poor transportation facilities, and shortage of experienced personnel, construction has been carried on at a rapid rate. At the close of the fiscal year six new simultaneous radio range and communication stations and two point-to-point communication stations had been completed along an airway extending from Ketchikan to Nome, by way of Juneau, Anchorage, and Fairbanks. Work on three additional simultaneous range stations, for point-to-point communication stations, and several intermediate landing fields also was under way and nearing completion along this airway.

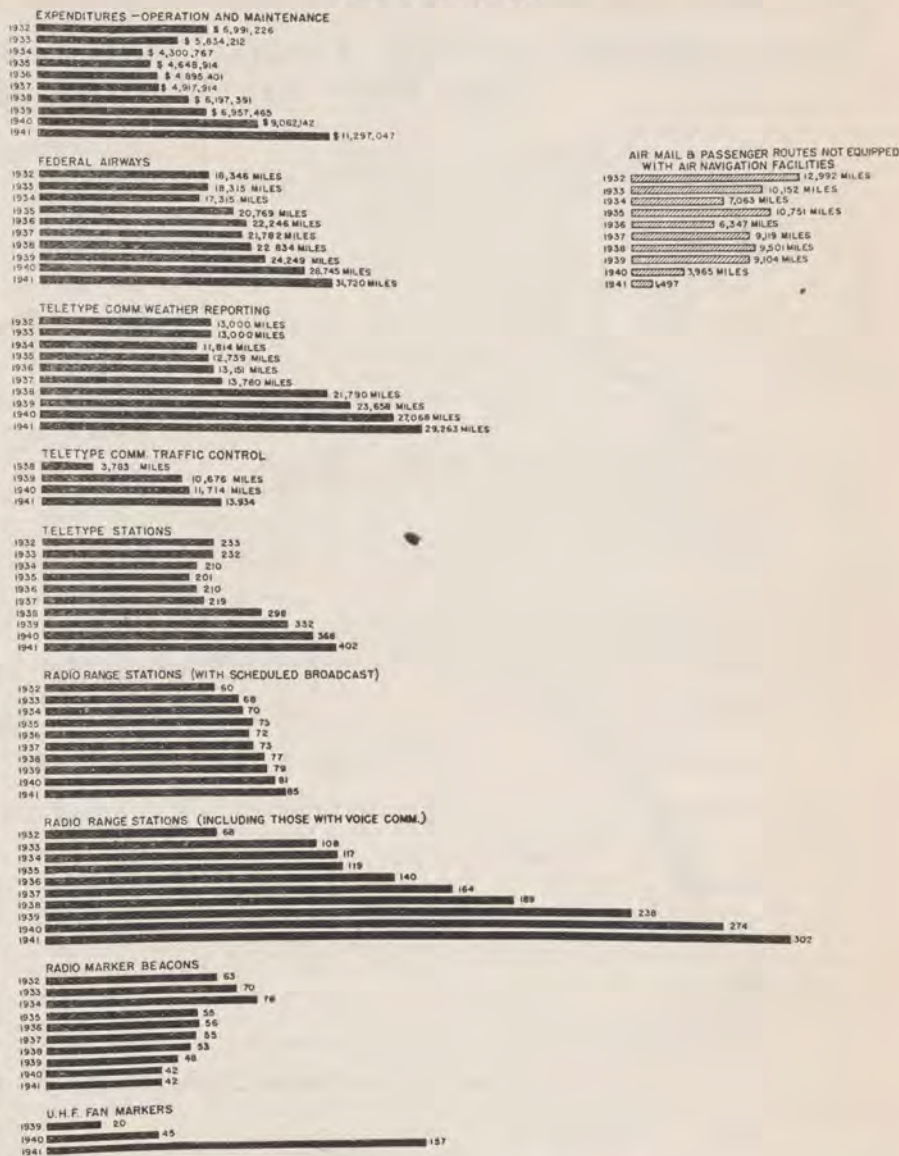
The 1941 construction program will provide for at least four additional simultaneous range and broadcast and point-to-point radio stations, to be located in the vicinity of Bethel, McGrath, Dillingham or Nacknek, and Kodiak.

Airways Facilities in the United States

Fiscal Years 1932-1941

[Figures for fiscal year 1941 are shown as advance estimates]

As of June 30, 1940



Additional point-to-point stations are proposed to be installed in the vicinity of Petersburg, Tanana, Seward, Flat, Lake Minchumina, and Iliamna.

Additional intermediate landing fields are also proposed to be constructed in the vicinity of Nenana, Lake Minchumina, Foreland, Tonsina, Culkana, Donnelly, Farwell, McGrath, and Stillman Lake.

An outstanding achievement during the year was the completion and placing in operation of radio station WSY, the C. A. A.'s first high-power transoceanic communication station. It is now in service 24 hours a day providing additional safeguards for the operation of air services across the North Atlantic.

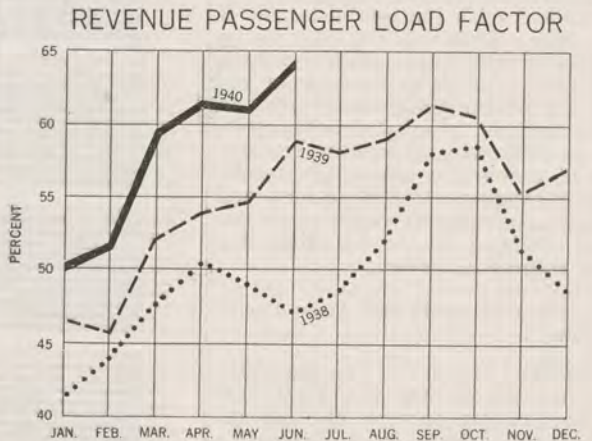
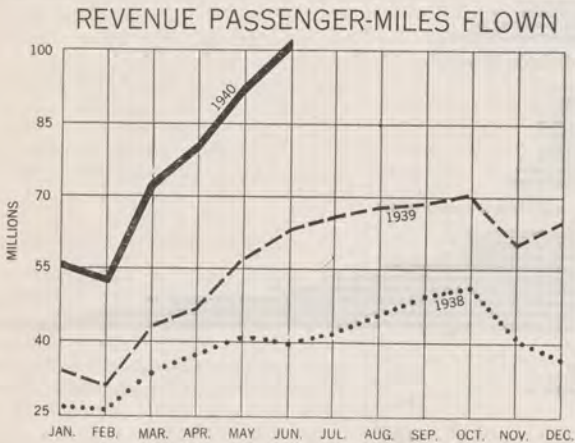
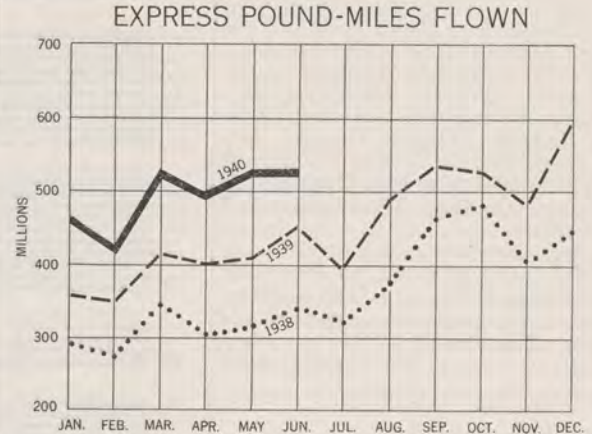
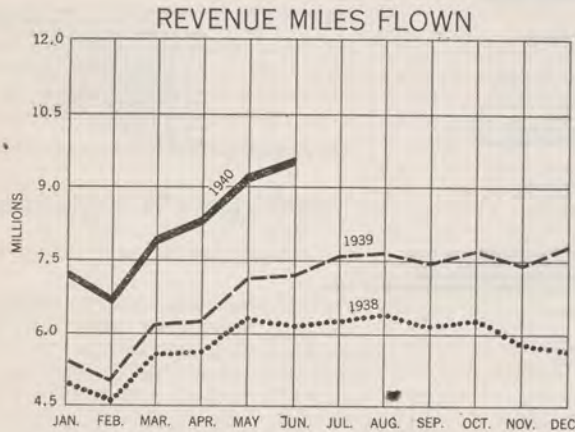
The high-frequency transmitters are located at Sayville, Long Island, and the receiving equipment at Barnegat, N. J. All of the equipment, however, is operated by remote control from the airways operation office at LaGuardia Field, N. Y., by means of a land-wire control hook-up.

This station is equipped for conducting two-way radio communication with aircraft operating across the Atlantic Ocean and for the transmission and reception of meteorological data and information relative to aircraft movements as well as for communicating directly with various points in Europe, The Azores, and Bermuda.

(See AIRWAYS PROGRAM, page 405)

Air Transportation

Domestic Air Carrier Traffic Statistics for 1938, 1939, and the First Six Months of 1940



Domestic Air Carrier Traffic Statistics for June 1940

	Revenue miles flown		Revenue passengers carried		Revenue passenger-miles flown		Express pound-miles flown		Revenue passenger load factor (percent)	
	June 1940	Percent change over 1939	June 1940	Percent change over 1939	June 1940	Percent change over 1939	June 1940	Percent change over 1939	June 1940	June 1939
American Airlines, Inc.	2,330,784	37.45	84,289	55.97	30,414,989	52.13	137,287,941	14.22	74.09	69.26
Boston-Maine Airways, Inc.	90,732	44.82	2,855	56.61	428,152	50.06	446,179	20.34	47.19	45.66
Braniff Airways, Inc.	407,800	34.39	9,826	95.27	3,076,333	89.13	11,824,659	15.79	47.24	55.65
Chicago & Southern Air Lines, Inc.	174,439	8.77	4,542	118.05	1,725,390	108.01	6,219,842	34.12	51.05	51.72
Continental Air Lines, Inc.	122,896	81.33	1,500	233.33	466,810	217.92	530,399	76.62	51.53	33.79
Delta Air Corporation	202,788	67.52	4,576	102.57	1,234,568	102.89	2,047,540	25.01	50.66	50.27
Eastern Air Lines, Inc.	1,268,010	38.91	30,516	49.87	12,116,584	61.28	62,041,711	20.68	53.49	47.15
Inland Air Lines, Inc.	99,176	14.29	1,265	57.26	330,628	45.59	304,852	-60.45	33.34	26.17
Marquette Airlines, Inc.	17,081	-35.18	180	-35.25	42,493	-36.76	0		41.46	31.87
Mid-Continent Airlines, Inc.	133,899	46.87	2,025	38.89	574,206	58.32	1,013,921	-21.36	42.88	41.03
National Airlines, Inc.	83,745	48.68	1,411	141.60	335,235	189.64	580,536	63.38	40.03	24.15
Northwest Airlines, Inc.	512,544	14.92	14,067	59.20	5,564,024	56.01	18,733,365	-0.92	54.85	54.12
Pennsylvania-Central Airlines Corporation	380,479	23.39	21,657	86.25	3,986,350	92.73	13,811,459	48.18	61.40	67.08
Transcontinental & Western Air, Inc.	1,384,500	30.23	31,650	61.88	14,913,487	40.54	77,672,018	19.44	66.05	55.87
United Air Lines Transport Corporation	2,124,848	35.75	46,191	62.90	24,283,991	59.97	173,244,273	9.82	69.31	64.25
Western Air Express Corporation	194,568	-0.70	4,312	59.59	1,554,605	44.54	16,319,290	7.70	62.05	44.68
Wilmington-Catalina Airlines, Ltd.	20,820	5.15	4,435	3.82	133,050	3.82	722,280	8.15	66.43	65.44
Total	9,549,109	32.94	265,297	61.20	101,180,895	58.85	522,800,265	14.16	64.01	59.17

AIR TRANSPORTATION STATISTICAL SUMMARY

← See charts on facing page

The 17 domestic air lines continue to establish new all time operations records. Traffic statistics compiled from June reports of the carriers show gains ranging to more than 50 percent above June 1939.

Revenue-miles flown during June totaled 9,549,109, a 32.94 percent increase over the total for June last year. Revenue passengers carried in June 1940 reached 264,010, an increase of 60.42 percent over the figure for the corresponding month of 1939.

The June total for revenue passenger-miles flown was 101,180,895, an increase of 58.85 percent over last year, express pound-miles flown aggregated 522,800,265, up 14.16 percent, while the revenue load factor reached 64.01 percent in June against 59.17 percent in June 1939.

Eastern Air Lines Denied Permanent Certificate for Autogiro Operations at Philadelphia

Holding that autogiro service between Philadelphia municipal airport and the Philadelphia post office thus far has not justified itself economically on a permanent basis, the Civil Aeronautics Board on July 16 denied a petition by Eastern Air Lines for a permanent certificate of convenience and necessity for continuation of the service. However, the Board said that issuance of a temporary certificate for operation of the service ultimately will be important both to the postal service and to the national defense, thereby leaving Eastern the right to apply at once for such a temporary certificate.

Operation of the autogiro service has been under way since July 6, 1939, and between that date and April 30, 1940, 2,158 trips were completed out of 2,510 scheduled, with an on-time record of 95 percent. This represented a daily schedule of 5 trips, averaging from 12 to 15 minutes each, from unloading of the mail at the airport to delivery by a special chute on the post office roof.

The post office roof top was especially adapted for autogiro and helicopter

landings and equipped with radio and meteorological facilities. The distance covered was approximately 6 miles. During the month of January 1940 an average of 16 pounds of air mail per trip was carried between Philadelphia and Camden, which was the airport in use at that time, and 51 pounds from Camden to Philadelphia. The giro's capacity is 150 pounds.

The Superintendent of Air Mail Service of the Post Office Department testified at the hearing on the application, stating that he believed the volume of mail carried would be increased by transfer of operations to the new municipal airport and inauguration of night schedules, and by the education of the public in use of the service. He also said that he felt giro service to be a necessary complement to proper air mail service.

Considering cost to the Government on a 1-year basis, the Board found that the applicant's estimate of \$56,838 for 15,708 revenue miles meant a charge of \$3.6184 per revenue mile. This would mean a cost to the Government of about 70 cents per pound of mail carried from the airport to the post office, while the average total postal revenue on air mail is only \$1.67 per pound to cover all service rendered.

(See *AUTOGIRO OPERATIONS*,
page 405)

Three Pan American Components Awarded Certificates Under "Grandfather Clause"

Three important components of the Pan American Airways System—Pan American Airways, Inc., Pan American Grace Airways, Inc., and Panama Airways, Inc.—on July 24 were granted certificates of convenience and necessity by the Civil Aeronautics Board under the "grandfather clause" of the act for the operation of established routes in Mexico, Central and South America and the Caribbean area.

The Board authorized Pan American's east coast routes, comprising Miami and Buenos Aires, with many intermediate points: Miami to Merida, Mex., via Havana; Miami to Cristobal, C. Z., and Miami to Baranquilla, including intermediate points; Miami and Nassau, via Cat Cay; Brownsville to Cristobal, with intermediate points; Cristobal to Port of Spain, with intermediate points; and Cristobal to Turbo, Colombia.

Because of certain unfavorable operating conditions, the Board found that an undue burden would be placed upon Pan American to operate to and from Guanta, Venezuela, Luis Correa, Brazil, as well as to and from Montevideo, Uruguay, and between Cristobal and Turbo, and the company was exempted from maintaining service to these points and over this route for limited periods. The company was authorized to continue the service now operated to and from Parnahyba (Piauhy), Brazil, and Barcelona, Venezuela, and over the

route between Port-Au-Prince, Haiti, and Maracaibo, Venezuela, upon the condition that application for appropriate certificate was made within 30 days.

Pan American Grace Airways, Inc., received its certificate for operation between Cristobal and Buenos Aires, with certain intermediate points in Colombia, Ecuador, Peru, Chile, Bolivia, and Argentina. It was authorized to render service from Arequipa, Peru, to and thence to La Paz, Bolivia, but was not permitted to carry mail to Arica when flying this route. Passenger and express carriage only was permitted to Chiclayo, Peru. However, when flight was from Arequipa to Santiago via Arica, mail authorization was given.

For some time the carrier had been routing its schedule through Quito, so by an appropriate exemption order, continuance of service was authorized provided an application for a certificate was filed within a reasonable time, the authorization to be valid until the Board passed upon the issues presented by the application.

Panama Airways, Inc., operating across the Canal Zone from Cristobal to Balboa, was granted a certificate for transportation of passengers and express on scheduled service, but denied the right to conduct nonscheduled service. No mail contract was involved.

SIX MONTHS DOMESTIC OPERATIONS SHOW SHARP GAINS OVER 1939 HALF

Operations statistics of the 17 scheduled domestic air carriers for the first 6 months of this year showed gains in all classifications ranging from 23.51 percent to 66.27 percent, according to reports filed with the Civil Aeronautics Authority.

Largest increase was in passengers carried—for the 1940 half this totaled 1,150,171, a gain of 66.27 percent over the 691,745 total reported for the first 6 months of last year. Other classifications of traffic statistics for this year, with comparisons and percentage changes from the 1939 months, follow: Miles flown—49,021,661 and 37,182,929, up 31.84 percent; revenue passenger-miles flown—453,455,729 and 278,639,196, a gain of 62.74 percent; express-pound miles flown—2,948,425,961 and 2,387,187,546, an increase of 23.51 percent; and available passenger seat-miles flown—776,594,129 and 526,725,673, up 47.44 percent. The revenue passenger load factor for the first 6 months of this year was 58.39 percent against a revenue load factor of 52.90 percent for the comparable 1939 period.

Final Air Safety Board Report

Reckless Disregard of Common Sense Flying Rules Chief Cause of Fatal Air Accidents

Outstanding cause of fatal air accidents included in Air Safety Board reports transmitted to the Civil Aeronautics Authority in June was a reckless disregard of common sense flying rules.

In an analysis of air fatalities, the Board said that two fatal accidents occurred when pilots flew their planes into hillsides in the course of aerial coyote hunts. Fourteen more fatal crashes were the result of reckless stunting, largely by inexperienced pilots, at altitudes far below the 1,500-foot minimum set in the regulations. One pilot with little or no training was killed while testing his home-made plane. Three flights ended in fatalities when pilots insisted on trying to push through adverse weather conditions without the proper training or equipment.

A student, deliberately bent on suicide, grabbed the controls, refused to surrender them, and caused his own death. Another student was killed distributing circulars over a city from a height of less than 150 feet above the house tops, while another fledgling pilot was lost at night and crashed into tree tops. Wind overturned one plane while taxiing, and the down draft in the mountains crashed another plane against a hillside.

Stalled turns, mishandled landings, and other mistakes resulting from unskilled piloting accounted for almost the entire remainder of the 49 fatal accidents

which featured the reports submitted during June to the Authority.

In addition to these analyses of accidents resulting in fatalities, the Board submitted 733 other reports covering mishaps of a less serious nature. Representing the largest number of accident analyses ever transmitted by the Board to the Authority during a single month, these reports constituted one of the final official acts of the Air Safety Board before the transfer, effective June 30, of its functions to the Safety Bureau of the Civil Aeronautics Board. All but a few of the accidents thus finally reported had occurred within the last few months of 1939 or the first 6 months of 1940.

Considering the entire 782 mishaps, the Board assigned a total of 922 primary and contributing causes. Poor technique was found to have figured in 245 cases; errors of judgment in 99; carelessness in 89; disobedience in 6; structural failures in 96; and power plant failure in 184. Other causes assigned consisted of poor terrain in 57 cases; adverse weather in 73; and darkness in 13. The large number of structural and power-plant failures indicated that improving a pilot's training will not always, by itself, eliminate accidents.

The domestic airlines operating in interstate commerce continued to maintain their good record, having flown for the fifteenth consecutive month without a fatality to passengers or crew.

Board Rescinds Regulation Prohibiting Simultaneous Plane Departures

The Civil Aeronautics Board, citing a preponderance of opinion in the industry that the maintenance of simultaneous schedules of aircraft does not, in itself, constitute a hazard to safety, on July 18 rescinded a regulation passed February 2, 1940, prohibiting the simultaneous scheduling of departures of more than one air transport plane from a single airport when dispatched over the same air route to the same destination.

"Last fall, when this problem first came before the Civil Aeronautics Authority, the airlines of this country were facing a bad winter season, and yet were planning to fly far more schedules than they have flown during any previous winter season in order to meet increasing public demands," said a spokesman for the Board. "At the same time, new schedules were announced under which two of the air lines would maintain identical departure and arrival times for aircraft leaving the same point for the same destination along the same airway.

"There was widespread concern over the possibility that this added complication might occasion an operating

hazard. The Authority held meetings on the subject with air-line representatives and canvassed the opinions of its own technical personnel. While recognizing that opinion was divided, the Authority felt that the weight of testimony at that time was against adding the factor of simultaneous schedules to other current traffic problems. Wishing to err, if at all, on the side of an excess of caution, we considered some action necessary.

"With bad weather of the winter behind us and with our systems of traffic control tested through months of extreme air-line activity, we initiated steps several months ago to obtain all pertinent opinion on the matter," he continued. "We have now received statements from all but two of the domestic air carriers and from the Air Line Pilots Association, and have carefully examined the situation with the airway traffic control officials under the Administrator of Civil Aeronautics. The clearly preponderant weight of these opinions, including in particular those of the Air Line Pilots Association and of the personnel responsible for the actual administration of airway traffic control, is that the maintenance of simultaneous schedules does not, in itself, constitute a hazard to safety.

"Take-offs are never, in fact, simultaneous but are cleared in sequence at ample intervals by airport traffic control towers. Once in the air, the planes are separated, and kept separated, by the airway traffic control system. There are ample regulations in force to prohibit flight crews from exceeding limits on cruising horsepower in any attempts at 'racing'. At the destination, ample separation of landings is again insured by airport control operators."

Civil Aeronautics Board Grants Mid-Continent Certificate for New Y-Shaped Route

The Civil Aeronautics Board, acknowledging the national interest in the development of an air transport system adapted to the present and future needs of the entire country, on July 18 granted a certificate to Mid-Continent Airlines for a new Y-shaped route between St. Paul and Minneapolis and Des Moines, and between Des Moines and St. Louis, and Des Moines and Kansas City. Intermediate points on the route will include Rochester, Minn., Mason City and Ottumwa, Iowa, and Quincy, Ill.

In reaching its conclusion that the public convenience and necessity require air transportation over the route named, the Board took into consideration the characteristics of the territory involved, the need for improved air transportation service, particularly to Des Moines, and the rapid growth in the use of air transportation throughout the country. Although St. Paul and Minneapolis are at present connected with Kansas City and St. Louis by air lines following slightly more indirect routes, the Board decided that the advantages of the inauguration of the new service to air travelers, and to the users of air mail and express, would outweigh the resultant cost to the Government.

"The growth in the demand for the services of air transportation is rapid," said the Board. "The rate of growth has even been accelerated. Routes that might have been hard to justify a year ago, on the score of the relation between service rendered and the cost to the Government, now present themselves in a much more favorable light, and others which could not be considered even now as proving public convenience and necessity will no doubt do so, presenting a prospect of satisfactory economic status and of the avoidance of an unreasonably heavy burden on Government in the early stages of operation, by virtue of another year or two of general growth in air traffic."

In finding that Rochester should be included as an intermediate point, notwithstanding the fact that this would entail paralleling service now rendered by Northwest Airlines between Rochester and Minneapolis-St. Paul, the Board gave special attention to the amount of travel to and from the Mayo Clinic from Kansas City and points south and southwest, including South and Central America.

Other applicants for all or part of the new route were Northwest Airlines, Inc., and Braniff Airways, Inc.

Airways and Airports

Landing Facilities on August 1, 1940

<i>Airports and Landing Fields</i>	
Municipal airports.....	648
Commercial airports.....	499
Civil Aeronautics Authority intermediate fields.....	283
Army airdromes.....	58
Navy, Marine Corps, and Coast Guard stations.....	20
State-operated fields.....	45
Marked auxiliary fields.....	653
Private fields.....	121
Fields for miscellaneous Government activities.....	28
Total.....	2,355

Airports and landing fields having any night lighting equipment:

Municipal.....	304
Commercial.....	92
Intermediate.....	283
Army.....	34
Navy.....	13
State.....	9
Auxiliary.....	22
Private.....	9
Total.....	766

Seaplane Bases on August 1, 1940

Army, Navy, Coast Guard, Marine Corps.....	29
Other seaplane bases and anchorages.....	281
Total.....	310

Seaplane bases having any night lighting equipment:

Navy and Coast Guard.....	5
Other bases and anchorages.....	9
Total.....	14

Airport Projects Approved

In accordance with the provisions of section 303 of the Civil Aeronautics Act, the Administrator of Civil Aeronautics has issued certificates of air navigation facility necessity authorizing the expenditure of Federal funds in the operation of the following projects:

ALTURAS, CALIF.—\$3,360 for United States Department of Agriculture, Forest Service project for grading and leveling two landing strips at Alturas Airport.

AMERICUS, GA.—\$274,673 for W. P. A. project for grading, sprigging, draining, paving, and affiliated work to establish two runways, together with the necessary taxi strips and apron; construction of a small operations office and quarters building; and installation of boundary lighting at New County Airport.

(See AIRPORT PROJECTS, Page 405)

Long Range Airport Development Program Nearing Completion

Plans for an educational program designed to assist the various States in the working out of long-range airport development programs are nearing completion by the Airport Section of the Civil Aeronautics Authority.

Acting under the mandate of the Civil Aeronautics Act, proposed airport plans for the first three¹ of the seven civil aeronautics regions have been drawn up. These regions represent the 7 districts into which the United States have been partitioned for purposes of administration of the Act. Plans for regions 6 and 7 are in manuscript form and should be completed soon.

It must be pointed out that these development plans are in no way urged upon the States, but are designed solely to assist them in airport planning—not only to meet present needs, but to care for future requirements as well.

The execution of the program falls under two major headings: (1) Determination of localities where airports are needed, or may be needed at some future date; and (2) development of a well-rounded, correlated program of State-wide construction that will also coordinate with construction plans of neighboring States.

In addition to providing for the construction of new airports, the plans also provide for the improvement and enlargement of existing airports.

The C. A. A.'s part consists largely in the submission of sample airport plans to State planning commissions for their use as a possible basis for the working out of an integrated program. The value of such aid to the States is shown in the adoption by the Wisconsin State Planning Board of an airport development program embodying virtually all of the C. A. A. recommendations for that State.

The development of these plans is a continuing program, frequent revisions being necessary since the airport needs of any locality may change from time to time. However, the establishment of a definite goal toward which future development programs may be pointed is considered the most important part of this work.

¹ Such plans are available to State planning commissions and other public planning bodies. The States comprising each region are as follows: First: Virginia, West Virginia, District of Columbia, Pennsylvania, Maryland, New Jersey, New York, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine; Second: North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Tennessee; Third: Kentucky, Ohio, Indiana, Illinois, Wisconsin, Michigan, Minnesota, and North Dakota.

The C. A. A. plans make no attempt to solve the airport problems of metropolitan areas, since it is felt that these problems are rightly the concern of city planning bodies. It is pointed out that development of city airports must, of necessity, be coordinated with zoning regulations, building and land use restrictions, and highway and street development. An example of this type of planning is the program of the Los Angeles Regional Planning Commission, which represents what is considered to be a model approach to the solution of metropolitan airport planning problems.

NEW TYPE APPROVALS

(Approval numbers and dates of assignment in parentheses)

TYPE CERTIFICATES

Glider

Schweizer, SGS 2-8, 2-place closed land monoplane, class II (5, June 28, 1940).

Engines

Aircooled, Franklin 6A C-264, 6-cylinder horizontal opposed air cooled, 117 horsepower at 2,600 revolutions per minute at sea level pressure altitude (222, July 18, 1940).

Propellers

Marshall-Fablin, D-560, wood, 6-foot 8-inch diameter, 5-foot 2-inch pitch, 75 horsepower, 2,015 revolutions per minute (737, June 7, 1940).

Sensenich, 76L, wood, 6-foot 4-inch diameter, 4-foot to 4-foot 8-inch pitch, 75 horsepower, 2,015 revolutions per minute (738, July 2, 1940).

Foust, 70C and 70F, wood, 5-foot 10-inch diameter, 3-foot 9-inch pitch, 55 horsepower, 2,300 revolutions per minute (739, July 3, 1940).

Stone, D424, D424-1 and D424-L, wood, 6-foot 3-inch diameter, 4-foot 3-inch pitch (models D424 and D424-1) or 3-foot 6-inch pitch (model D424-L), 45 horsepower (models D424 and D424-1) or 30 horsepower (model D424-L), 1,900 revolutions per minute (740, July 9, 1940).

Stone, D-450 and D-450-1, wood, 6-foot 10-inch diameter, 3-foot 4-inch pitch, 90 horsepower, 2,375 revolutions per minute (741, July 9, 1940).

Stone, D-505, wood, 7-foot diameter, 4-foot 6-inch pitch, 90 horsepower, 1,950 revolutions per minute (742, July 9, 1940).

Stone, D-560, wood, 6-foot 8-inch diameter, 3-foot 9-inch pitch, 85 horsepower, 1,900 revolutions per minute (743, July 9, 1940).

Stone, D-707 and D-707-K5, wood, 7-foot 8-inch diameter, 4-foot 9-inch to 4-foot 4-inch pitch, 125 horsepower, 2,050 revolutions per minute (744, July 9, 1940).

Stone, D-750, D-750-2, D-751 and D-752, wood, 8-foot 6-inch diameter, 5-foot 6-inch to 5-foot 3-inch pitch, 115 horsepower, 1,800 revolutions per minute (745, July 9, 1940).

Private Flying

Board Amends Regulations to Aid Temporarily Disabled Pilots

Certificated pilots above the student grade suffering a temporary physical disability which might make it dangerous for them to fly alone, were given a chance to maintain their pilot certificates when the Civil Aeronautics Board on August 2 passed an amendment to the Civil Air Regulations permitting them to get time in the air by flying a dual control ship accompanied by another qualified pilot. Pregnant women would be included in the temporary disability group.

The old regulation, which caused much protest, had forbidden such pilots to fly during the time of disability.

The Board also relaxed the regulation governing the expiration of private certificates. Under the new amendment, pilots whose private certificates lapse because of failure to log sufficient flying time will maintain student pilot status for an additional year. If during that year they apply for reinstatement, and can show that they have logged sufficient flying time within the preceding 12 months, the private certificate will be renewed without further examination. It is required, however, that a satisfactory physical check must have been made within the previous 14 months.

Requirements for the reinstatement of certificates of commercial grade have not been relaxed except that on expiration of such certificates, the holder will also maintain the status of a student pilot instead of being grounded as before.

The new regulation becomes effective September 1.

DESIGNATION OF MEDICAL EXAMINERS

During the month of June 1940, the following physicians were officially authorized as medical examiners for the Civil Aeronautics Authority in the cities named:

ALABAMA.—Dr. John A. Martin, 32 Clayton Street, Montgomery.

IOWA.—Dr. Dean C. Snyder, Minor Building, De Witt.

LOUISIANA.—Dr. Richard W. Young, 247 South Tenth Street, Baton Rouge.

MARYLAND.—Dr. Jack B. Zerbee, 111 South Washington Street, Easton.

MINNESOTA.—Dr. Leon G. Smith, 215 North First Street, Montevideo.

MISSOURI.—Dr. Frank W. Hall, Themis and Pacific Streets, Cape Girardeau.

NEVADA.—Dr. Lin S. Felder, 401 Bridge Street, Winnemucca.

NEW YORK.—Dr. Roy W. Gunther, 42 Church Street, Amsterdam.

NORTH CAROLINA.—Dr. Thomas J. Holton, Liberty Life Building, Charlotte.

TEXAS.—Dr. Fred W. Hartwick, 512 Welder Building, Victoria.

WEST VIRGINIA.—Dr. Halverd Wanger, Sheperdstown.

BRITISH GUIANA.—Dr. Silvio C. Bettencourt-Gomes, Public Hospital, Georgetown.

The following-named physician has been designated as an Airline Medical Examiner:

Dr. Louis H. Bauer, Professional Building, Hempstead, Long Island, N. Y.

NEW AERONAUTICAL PUBLICATIONS

Among recent Government publications dealing with the subject of aeronautics are the following:

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS REPORT 686; a tech-

nical report on the stability of castoring wheels for aircraft landing gears. 16 pages, illustrated, price 10 cents. Classification number Y 3.N 21/5:5/686.

WAR DEPARTMENT TECHNICAL MANUAL No. 1-305; on the theory of ballooning, supersedes TR 440-300. 12 pages, price 10 cents. Classification number W 1.35: 1-305.

SENATE NAVAL AFFAIRS COMMITTEE HEARINGS ON S. 4024 (H. R. 9848); to authorize the construction or acquisition of naval aircraft, the construction of certain public works, and for other purposes. 56 pages. Classification number Y 4.N 22/2: Ai7/4.

When ordering these publications, send remittance by postal money order, express order, coupons, or check to the Superintendent of Documents, Government Printing Office, Washington, D. C. Always give title, issuing office, or classification number when listed.

Accident Notification Procedure Announced Board Asks Cooperation of Pilots

The Safety Bureau of the Civil Aeronautics Board announced on August 2 a method of notification of aircraft accidents designed to gain better cooperation by aircraft operators so that effective study of such accidents could be made and repetition avoided. The statement said:

"The Safety Bureau of the Civil Aeronautics Board has taken over the duties of the former Air Safety Board, and invites the cooperation of all air-men and aircraft operators in its investigation or study of aircraft accidents. Prompt notification of serious accidents and early submission of reports on all types of accidents are essential for the efficient conduct of the work of the Safety Bureau.

"When death or serious injury to person or substantial damage to property results from an accident involving aircraft, the airman concerned and the registered owner or operator of the aircraft, if physically able, shall notify the Safety Bureau of the Civil Aeronautics Board immediately, either in person or by telegraph or telephone, stating the identification mark of the aircraft and the time, place, and nature of the accident. Notification for the attention of the Safety Bureau, to the Administrator of Civil Aeronautics or any of his inspectors, shall be deemed to constitute notification to the Safety

Bureau. If notification is to be given direct to the Safety Bureau, Civil Aeronautics Board, such notification may be made to either the principal office of the Safety Bureau in Washington, D. C., or to its nearest known branch office or field representative at Garden City, N. Y.; Atlanta, Ga.; Chicago, Ill.; Kansas City, Mo.; Fort Worth, Tex.; Santa Monica, Calif.; or Seattle, Wash., or to investigators of the Safety Bureau, Civil Aeronautics Board, located at Boston, Mass.; College Park, Md.; Romulus, Mich.; Houston, Tex., or Oakland, Calif.

"Accident reports, in addition to notification as stated above, on all accidents involving aircraft which result in death or serious injury to persons or damage to aircraft or other property, should be made without delay by the pilot in command and/or the operator of the aircraft to the Safety Bureau, Civil Aeronautics Board, at its nearest branch office on a form prepared for that purpose. Such reports should include all pertinent information for which space is provided on the report form.

"The objective of the Safety Bureau is to study accidents and their causes for the purpose of avoiding repetition. Only by securing the cooperation of the aircraft operators, pilots, and mechanics will the Bureau be able to do its work most effectively."

Airways Program

(Continued from page 399)

The equipment of WSY comprises the largest single radio installation of the Authority.

Substantial completion of surveys and preliminary negotiations have been accomplished for the establishment of a similar facility in the San Francisco Bay area to furnish identical service for trans-Pacific airline operations and communications. Surveys and negotiations for property are now under way for additional communication facilities of the same type to be located at Seattle, Wash., and Anchorage, Alaska, to serve aircraft operations throughout the Territory of Alaska, and between Alaska and Seattle.

In the Pacific Ocean area, two simultaneous radio range communication stations in the Hawaiian Islands are 90 percent complete—at Port Allen and at Hilo. Surveys and plans have been completed for a third station to be located on the island of Maui. Communication stations with facilities for two-way communication with aircraft, and reception and transmission of meteorological data and communication with other points in the Pacific area are under contract for construction on Johnson and Palmyra Islands, and surveys have been completed for the establishment of similar stations at Jarvis Island and French Frigate Shoals.

In addition to these facilities, surveys, lease negotiations, and preparation of plans are nearing completion for the establishment of another high-power radio station at Honolulu, which will be equipped for direct communication with many points in the Pacific area, as well as with San Francisco. This facility will transmit directly to San Francisco meteorological data and other information from various Pacific points, as well as provide necessary facilities for high-speed communications relative to aircraft movements.

Maintenance and Operating Procedures Standardized

The operation of radio facilities, intermediate landing fields, airways beacons, and other aids requires constant maintenance in order to hold to the high degree of efficiency that has been adhered to in the past. As the constant operation of airway facilities, particularly radio facilities, is necessary for the continuance of the safety record of aircraft operations, maintenance electricians have been assigned to key stations to devote their entire time toward insuring the uninterrupted operation of the radio equipment.

As the number of facilities increased the technicalities of equipment became more complex, requiring the employment of specially trained personnel and coordination and standardization of practices in the operation of air navigation facilities. As a result, a highly efficient maintenance organization specially trained in the servicing of the equipment and the detection of potential failures is now set up in the field.

The 1940 fiscal year also saw the

transition of the Central Depot at Fort Worth from a purely central repair base for the maintenance districts to a reconditioning and concentration depot for new and used equipment. During the year 150 unserviceable engine generators were repaired and made available for reissue. Five radio transmitters of a special design for the trans-Atlantic radio station at Sayville, N. Y., were rebuilt from used and serviceable parts at a saving of about 50 percent in the cost to the Government.

The 1941 appropriation bill carried a \$5,265,000 authorization for airways construction and improvement, as well as a continuing authorization for a \$2,000,000 contractual obligation for construction to be undertaken during the next fiscal year. Tentative plans look to the construction of at least 2,469 miles of new airways, complete with lighted fields, and radio, and communication. These will be on nine routes, as shown in the following table:

TERMINAL POINTS	Miles
Detroit-South Bend	165
Los Angeles-San Francisco (coastal)	353
Norfolk-Washington	155
Detroit-Sault Sainte Marie	348
Cheyenne-Huron	508
Pueblo-Wichita	405
Phoenix-Las Vegas	184
Atlanta-Tallahassee	225
Dayton-Toledo ¹	126
TOTAL	2,469

¹ Radio facilities already included in Fort Wayne-Pittsburgh Airway.

In addition, plans for 1941 contemplate the equipping with cone of silence markers all loop-type radio ranges not

AUTOGIRO OPERATIONS

(Continued from page 401)

Increase in use of the service to the maximum of 150 pounds per trip would reduce the cost to about 15 cents per pound. Considering this against the saving in time of only about 10 to 20 minutes per trip compared to truck operation, the Board felt that so limited an amount of mail did not justify a certificate which would imply permanent assumption of this expenditure.

"While the cost of the Philadelphia service at the present time appears to be disproportionate to the direct advantages which will accrue to the public, it appears clear that further development of the art of operating autogiros and other types of rotor aircraft and the acquisition of further experience with the problems arising in regular operations of that sort, is desirable not only in the interest of the postal service, but also of the national defense," the Board said.

"It is in its contribution to that development, rather than in the present benefit that it offers any particular community, that such a service as the one here proposed finds its strongest claim to present support. It is not clear, however, that the development of rotor aircraft operations will be best and most efficiently fostered by the present establishment on a permanent basis of the privilege of carrying mail by autogiro, with the implication of

already so equipped. During the 1940 fiscal year, all simultaneous radio range and broadcast stations were equipped with Z-markers.

AIRPORT PROJECTS

(Continued from page 403)

BALTIMORE, MD.—\$20,149 for W. P. A. project for preliminary construction of a National Guard hangar at municipal airport.

BALTIMORE, MD.—\$401,340 for W. P. A. project for grading, drainage, paving, and lighting at municipal airport. Supplemental to previous approval dated October 2, 1939.

CONNELLSVILLE, PA.—\$144,888 for continued operation of W. P. A. project for completion of the radio range station, the airport lighting system, beacon and tower, and construction of roadway and walks for which provisions were made in the original project at Connessville, Pa., Airport.

HILLSGROVE, R. I.—\$344,011 for W. P. A. project for construction of a National Guard hangar, and performance of affiliated work at Rhode Island State Airport.

HOULTON, MAINE.—\$53,920 for N. Y. A. project for grading portions of three landing strips and erection of frame hangar at Houlton Airport.

PRESQUE ISLE, MAINE.—\$8,957 for W. P. A. project for clearing, grubbing, and draining at municipal airport.

ST. AGUSTINE, FLA.—\$21,196 for W. P. A. project for grading of three landing strips, the filling of an old drain ditch and the cutting of a new ditch, the removal of muck, the seeding of all landing strips, the clearing of obstructions, and the transfer and installation of C. A. A. lighting equipment at municipal airport.

VICKSBURG, MISS.—\$8,807 for W. P. A. project for completion of hangar, placing concrete apron, grading and sodding at municipal airport.

WICHITA, KANS.—\$248,314 for W. P. A. project for construction of reinforced concrete taxiways, storm sewers, drainage structures, and relocation of boundary lighting, together with affiliated work. This supersedes previous approval dated November 22, 1939, which included runway construction, filling and grading, drainage, installation of lighting facilities, landscaping, seeding and sodding, and performance of incidental and appurtenant work at municipal airport.

indefinitely continuing Government payments on a substantial scale and substantially exceeding any corresponding contribution to postal revenue, within the confines of a particular city.

"There are several factors in favor of continued operation in Philadelphia, considering such operations primarily as a contribution to the development of an art of which the future scope and usefulness cannot be accurately foreseen now. The roof of the post office building at Philadelphia was expressly planned to permit autogiro or helicopter operations. The equipment has been installed at Philadelphia, and operations actually conducted for a period of a year. It is there that experience has actually been accumulated. Philadelphia is well recognized as the center of the autogiro industry, being headquarters for the manufacture and development of this type of equipment and a focus of interest in other types of rotor aircraft as well.

"Under the circumstances, we are of the opinion that a continued operation of the autogiro service at Philadelphia would be in the present public interest. It is however, possible that it might later be desirable to change the type of developmental operation in this field, or the conditions under which it is carried on, in the interests of greater public advantage or greater diversity of experience or a better adaptation to the changing conditions of a new type of operation," the Board concluded.

CIVIL AERONAUTICS BOARD

OFFICIAL ACTIONS

Abstracts of Opinions, Orders, and Regulations

FOR THE PERIOD JULY 16-31, 1940

ORDERS

ORDER No. 581: *American Export issued certificates for temporary air transportation between New York City and Lisbon, Portugal.*

The Board on July 12 authorized issuance of certificates of public convenience and necessity to American Export Airlines, Inc., for temporary air transportation with respect to property and mail between New York City and Lisbon, Portugal, and dismissed application for the control of applicant by American Export Lines, Inc. (Opinion and order.)

ORDER No. 582: *Eastern Air denied application authorizing transportation of mail by autogiro.*

The Board on July 16 denied application of Eastern Air Lines, Inc., for a permanent certificate of public convenience and necessity authorizing scheduled operations for the transportation of mail only by autogiro to and from the rooftop of the Philadelphia Post Office Building and the Camden Airport. (Opinion and order.)

ORDER No. 583: *TWA granted extension of time for filing petition in Marquette, McKelvy, and TWA contract.*

The Board on July 18 granted motion of Transcontinental & Western Air, Inc., for an extension of time for filing a petition for reconsideration and reargument in the matter of the application of Transcontinental & Western Air, Inc., for approval of a contract dated October 6, 1939, between Marquette Airlines, Inc., John E. McKelvy, and Transcontinental & Western Air, Inc.

ORDER No. 584: *Canadian Colonial granted leave to amend its application for a foreign air carrier permit.*

The Board on July 18 granted Canadian Colonial Airways, Ltd., leave to amend its application for a foreign air carrier permit and directed a further hearing on such application as amended.

Opinions of the Civil Aeronautics Board Now Published Separately

The full text of opinions of the Civil Aeronautics Board no longer are published in the CIVIL AERONAUTICS JOURNAL. All opinions in economic proceedings now are printed individually. Arrangements will be made to supply to subscribers of the JOURNAL copies of all such opinions up to the date of expiration of current subscriptions.

Opinions in cases of suspension, revocation, or denial of airman certificates will be made available in mimeographed form only.

As in previous issues, however, the JOURNAL will carry an abstract of all rules, regulations, and orders and a syllabus of all opinions issued by the Board during the half-month ending 2 weeks prior to the date of publication. Verbatim copies of these, with the exception of opinions in economic proceedings, may be obtained on request to the Publications and Statistics Division, Civil Aeronautics Authority, Washington, D. C. Persons other than current subscribers may obtain economic opinions by ordering copies directly from the Superintendent of Documents, Government Printing Office, Washington, D. C. Arrangements will be made with the Superintendent of Documents to provide for the separate subscription, at a flat fee, for each series which will complete a bound volume. Details will be announced when arrangements are completed.

ORDER No. 585: *Mid-Continent issued certificate for transportation over certain routes; Applications of Northwest and Braniff denied.*

The Board on July 18 authorized issuance of a certificate of public convenience and necessity to Mid-Continent Airlines, Inc., for the transporta-

tion of persons, property, and mail between Minneapolis-St. Paul, Minn., and Kansas City, Mo., via Rochester, Minn., Mason City and Des Moines, Iowa, and between Des Moines, Iowa, and St. Louis, Mo., via Ottumwa, Iowa, and Quincy, Ill. The applications of Northwest Airlines, Inc., and Braniff Airways, Inc., were denied. (Opinion and order.)

ORDER No. 586: *Northwest granted application to amend its certificates covering routes Nos. 3 and 16.*

The Board on July 18 granted application of Northwest Airlines, Inc., to amend its certificates of public convenience and necessity covering routes Nos. 3 and 16 so as to consolidate said certificates into a single certificate. (Opinion and order.)

ORDER No. 587: *Granted Atlantic City permission to intervene in applications of Penn-Central, Eastern, and TWA.*

The Board on July 19 granted city of Atlantic City, N. J., permission to intervene in the applications of Pennsylvania-Central Airlines Corp., Eastern Air Lines, Inc., and Transcontinental & Western Air, Inc., for amendment to their certificates of public convenience and necessity.

ORDER No. 588: *United granted petition for reconsideration of proposed acquisition of Western Air.*

The Board on July 22 granted petition of United Air Lines Transport Corp. for reconsideration and reargument of the order and opinion of the Authority (Order No. 558) in the matter of the proposed acquisition of, control of, and merger with or purchase of all of the assets of, Western Air Express Corporation.

ORDER No. 589: *Pan American-Grace Airways issued certificate for transportation between Cristobal, C. Z., and Buenos Aires.*

The Board on July 22 authorized issuance of a certificate of public conveni-

ence and necessity to Pan American-Grace Airways, Inc., for the transportation of persons, property, and mail between Cristobal, Canal Zone, and Buenos Aires, Argentina, via certain intermediate points in Colombia, Ecuador, Peru, Chile, Bolivia, and Argentina. (Opinion and order.)

ORDER No. 590: *Pan American-Grace Airways exempted temporarily from provisions of section 401 (a) of Civil Aeronautics Act.*

The Board on July 22 exempted temporarily Pan American-Grace Airways, Inc., from the provisions of section 401 (a) of the Civil Aeronautics Act insofar as the same are applicable to the air transportation service now rendered by said air carrier to and from Quito, Ecuador.

ORDER No. 591: *Pan American-Grace temporarily exempted from rendering transportation service to and from Tumaco, Villazon, and Jujuy.*

The Board on July 22 temporarily exempted Pan American-Grace Airways, Inc., from the requirement of rendering air transportation service to and from Tumaco, Colombia, and to and from Villazon, Bolivia, and to and from Jujuy, Argentina.

ORDER No. 592: *Pan American issued certificate for transportation between United States, Mexico, Central and South America, and points in West Indies and Bahama Islands.*

The Board on July 22 authorized issuance of a certificate of public convenience and necessity to Pan American Airways, Inc., for the transportation of persons, property and mail on certain routes between the United States, Mexico, and Central and South America, and points in the West Indies and the Bahama Islands. (Opinion and order.)

ORDER No. 593: *Pan American temporarily exempted from rendering air transportation service between several South American countries.*

The Board on July 22 temporarily exempted Pan American Airways, Inc., from the requirement of rendering air transportation service to and from Guanta, Venezuela, to and from Luiz Correa, Brazil, to and from Montevideo, Uruguay, and between Cristobal, C. Z., and Turbo, Colombia.

ORDER No. 594: *Pan American temporarily exempted from provisions of section 401 (a) of the Civil Aeronautics Act.*

The Board on July 22 temporarily exempted Pan American Airways, Inc., from the provisions of section 401 (a) of

the Civil Aeronautics Act insofar as the same are applicable to the air transportation service now rendered by said air carrier to and from Parnahyba (Piauhy), Brazil, to and from Barcelona, Venezuela, and between Port-au-Prince, Haiti, and Maracaibo, Venezuela.

ORDER No. 595: *Panama Airways issued certificate for transportation between Cristobal and Balboa, C. Z.*

The Board on July 22 authorized issuance of a certificate of public convenience and necessity to Panama Airways, Inc., for the transportation of persons and property, except mail, between Cristobal, C. Z., and Balboa, C. Z.; denied motion to dismiss application; and denied amended application to engage in nonscheduled air transportation. (Opinion and order.)

ORDER No. 596: *All American issued certificate for transportation between Pittsburgh and certain terminal points.*

The Board on July 22 authorized issuance of a certificate of public convenience and necessity to All American Aviation, Inc., for the transportation of property and mail between Pittsburgh, Pa., and the terminal points Huntington, W. Va., Jamestown, N. Y., Williamsport, Pa., and Philadelphia, Pa., all via certain intermediate points; and denied application in part. (Opinion and order.)

ORDER No. 597: *Private pilot certificate of David A. Aldredge suspended for 30 days.*

The Board on July 23 suspended for a period of 30 days private pilot certificate No. 54181, held by David A. Aldredge, Mount Vernon, Ind., for piloting an aircraft closer than 500 feet to other aircraft in flight.

ORDER No. 598: *Student pilot certificate of Horace McLaurin revoked.*

The Board on July 23 revoked student pilot certificate No. 62414, held by Horace McLaurin, Jackson, Miss., for piloting an aircraft acrobatically on a civil airway over a congested area, and other violations of the Civil Air Regulations.

ORDER No. 599: *Eastern Air withdraws petition for further hearing in Braniff case.*

The Board on July 24 granted Eastern Air Lines, Inc., intervener in the application of Braniff Airways, Inc., for an amendment of its certificate of public convenience and necessity with respect to transportation of mail between San Antonio, Houston, and Corpus Christi, Tex., permission to withdraw its petition for further hearing in the matter.

ORDER No. 600: *TWA and Marquette temporarily exempted from certain provisions of Title IV of the Civil Aeronautics Act.*

The Board on July 25 temporarily exempted Transcontinental & Western Air, Inc., and Marquette Airlines, Inc., from certain provisions of Title IV of the Civil Aeronautics Act insofar as may be necessary to permit TWA to perform the air transportation service which Marquette is authorized and obligated to perform under the terms of the certificate issued to it July 19, 1939, and insofar as may be necessary to relieve Marquette of its obligation to perform air transportation service under the terms of this certificate, pending further consideration by the Board of a contract dated October 6, 1939.

ORDER No. 601: *Denied Boston-Maine's petition for reconsideration of its air mail rate case.*

The Board on July 26 denied the petition of Boston-Maine Airways, Inc., for reconsideration of the order of the Board (Order No. 406), fixing the fair and reasonable rates of compensation for the transportation of mail by aircraft, the facilities used and useful therefor, and the services connected therewith, over route No. 27.

ORDER No. 602: *Reopened proceeding in petition of United for transportation of mail over routes Nos. 1, 11, 12, and 17.*

The Board on July 26 reopened the proceeding in the matter of the petition of United Air Lines Transport Corporation for an order fixing rates of compensation for the transportation of mail by aircraft over routes Nos. 1, 11, 12, and 17.

ORDER No. 603: *Approved interlocking relationships of A. Garni, Eastern Air Lines, and Pan American-Grace Airways.*

The Board on July 26 extended the order of the Authority (Order No. 74) approving interlocking relationships of A. Garni and Eastern Air Lines, Inc., so as to include approval of interlocking relationships of A. Garni and Pan American-Grace Airways, Inc.

ORDER No. 604: *Canadian Colonial temporarily authorized to serve Albany, N. Y., through Schenectady, N. Y., Airport.*

The Board on July 30 temporarily authorized Canadian Colonial Airways, Inc., to serve Albany, N. Y., through the Schenectady, N. Y., Airport until such time as the Albany Airport is available for use by the type of equipment then used by Canadian Colonial Airways, Inc., in serving said point.

ORDER No. 605: *Parachute rigger certificate of Josef Blanc revoked.*

The Board on July 30 revoked parachute rigger certificate No. 212 held by Josef Blanc, Jacksonville, Fla., for carelessness and incompetence in the packing and inspection of a parachute. (Opinion and order.)

ORDER No. 606: *Student pilot certificate of John N. DeMorest suspended.*

The Board on July 30 suspended student pilot certificate No. 99850 held by John N. DeMorest, Sanborn, N. Y., until its expiration August 9, 1940, with the stipulation that any pilot certificate issued to him shall contain a limitation prohibiting him from flying solo until September 27, 1940, and thereafter until he shall have secured three hours of dual instruction by a certificated instructor.

ORDER No. 608: *Tri-State issued certificate for air transportation between Baltimore and Morgantown.*

The Board on July 31 authorized issuance of a certificate of public convenience and necessity to Tri-State Aviation Corporation for air transportation with respect to property between Baltimore, Md., and Morgantown, W. Va., via Martinsburg, W. Va., and between Morgantown, W. Va., and Morgantown, W. Va., via Elkins, W. Va., Charleston, W. Va., and Parkersburg, W. Va.; denied the application of said carrier for authorization to engage in air transportation with respect to property to and from the points Pittsburgh, Pa., Wheeling, W. Va., Beckley, W. Va., Princeton, W. Va., Clarksburg, W. Va., and Cumberland, Md. (Opinion and order.)

ORDER No. 609: *Mayflower Airlines issued certificate authorizing air transportation between Boston and Nantucket, Mass.*

The Board on July 31 issued a certificate of public convenience and necessity to Mayflower Airlines, Inc., authorizing air transportation with respect to persons and property, except mail, between Boston, and Nantucket, Mass. via the intermediate points of Provincetown, Hyannis, and Oak Bluffs, Mass.

REGULATIONS

REGULATION No. 96: *Adopted amendment No. 62 of the Civil Air Regulations.*

The Board on July 17 adopted amendment No. 62 of the Civil Air Regulations repealing section 61.111 which prohibited simultaneous departures of air carriers in the same direction and over the same route.

REGULATION No. 97: *Air carrier aircraft granted special permission to enter air-space reservation over District of Columbia.*

The Board on July 23 granted special permission to air carrier aircraft to enter the air-space reservation over the District of Columbia within certain boundaries.

REGULATION No. 98: *Aircraft in Cincinnati Control Zone area required to be equipped with two-way radio.*

The Board on July 23 adopted a regulation requiring that aircraft taking off from any landing area in the Cincinnati

Control Zone, other than Lunken airport, shall be equipped with two-way radio in serviceable condition, and that authorization shall be obtained from the air-traffic control tower at Lunken airport prior to any take-off.

REGULATION No. 99: *Adopted amendment No. 63 of the Civil Air Regulations.*

The Board on July 23 adopted amendment No. 63 of the Civil Air Regulations providing for instrument rating for military pilots.

REGULATION No. 100: *Adopted amendment No. 64 of the Civil Air Regulations.*

The Board on July 30 adopted amendment No. 64 of the Civil Air Regulations discontinuing Central Airport, Camden, N. J., as a control airport.

REGULATION No. 101: *Adopted amendment No. 65 of the Civil Air Regulations.*

The Board on July 30 adopted amendment No. 65 of the Civil Air Regulations (effective September 1, 1940) providing for renewal and special issuance of pilot certificates.

REGULATION No. 102: *Adopted amendment No. 66 of the Civil Air Regulations.*

The Board on July 31 adopted amendment No. 66 of the Civil Air Regulations amending Part 53 by inserting the words "Administrator," and "Board" in lieu of the word "Authority."