

Brayton Stimmerman

Air Transport

FACTS AND FIGURES

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**NINTH EDITION
LITTLE-KNOWN
FACTS**

AIR TRANSPORT

FACTS AND FIGURES

Operations of the Scheduled Airlines of the United States in 1947



The scheduled airlines of the United States completed the year 1947 with substantial progress in every field of their operations except the balance sheet. Increases in traffic volume over 1946 occurred in each category but domestic airmail and even there the decrease was barely appreciable compared to a year ago.

Outstanding features were the phenomenal increase in air freight, accompanied at the same time by big gains in air express volume; and the tremendous rise in volume of all overseas operations. The number of new, bigger, and faster planes, combined with added schedules, boosted the total of available seat miles ahead of traffic gains, with resultant temporary decreases in load factors. The addition to the fleets of improved aircraft types, at the same time, resulted in flight economies, which, while not widely realized in 1947, gave definite indication of a better financial picture in 1948. Last year, rising costs were so heavy as to indicate a substantial loss for domestic operations, though probably not greatly in excess of the \$7,000,000 deficit of 1946. International operations were over \$1,500,000 in the black at the beginning of the fourth quarter of 1947.

The U. S. international carriers achieved a safety record excelling any except those scattered years in which no fatal accidents at all occurred. In domestic operations the fatality rate was not so low as in 1946, one of the two best in history. The year 1947 was marked by concentration of the airlines and the government on safety as the number one objective, with unequalled progress in the development and installation of both ground and airborne navigation and landing aids, such as ILS, GCA, numerous other radar devices, and high intensity approach lights.

Domestic

The increase in air freight volume was the outstanding feature of the domestic airline record in 1947. The ton mileage reached a figure of 40,702,258 — an increase of 111.5 percent over 1946. Air express also showed an increase of 26.2 percent, bringing the total for the year to 30,103,373 ton miles.

The gain in passenger traffic was not so great as had been predicted early in the year, yet showed a substantial increase when considered in relation to the record-breaking heights achieved in 1946. Revenue

All 1947 statistics appearing in this publication include some estimates for the closing months of the year. Sources of the facts and figures are Civil Aeronautics Administration, Civil Aeronautics Board, National Safety Council, and Air Transport Association of America accounting department. Plane miles as mentioned in the tables and in these introductory paragraphs mean one plane one mile; passenger miles mean one passenger one mile; route miles mean the number of miles served by the airlines as certificated by the Civil Aeronautics Board.

passenger miles totalled 6,284,759,160, representing an increase of 5.6 percent over last year. The number of revenue passengers was up 7.7 percent to a total of 13,189,366. Revenue plane miles rose 5.9 percent to a total of 329,856,142.

The effects of fleet and schedule expansion were reflected in the jump of 28.4 percent to 9,710,485,914 available seat miles. This circumstance reduced the revenue passenger load factor down to an average of 64.72 as compared to 78.74 in 1946.

Ton miles of airmail flown held very close to the 1946 figure with a drop of only 0.6 percent or a total of 32,757,300 for the first full year of the five-cent postage rate. This contrasts with the drop of 49.37 percent a year ago from the 1945 volume, swollen by mail of the armed services.

A feature of the domestic scene was the entrance of the local service lines — formerly called “feeders” — for the first year of full scale operations. They are scheduled, certificated carriers of regional scope, whose traffic figures are included in the domestic totals. An idea of the position they are beginning to occupy is given by the following separation of the performance figures for the nine lines of this type which were in action during 1947. Revenue plane miles: 10,206,749. Revenue passengers: 246,747. Revenue passenger miles: 49,036,034. Available seat miles: 158,116,000. Revenue passenger load factor: 31.0. Mail ton miles: 176,790. Express ton miles 131,925. Freight ton miles: 83,772.

The fatality rate per 100,000,000 revenue passenger miles for all the domestic carriers up to December 1 was 3.45 as compared with 1.24 in 1946 and 2.23 in 1945. The record meant that each passenger in 11 months travelled safely by plane the equivalent of nearly 24,000,000 miles or 957 times around the world.

The length of the average trip per passenger dropped slightly from 487 miles in 1946 to 476 in 1947.

Route miles for the trunk lines rose from 84,358 to 110,716, while the mileage assigned to the local service lines rose from 11,563 to 20,998.

Employment decreased to 61,711 from an all-time peak of 69,127 in 1946. The proportion of veterans was estimated at more than one-third.

For the nine months ending Sept. 30, 1947, the trunk lines showed operating revenues of \$262,198,000, an increase of 14.60 per cent above the same period in 1946; but the operating expenses were \$271,963,000, or a rise of 20.91. Most lines, however, improved their position as the year progressed and the operating revenues for the third quarter showed an excess of \$6,000,000 over operating expenses—a figure, however, not expected to hold for the fourth quarter.

Two fare increases necessitated by rising costs brought the average to slightly over 5 cents a mile for 1947. In spite of this the airline fares on the heaviest traveled routes still averaged below pre-Pearl Harbor days.

Two important developments of 1947 were the establishment of Air Cargo, Inc., as a permanent ground service organization to promote the efficiency of air cargo operations between all points in the United States; and of the Airline Terminal Corporation for the consolidation of passenger and servicing facilities—both on a mutually cooperative basis.

INTERNATIONAL

All traffic fields of the U. S. scheduled airlines operating overseas and internationally showed striking gains. The biggest increase was in carriage of express and freight, with the ton mileage jumping 126.9 percent over 1946 to a total of 34,253,100. Next largest gain was in airmail, which rose 95.9 percent to a ton mileage of 15,993,393.

Revenue passenger miles increased 71.3 percent to a total of 1,886,093,453. The number of revenue passengers was 1,412,580, or a gain of 35.6 percent, while the revenue plane miles totalled 88,077,532, representing an increase of 45.4 percent. As with the domestic carriers, capacity outdistanced traffic, with a rise of 102.1 percent to a total of 3,135,389,803 available seat miles. The resultant revenue passenger load factor was 60.15 as compared with 70.94 percent in 1946.

AIRCRAFT ON ORDER OR OPTION

(These figures are subject to change, but represent an approximate picture at the end of 1947.)

Boeing 377 (Stratocruiser)	45
DC-6	20
CV 240 (Convairliner)	145
L649-749 (Constellation)	10
Martin 202	43
	<hr/>
	263

The high degree of safety achieved by the overseas operators was revealed in the achievement up to Dec. 1 of a passenger fatality rate per 100,000,000 revenue passenger miles of 1.19, as compared with 3.54 in 1946. An overseas airline passenger on the basis of the 1947 record for 11 months would have travelled about 84,000,000 miles or 3,360 times around the world at the equator.

The length of the average trip per passenger rose from 1,057 to 1,335.

Route mileage increased from 175,488 in 1946 to 178,768 for 1947.

Operating revenues for the first three quarters of 1947 amounted to \$140,765,978, while operating expenses were \$139,119,286, leaving a favorable balance of \$1,646,692, with reports incomplete from several of the smaller carriers.

Employment rose to 22,391 from a total of 19,327 in 1946.

AIRCRAFT

Feature of the year was the advent of the first new postwar types of plane: the Martin 202, the Douglas DC-6, and the Lockheed 649 and 749 (virtually new models of the Constellation). The helicopter entered the scheduled airline picture with inauguration of an airmail service in California and certification of the first taxi service in Cleveland.

The number of aircraft in service reached a total of 961 in December, 1947, of which 793 were operated domestically and 168 to points outside of the United States, with many of them used in both services. These figures compare with 809 at the end of 1946, of which 659 were in domestic use and 150 to points outside the United States. The corresponding seating capacity jumped even more sharply, or about 125 percent, from 23,513 in 1946 to 31,800 in 1947. Late in 1947 about 60 all-cargo planes were in operation, more than one-third of which were four-engine aircraft.

AIRPORTS

There were more than 5,400 airports throughout the United States late in 1947, as compared with 4,490 at the end of 1946, with more than 200 of them having runways of 5,700 feet and upwards. Certificated airline stops totalled 642 of which 179 had not begun operation because of incomplete construction and other factors. In the CAA program there were funds available for 908 projects, 176 of them for airports of Class IV or above (4,500 foot runways and up). For the first nine months of 1947, scheduled air carrier use of airports had dropped from 20.44 percent in 1946 to 15.67 percent in the face of much greater increase in use by private civilian and Army and Navy fliers.

Air Transport

NUMBER OF PLANES, SEATS AND MILES DOMESTIC AIR LINES

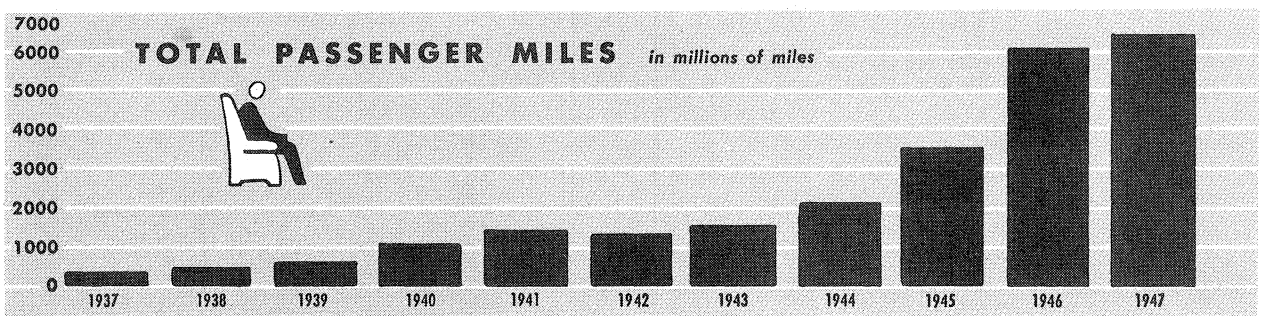
	Number of Planes	Average Available Seats	Route Miles	Revenue Miles	Daily Average Revenue Miles Flown
1928	268	*	*	10,400,239	28,416
1929	442	*	*	22,380,020	61,315
1930	497	*	*	31,992,634	87,651
1931	490	*	*	42,755,417	117,138
1932	456	6.58	*	45,606,354	124,608
1933	408	7.59	*	48,771,553	133,621
1934	417	8.85	*	40,955,366	112,207
1935	356	10.34	*	55,380,353	151,727
1936	272	10.67	*	63,777,226	174,255
1937	282	12.53	*	66,071,507	181,018
1938	253	13.63	39,267	69,668,827	190,873
1939	265	14.63	39,782	82,571,523	226,223
1940	358	16.52	44,643	108,800,436	297,269
1941	359	17.41	46,453	133,022,679	364,446
1942	179	17.60	49,297	110,102,860	301,652
1943	194	17.61	54,502	103,601,443	283,840
1944	279	17.53	62,937	142,234,034	388,618
1945	421	19.68	66,466	208,969,279	572,519
1946	659	25.26	84,358	309,580,439	848,166
1947	793	27.88	110,716	329,856,142	903,715

*Not available.

PASSENGER-MILES, MAIL, EXPRESS & FREIGHT TON-MILES

	Total Passengers Carried	Total Passenger Miles	Passenger Load Factor	Air Mail Ton Miles	Express Ton Miles	Freight Ton Miles
1928	47,840	*	*	*	58,913	*
1929	159,751	*	*	*	69,898	*
1930	374,935	84,014,572	*	*	100,666	*
1931	469,764	106,442,375	*	3,140,205	220,657	*
1932	474,279	127,038,798	42.34	2,701,125	289,512	*
1933	493,141	173,499,119	46.87	2,567,924	422,860	*
1934	461,743	187,858,629	51.82	2,461,412	597,293	*
1935	746,946	313,905,508	54.83	4,132,608	1,089,802	*
1936	1,020,931	435,740,253	64.01	5,741,437	1,860,809	*
1937	1,102,707	476,603,165	57.55	6,698,030	2,156,070	*
1938	1,343,427	557,719,268	58.74	7,422,860	2,173,706	*
1939	1,876,051	749,787,096	62.08	8,597,877	2,705,614	*
1940	2,959,480	1,147,444,948	63.84	10,038,229	3,469,485	*
1941	4,060,545	1,491,734,671	64.40	12,900,569	5,242,529	*
1942	3,551,833	1,481,976,329	76.48	21,068,272	11,691,208	*
1943	3,454,040	1,642,596,640	90.01	35,769,089	15,117,925	*
1944	4,668,466	2,264,282,453	90.83	51,138,971	17,094,029	*
1945	6,687,968	3,500,102,057	89.33	65,100,133	21,762,573	1,403,420
1946	12,464,754	6,067,108,567	80.33	32,966,030	24,072,987	19,412,459
1947	13,189,366	6,500,579,043	66.94	32,757,300	30,103,373	40,702,258

*Not available.



NUMBER OF PLANES, PASSENGERS AND MILES

INTERNATIONAL AIR LINES

	Number of Planes	Total Passengers Carried	Route Miles	Revenue Miles	Daily Average Revenue Miles	Total Passenger Miles
1928	57	1,873	1,077	273,211	746	*
1929	83	13,654	11,456	2,761,479	7,566	*
1930	103	42,570	19,662	4,952,569	13,569	19,732,677
1931	100	61,681	19,949	4,890,990	13,400	14,680,402
1932	108	73,281	19,980	5,565,533	15,206	21,147,539
1933	96	83,471	19,875	6,106,461	16,730	26,283,915
1934	101	110,522	22,717	8,109,377	22,217	38,792,228
1935	103	127,170	32,184	8,487,345	23,253	48,465,412
1936	108	108,834	32,913	7,434,500	20,368	45,078,586
1937	104	139,955	32,901	8,628,730	23,640	58,255,487
1938	92	144,686	37,775	8,528,412	23,366	60,110,655
1939	74	168,970	44,896	8,404,540	23,026	86,031,146
1940	82	225,798	53,025	10,716,827	29,281	117,719,111
1941	94	320,065	*	15,188,865	41,163	185,214,555
1942	75	392,146	*	20,390,260	55,864	268,252,356
1943	79	437,957	*	20,059,376	54,957	284,008,915
1944	79	522,759	48,155	24,278,413	66,334	352,206,362
1945	97	475,558	107,578	32,212,030	88,252	462,913,726
1946	150	1,041,283	175,488	59,373,265	162,666	1,130,029,503
1947	168	1,412,580	178,768	88,077,532	241,308	1,939,451,671

*Not available.

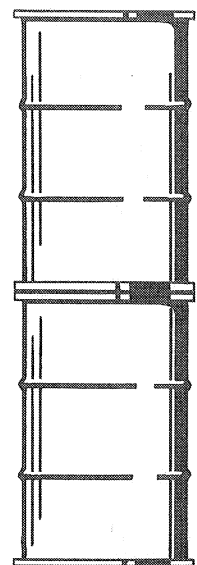
FUEL CONSUMED

	DOMESTIC		INTERNATIONAL	
	Gasoline (Gallons)	Oil (Gallons)	Gasoline (Gallons)	Oil (Gallons)
1930	11,457,065	371,459	3,092,412	81,493
1931	16,038,887	555,556	3,118,495	87,424
1932	19,715,252	631,828	3,971,696	70,193
1933	21,839,292	804,961	4,487,504	119,450
1934	18,872,057	667,775	6,264,217	170,981
1935	27,065,717	707,066	6,194,982	172,709
1936	30,392,923	675,655	6,760,898	197,917
1937	33,606,700	629,127	7,817,614	215,443
1938	37,218,743	644,768	8,091,449	185,102
1939	46,554,856	726,507	9,382,279	194,689
1940	64,906,284	1,087,288	9,628,645	200,599
1941	80,757,892	1,258,983	12,201,504	299,535
1942	68,030,246	989,103	17,652,754	348,039
1943	63,908,388	878,923	14,761,293	256,559
1944	88,143,632	1,238,941	16,912,705	270,512
1945	134,824,120	1,709,566	25,086,866	315,930
1946	231,605,000	2,787,000	59,543,323	768,069
1947	289,723,729	3,709,990	94,866,585	1,140,362

AIR MAIL, EXPRESS AND FREIGHT

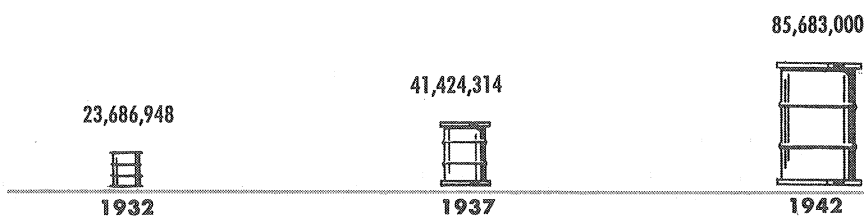
	INTERNATIONAL	
	Air Mail	Express and Freight
1945	4,692,896	8,717,511
1946	8,161,749	15,092,127
1947	15,993,393	34,253,100

384,433,314



TOTAL GASOLINE CONSUMPTION

in millions of gallons



Domestic Air Lines TOTAL PASSENGER MILES by Months

	Millions of Miles							
	1940	1941	1942	1943	1944	1945	1946	1947
Jan.	61.355	78.339	113.134	101.410	141.474	209.288	336.897	399.949
Feb.	58.937	84.639	104.219	110.982	125.088	190.324	337.356	386.602
Mar.	80.686	96.661	139.060	124.256	142.834	251.170	413.367	509.967
April	88.061	114.748	158.217	132.984	155.159	256.892	469.093	542.611
May	100.044	133.979	146.234	133.266	181.038	289.846	521.643	581.797
June	110.839	141.905	110.301	140.745	193.288	306.872	573.185	564.954
July	112.376	147.418	117.216	150.013	211.703	331.639	582.226	564.192
Aug.	121.602	158.068	128.429	156.873	227.350	343.928	638.310	638.436
Sept.	118.533	158.151	126.151	153.980	225.471	329.276	625.367	654.334
Oct.	125.924	150.919	129.182	155.855	239.022	353.526	570.223	603.513
Nov.	90.697	115.825	113.048	145.104	217.338	328.599	479.903	548.266
Dec.	78.387	111.076	96.778	137.122	204.512	308.736	519.533	539.777
Totals	1,147.444	1,491.734	1,481.976	1,642.596	2,264.282	3,500.102	6,067.108	6,534.000

TRAFFIC

	Average Passenger Fare per mile		Average Trip Per Passenger		Ratio of Air Passenger Miles to Pullman Passenger Miles
	Domestic	International	Domestic	International	
1928	11.0¢	*	*	*	*
1929	12.0	*	*	*	*
1930	8.3	*	224	464	*
1931	6.7	*	226	238	*
1932	6.1	*	268	289	*
1933	6.1	*	352	315	*
1934	5.9	*	407	351	*
1935	5.7	*	420	381	3.9%
1936	5.7	*	427	414	4.7
1937	5.6	*	432	416	4.4
1938	5.7	*	415	415	5.8
1939	5.1	*	400	503	8.0
1940	5.1	*	388	521	12.7
1941	5.0	*	367	579	13.6
1942	5.3	*	417	684	7.3
1943	5.5	7.9	476	659	6.2
1944	5.1	7.9	485	674	7.9
1945	4.5	8.7	511	942	12.3
1946	4.5	8.3	487	1,057	28.4
1947	5.0	7.6	476	1,335	53.3

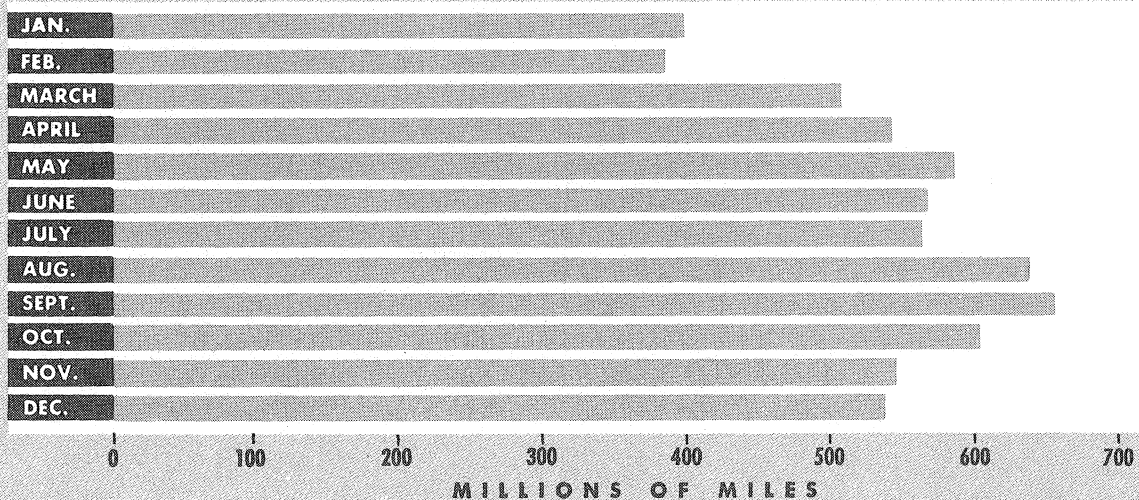
*Not available.

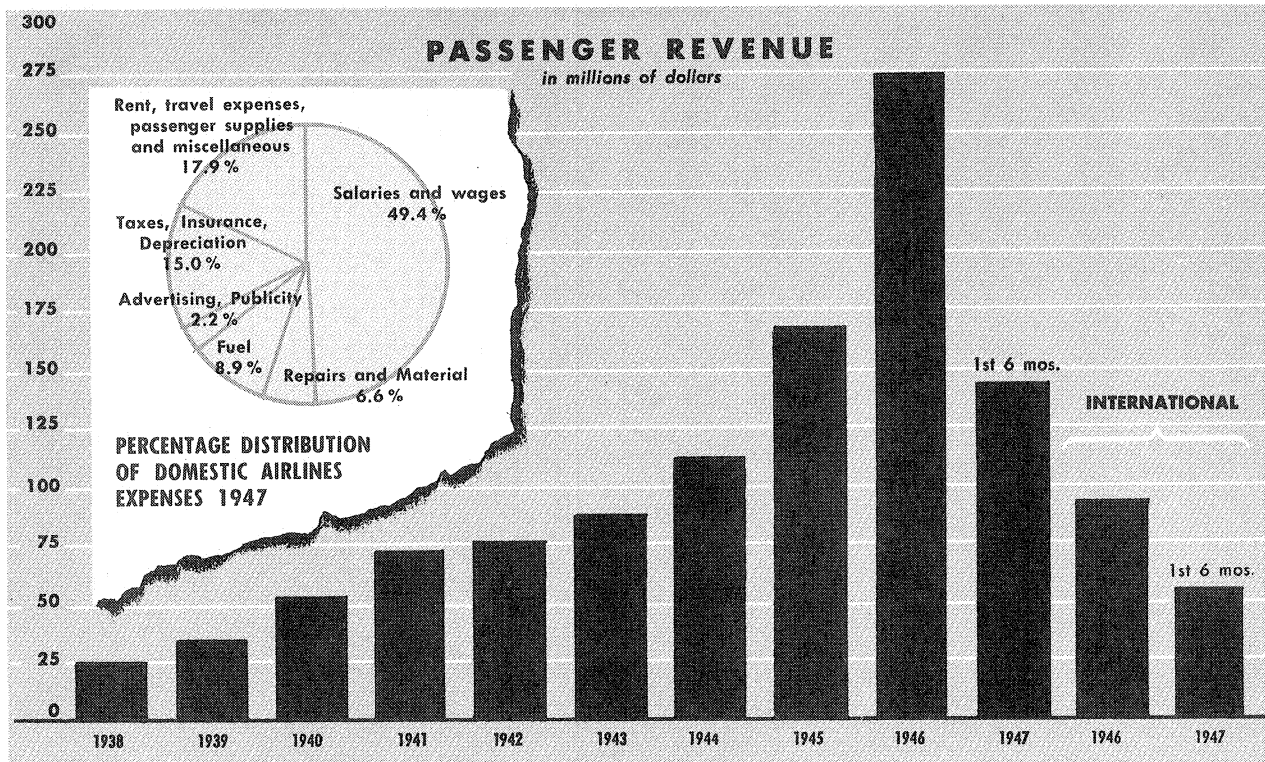
TOTAL PASSENGERS CARRIED

	Monthly Averages by Years	
	Domestic	International
1928	3,986†	156†
1929	11,715	1,138†
1930	27,495	3,547†
1931	34,447	5,140†
1932	34,780	6,107†
1933	36,164	6,956†
1934	33,861	9,210†
1935	55,272	10,600†
1936	75,929	9,069†
1937	79,876	11,663†
1938	98,071	12,057†
1939	143,091	13,430
1940	227,320	18,070
1941	314,074	25,921
1942	279,094	31,994
1943	279,295	35,372
1944	381,321	42,317
1945	548,021	39,630
1946	1,017,417	86,773
1947	1,099,114	117,715

†Revenue and Non-Revenue; other figures revenue passengers only.

Domestic Air Lines TOTAL PASSENGER MILES by months for 1947





OPERATING REVENUES

	DOMESTIC							
	Passenger	%	Mail	%	Express & Freight	%	Other	Total
1938	\$ 24,335,549	57.6	15,797,988	37.3	1,261,261	3.0	902,512	\$ 42,297,310
1939	34,344,388	62.3	18,263,077	33.1	1,604,059	2.9	961,218	55,172,742
1940	52,516,249	69.4	19,833,010	26.2	2,060,562	2.7	1,299,393	75,709,214
1941	68,669,885	71.7	22,436,775	23.4	2,890,916	3.0	1,816,910	95,814,486
1942	73,231,546	68.7	23,202,761	22.1	6,747,719	6.4	2,928,707	106,110,733
1943	85,416,740	70.9	24,071,281	20.0	8,010,192	6.6	2,992,028	120,490,242
1944	114,061,655	72.3	33,171,940	21.0	7,879,724	5.0	2,774,902	157,888,221
1945	166,519,922	77.1	33,693,467	15.4	10,835,138	5.0	3,694,563	214,743,090
1946	274,569,723	87.1	21,139,454	6.7	13,618,175	4.4	5,977,823	316,305,175
1947*	141,493,117	84.8	12,843,636	7.7	8,809,643	5.3	3,774,785	166,921,191

	INTERNATIONAL							
1946	91,416,814	62.4	35,443,612	24.1	11,318,501	7.8	8,457,609	146,636,536
1947*	56,834,220	65.9	18,278,811	21.4	7,353,802	8.5	4,090,077	86,556,910

*1st 6 mos.

EXPRESS AND FREIGHT POUNDS CARRIED

	Domestic	International	Total
1938	7,335,967	1,269,980	8,605,947
1939	9,514,229	1,397,956	10,912,185
1940	12,506,176	1,682,002	14,188,178
1941	19,209,671	3,105,416	22,315,087
1942	39,968,785	8,509,436	48,478,221
1943	57,543,591	16,314,498	73,858,089
1944	66,011,669	18,456,183	84,467,852
1945	90,016,000	15,006,952	105,022,952
1946	149,118,000	22,080,578	171,198,578
1947	188,850,000	33,406,000	222,256,000

DOMESTIC

1928	294	*	*	503	654	*	1,451
1929	509	*	*	945	482	*	1,936
1930	580	*	*	1,377	783	*	2,740
1931	621	*	*	1,662	1,003	1,014	4,300
1932	489	143	*	1,634	931	801	3,998
1933	468	206	*	1,804	1,087	796	4,361
1934	411	248	*	1,643	931	958	4,178
1935	528	335	213	2,009	467	2,365	5,917
1936	574	468	333	2,152	543	2,975	7,045
1937	629	420	339	2,206	651	3,284	7,529
1938	671	456	358	2,397	891	3,710	8,955
1939	691	694	530	2,779	1,042	4,548	10,509
1940	893	1,017	910	3,995	2,048	5,815	15,800
1941	1,065	1,119	1,024	4,333	2,400	7,759	18,984
1942	974	1,415	788	7,770	3,602	9,883	26,447
1943	1,005	1,795	835	8,084	5,116	10,800	30,349
1944	1,282	1,567	1,304	7,419	5,246	12,056	31,094
1945	1,908	3,167	2,075	10,844	9,625	19,241	50,313
1946	2,677	3,123	3,344	16,112	13,879	24,613	69,127
1947	2,465	2,882	3,100	14,954	11,727	19,887	61,711

*Not available

PERSONNEL

INTERNATIONAL

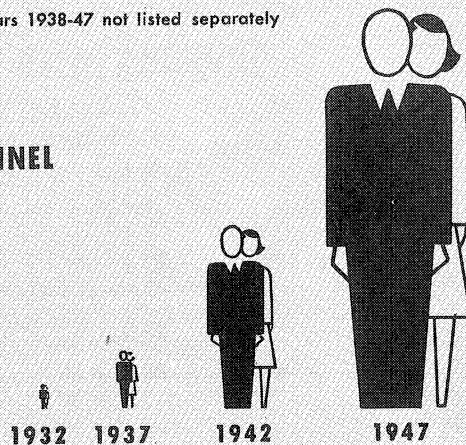
	Pilots	Co-Pilots	Stewards and Stewardesses	Mechanics and Riggers	Dispatch Other Hangar & Field Emp.	Office Employees	TOTAL
1928	14	*	†	22	9	†	45
1929	53	*	†	237	119	†	409
1930	95	*	†	423	217	†	735
1931	73	*	†	399	552	343	1,367
1932	81	4	†	442	581	504	1,612
1933	79	4	†	523	752	576	1,934
1934	96	4	†	565	933	701	2,299
1935	128	4	†	609	1,051	643	2,435
1936	121	78	57	722	1,224	748	2,950
1937	126	182	81	1,074	1,705	895	4,063
1938	149	149	93	1,018	1,931	1,014	4,354
1939	145	178	109	1,227	2,156	1,596	5,414
1940	153	215	130	1,414	2,393	1,922	6,256
1941	217	263	186	2,056	2,751	1,951	7,474
1942	377	633	386	3,649	4,510	3,473	13,214
1943	†	†	†	†	†	†	†
1944	†	†	†	†	†	†	†
1945	460	469	406	4,985	3,169	4,684	17,483
1946	†	†	†	†	†	†	19,327
1947	674	685	850	4,920	5,361	4,248	22,391

*Co-Pilots for years 1928-31 included in pilot total

†Not available

Note: Additional, unclassified employees in years 1938-47 not listed separately

TOTAL AIRLINE PERSONNEL




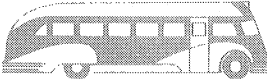
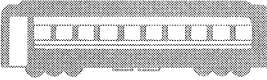

PASSENGER FATALITIES

	Number of Domestic Fatalities	Fatalities per 100 million Pass. Miles	Number of International Fatalities	Fatalities per 100 million Pass. Miles	Total Number of Fatalities
1928	14		1		15
1929	14	18.67	4		18
1930	24	28.57	0	0	24
1931	25	23.49	1	6.81	26
1932	19	14.96	6	28.37	25
1933	8	4.61	0	0	8
1934	17	9.05	4	10.31	21
1935	15	4.78	0	0	15
1936	44	10.10	2	4.44	46
1937	40	8.39	11	18.88	51
1938	25	4.48	7	11.65	32
1939	9	1.20	10	11.76	19
1940	35	3.05	0	0	35
1941	35	2.35	2	1.09	37
1942	55	3.71	0	0	55
1943	22	1.34	10	3.52	32
1944	48	2.12	17	4.83	65
1945	76	2.23	17	3.67	93
1946	75	1.24	40	3.54	115
1947†	199	3.45	20	1.19	219

†To Dec. 1

COMPARATIVE TRANSPORTATION SAFETY RECORD

Passenger Fatalities and Rate of Passenger Fatalities
per 100,000,000 passenger miles

	1941	1942	1943	1944	1945	1946
 Passenger Automobiles and taxicabs.....	†	†	†	†	12,900	15,400
Rate	4.0	2.7	2.7	2.9	2.9	2.5
 Buses	†	†	†	†	120	140
Rate24	.23	.22	.22	.17	.19
 Railroad passenger trains	39	110	262	249	145	115
Rate14	.17	.31	.26	.16	.18
 Domestic Scheduled Air Transport Planes.	35	55	22	48	76	75
Rate	2.32	3.66	1.32	2.09	2.14	1.20

†Not available

AIRPORTS BY CLASSES AS OF DECEMBER 31

Length of Runways	1941	1942	1943	1944	1945	1946	1947*
1800-2700 ft. Class I (and under)	1,523	1,238	910	1,215	1,620	1,905	2,725
2500-3500 ft. Class II	702	905	774	936	1,091	1,249	1,524
3500-4500 ft. Class III	187	367	430	464	484	485	512
4500-5700 ft. Class IV	72†	299†	655†	812†	831†	851†	378
5700-6700 ft. Class V	—	—	—	—	—	—	122
6700-7700 ft. Class VI	—	—	—	—	—	—	63
7700-8700 ft. Class VII (and over)	—	—	—	—	—	—	19
TOTAL	2,484	2,809	2,769	3,427	4,026	4,490	5,343

*As of mid-year
†Class IV and over

USE OF AIRPORTS Number of Flight Operations

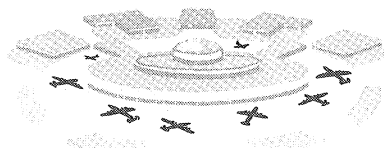
Fiscal Years	Army and Navy	Civil	Air Carrier	Air Carrier Percentage
1944	8,390,000	3,594,000	916,000	7.1
1945	6,460,567	3,343,303	1,409,102	12.6
1946	2,457,878	5,091,671	2,042,049	21.3
1947	1,402,909	11,262,191	2,630,472	17.2

AIRLINES' STOPS Certificated November 1, 1947

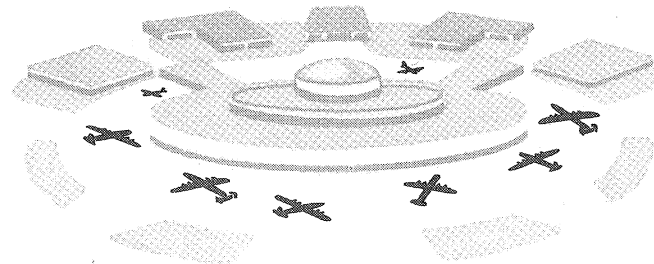
Total domestic (unduplicated, including feeder lines but excluding All American, which has no passenger service)	642
Stops in use	463
Stops not in use (105 feeder, 74 trunk)	179

TOTAL NUMBER OF AIRPORTS

1941—2,484



1947—5,343



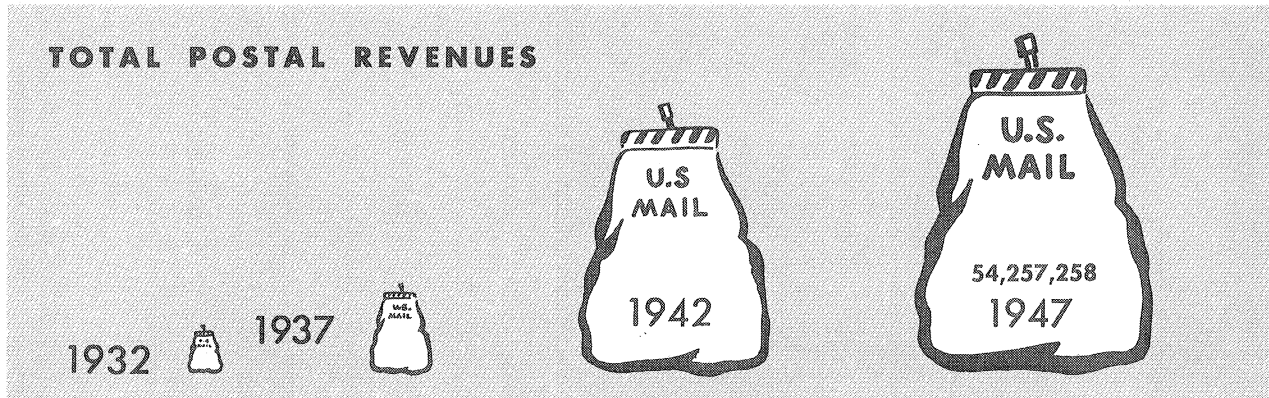
TRANSPORT AIRCRAFT OF THE UNITED STATES

Name of Plane	Gross Wt. (Pounds)	Length	Wing Span	Number of Engines	H.P. Per Engine	Normal Speed Class M.P.H.	Passengers	Crew	Range Class (Miles)	Cost Subject to Wide Variations	Features
BOEING 307 STRATOLINER	45,000	74' 4"	107' 0"	4	1100	215	38	5	1700-2400	Out of Production	Pressure cabin originally but not replaced since the war.
BOEING 377 STRATOCROISER	130,000- 135,000	110' 4"	141' 3"	4	3000- 3500	325	65-114 day 30-55 sleeper	8	1200-3500	\$1,250,000- 3,000,000	PC—RP—JE—DD—EA. Observation lounge.
CONSOLIDATED VULTEE CV 240 CONVAIR-LINER	36,000- 39,500	74' 8"	91' 9"	2	2400	320	40	4	600-800	\$ 290,000- 315,000	PC—RP—IR—JE—EA.
DOUGLAS DC-3	25,200	64' 5½"	95'	2	1200	185	21	3	1800-2200	\$ 125,000- 150,000	NOTE: Most figures are subject to considerable variation.
DOUGLAS DC-4	66,000- 71,300	93' 7"	117' 6"	4	1450	250	44-58	4	3600-4600	\$ 475,000	EA.
DOUGLAS DC-6	93,000- 102,000	100' 7"	117' 6"	4	2100	315	52 day 26 sleeper	5	4000-5000	\$ 640,000	PC—RP—JE—TD—EA. Radiant heat, air conditioning, fibre glass noise insulation, pre-loading cargo containers.
LOCKHEED 18 LODESTAR	17,500- 19,500	49' 10"	65' 6"	2	1200	215	14	3	1700-2000		
LOCKHEED CONSTELLATION 49-149-649-749	93,000 102,000	95'	123'	4	2200- 2500	315	64 day 34 sleeper	5	4000-5000	\$ 750,000	PC—RP—EA. Canoe for extra cargo, floating cabin, radiant wall heating, air conditioning, separate lounges, position for flight engineer.
LOCKHEED 89 CONSTITUTION	190,000	156' 1"	189' 1"	4	3000	300	100-128	11	2300-3500	no estimate	PC—RP—JE—DD—TD. Staterooms.
MARTIN 202	38,000	71' 4"	92' 9"	2	2100- 2400	290	30-40	5	700-1100	\$ 225,000- \$ 275,000	RP—IR—TD—JE. 3 large exterior doors; 2 doors between passenger and cargo compartments.
PC—Pressure Cabin		TD—Thermal De-icing	RP—Reverse Propellers	EA—Electronic aids	JE—Jet exhaust auxiliary	DD—Double Deck	IR—Integral Ramps				

POST OFFICE DEPT. AIR MAIL REVENUES

Fiscal Year Ending June 30	Air Mail Revenues		Cost of Air Mail Service to P.O. Dept.*		Net Revenue to P.O. Dept.
	Domestic	Foreign	Domestic	Foreign	
1939	\$16,326,358	\$ 3,925,513	\$25,061,293	\$ 9,814,972	\$-14,624,394
1940	19,122,906	5,914,405	28,039,250	14,119,547	-17,121,486
1941	23,920,465	9,309,793	30,881,839	17,333,961	-14,985,542
1942	33,417,367	12,015,864	36,508,587	15,736,672	- 6,812,028
1943	†62,818,568	31,646,182	44,463,208	23,068,539	26,933,003
1944	79,412,510	51,276,499	49,881,593	30,400,406	50,407,010
1945	81,237,389	110,675,066	49,937,041	57,652,079	84,323,335
1946	68,427,924	58,081,237	49,011,932	46,406,545	31,090,684
Total	384,683,487	282,844,559	313,784,743	214,532,721	139,210,582

*Includes direct costs allocated by P.O. Dept. to air mail service. †Estimated.



AIR MAIL POSTAL REVENUE AND PAYMENTS TO AIRLINE CARRIERS

Fiscal Year Ending June 30	Domestic		International	
	Postal Revenues	Payments to Contractors	Postal Revenues	Payments to Contractors
1926	\$ 856,000	\$ 90,000	N. A.	N. A.
1927	1,135,500	1,363,200	N. A.	N. A.
1928	4,468,300	4,043,000	N. A.	\$ 147,950
1929	4,250,500	11,169,000	\$ 236,993	1,150,712
1930	5,273,000	14,618,000	332,988	4,300,000
1931	6,210,000	16,944,000	780,422	6,564,858
1932	6,016,000	19,938,000	1,075,352	6,962,984
1933	6,116,000	19,400,000	942,584	6,984,189
1934	5,738,000	12,130,000	1,290,804	6,942,375
1935	6,590,000	8,838,000	1,602,890	6,829,311
1936	9,702,700	12,179,000	1,950,010	6,619,760
1937	12,439,600	13,165,000	2,148,170	7,878,152
1938	15,301,200	14,740,000	3,757,499	8,582,275
1939	16,326,400	17,020,000	3,925,512	9,327,445
1940	19,122,900	19,426,000	5,914,405	12,431,965
1941	23,920,500	20,687,000	9,309,793	15,628,695
1942	33,417,400	23,450,000	12,015,864	14,298,159
1943	62,818,600	23,308,477	31,646,182	5,563,283
1944	79,412,510	28,401,373	51,276,499	3,231,371
1945	81,237,390	35,544,065	110,675,066	†
1946	68,427,924	25,474,771	58,081,237	†
1947	54,257,258	23,666,878	N. A.	†

Does not include airmail to and from armed forces overseas.
N.A. Not available.

†Amount to be determined, awaiting rate orders.

AIR MAIL, MILES AND PAYMENTS DOMESTIC

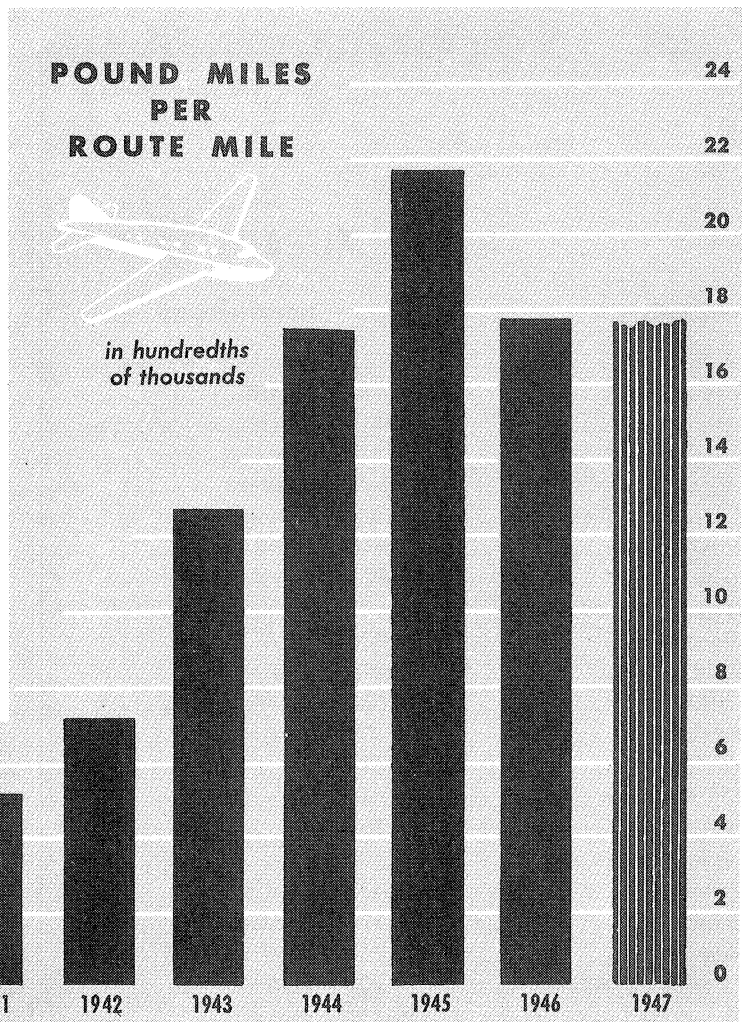
Fiscal Year Ending June 30	Payments Per Plane Mile	Load Per Mile Flown, Pounds	Pound Miles Per Route Mile	Plane Miles Flown	Route Miles Air Mail Service	Thousands of Pound Miles Performed	Payments per Pound (Mills)
1928	\$.724	*	*	5,585,224	10,932	*	*
1929	1.094	*	*	10,212,511	14,406	*	*
1930	.978	*	*	14,939,468	14,907	*	*
1931	.792	*	*	21,381,852	23,488	*	*
1932	.619	*	*	32,202,170	26,745	6,275,935	3.18
1933	.540	*	*	35,909,811	27,679	4,834,540	4.01
1934	.403	*	*	29,111,474	28,820	4,513,880	2.69
1935	.284	218	235,095	31,148,693	28,884	6,790,486	1.30
1936	.315	253	334,675	38,700,643	29,198	9,771,841	1.24
1937	.329	319	429,834	39,958,771	29,622	12,732,530	1.03
1938	.319	306	420,067	46,166,162	33,655	14,137,360	1.04
1939	.326	303	426,608	62,141,758	37,080	15,818,617	1.08
1940	.328	315	492,090	59,236,453	37,943	18,671,367	1.04
1941	.273	295	513,579	75,689,839	43,411	22,294,962	.93
1942	.263	352	703,768	89,307,567	44,623	31,404,257	.74
1943	.262	634	1,251,401	88,963,296	45,304	56,492,340	.41
1944	.264	786	1,734,022	107,650,804	49,482	84,579,690	.33
1945	.213	723	2,162,025	166,576,371	56,849	122,908,961	.28
1946	.121	395	1,772,013	221,724,860	57,377	99,771,929	.26
1947	*	203	*	*	*	65,792,707	*

*Not available

INTERNATIONAL

Fiscal Year Ending June 30	Plane Miles Flown	Payments per Plane Mile
1928	99,530	1.49
1929	738,712	1.56
1930	2,503,595	1.72
1931	3,535,864	1.86
1932	3,778,729	1.84
1933	3,775,455	1.84
1934	3,767,102	1.84
1935	3,682,621	1.85
1936	3,754,537	1.76
1937	4,448,608	1.77
1938	4,994,558	1.72
1939	5,357,405	1.74
1940	5,907,124	2.10
1941	8,238,349	1.90
1942	8,858,294	1.61
1943	15,633,483	.36
1944	19,485,789	.17
1945	24,275,760	*
1946	40,659,256	*
1947	*	*

*Not available



ALASKAN AIRCRAFT OPERATIONS

Year	Planes in Service	Pounds of Freight	Pounds of Mail	Passenger Miles Flown	Passengers Carried	Plane Miles Flown
1929*	8	94,701	24,250	2,272,999	2,171	351,591
1930	24	103,043	17,690	684,261	3,654	338,422
1931	26	161,718**	**	947,695	7,947	381,234
1932	31	496,680**	**	942,176	6,637	742,854
1933	42	634,016	151,570	1,222,510	7,743	1,059,155
1934	56	869,398	124,972	1,533,311	10,194	1,126,610
1935	73	1,496,917	225,840	2,148,692	13,318	1,685,654
1936	79	2,138,886	279,730	3,035,018	16,982	2,130,939
1937	102	2,947,726	264,201	4,021,798	20,958	2,209,209
1938	155	3,415,759	342,736	5,634,461	26,885	2,829,258
1939	175	4,010,730	489,574	5,801,787	29,814	3,247,046
1940	†	4,315,660	520,232	5,745,804	31,435	3,598,790
1941	†	4,947,516	611,422	7,918,054	41,703	4,434,232
1942	†	4,630,456	954,026	11,106,122	57,028	4,932,868
1943	†	2,617,704	1,604,817	10,607,968	47,253	3,981,939
1944	†	2,568,085	982,901	12,065,139	83,823	4,015,334
1945	†	2,908,878	915,264	15,847,039	53,850	4,986,351
1946	†	4,671,630	1,393,628	26,234,835	97,464	6,150,295
1947	†	8,636,126	1,766,293	38,233,117	121,956	7,663,264

*Two year period ending March 31, 1929
All others—year ending June 30.

†Not Available

**Mail and freight combined

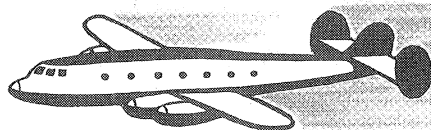
ROUTE MILEAGE AS OF OCTOBER 31, 1947

Domestic		International		Pioneer	
All American	1,521	American Overseas	9,066	Southwest	1,179
American	19,457	Braniff	7,600	Trans Texas	1,824
Braniff	4,831	Chicago & Southern	3,697	West Coast	885
Catalina	47	Colonial	2,030	Wiggins	643
Chicago & Southern	5,846	*Eastern	1,957	Wisconsin Central	1,704
Colonial	1,389	National	445	Total	13,336
Continental	2,918	Northwest	15,198		
Delta	5,811	Pan American	102,579	Feeder—Authorized	
Eastern	12,471	Panagra	10,666	Iowa	1,251
Inland	1,910	TWA	21,108	Parks	1,647
Mid Continent	3,496	UMCA	400	Piedmont	1,715
National	2,632	*United	2,400	Southern	1,374
Northeast	2,109	Western	1,640	Turner	645
Northwest	10,785	Total	178,768	Parks	841
Pan American	34			Los Angeles (helicopter, mail)	189
PCA	4,888	Feeder		Total	7,662
TWA	11,401	Central	1,308		
United	15,487	Challenger	1,613	*Classed separately by	
Western	3,121	Empire	709	CAB as "Overseas"—Carib-Atl. 206; 1040 of	
Hawaiian	356	Florida	463	Eastern; United 2400 or total of 3646. Feeders	
*Caribbean Atlantic	206	Monarch	1,591	are classed with domestic, giving latter total	
Total	110,716			as 123,846 and international total as 175,328.	

THE SPEED OF AIR TRANSPORT—1947

Selected examples of routine elapsed scheduled flight time between important cities

New York and Boston	1 hr. 5 min.	San Francisco and Honolulu	12 hrs.
Washington	1 hr. 20 min.	Los Angeles	2 hrs. 10 min.
Miami	4 hrs.	Chicago	8 hrs.
New Orleans	4 hrs.	Washington	10 hrs. 50 min.
Chicago	3 hrs. 20 min.	Chicago and Minneapolis-St. Paul	1 hr. 45 min.
Los Angeles	11 hrs. 10 min.	Dallas-Ft. Worth	3 hrs. 55 min.
San Francisco	10 hrs. 55 min.	Mexico City	13 hrs. 5 min.
Seattle	14 hrs. 45 min.	Miami	6 hrs. 45 min.
London	13 hrs.	New Orleans	5 hrs. 20 min.
Paris	13 hrs. 40 min.	Washington and Los Angeles	11 hrs. 15 min.
Anchorage	18 hrs. 55 min.	Bermuda	4 hrs.
Lima	24 hrs. 5 min.	Atlanta	2 hrs. 48 min.
Rio de Janeiro	32 hrs.	Rome	16 hrs.
Buenos Aires	40 hrs. 45 min.	Havana	5 hrs. 40 min.
Tokyo	39 hrs.		



A feature of the domestic air transportation year was the entrance of the local service airlines into the picture on a country-wide, large scale basis. Formerly called "feeders", they are scheduled, certificated carriers of regional scope.

Their traffic figures are included in the domestic totals, but an idea of the position they are beginning to occupy is given by the box on this page showing the performance of the nine operators of this type who were in action during 1947.

The local service lines toward year-end had put in service a fleet of 50 aircraft, ranging in type all the way from 30 DC-3's to three helicopters. The others were: 7 Stinson SR10; 6 Beechcraft D18C; and 4 Boeing 247 D.

The year's operations were entirely free of passenger fatalities.

The certificated route mileage reached a total of 13,336, with 7,662 more miles authorized for service as soon as airport, airway and other facilities became available.

New impetus was given the development of this type of service by the formation of a Council of Local Service Airlines. This body superseded the original Feeder Airline Association and in its choice of

name sought to emphasize the function of these carriers as regional units, rather than simply funnels to trunk lines.

The officers are: Chairman — Joseph Garside, president of Wiggins Airways; regional vice chairmen — Gwin Hicks, vice-president in charge of traffic and public relations, Empire Air Lines, western region; Oliver Parks, president of Parks Air Transport, central region; Joseph L. Dyer, president; secretary-treasurer — Thomas Davis, president of Piedmont Aviation.

The Council is entirely separate from the Air Transport Association of America, although ten of the local lines are members of the Association and there is close co-operation between the two groups and no duplication of activity. During the year ATA formed a committee to assist in the operational problems of the local service lines.

The lines and their affiliations were as follows:

- †All American Aviation
- *Central Airlines
- *†Challenger Airlines
- *†Empire Air Lines

LOCAL SERVICE AIR LINES

(Feeder Lines)

1947

Number of Planes	50
Total Passengers	
Carried	246,747
Total Passenger	
Miles	53,452,034
Route Miles	20,998
Revenue Miles	10,206,749
Air Mail Ton Miles	176,790
Express Ton Miles	131,925
Freight Ton Miles	83,772
Passenger Load	
Factor	31.0

- *†Florida Airways
- *Iowa Airplane Co.
- Los Angeles Airways
- *†Monarch Air Lines
- *Parks Air Transport
- *†Piedmont Aviation
- *Pioneer Air Lines
- Roscoe Turner Aeronautical Corp.
- *Southern Airways
- *†Southwest Airways
- *Trans Texas Airways
- West Coast Airlines
- *†Wiggins Airways
- *†Wisconsin Central Airlines
- Yellow Cab Co. (Cleveland)

†Member of ATA
*Member of Council

Air Transport Magazine is proud to publish the Air Transport Association's annual Facts and Figures. This essential data on the air carrier industry has been compiled by the association in its series heretofore widely circulated as "Little Known Facts."

AIR TRANSPORT ASSOCIATION OF AMERICA

Team-work for progress is the objective of the Air Transport Association of America. Its activities range from development of safety to study of legislation; from economic surveys to analysis of operating costs; from development of better air terminals to the full promotion of air transport by the public. Through ATA the experience and attainments of individual airlines are quickly combined to the advantage of all. Through ATA the efforts of eight government agencies and four private agencies are welded into unified action for the benefit of the travelling public and the national welfare.

The ATA is the cooperative industry organization founded in 1936 and composed of the United States Flag Airlines certificated by the Civil Aeronautics Board for scheduled service over regularly established routes. The operations of the member carriers are domestic, territorial and international in scope. Their field covers the transportation of passengers, property and mail by aircraft. The Association concluded the year 1947 with 30 members operating in and from the United States; together with two associate members in Canada and two associates in Latin America. Nine members are local service airlines (formerly called feeder lines), which are duly certificated regional carriers.

OFFICERS

Emory S. Land *President*
 Robert Ramspeck *Executive Vice President*
 M. F. Redfern *Vice President—Traffic, and Secretary*
 Milton W. Arnold *Vice President, Operations and Engineering*
 John W. Thompson *Vice President, Director of Information*
 Stuart G. Tipton *General Counsel*
 Joseph Hintersch *Treasurer*

MEMBERS

Alaska Airlines
501 Fifth Avenue, New York, N. Y.

All American Aviation, Inc.
210 Greenhill Ave., Wilmington, Del.

American Airlines System
100 E. 42nd St., New York 17, N. Y.

American Overseas Airlines
25 Broadway, New York 4, N. Y.

Braniff International Airways, Inc.
Love Field, Dallas 9, Texas

*Canadian Pacific Air Lines, Ltd.
Dominion Square Bldg., Montreal 2, Canada

Capital Airlines—PCA
Washington Natl. Airport, Washington 25, D. C.

*Caribbean-Atlantic Airlines, Inc.
P. O. Box 3214, San Juan, Puerto Rico

†Challenger Airlines, Inc.
518 Felt Building, Salt Lake City, Utah

Chicago and Southern Air Lines, Inc.
Memphis Municipal Airport, Memphis 2, Tenn.

Colonial Airlines, Inc.
630 Fifth Ave., New York 20, N. Y.

Continental Air Lines, Inc.
Municipal Airport, Denver, Colo.

Delta Air Lines, Inc.
Delta Air Lines Bldg., Atlanta, Ga.

Eastern Air Lines, Inc.
10 Rockefeller Plaza, New York 20, N. Y.

†Empire Air Lines, Inc.
Box 2558, Boise, Idaho

†Florida Airways, Inc.
Orlando, Florida

Hawaiian Airlines, Ltd.
Inter-Island Building, Honolulu 1, T. H.

Inland Air Lines, Inc.
510 W. 6th Street, Los Angeles, Calif.

Mid-Continent Airlines, Inc.
102 E. 9th Street, Kansas City, Mo.

†Monarch Air Lines, Inc.
Stapleton Airfield, Denver 7, Colorado

National Airlines, Inc.
3240 N. W. 27th Ave., Miami, Fla.

Northeast Airlines, Inc.
Commonwealth Airport, Boston, Mass.

Northwest Airlines, Inc.
1885 University Ave., St. Paul 4, Minn.

Pacific Northern Airlines
505—4th Ave., Anchorage, Alaska

*Pan American-Grace Airways, Inc.
Chrysler Building, New York 17, N. Y.

Pan American World Airways, Inc.
Chrysler Building, New York 17, N. Y.

†Piedmont Aviation, Inc.
Smith Reynolds Airport, Winston-Salem 1, N. C.

†Pioneer Air Lines, Inc.
Municipal Airport, Houston, Texas

†Southwest Airways Co.
P. O. Box 270, Beverly Hills, Calif.

*Trans-Canada Air Lines
360 McGill St., Montreal, Quebec, Canada

TWA—Trans World Airline
314 Fairfax Building, Kansas City, Mo.

United Air Lines, Inc.
5959 S. Cicero Ave., Chicago 38, Ill.

Western Air Lines, Inc.
Terminal Building, 6060 Avion Drive, Los Angeles 45, Calif.

†Wiggins Airways, Inc.
Norwood, Mass.

†Wisconsin Central Airlines
Clintonville, Wisc.

*Associate Members

†Local Service Airlines (formerly "feeder-lines")