

AIR TRANSPORTATION...

today
and
tomorrow

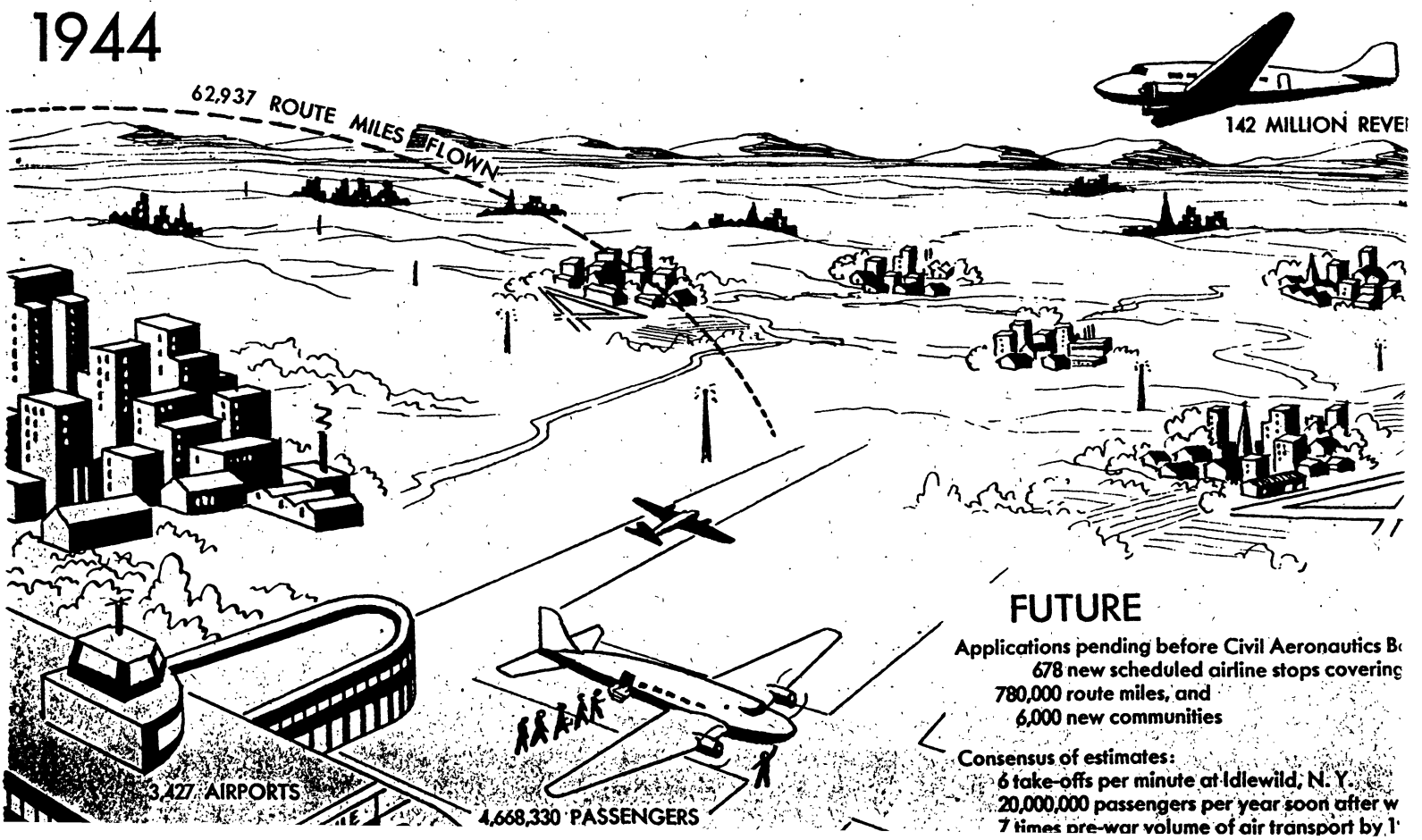


Birdman's Eye View of Air Transport

1926



1944



FUTURE

Applications pending before Civil Aeronautics Board
678 new scheduled airline stops covering
780,000 route miles, and
6,000 new communities

Consensus of estimates:

6 take-offs per minute at Idlewild, N. Y.
20,000,000 passengers per year soon after war
7 times pre-war volume of air transport by 1950

WAR JOB

There is no more dramatic forecast of the role of air transport tomorrow than the story of the war job performed by the airlines of the United States.

The men and women who had linked every big city in this country with highways of the air, overnight extended their operations overseas.

In areas where man had never flown before and no aids to navigation existed, they pioneered routes across the Arctic icefields, the vast ocean spaces of the Atlantic and Pacific and desert wastes, where hundreds of planes today are flying routine schedules with greater frequency than along such heavily traveled prewar airlines as between New York and Chicago.

During the first three years of our participation in the war the airlines of the United States flew more than 8,000,000,000 passenger miles and totaled more than 850,000,000 ton miles of cargo carrying. Their overseas war routes, operated directly for the Army and Navy under contract, accounted for more than 2,500,000,000 of the passenger miles and more than 600,000,000 of the ton miles.

They have flown the equivalent of 26,000 times around the world at the Equator. Carrying the same tonnage of cargo the same distance they have operated during the war, the airline fleets could have moved all the 140,000-odd passenger cars registered in the state of North Dakota from Seattle to Tokyo. Or they could have moved by air the entire population of Philadelphia to London.

From the moment of Pearl Harbor, the airline personnel, from top executives to ground crews, both as companies and as individuals, met crisis after crisis in the early days before the Army and Navy air forces were in full action with sufficient equipment. Since then, they have racked up an almost unbelievable record in the transport of men, munitions, equipment, doctors, nurses, blood plasma and whole blood, food, medical supplies and materiel of all kinds.

More recently the carriers under contract with the Army and Navy played a big part in evacuating wounded men, bringing thousands of soldiers and sailors back across the oceans to hospitals at home. Their operations in unarmed planes resulted in many heroic rescues in the case of sinking vessels and even in tracking down enemy submarines.

While still carrying on their civilian schedules at a record-breaking peak, with war priority passengers and express predominating, the airlines turned in this miraculous performance under contracts with the Air Transport Command of the Army Air Forces and the Naval Air Transport Service:

	<i>Passenger Miles</i>	<i>Ton Miles</i>	<i>Miles Flown</i>	<i>Hours Flown</i>
Overseas	2,581,903,999	603,137,283	246,832,422	1,427,436
Domestic	114,412,093	103,914,981	62,087,339	400,571
Total	2,696,316,092	707,052,264	308,919,761	1,828,007

The history of the war could almost be written in the cargo manifests of transport planes, revealing how they rushed critical supplies and personnel in time to turn defeat into victory on far-flung battle fronts.

The lists include fuses for tank-destroying shells which helped Montgomery turn the tide at El Alamein, when one plane, among many, made 17 round trips over the South Atlantic in three weeks. They include the bombs, pilots and materiel which forestalled a Jap attack on Dutch Harbor. They include gasoline, plane parts, jeeps and other supplies, flown steadily over the treacherous "Hump" of the Himalayas, which kept the isolated Chinese and our own "Flying Tigers" in action against the invaders. They include ammunition and food flown to the heroic Marines cut off from all other sources of supply on Guadalcanal. And they include, day after day, the steady flow of every item in the quartermaster's book, which never made the headlines but enabled the front line troops to keep pushing forward.

Dynamite, eggs, war dogs, fresh vegetables for exhausted fighter pilots, hog bristles, cutting diamonds, President Roosevelt, Prime Minister Churchill, generals, admirals, or vitally needed farm laborers from the Bahamas—all rode the flying boxcars, both to and from and in between the battlefronts.

Most precious cargo of all, perhaps, was the returning army of wounded fighting men. Counting all the air units which do this job, shared largely by the airlines on the long overseas hops, more than 800,000 sick and wounded were carried to safe beds and life and hope during the last two and a half years.

More than one-third of the airline personnel, including pilots, stewardesses and operations staffs, joined up with the armed forces. Many gave their lives and many received citations for performance above the line of duty, largely in the same field of flying in which they had gained invaluable experience in civilian life.

Another of the spectacular war contributions by the airlines was the re-vamping at modification centers of planes fresh off the production line. In three years these centers adapted almost 50,000 planes to improve their combat efficiency. It was a three billion dollar gamble which paid off in surprises for the enemy.

The airlines shared with the Army Air Forces the famous Collier trophy for pioneering world-wide transportation "vital to immediate defense and ultimate victory." Now that victory is won few will deny that men and women of the commercial air fleets have, in the war years, earned that award a hundred times over.



YESTERDAY

1918—First air mail route in United States opened from 17-acre Potomac Park field at Washington, D. C., with one flight a day to New York.

TRANSPORT

Air transport has flown to amazing heights in the short span of 27 years since the spring afternoon when aviation became a business as well as an adventure.

On May 15, 1918, the first air mail route in the United States was opened between Washington, D. C., and New York City. It was the beginning of the vast network of regularly scheduled air service, which, spurred by the demands of a second World War, is opening another new era in the transportation of passengers and cargo.

The Army polo field at Potomac Park was the "airport" for the 1918 take-off with two sacks of letters and packages. From the Wright brothers' first experimental field at Dayton, Ohio, through the cow pasture landing fields of the early birdmen and the improvised Army and Navy air stations, aviation had reached the milestone of establishing terminals. And its first terminal was typical of many for some time to come: a turf surfaced field of 17 acres, worth about \$110,000, equipped only with a shed described loosely as a hangar.

It is a far flight from the airport of little more than a quarter of a century ago to the airport of 1945. What a vast span in the conquest of the air to the present 750-acre Washington National Airport with its miles of paved runways, its four- and five-story administration building and hangars, and its 150-foot ticket counter! Yet this \$20,000,000 airport is soon to be eclipsed by the \$100,000,000 Idlewild terminal at New York.

And it is a far flight from the single-engine, open cockpit, wire-braced mail plane of 1918 to the multi-engine, streamlined, space-shattering transport plane of today.

In between and all along the line is the story of how air transportation has developed in America; how airports have grown from a one-hangar empty lot to the magnitude of the magnificent National Airport, of LaGuardia Field, and of others like it throughout the country; how transport planes have developed from the two-passenger capacity of the early flights to the 21-seaters in regular commercial use today, with their portent of great 204-seaters for the near future.

It is the story of how airline service has expanded and multiplied until less than 10 per cent of our people live more than 25 miles from present or pending airline terminals; and how speed has increased until the regular scheduled time for crossing the continent is between 12 and 14 hours. It has been done in a transport plane in a little over 6 hours and aeronautical engineers say we are on the threshold of linking the coasts in half that time.

From that May 15 in 1918 the story moved forward to the start of the first transcontinental trip of the air mail on Sept. 8, 1920; and then with many high lights in between, to the first regularly scheduled passenger service by a commercial airline between Los Angeles and Salt Lake City on April 17, 1926. From then on the pages turned rapidly, with the volume and range of air transport increasing by leaps and bounds.

In 1926 there were about 1,000 airports. In 1944 there were 3,427. Today the investment in airports is around \$2,000,000,000, including Army and Navy fields, many of which will be in civilian use after the war.

In 1926 the airlines carried 5,782 passengers. In 1944 they carried 4,668,330, or 920 times as many.

Revenue miles flown in 1926 were 4,258,771. In 1944 the figure was about 35 times that, or 142,234,837.

Passenger miles flown in 1930 were 84,014,572. In 1944 the figure was about 27 times that, or 2,281,704,377.

Mail ton miles in 1934 were 2,461,411. In 1944 the figure was about 25 times that, or 50,825,202.

Express and freight ton miles in 1935 were 1,089,802. In 1944 the figure was about 17 times that, or 17,142,677.

The airline fleet in 1941 was 359 planes. It dropped to 166 in 1942, when the government requisitioned more than half the fleet. At the end of 1944 it was back to 347 and this was the entire fleet which set up the all-time transport records of 1944. Average number of seats per plane had risen to 19 from 6½ in 1932, while personnel had mounted from 1,451 in 1928 to more than 31,000 in spite of service with the armed forces of thousands of men and women of the airlines.

Fares have been reduced from 12 cents in 1926 to about 5 cents per mile and further cuts are contemplated.

The network of air routes flown was increased in 1944 by 8,435 miles, equal to the country's system of airways in 1926, and bringing regular air service to hundreds of new communities. The total at year-end reached the peak of 62,937 route miles, to which 1,244 were added in the first quarter of 1945.

The present domestic airline system serves cities with one-third of the nation's total population and 76 per cent of our urban population. Within a 25-mile radius of these stops live 82 per cent of our urban population and 93 per cent within 50 miles.

At the end of 1944 there were 185 designated stops for air transport in use, plus 101 temporarily suspended because of the war, some of which are already being restored. Even with the war on, 16 new stops were added last year. There were 542 applications for scheduled domestic airline service before the Civil Aeronautics Board as of April 1, 1945. Of these 415 were of the conventional type, 48 pick-up service, and 79 helicopter. These applications name 678 new scheduled stops, cover 780,000 route miles and would serve 6,000 new communities.

The tremendous growth of air travel is already taxing even the finest airports to the limit. There were 500 landings and take-offs at the old Washington airport in 1930. In March, 1945, at the new Washington National Airport, there were 13,000 military and civilian movements, or one every $3\frac{1}{2}$ minutes. The situation is similar at LaGuardia Field in New York, in Chicago and many other cities. The gigantic Idlewild Field is being built to handle 360 landings and take-offs an hour, or six every minute.

Air transport reached its peak in 1944 in spite of war handicaps largely due to increased efficiency developed along tested airline patterns but intensified to meet war needs. Planes were flown on an average of from 11 to 12 hours daily, as compared to 7 to 9 before Pearl Harbor. In some cases they flew as high as 14 hours daily, without detriment to maintenance.

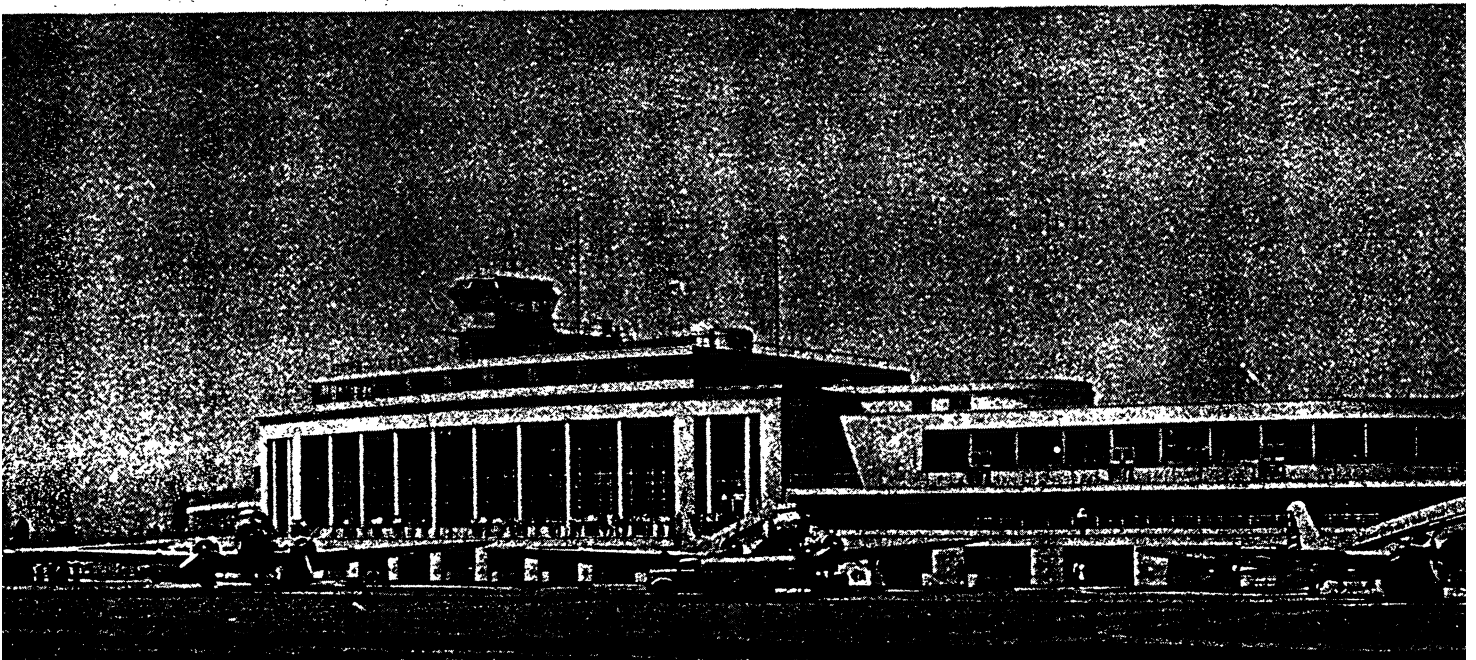
Another item was the high point reached by the passenger load factor—or the actual extent to which available seats are filled. For the year this averaged 90.83 as contrasted with 55 per cent in 1935.

Every single day in the year, now, more than twice as many passengers are traveling safely by air in the United States as during the entire year of 1926. It has been a far flight, indeed. And we are just warming up for a still longer and even faster flight.

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TODAY

1945—A plane takes off from 750-acre Washington National Airport every $3\frac{1}{2}$ minutes with passengers, mail, and cargo for every corner of the earth. Washington, because it is the National Capital, is one of the world's busiest air terminals.



FUTURE

The talents of a Jules Verne or an H. G. Wells are not needed to chart the course of air transport in the near future.

The shape of things to come is revealed by United States Government aeronautical surveys, on the drawing boards of airplane manufacturers, and on the flying fields of this war. The coming of peace will speed the air traveler to the far corners of the earth with facilities hardly dreamed of before the war.

Planes with speeds of 400 miles an hour and, before long, ranging to nearly twice that to out-distance the velocity of sound.

Gas turbine or jet-propulsion power plants which will not only make such speeds possible but permit smooth and vibrationless flight in the stratosphere, above turbulence of weather.

Pressurized cabins assuring comfort at any altitude.

Passenger capacities of 50 to 100 seats for domestic operations and more than double that for mammoth luxury liners of the sky on overseas routes.

No big city in the world more than 60 hours' flying time distant from any other place.

Local schedules so frequent that reservations will be unnecessary, one plane following another in a matter of minutes.

Airports that will handle six or more landings and take-offs every minute, with mile and one-half long runways radiating from a central administration terminal speeding the process of embarking and disembarking.

Radar which will detect the presence of all approaching aircraft, whose actual positions as far away as 25 miles will appear on a screen in the control tower, even in bad weather or at night. The controller will have complete ability to direct traffic to safe landings regardless of the weather. Similar apparatus will warn each pilot if another plane or obstacle is within hazardous range, seeing in all directions in sunlight, darkness, or fog. Planes above, below, ahead, behind, at either side will all show on the radarscope and will furthermore show which way they are going.

Twenty million passengers a year with a quarter-million of them making trips to Europe annually. Six billion passenger miles in 1946.

All first class mail dispatched by air, and the air carriers delivering parcel post. The volume of air express exceeding passenger revenue.

Ten to twelve thousand pilots and crew members, backed up by 125,000 airline workers on the ground. On the airports 63,000 operations jobs, plus 125,000 jobs directly connected with airport activities.

Nearly six million potential new air travelers as a result of the war experiences of 350,000 military pilots, 2,500,000 men in the armed forces

trained in aviation skills, 2,500,000 aircraft production workers, 150,000 civilian and student pilots, and 300,000 students spurred by the war to take aviation courses.

New domestic service already proposed over 779,666 route miles; and overseas coverage 634,461 route miles.

Feeder service, pick-up service (without stops), funeral service, airplane delivery service, fly-yourself service, and local delivery of department store purchases.

Some times and fares already proposed:

New York to London	9 hours	\$148
New York to Paris	10 hours	\$152
New York to Calcutta	40 hours	\$332
San Francisco to Shanghai	36 hours	\$303
Seattle to Tokyo	20 hours	\$209
Seattle to Juneau	7 hours	\$ 52
New York to Buenos Aires	21 hours	\$190.50
New York to Rio de Janeiro	19 hours	\$175

Sample schedules contemplated in the near future at home: New York—Miami, 3 hours 40 minutes; Chicago—Miami, 5 hours; New York—Washington, 1 hour; all at less than 5 cents per mile.

“Clock-stopping schedules,” possibly with jet-propelled planes, are next in order. Under such a schedule you could leave Boston at 12 noon and arrive in Los Angeles at noon sharp on the same day.

A new era in peacetime flying surely is not far around the corner.

COAST TO COAST

The linking of the Atlantic and Pacific ever more closely, through air transportation, has provided one of the most dramatic time-tables of United States history.

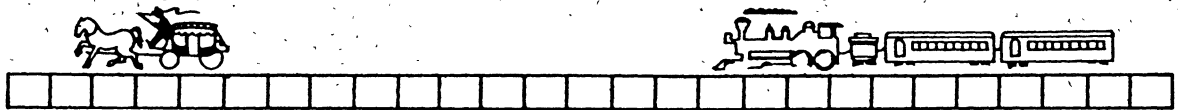
From the days of the Covered Wagon to the Stratosphere plane, the progress of our nation has been reflected in the new records for swift transit from Coast to Coast.

The annals reveal that throughout this accelerating contest to annihilate space between the oceans, the goal of speed for speed's sake has been secondary to transporting people, their mail, and their belongings.

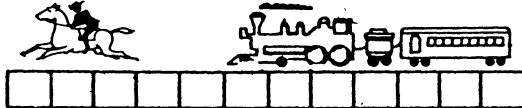
Even with the airplane, which has shattered all previous conceptions of rapid travel, it is significant to note that the fastest transcontinental records of all are now being set by planes designed to carry passengers and cargo.

LESS TIME TO CROSS THE CONTINENT

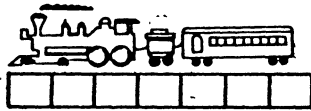
1858
Mail Coach
and Rail



1861
Pony Express
and Rail



1869
First
Transcontinental
Train



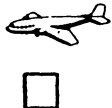
1921
First
All-Air Mail



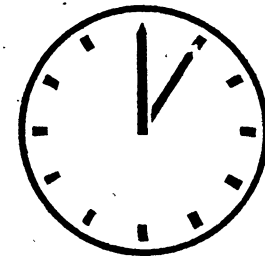
1929
First Air-Rail
Passenger Service



1944
Regular
Air-Passenger
Service



☐ = 24 hrs.

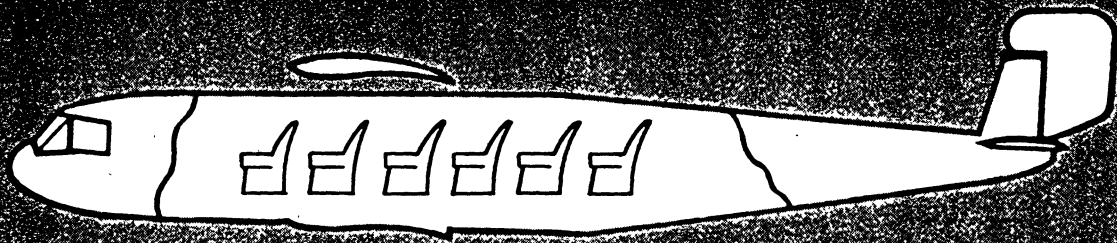


THE CONTINENT GROWS SMALLER

	<i>Coast to Coast</i>
1840	The ox-drawn Covered Wagon 6 to 8 months
1846	Sailing vessels around the Horn 6½ months
1849	Steam vessels around the Horn 4½ months
1858	Overland mail coaches and rail 24-30 days
1861	Pony Express and rail 11-13 days
1869	First transcontinental train 7 days
1903	First transcontinental automobile trip 61 days
1911	First transcontinental airplane trip Calbraith P. Rodgers: Sheepshead Bay, L. I. to Pasadena, California 49 days
1919	First transcontinental round trip by air: Lt. Belvin W. Maynard 9 days 4 hours 25 min.
1920	First air-rail mail: New York-San Francisco 72 hours
1921	First all-air mail: San Francisco-New York 33 hours 20 min.
1923	First non-stop coast-to-coast flight: Lts. John A. Macready and Oakley Kelly New York-San Diego, May 2-3 26 hours 50 min.
1924	Fastest transcontinental railroad trip 69 hours 7 min. Standard transcontinental railroad trip 87 hours Regular air mail, day and night schedule 32 hours First dawn-to-dusk coast-to-coast flight: Col. Russell L. Maughan, New York-San Francisco, June 23 21 hours 44 min.
1927	First coast-to-coast commercial air passengers: New York-San Francisco 31 hours 45 min.

1929	Round-trip record by Frank Hawks: New York-Los Angeles 19 hours 10 min. Los Angeles-New York 17 hours 38 min. First air-rail passenger service 48 hours
1930	New round-trip record by Frank Hawks: Los Angeles-New York, August 12 14 hours 50 min. New York-Los Angeles, August 15 12 hours 25 min.
1931	Record by Jimmy Doolittle: Burbank-Newark, September 4 11 hours 15 min.
1933	Regular coast-to-coast air passenger, mail, and express schedule 19 hours 35 min.
1934	Jack Frye and E. V. Rickenbacker in regular commercial transport plane: Los Angeles-Newark, February 18-19 13 hours 4 min. Jack Frye with mail: Los Angeles-New York, May 8 11 hours 30 min.
1935	Record by Leland S. Andrews and H. B. Snead: Los Angeles-Washington, February 20 10 hours 22 min.
1937	Record by Howard Hughes: Los Angeles-New York, January 19 7 hours 28 min. 25 sec.
1938	Westbound record by A. P. DeSeversky: Brooklyn-Burbank, August 29 10 hours 2 min. 55 sec.
1943	Regular schedule for passengers, mail, express 16 hours
1944	New record by Howard Hughes and 17 passengers in transport plane: Burbank-Washington, April 17 6 hours 57 min. 51 sec.
1945	Regular extra fare service: New York-Los Angeles 14 hours 35 min. Record in transport plane: Seattle-Washington, January 10 6 hours 3 min. 50 sec.

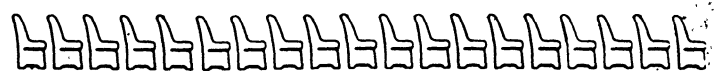
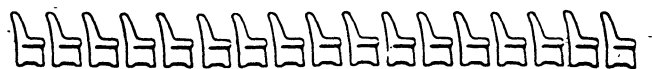
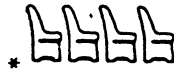
THE PLANES...



Section of Airliner of 1932. Average Capacity 658 seats, 118 miles per hour

NUMBER OF AIRLINE PLANES

AVERAGE SEATS PER PLANE

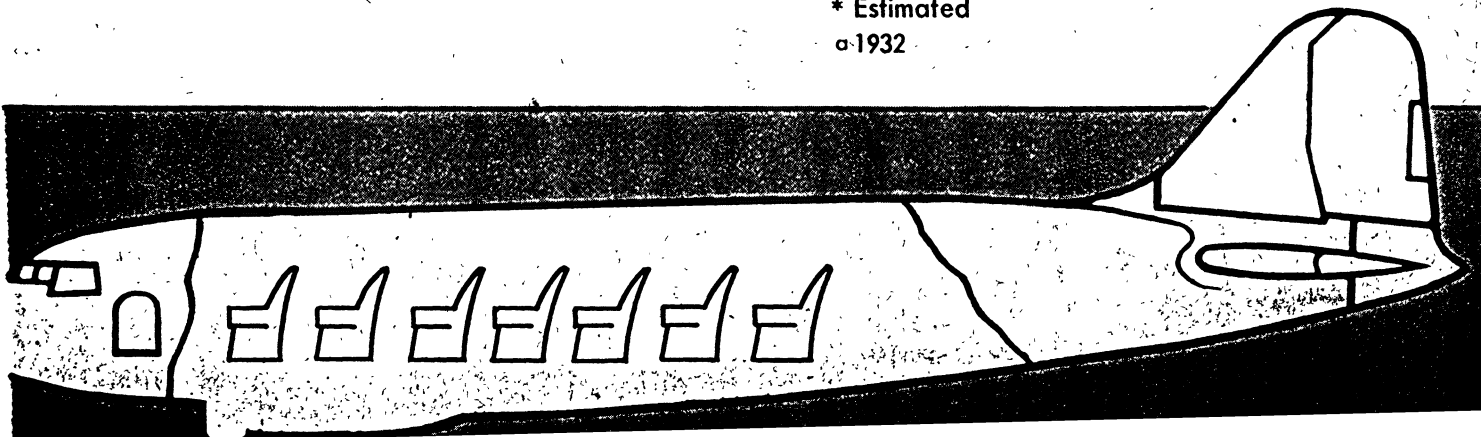


Each symbol represents 70 planes in service

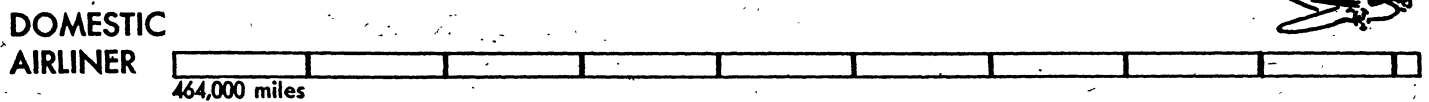
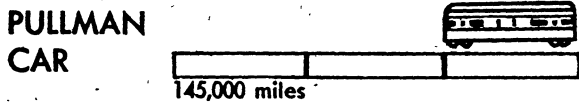
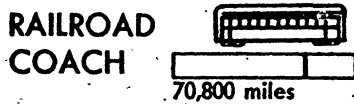
Each symbol represents 1 seat

* Estimated

© 1932



Annual average mileage travelled by different vehicles per year



SOURCE: J. Parker Van Zandt, Civil Aviation and Peace, p. 119, Data for 1942

Year	Number of Planes in Service	Daily Average Miles Flown	Number of Seats
1928	268	28,416	*
1929	442	61,315	*
1930	497	87,651	*
1931	490	117,138	*
1932	456	124,334	6.58
1933	408	133,621	7.59
1934	417	112,207	8.85
1935	356	151,727	10.34
1936	272	174,255	10.67
1937	282	181,018	12.53
1938	253	190,873	13.63
1939	265	226,223	14.63
1940	346	297,269	16.95
1941	359	364,446	17.41
1942	179	301,652	17.60
1943	194	283,840	17.61
1944	228	390,974	18.99

* Not Available

Calendar Year	Gasoline (Gallons)	Oil (Gallons)
1926	*	*
1927	*	*
1928	*	*
1929	*	*
1930	11,457,065	371,459
1931	16,038,887	555,556
1932	19,715,252	631,828
1933	21,839,292	804,961
1934	18,872,057	667,775
1935	27,065,717	707,066
1936	30,392,923	675,655
1937	33,606,700	629,127
1938	37,218,743	644,768
1939	46,554,856	726,507
1940	64,906,284	1,087,208
1941	80,757,892	1,258,983
1942	68,030,246	989,103
1943	63,908,388	878,923
1944	*	*

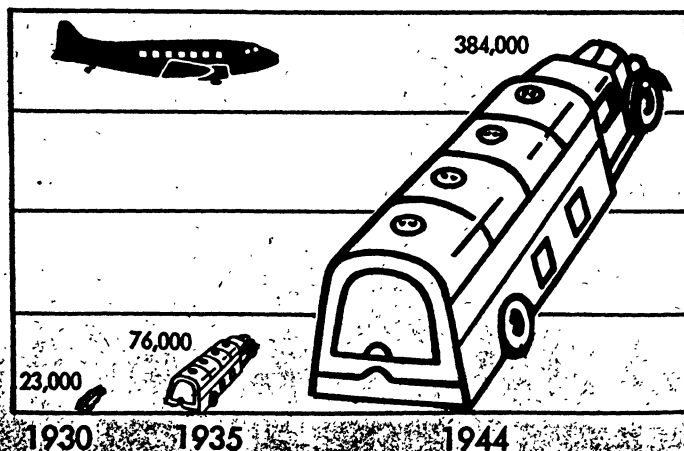
* Not Available

Calendar Year	Gasoline (Gallons)	Oil (Gallons)
1926	*	*
1927	*	*
1928	*	*
1929	*	*
1930	3,092,412	81,493
1931	3,118,495	87,424
1932	3,971,696	70,193
1933	4,487,504	119,450
1934	6,264,217	170,981
1935	6,194,892	172,709
1936	6,760,898	197,917
1937	7,817,614	215,443
1938	8,091,449	185,102
1939	9,382,279	194,689
1940	9,628,645	200,599
1941	12,201,504	299,535†
1942	17,652,754	348,039†
1943	19,500,000†	450,000†
1944	*	*

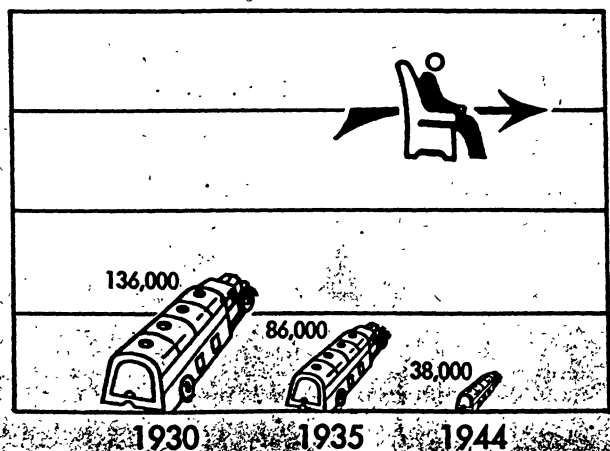
* Not Available. † Estimated.

GASOLINE CONSUMPTION (Domestic Airlines)

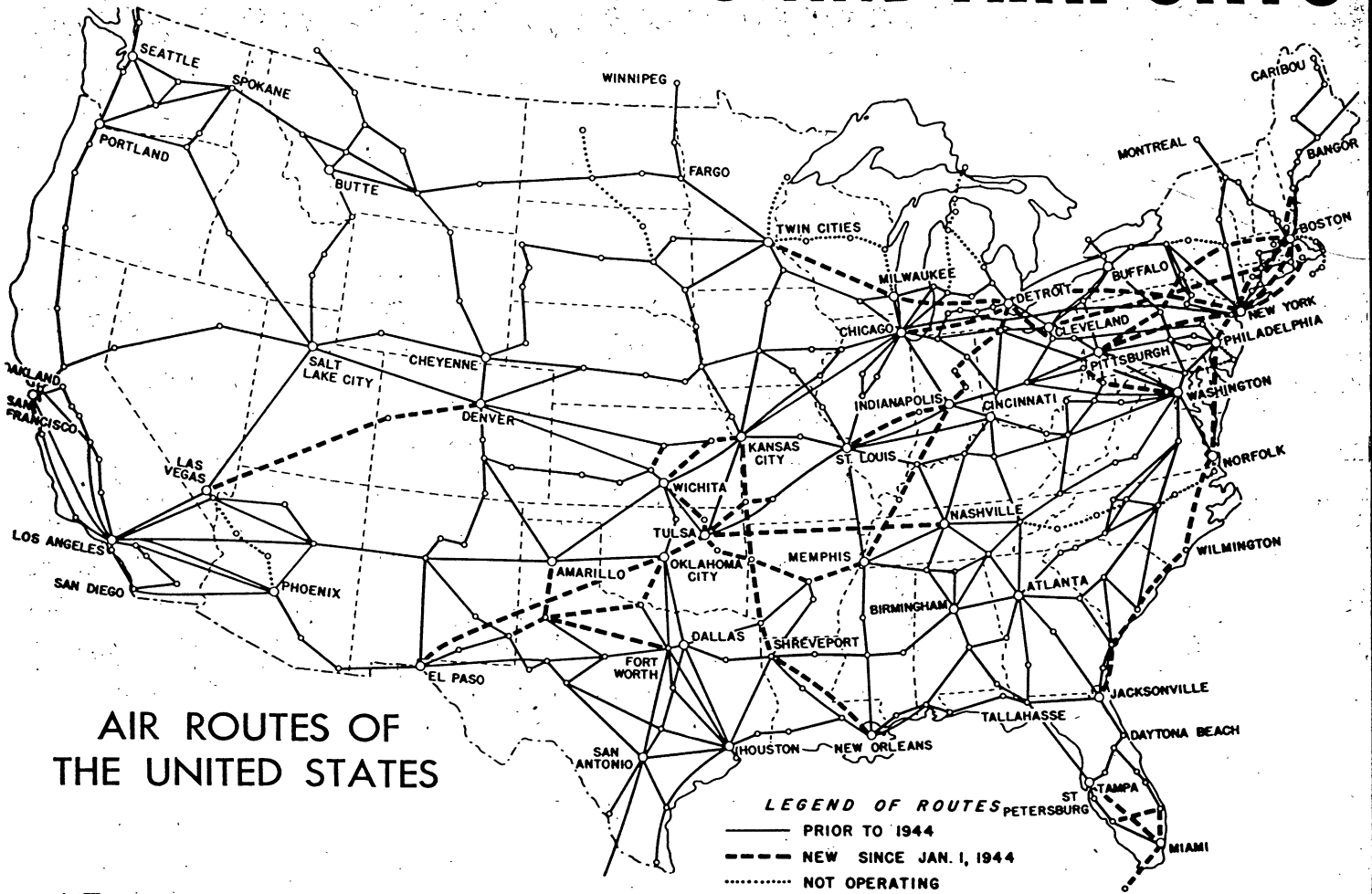
Gallons per plane per year



Gallons per million passenger miles



AIRWAYS AND AIRPORTS



AIRWAYS: Lighted and Other

Domestic
December 31

1926

1930

1933

1936

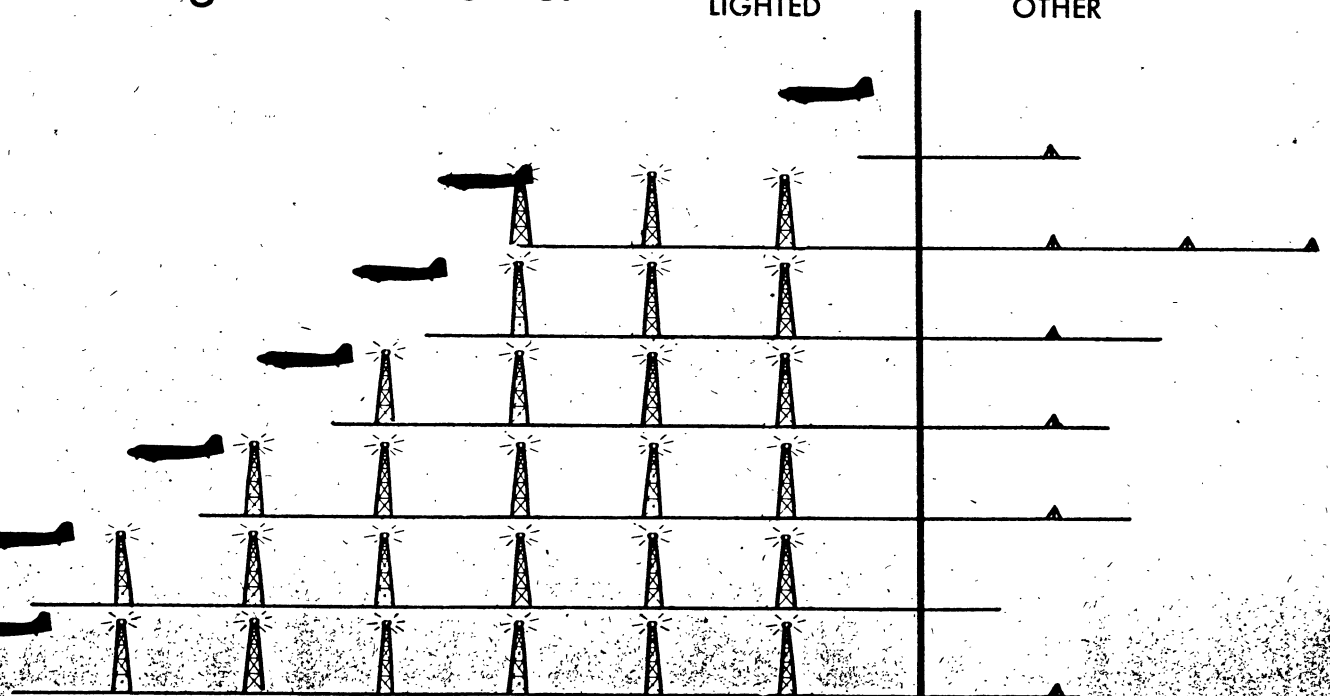
1939

1942

1944

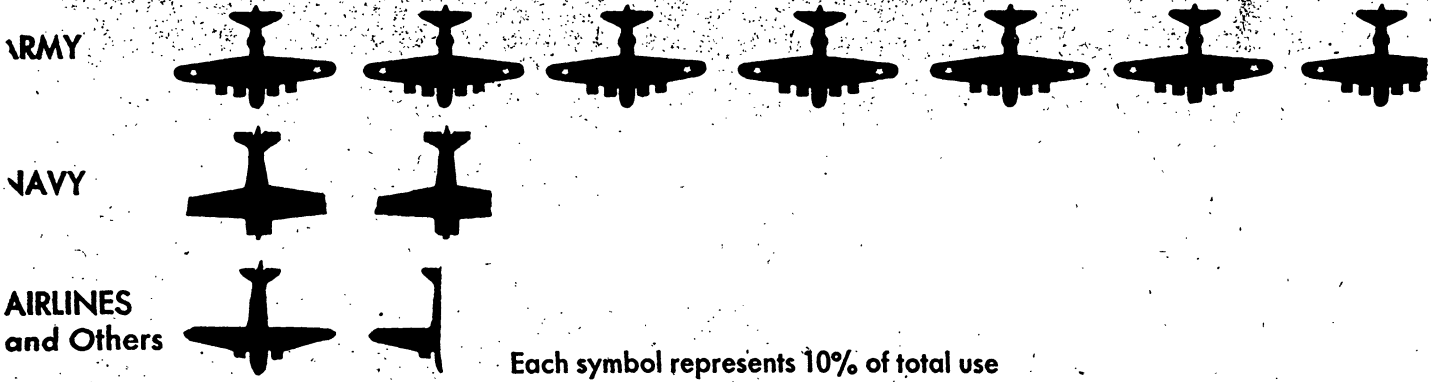
LIGHTED

OTHER

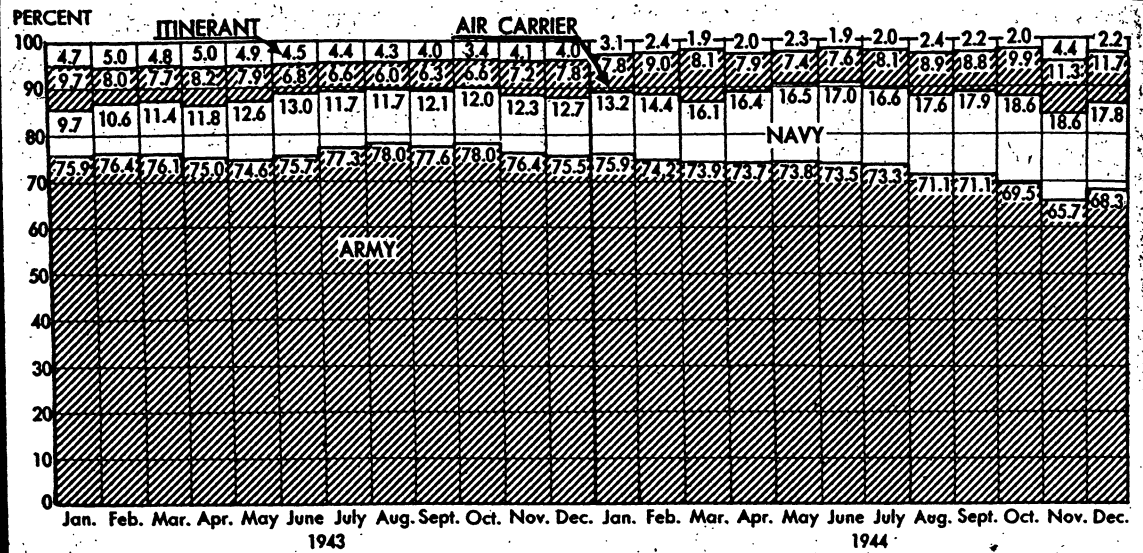


Full distance between 2 symbols represents 5,000 miles

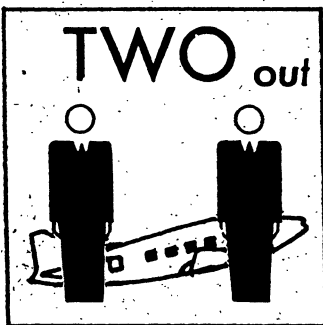
USE OF FEDERAL AIRPORTS, December, 1944



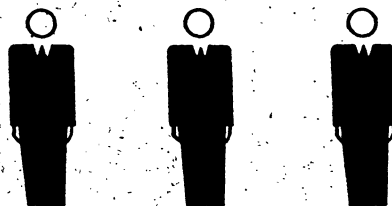
	U. S. Domestic Airway Route Mileage	Airway Mileage Lighted
1926	8,252	2,041
1927	8,865	4,468
1928	15,590	6,988
1929	24,864	12,448
1930	29,887	15,258
1931	30,450	17,152
1932	28,550	19,500
1933	27,812	18,655
1934	28,084	19,081
1935	28,267	22,012
1936	28,874	22,245
1937	31,084	22,319
1938	35,492	23,723
1939	35,213	27,074
1940	41,054	30,488
1941	47,703	32,679
1942	36,442	33,407
1943	36,982	33,403
1944	40,392	34,424



POPULATION SERVED BY AIRLINES



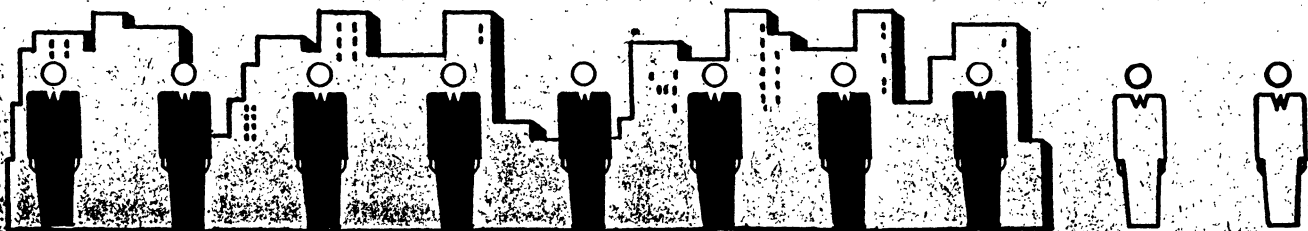
TWO out of every **FIVE** people in the U. S.



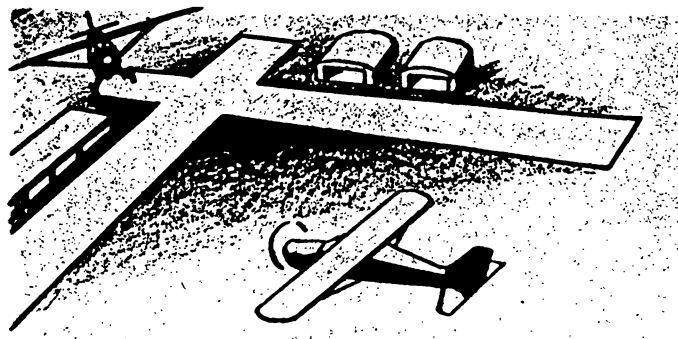
are served directly by Airlines

As of December 31

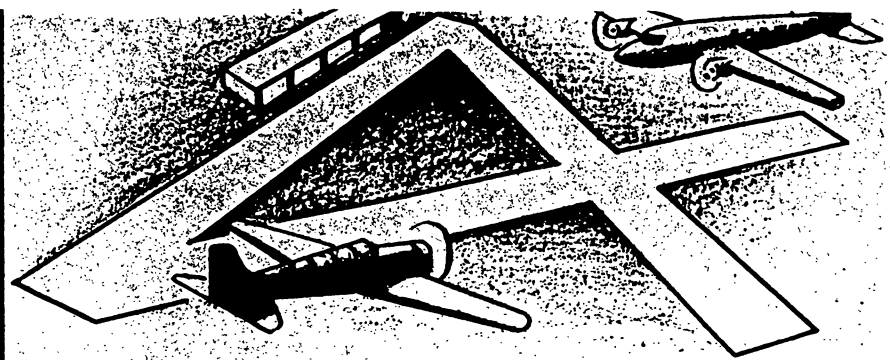
	1941	1942	1943	1944
Class I	1,523	1,238	910	1,215
Class II	702	905	774	936
Class III	187	367	430	464
Class IV and over	72	299	655	812
TOTAL	2,484	2,809	2,769	3,427



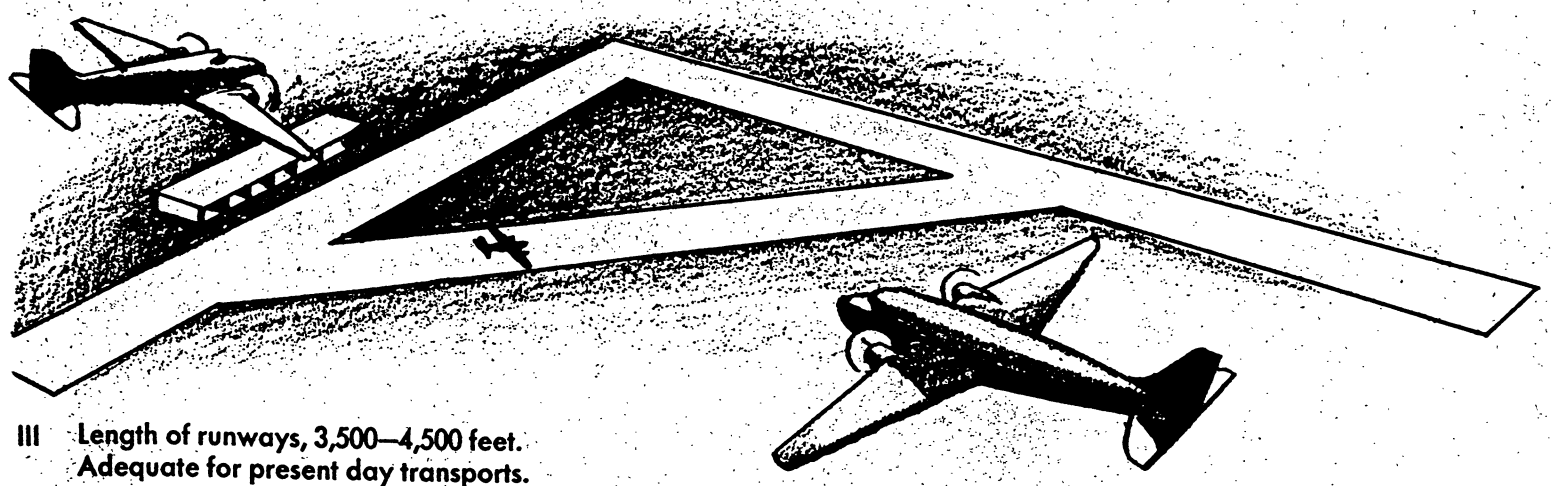
82% of the LIBRARIAN POPULATION lives



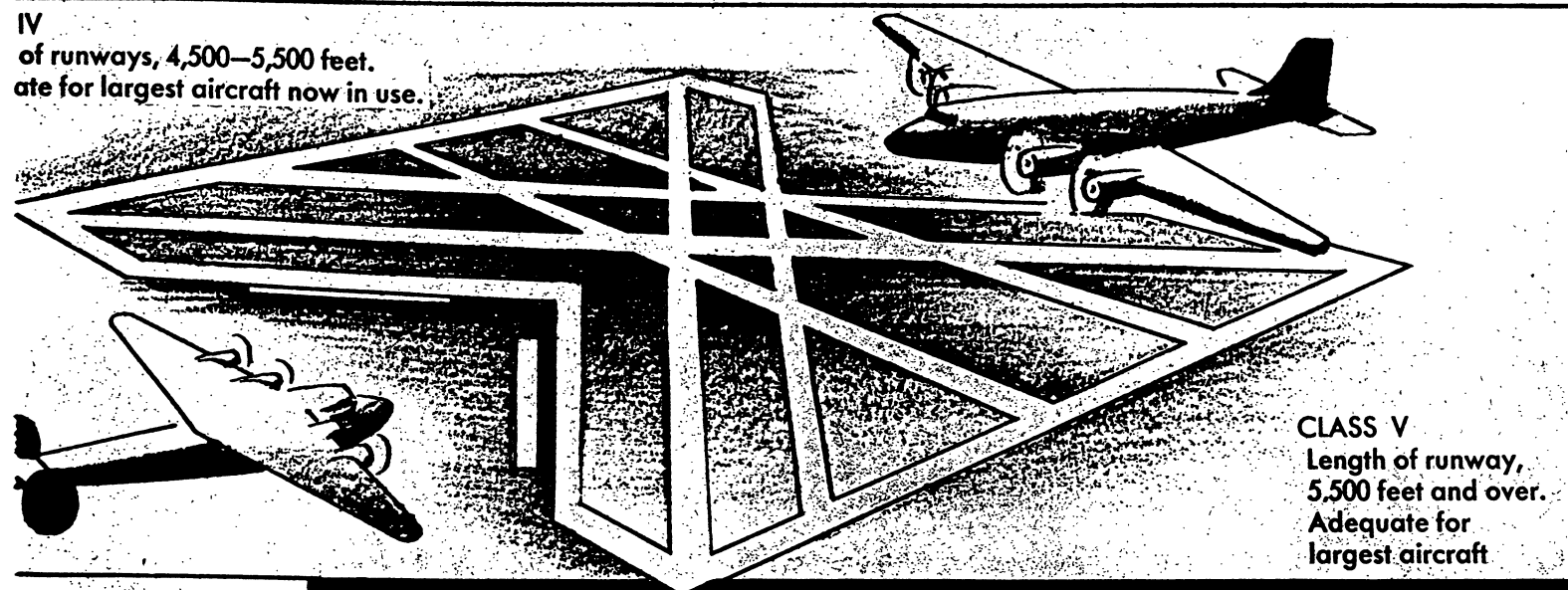
I
Length of landing strips, 1,800—2,700 feet.
Adequate for small personal aircraft.



CLASS II
Length of runways, 2,500—3,500 feet.
Adequate for small size transport planes.



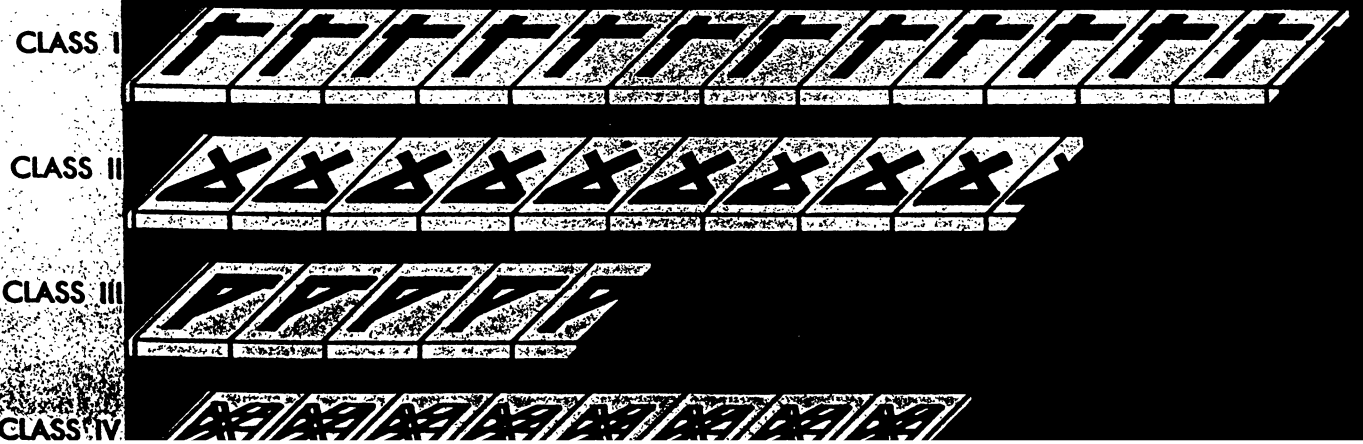
III Length of runways, 3,500—4,500 feet.
Adequate for present day transports.



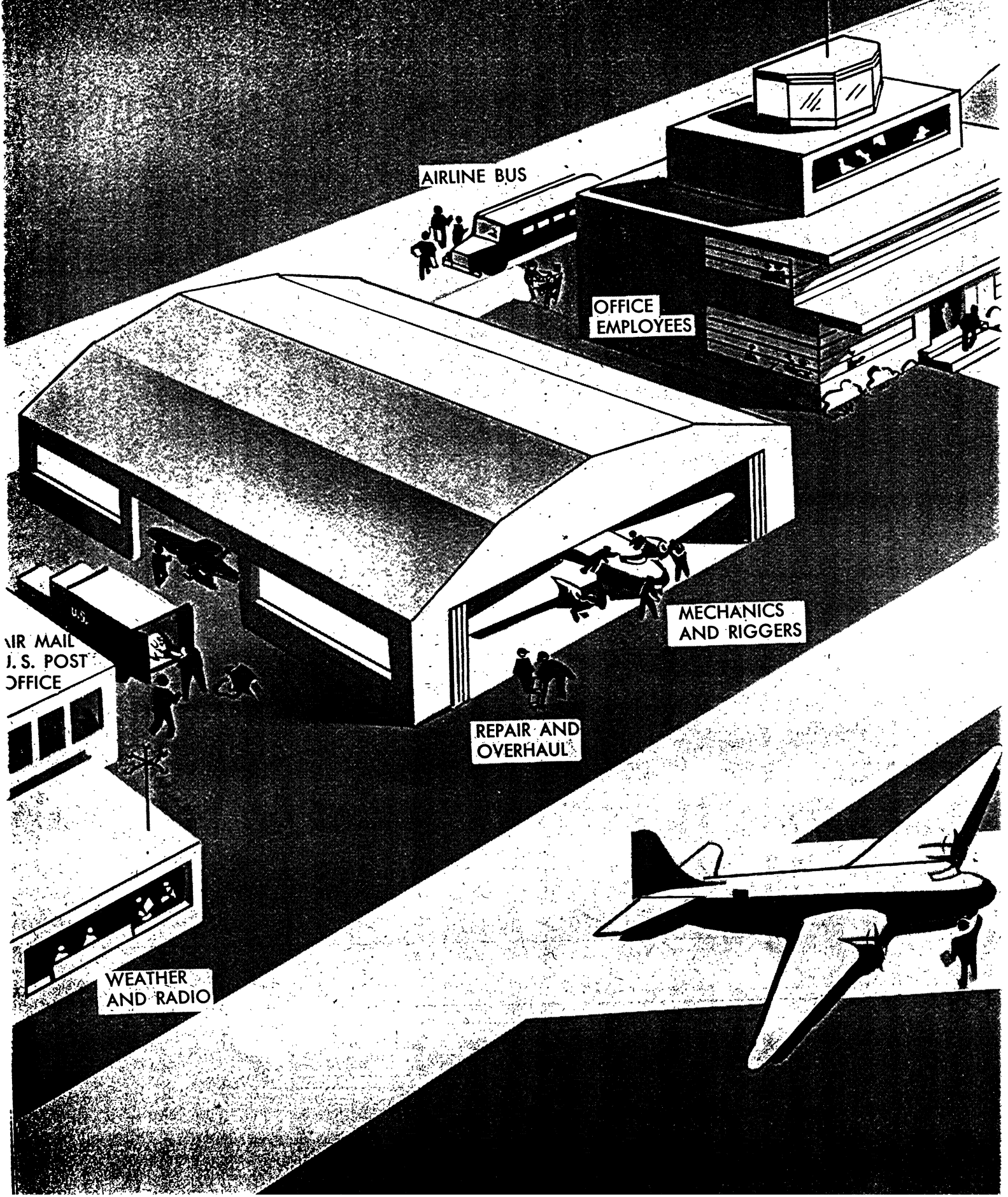
IV
Length of runways, 4,500—5,500 feet.
Adequate for largest aircraft now in use.

CLASS V
Length of runway,
5,500 feet and over.
Adequate for
largest aircraft

AIRPORTS
CLASSES
31, 1944



THE MEN BEHIND THE FLIGHTS



AIRLINE BUS

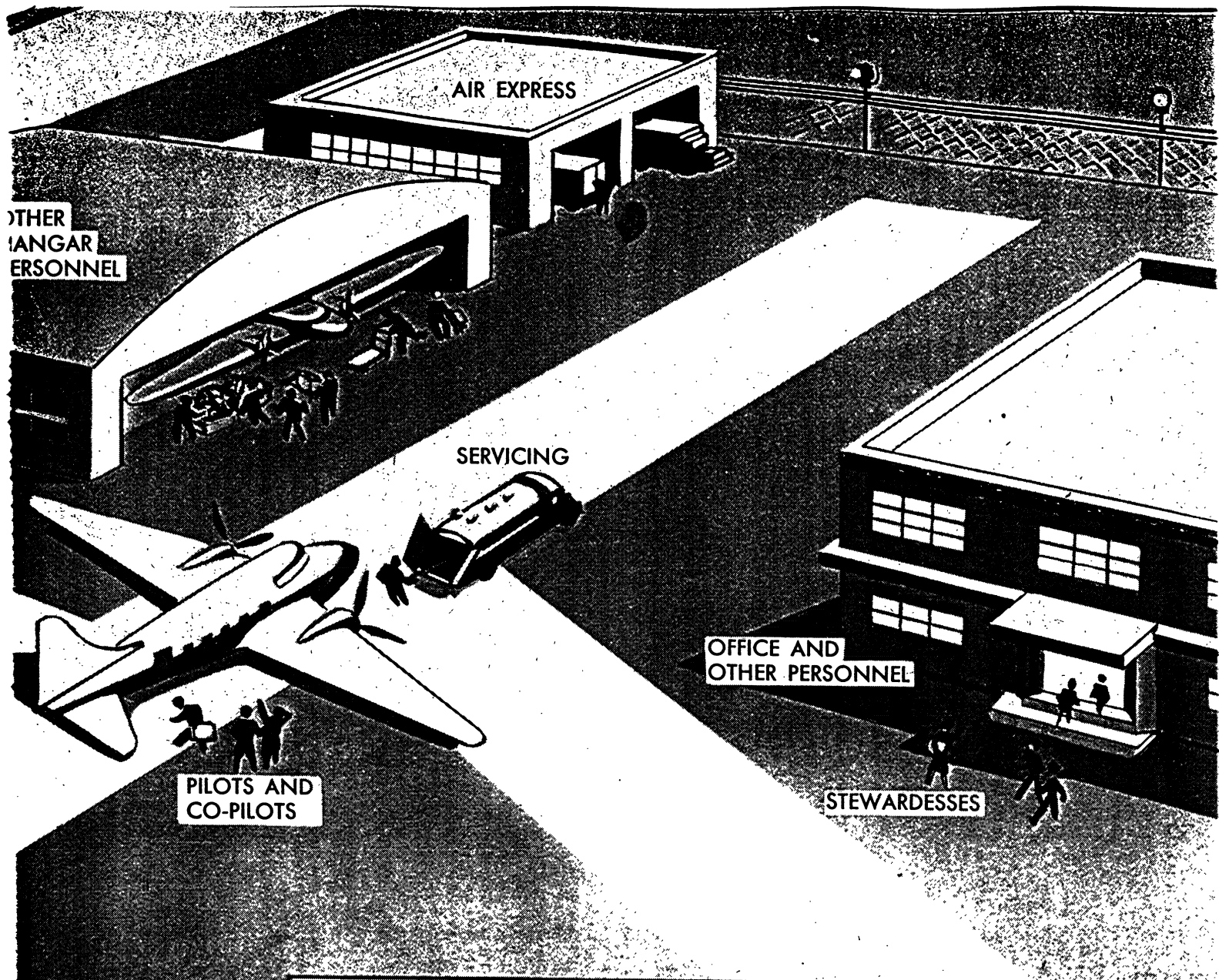
OFFICE
EMPLOYEES

MECHANICS
AND RIGGERS

REPAIR AND
OVERHAUL

WEATHER
AND RADIO

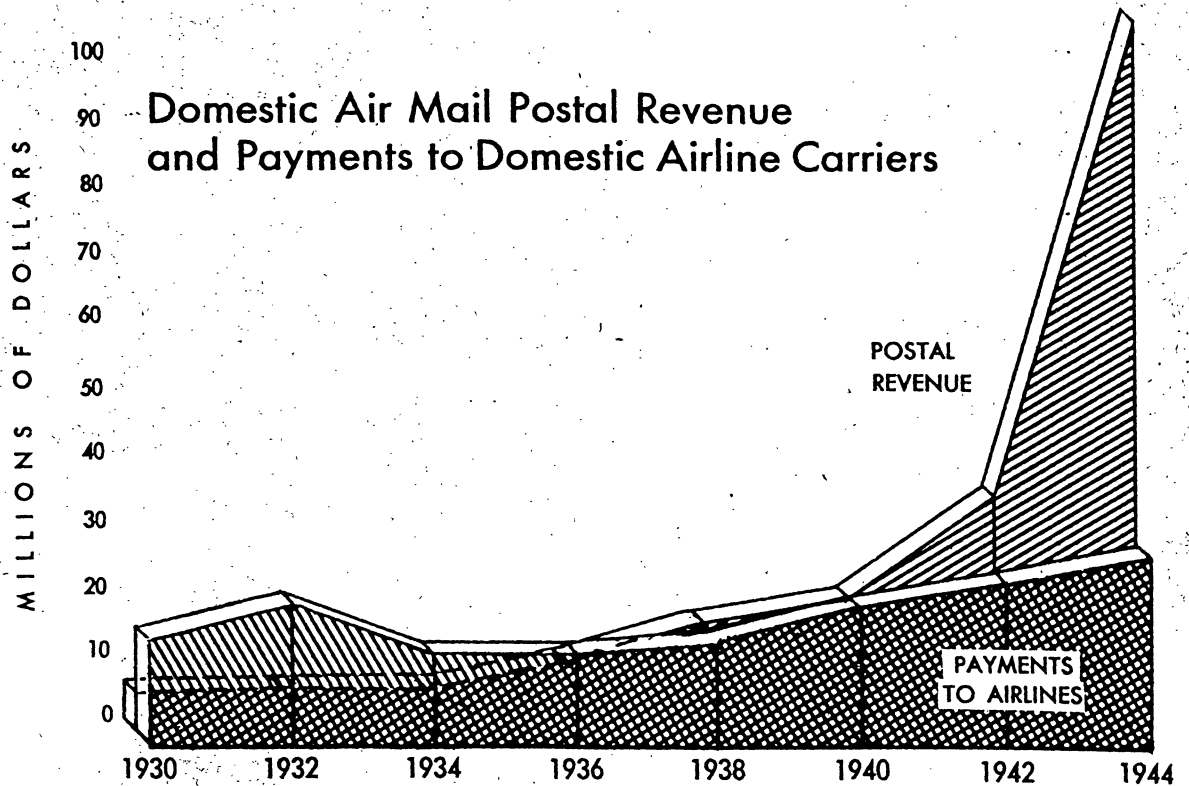
AIR MAIL
J.S. POST
OFFICE



PERSONNEL OF DOMESTIC AIRLINES

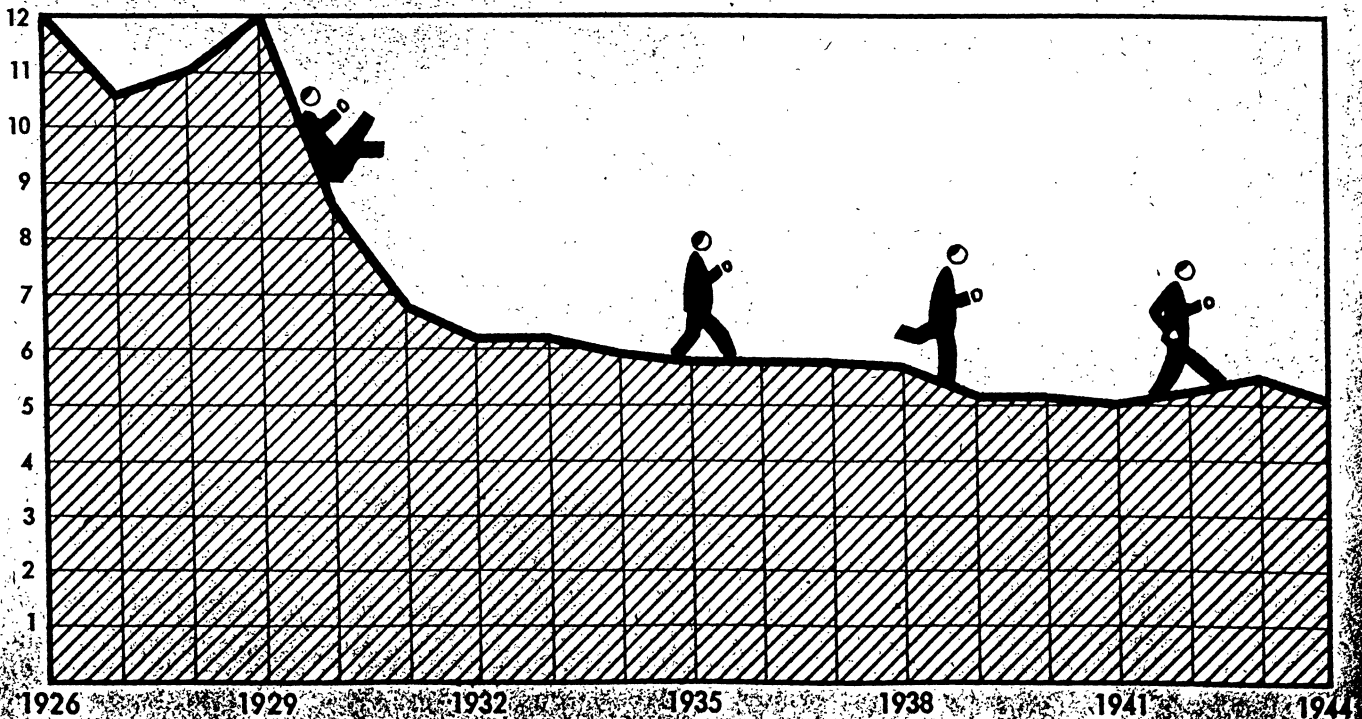
	Pilots	Co-pilots	Stewardesses and Stewards	Mechanics and Riggers	Dispatchers, Other Hangar and Field Personnel	Office Employees	All Others	Total
1928	294*	*	.....	503	654	.....	.....	1,451
1929	509*	*	.....	945	482	.....	.....	1,936
1930	580*	*	.....	1,377	783	.....	.....	2,740
1931	621*	*	.....	1,662	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	472	8,955
1939	691	694	530	2,779	1,042	4,548	225	10,509
1940	893	1,017	910	3,995	2,048	5,815	1,122	15,800
1941	1,065	1,119	1,024	4,333	2,400	7,759	1,284	18,984
1942	974	1,415	788	7,770	3,602	9,883	2,015	26,447
1943	1,005	1,795	825	9,087	5,112	10,000	2,711	30,825

AIRLINE SERVICES...

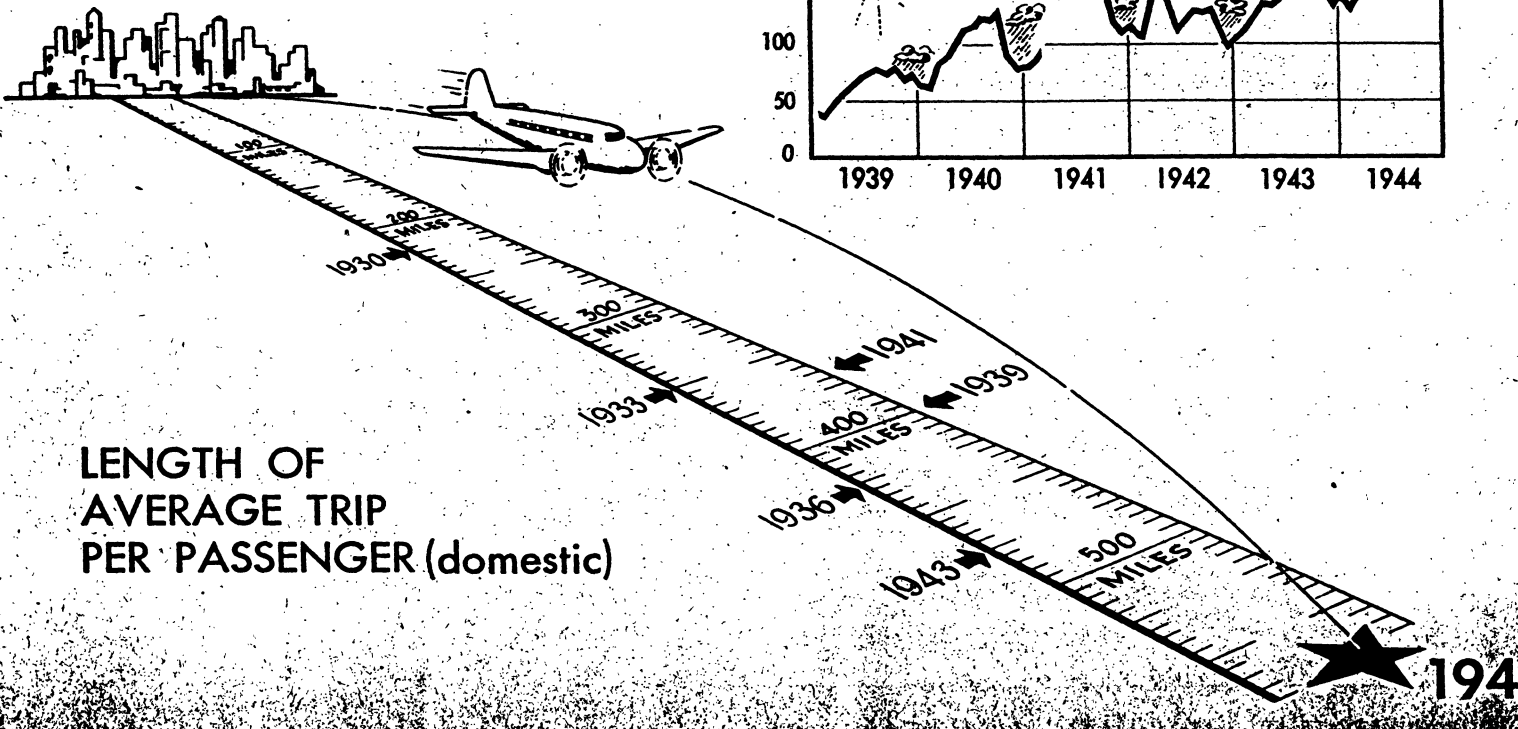
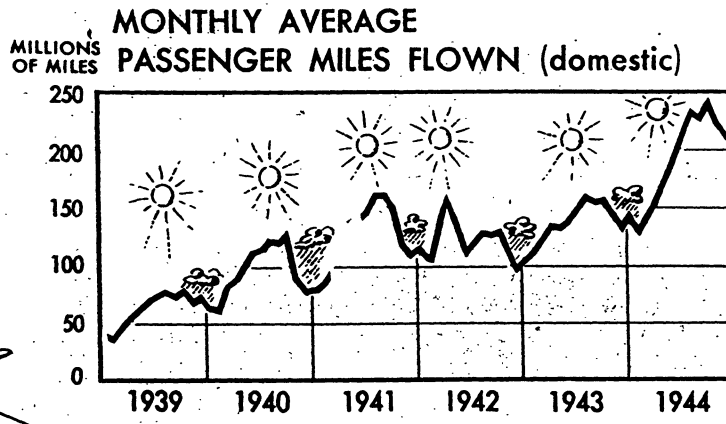
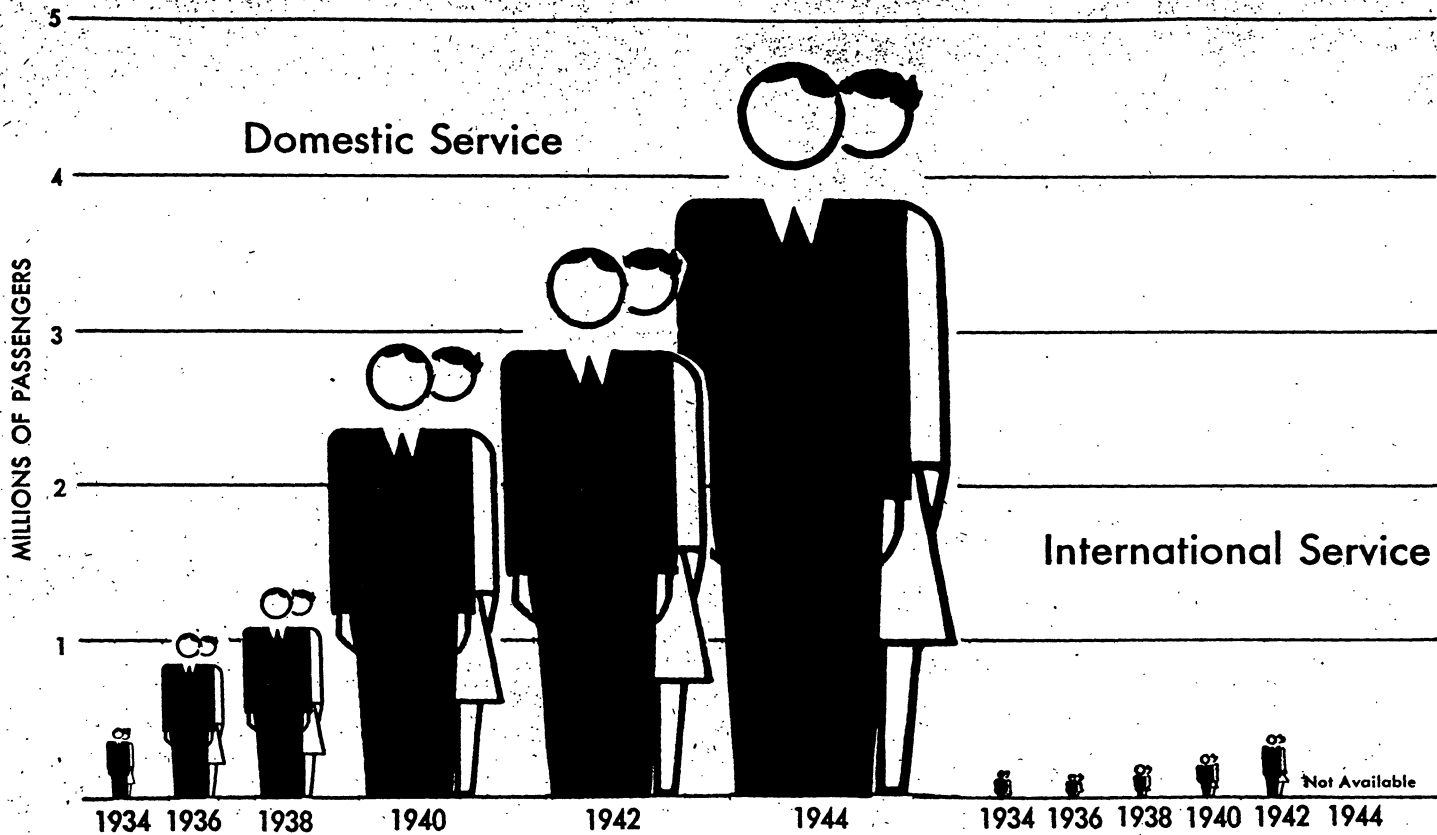


Average Passenger Fare

CENTS PER MILE



PASSENGERS CARRIED



AIRLINE and PULLMAN TRAVEL

in the last pre-war years

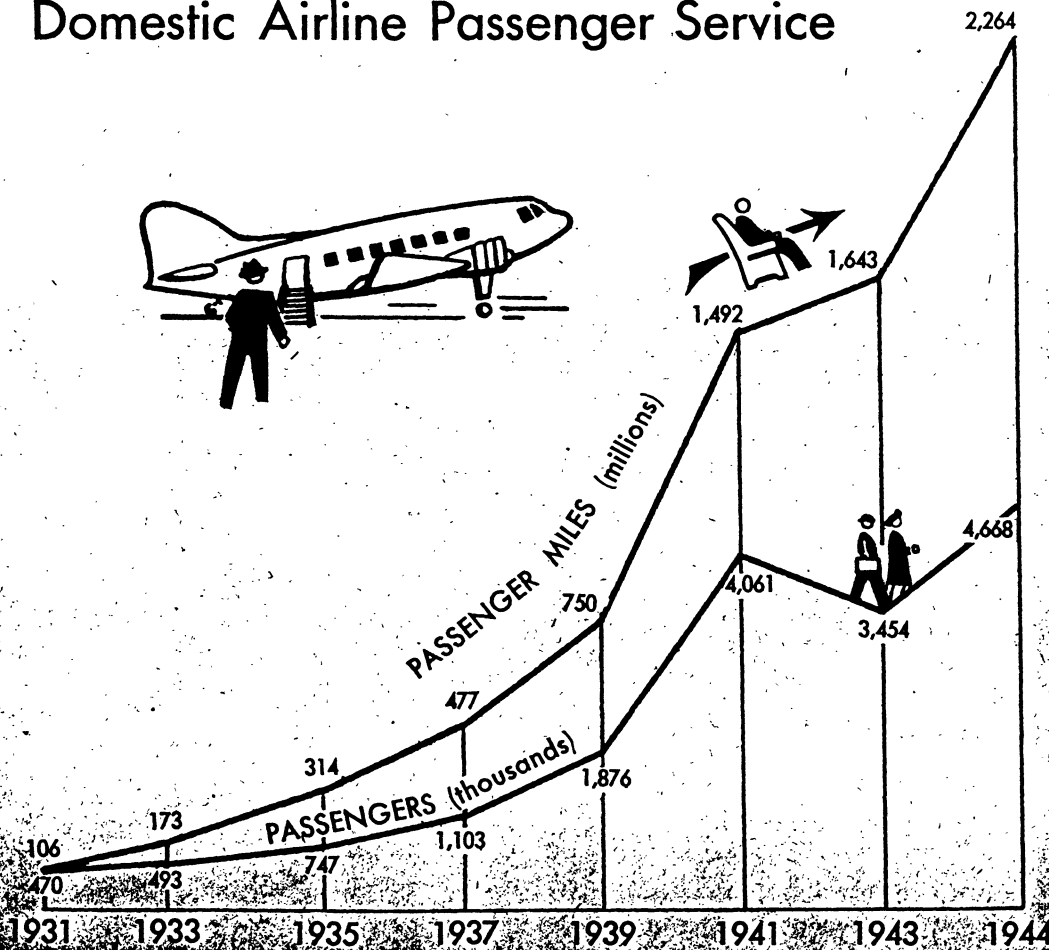
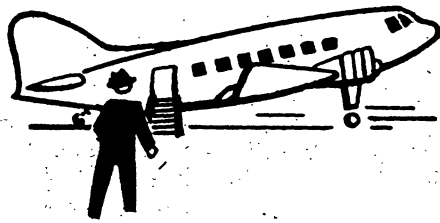
AIRLINE
PASSENGER
MILES



16.3%

of Pullman Passenger Mileage

Domestic Airline Passenger Service



Calendar Year	Revenue	Non-Revenue	TOTAL
1926	*	*	5.7
1927	*	*	8.8
1928	*	*	47.8
1929	*	*	159.7
1930	*	*	374.5
1931	*	*	469.5
1932	*	*	474.2
1933	*	*	493.2
1934	*	*	461.7
1935	663,261	83,685	746,946
1936	911,148	109,783	1,020,931
1937	958,510	144,197	1,102,707
1938	1,176,858	166,569	1,343,427
1939	1,717,090	158,961	1,876,051
1940	2,727,820	231,660	2,959,480
1941	3,768,892	291,653	4,060,545
1942	3,349,134	202,699	3,551,833
1943	3,351,537	102,503	3,454,040
1944	4,575,716	92,614	4,668,330

* Not Available.

Calendar Year	Revenue	Non-Revenue
1926	*	*
1927	*	*
1928	*	*
1929	*	*
1930	*	*
1931	*	*
1932	*	*
1933	*	*
1934	*	*
1935	*	*
1936	*	*
1937	*	*
1938	*	*
1939	161,163	7,807
1940	216,846	8,952
1941	311,055	9,010
1942	383,933	8,213
1943	*	*
1944	*	*

* Not Available.

Monthly Averages

Years	Average
26	481
27	721
28	3,986
29	13,312
30	31,244
31	39,165
32	39,523
33	41,095
34	38,478
35	62,245
36	85,077
37	91,892
38	111,952
39	156,337
40	246,624
41	338,378
42	295,986
43	287,837
44	334,647

	1939	1940	1941	1942	1943	1944
Jan.	38,402,960	61,355,485	78,339,567	113,134,990	101,410,602	143,727,253
Feb.	35,002,226	58,937,141	84,639,781	104,219,667	110,982,551	127,107,086
Mar.	49,445,372	80,686,124	96,661,662	139,060,782	124,256,467	144,883,524
April	53,482,725	88,061,683	114,748,987	158,217,575	132,984,531	157,667,782
May	63,361,491	100,044,047	133,979,048	146,234,958	133,266,615	182,304,309
June	70,199,181	110,839,615	141,905,987	110,301,132	140,745,710	194,828,832
July	72,917,924	112,376,882	147,418,618	117,216,147	150,013,387	213,308,304
Aug.	75,145,452	121,602,029	158,068,167	128,429,975	156,873,457	231,262,843
Sept.	75,800,149	118,533,626	158,151,061	126,151,759	153,980,314	228,763,362
Oct.	77,468,144	125,924,103	150,919,895	129,182,369	155,855,938	242,084,021
Nov.	67,031,434	90,697,083	115,825,169	113,048,028	145,104,815	220,201,530
Dec.	71,530,038	78,387,130	111,076,729	96,778,947	137,122,253	207,286,784
Totals	749,787,096	1,147,444,948	1,491,734,671	1,481,976,329	1,642,596,640	2,293,425,630

Calendar

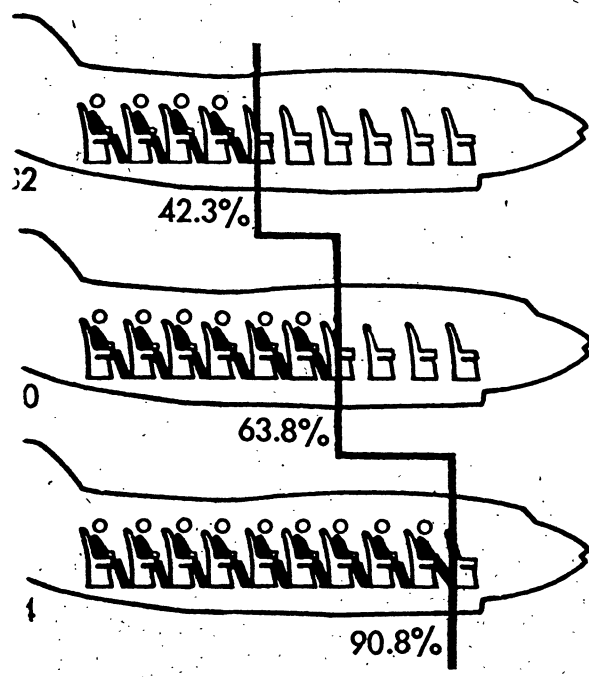
Year	Revenue	Non-Revenue	TOTAL
1930	*	*	84,014,572
1931	*	*	106,442,375
1932	*	*	127,038,798
1933	*	*	173,492,119
1934	*	*	187,858,629
1935	279,375,902	34,529,606	313,905,508
1936	388,242,120	47,498,133	435,740,253
1937	407,295,893	69,307,272	476,603,165
1938	476,402,280	81,316,988	557,719,268
1939	677,672,955	72,114,141	749,787,096
1940	1,041,173,558	106,271,390	1,147,444,948
1941	1,369,584,231	122,150,440	1,491,734,671
1942	1,398,042,146	83,934,183	1,481,976,329
1943	1,606,119,468	36,477,172	1,642,596,640
1944	2,246,894,489	34,809,888	2,281,704,377

INTERNATIONAL

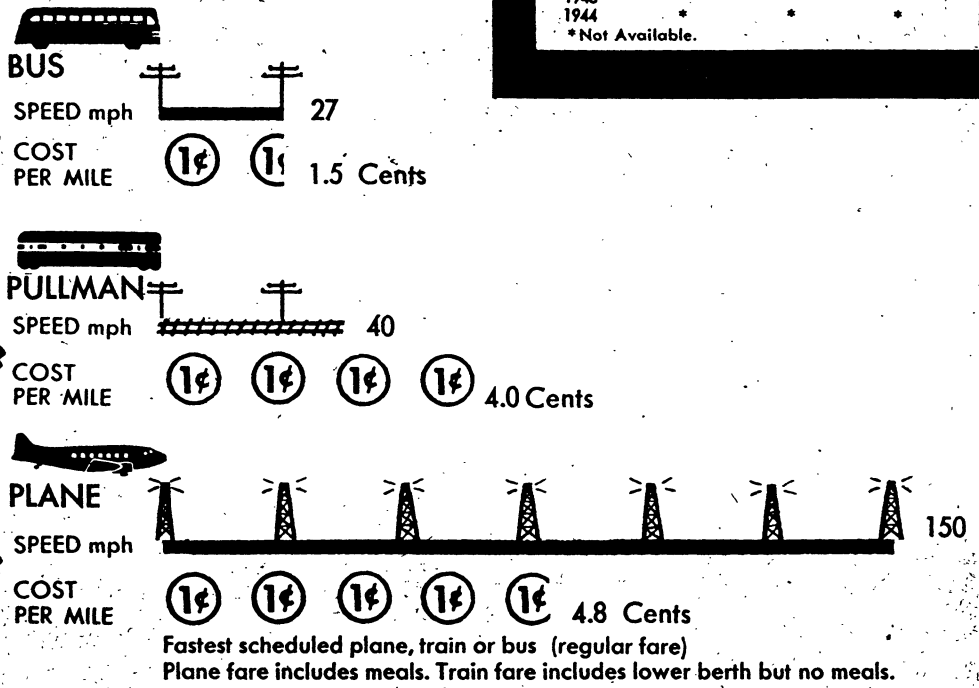
1930	*	*	19,732,677
1931	*	*	14,680,402
1932	*	*	21,147,539
1933	*	*	26,283,915
1934	*	*	38,792,228
1935	*	*	48,465,412
1936	*	*	45,078,586
1937	*	*	58,255,487
1938	*	*	60,110,655
1939	78,168,601	6,862,545	85,031,146
1940	111,248,022	6,471,089	117,719,111
1941	179,014,221	6,200,334	185,214,555
1942	263,996,932	4,255,424	268,252,356
1943	*	*	*
1944	*	*	*

* Not Available.

PASSENGER LOAD FACTOR (domestic)



SPEED vs COST Los Angeles-New York



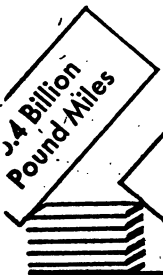
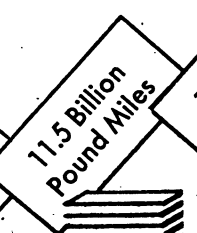
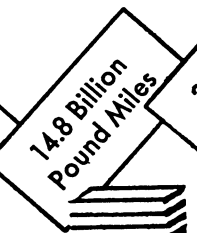
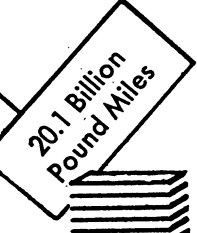
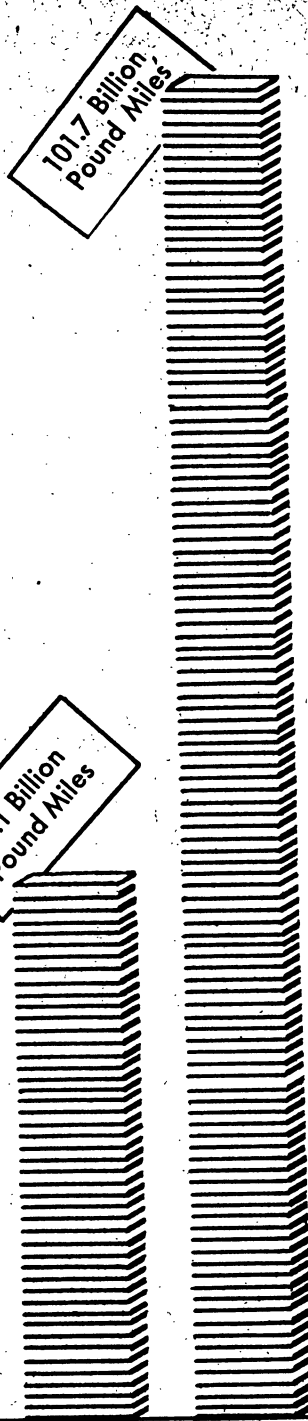
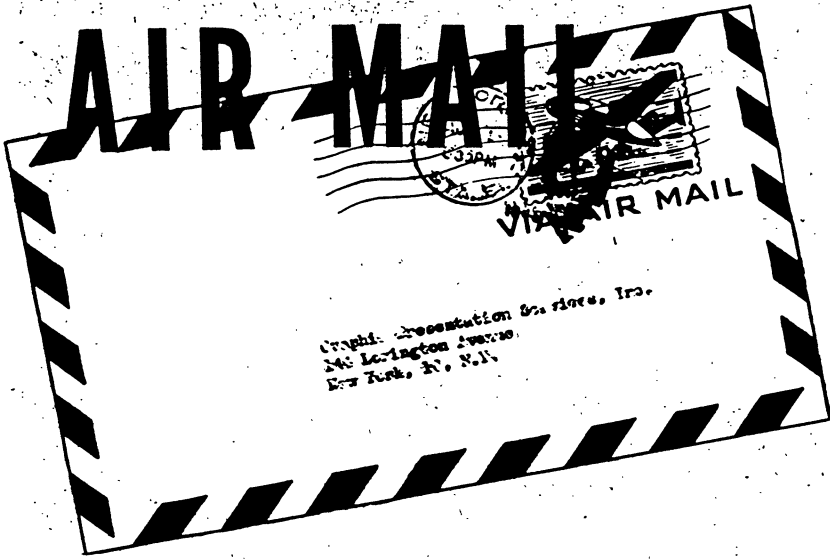
Cents Per Mile
12.0
10.6
11.0
12.0
8.3
6.7
6.1
6.1
5.9
5.7
5.7
5.6
5.7
5.1
5.1
5.0
5.3
5.5
5.1

Year	Average Miles Per Trip
1926	*
1927	*
1928	*
1929	*
1930	224
1931	226
1932	268
1933	352
1934	407
1935	420
1936	427
1937	432
1938	415
1939	400
1940	388
1941	367
1942	417
1943	476
1944	571

* Not Available

Year	Revenue and Non-Revenue Passenger Load Factor, Per Cent
1932	42.34
1933	46.87
1934	51.82
1935	54.83
1936	64.01
1937	57.55
1938	58.74
1939	62.08
1940	63.84
1941	64.40
1942	76.11
1943	90.01
1944	90.83

Fiscal Year Ending June 30	Postal Revenue	Actual Payments to Contractors
1926	*	*
1927	*	*
1928	*	*
1929	*	*
1930	\$ 5,273,000	\$14,618,000
1931	6,210,000	16,944,000
1932	6,016,000	19,938,000
1933	6,116,000	19,400,000
1934	5,738,000	12,130,000
1935	6,590,000	8,838,000
1936	9,702,700	12,179,000
1937	12,439,600	13,165,000
1938	15,301,200	14,740,000
1939	16,326,400	17,020,000
1940	19,122,900	19,426,000
1941	23,920,500	20,687,000
1942	33,417,400	23,450,000
1943	32,819,400	22,700,000



1932

1934

1936

1938

1940

1942

1944

Calendar Year

1931	6,280,409,884
1932	5,402,249,740
1933	5,135,847,406
1934	4,922,822,780
1935	8,265,216,188
1936	11,482,872,582
1937	13,396,060,117
1938	14,845,719,549
1939	17,195,753,372
1940	20,076,458,262
1941	25,801,137,783
1942	42,136,542,782
1943*	71,538,178,415
1944*	81,982,862,000

* Estimate

Fiscal Year

1925-26	3,597
1926-27	5,551
1927-28	10,932
1928-29	14,406
1929-30	14,907
1930-31	23,488
1931-32	26,745
1932-33	27,679
1933-34	28,820
1934-35	28,884
1935-36	29,198
1936-37	29,622
1937-38	33,655
1938-39	37,080
1939-40	37,943
1940-41	43,411
1941-42	44,623
1942-43	45,304
1943-44	49,482

Fiscal Year

1925-26	396.34
1926-27	2,805.78
1927-28	5,585.22
1928-29	10,212.51
1929-30	14,939.46
1930-31	21,381.85
1931-32	32,202.17
1932-33	35,909.81
1933-34	29,111.47
1934-35	31,148.69
1935-36	38,700.64
1936-37	39,958.77
1937-38	46,166.16
1938-39	52,141.75
1939-40	59,236.45
1940-41	75,689.83
1941-42	89,307.56
1942-43	88,595.14
1943-44	106,954.3

Fiscal Year Ending June 30	Government Operated	Private Domestic Operation
1926	\$1,233	\$ 226
1927	.968	.486
1928	.956	.724
1929		1,094
1930		.978
1931		.792
1932		.619
1933		.540
1934	1,308	.417
1935		.284
1936		.315
1937		.329
1938		.319

Fiscal Year Ending June 30	Air-Mail-Pound-Miles Performed	Payments Per Pound-Mile (mills)
1932	6,275,935,094	3.18
1933	4,834,540,535	4.01
1934	4,513,880,526	2.69
1935	6,790,486,632	1.30
1936	9,771,841,815	1.24
1937	12,732,530,874	1.03
1938	14,137,360,791	1.04
1939	15,818,617,372	1.08
1940	18,671,367,440	1.04
1941	22,294,962,738	.93
1942	31,404,257,960	.74
1943	56,693,450,699	.41

Fiscal Year Ending June 30	
1935	218
1936	253
1937	319
1938	306
1939	303
1940	315
1941	295
1942	352
1943	640

Fiscal Year Ending June 30	
1935	235.6
1936	334.6
1937	429.8
1938	420.6
1939	426.4
1940	492.1
1941	513.3
1942	703.2
1943	1,251.1

ROUTE MILES OF DOMESTIC AIR MAIL SERVICE

FISCAL YEAR
ENDING
JUNE 30

1925-26

3,597

1928-29

14,406

1931-32

26,745

1934-35

28,884

1937-38

33,655

1940-41

44,623

1943-44

49,482

RATIO OF DOMESTIC AIR MAIL TO NON-LOCAL FIRST CLASS MAIL (1942)

ONE pound mile of
domestic AIRMAIL

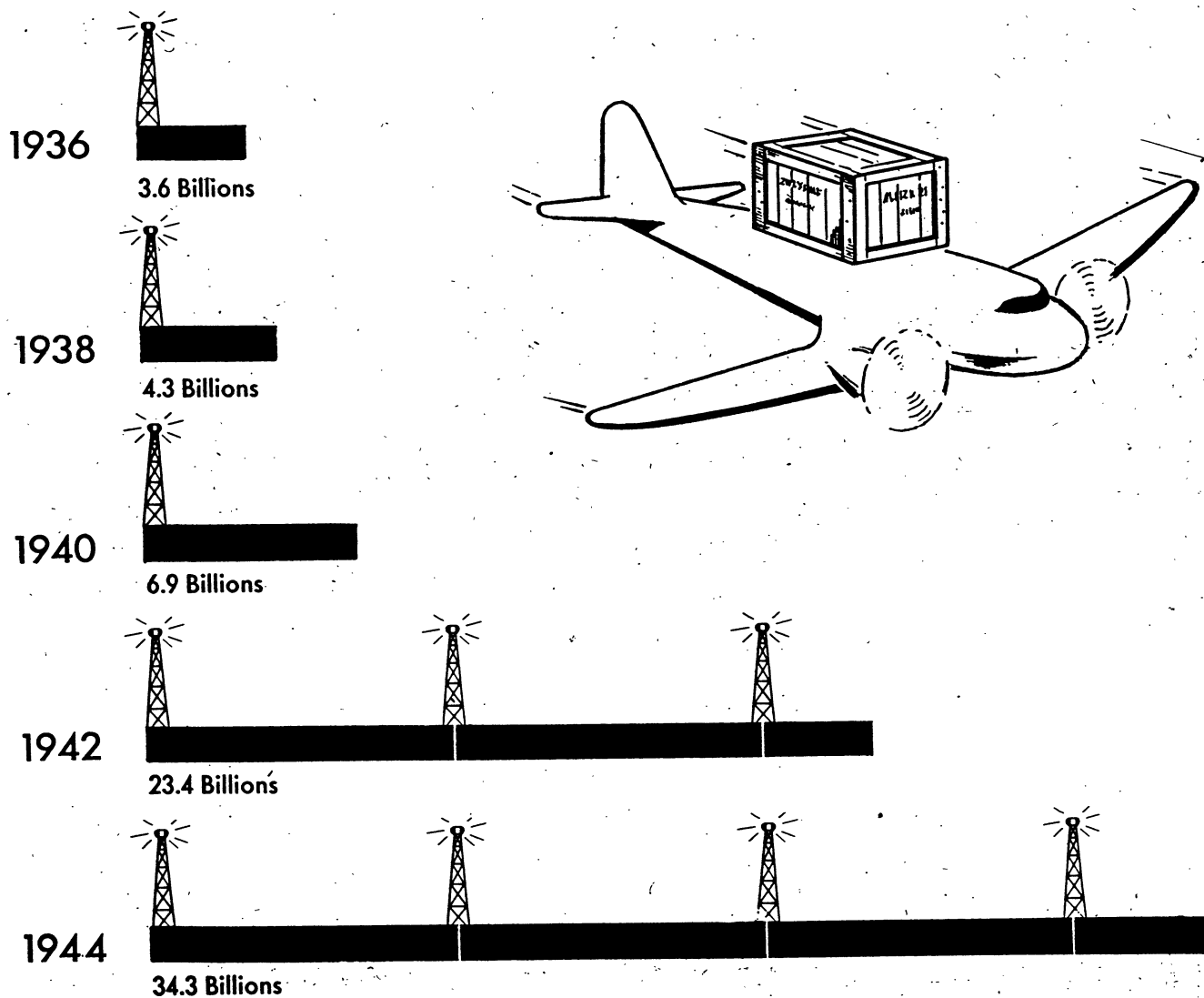


for every six of first class mail



AIR

Air Express Pound Miles Flown (domestic)



DOMESTIC

1935	2,145,483,711
1936	3,632,441,637
1937	4,318,112,453
1938	4,347,411,761
1939	5,411,227,041
1940	6,938,969,170
1941	10,485,058,005
1942	23,435,208,925
1943	30,235,849,171
1944	34,285,353,551

Source: 1935-37—Post Office Department
1938-44—Civil Aeronautics
Administration

DOMESTIC

Year	Pounds
1926	3,555
1927	45,859
1928	210,404
1929	249,634
1930	359,523
1931	788,059
1932	1,033,970
1933	1,510,215
1934	2,133,191
1935	3,822,397
1936	6,958,777
1937	7,127,369
1938	7,335,967
1939	9,514,229
1940	12,506,176
1941	19,209,671
1942	40,101,657
1943	57,543,591

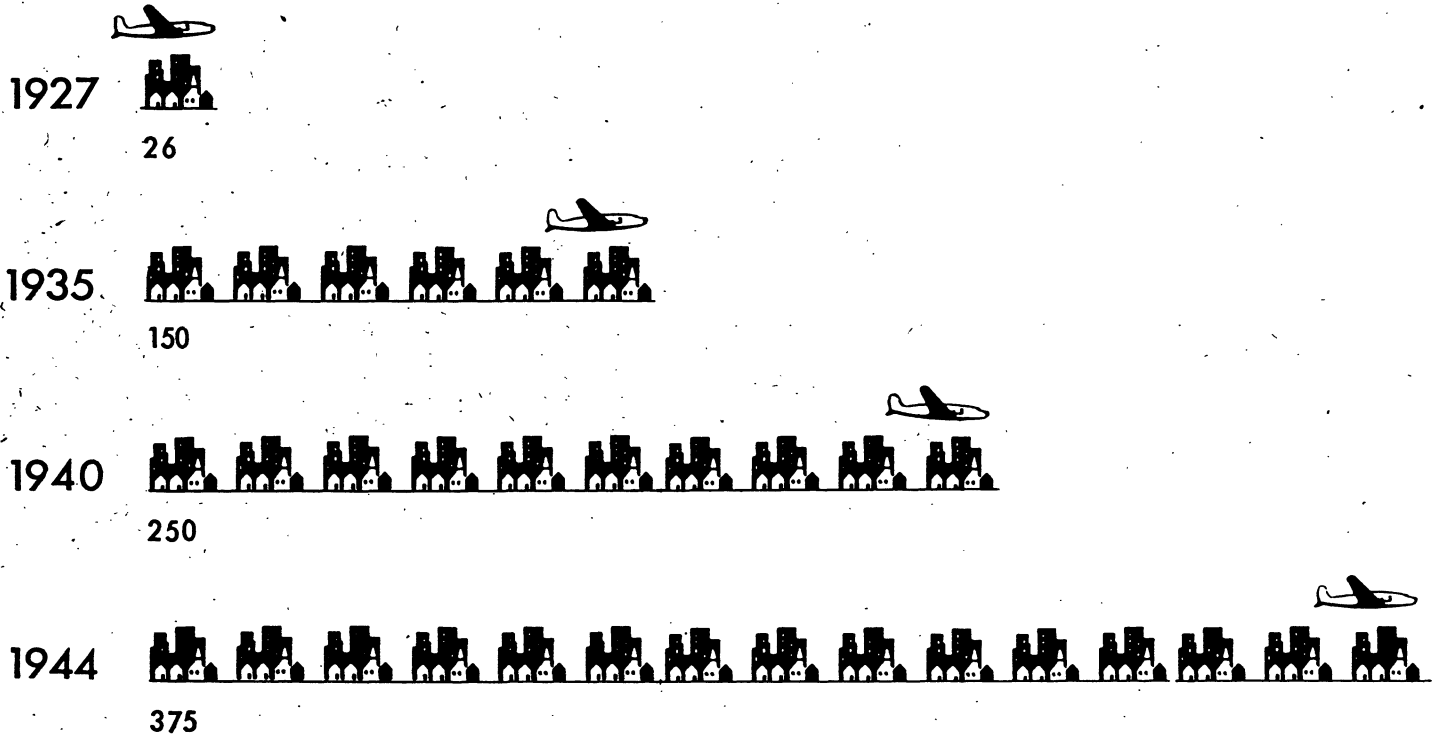
DOMESTIC

1931	\$ 61,157
1932	130,303
1933	305,645
1934	434,367
1935	642,471
1936	1,012,950
1937	1,272,701
1938	1,264,234
1939	1,618,184
1940	2,148,729
1941	2,996,915
1942	6,925,199
1943	8,020,448
1944	7,904,509

Source: Civil Aeronautics Board

EXPRESS

Cities Served by Air Express ...

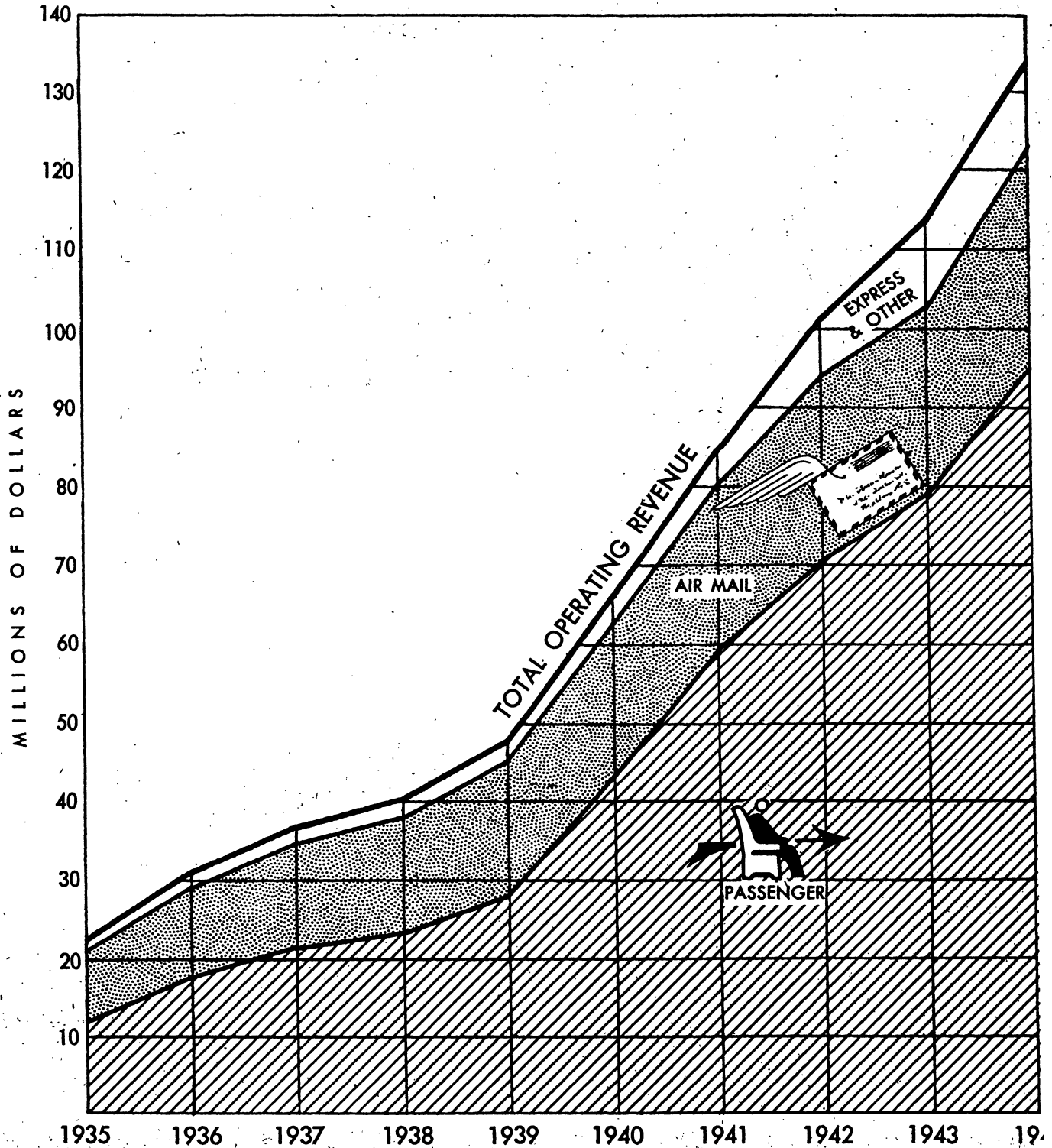


Time for Delivery... (NEW YORK-KANSAS CITY)



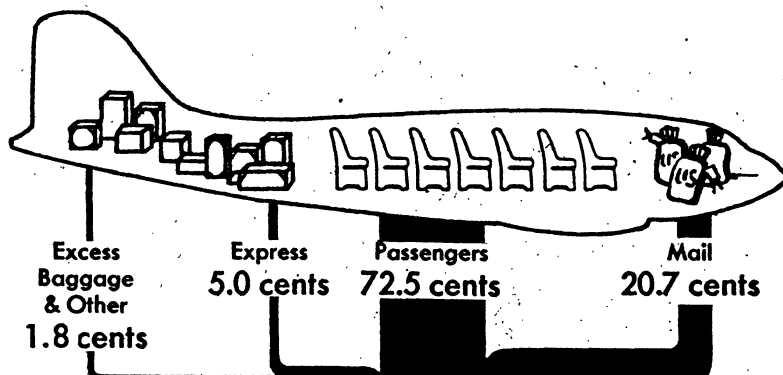
THE BUSINESS SIDE OF

OPERATING REVENUE...All domestic air mail carriers

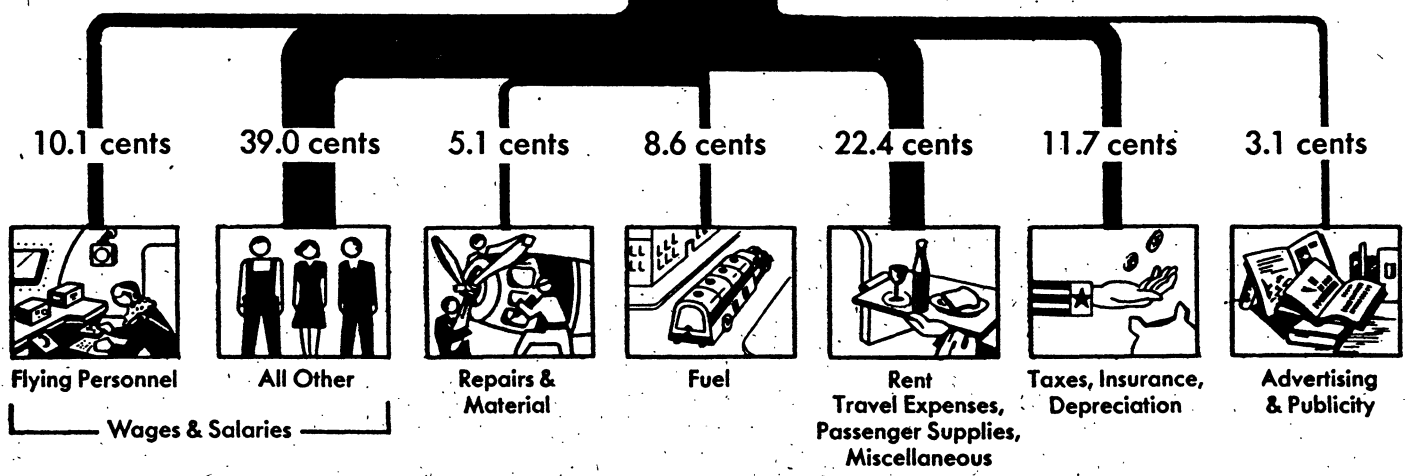


AIR TRANSPORTATION

WHERE THE REVENUE DOLLAR COMES FROM AND HOW IT IS SPENT... Calendar year 1944



ONE DOLLAR



Year	Mail	Express	Passenger	Total
1935	82.5%	0.3%	17.2%	\$24,090,000
1936	77.2%	0.5%	22.3%	25,020,000
1937	65.0%	1.2%	33.8%	25,290,000
1938	42.0%	2.8%	55.2%	15,620,000
1939	39.6%	2.4%	58.0%	27,230,000
1940	36.3%	2.9%	60.8%	34,330,000
1941	36.7%	3.5%	59.8%	36,430,000
1942	36.0%	3.0%	61.0%	40,360,000
1943	32.7%	2.9%	64.4%	54,437,000
1944	26.3%	4.0%	69.7%	76,000,000
1935	21.1%	3.0%	75.9%	94,234,000
1936	21.5%	6.2%	72.0%	112,396,000
1937	20.4%	8.8%	72.8%	118,217,000
1938	21.1%	5.2%	73.7%	157,890,437

Fiscal Year Ending June 30	Passenger	Mail	Express	Other	Total
1935	\$12,275,006	\$ 8,837,650	\$ 507,624	\$ 903,950	\$22,524,230
1936	17,413,260	12,179,266	796,171	1,098,896	31,487,593
1937	21,508,325	13,165,179	1,198,387	1,112,639	36,984,530
1938	23,371,376	14,739,929	1,218,250	774,989	40,104,544
1939	28,299,799	17,020,169	1,437,749	913,147	47,670,864
1940	43,428,666	19,425,732	1,805,812	1,077,573	65,737,783
1941	59,430,614	20,687,220	2,434,067	1,569,599	84,121,500
1942	70,697,068	23,450,404	5,528,224	1,443,380	101,119,076
1943	79,056,748	23,347,915	8,472,463	2,949,621	113,826,747
1944	95,262,342	27,949,987	7,772,745	2,809,828	133,794,902

REVENUES	
Passenger	72.54%
Mail	20.74%
Express	4.98%
Excess Baggage, Charter and Other	1.29%
Incidental	.45%
EXPENSES	
Total Salaries and Wages	49.13%
Repairs and Material	5.11%
Fuel	8.56%
Advertising and Publicity	3.07%
Taxes, Insurance, Depreciation	11.71%
Rent, Travel Expenses, Passenger Supplies and Miscellaneous	22.02%

SOURCE OF REVENUES



PASSENGERS



MAIL, EXPRESS

1931



1935



1940

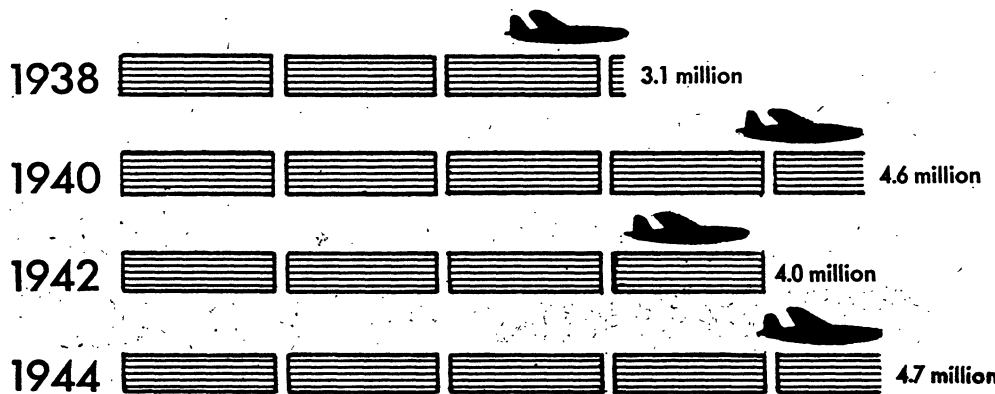


1944



Each coin represents 10% of total revenue in each year

TOTAL NON-REVENUE MILES FLOWN (domestic)



Total Non-revenue Miles Flown

Calendar Year	Domestic
1938	3,101,080
1939	3,286,376
1940	4,555,902
1941	5,114,404
1942	3,960,480
1943	2,750,798
1944	4,743,594

Alaskan Aircraft Operations

Two-year period ending	Planes in Service	Pounds of Freight	Pounds of Mail	Passenger Miles Flown	Passengers Carried	PI
March 31, 1929	8	94,701	24,250	272,999	2,171	
Year ending June 30, 1930	24	103,043	17,690	684,261	3,654	
Year ending June 30, 1931	26	161,718*	*	947,695	7,947	
Year ending June 30, 1932	31	496,680*	*	942,176	6,637	
Year ending June 30, 1933	42	634,016	151,570	1,222,510	7,743	1,
Year ending June 30, 1934	56	869,398	124,972	1,533,311	10,194	1,
Year ending June 30, 1935	73	1,496,917	225,840	2,148,692	13,318	1,
Year ending June 30, 1936	79	2,138,886	279,730	3,035,018	16,982	2,
Year ending June 30, 1937	102	2,947,726	264,201	4,021,798	20,958	2,
Year ending June 30, 1938	155	3,415,759	342,734	5,634,461	26,885	2,
Year ending June 30, 1939	175	4,010,730	489,574	5,801,787	29,814	3,
Year ending June 30, 1940	†	4,315,660	520,232	5,745,804	31,435	3,
Year ending June 30, 1941	†	4,947,516	611,422	7,918,054	41,703	4,
Year ending June 30, 1942	†	4,630,456	954,026	11,106,122	57,028	4,
Year ending June 30, 1943	†	2,427,107	1,548,902	10,150,469	45,801	3,
Year ending June 30, 1944	†	2,568,005	962,901	12,065,139	63,823	4,

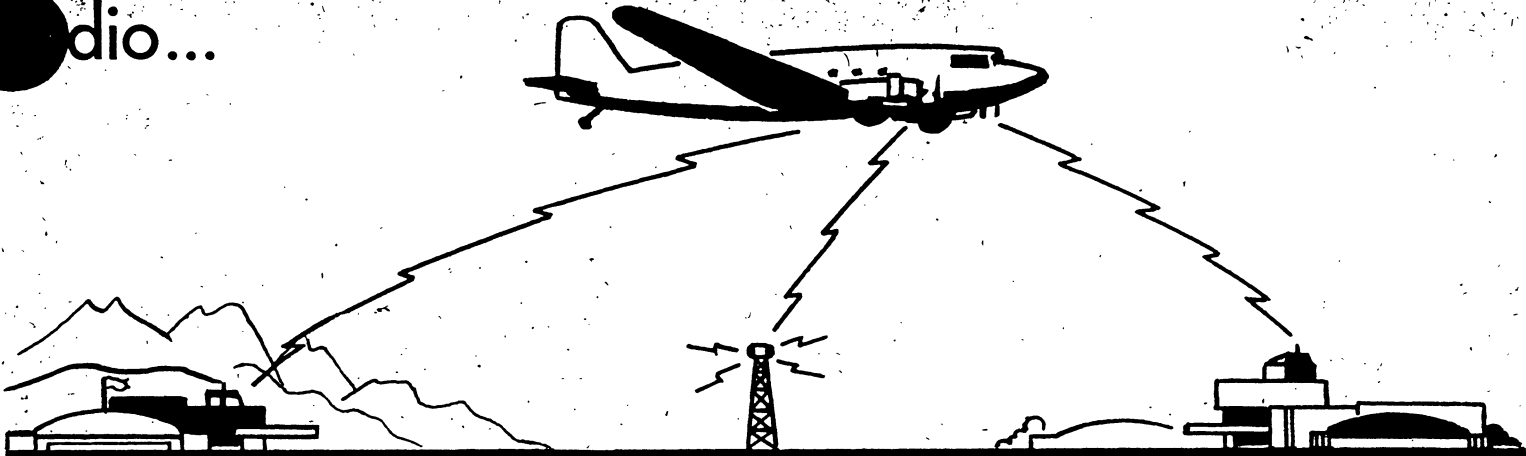
*Report of one (1) airline for month of May and two (2) for month of June 1944, not received.

†Not Available.

*Mail and freight co

AIRWAYS SERVICES TO INCREASE FLYING SAFETY

Radio...



Radio Range Beacon Stations

1928	2
1929	9
1930	33
1931	47
1932	68
1933	94
1934	112
1935	137
1936	146
1937	180
1938	215
1939	244
1940	281
1941	312
1942	280
1943	291
1944	297

Figures as of December 31

Radio Marker Beacons

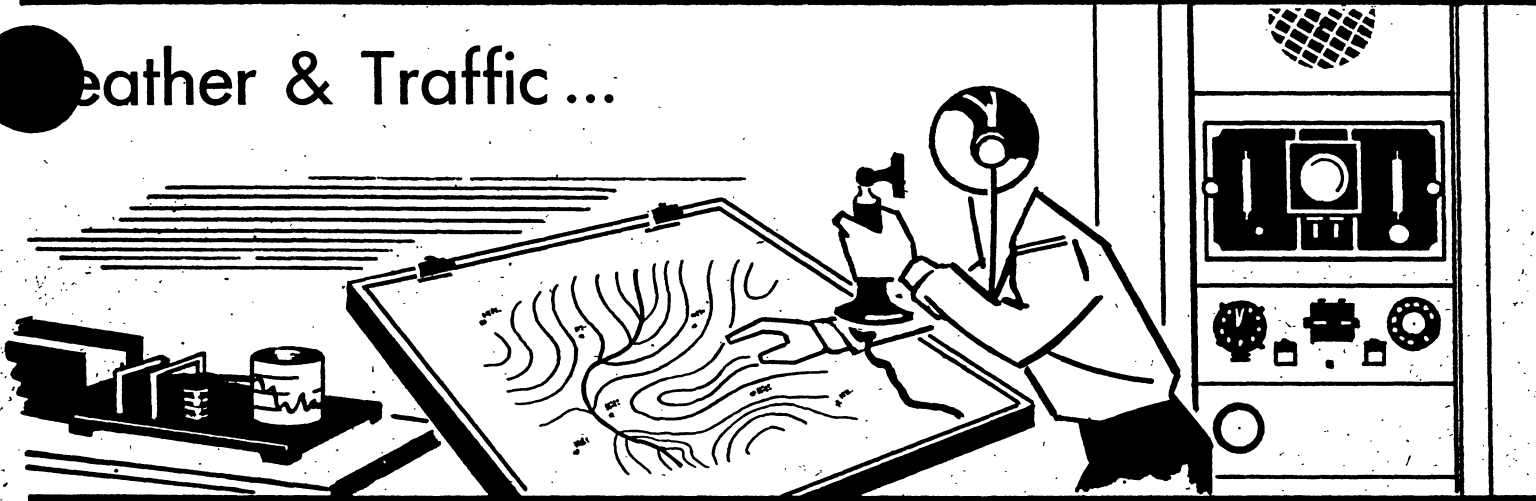
1930	6
1931	46
1932	74
1933	77
1934	84
1935	57
1936	57
1937	55
1938	50
1939	48
1940	42
1941	48
1942	40
1943	63
1944	84

Figures as of December 31

Radio Broadcast Stations

1926	17
1927	19
1928	29
1929	34
1930	45
1931	56
1932	61
1933	68
1934	71
1935	74
1936	80
1937	70
1938	89
1939	89
1940	104
1941	111
1942	105
1943	108
1944	285

Weather & Traffic ...



Weather Bureau First Order Stations Not at Airports

1926	202
1927	207
1928	206
1929	207
1930	209
1931	218
1932	216
1933	194
1934	185
1935	191
1936	182
1937	198
1938	182
1939	185
1940	146
1941	139
1942	135
1943	120

Weather Reporting Airway and Airport Stations

1929	58
1930	143
1931	234
1932	234
1933	205
1934	206
1935	203
1936	213
1937	271
1938	314
1939	298
1940	376
1941	453
1942	442
1943	365
1944	535

Teletype Mileage Weather Reporting

1929	2,415
1930	8,400
1931	13,186
1932	13,500
1933	12,064
1934	11,631
1935	13,260
1936	13,120
1937	20,588
1938	23,771
1939	25,981
1940	28,052
1941	55,268
1942	52,618
1943	52,800
1944	62,545

Teletype Mileage Traffic Reporting

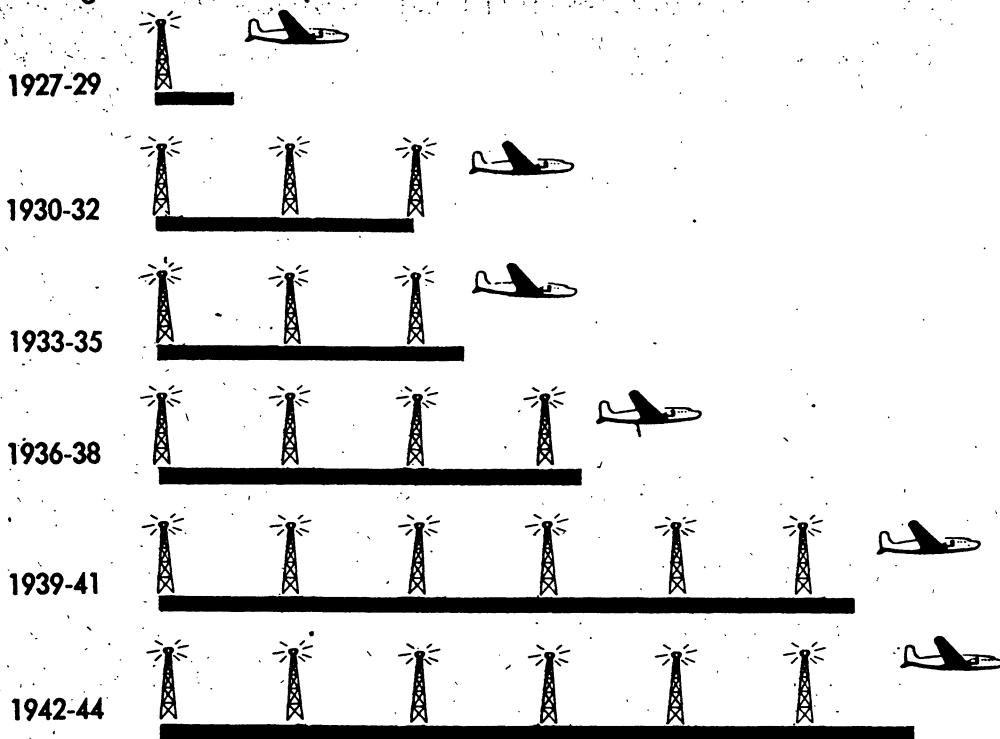
1938	4,002
1939	10,931
1940	12,260
1941	12,621
1942	9,008
1943	10,372
1944	36,755

Figures as of December 31

MILES FLOWN and FATAL ACCIDENTS (domestic)

Annual Average

Revenue Miles Flown



Distance between beacons=20 million miles

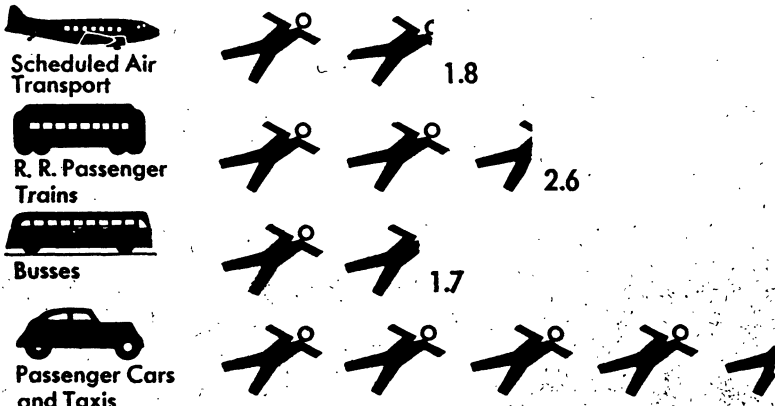
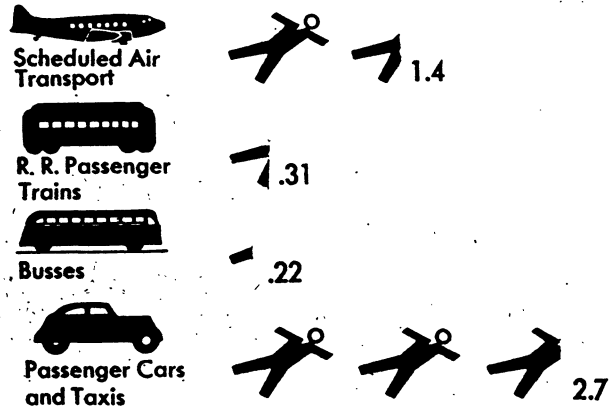


Each plane represents 3 fatal accidents

TRANSPORTATION ACCIDENT DEATH RATES, 1943

PASSENGER FATALITIES PER 100 MILLION PASSENGER MILES

PASSENGER AND OTHER FATALITIES PER 100 MILLION PASSENGER MILES



SOURCE: National Safety Council

Revenue Miles Flown

Calendar Year	Domestic	International	TOTAL
1927	5,779,863	90,626	5,870,489
1928	10,400,239	273,211	10,673,450
1929	22,380,020	2,761,479	25,141,499
1930	31,992,634	4,952,569	36,945,203
1931	42,755,417	4,890,990	47,646,407
1932	45,606,354	5,565,533	51,171,887
1933	48,771,553	6,106,461	54,878,014
1934	40,955,396	8,109,377	49,064,773
1935	55,380,020	8,487,345	63,867,365
1936	63,777,226	7,434,500	71,211,726
1937	66,071,507	8,628,730	74,700,237
1938	69,668,827	8,528,412	78,197,239
1939	82,571,523	8,404,540	90,976,063
1940	108,800,436	10,716,827	119,517,263
1941	133,022,679	15,188,865	148,211,544
1942	110,102,860	20,390,260	130,493,120
1943	103,601,443	.	.
1944	144,240,440	.	.

Number of Fatal Accidents, Airlines of United States

Year	Domestic	Foreign and Territorial	TOTAL
1927	4	4	8
1928	11	1	12
1929	21	3	24
1930	9	0	9
1931	13	1	14
1932	16	1	17
1933	9	0	9
1934	8	2	10
1935	8	0	8
1936	8	2	10
1937	5	1	6
1938	5	3	8
1939	2	1	3
1940	3	0	3
1941	4	1	5
1942	5	0	5
1943	2	3	5
1944	5	2	7

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