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The Airline Industry

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Chapter Checklist • You Should Be Able To:

- Define **trunk, supplemental, and local-service carriers**, and describe their role in the prederegulation era
- Describe some of the problems faced by the CAB and the air carriers prior to deregulation
- Compare and contrast the major and national carriers at the time of deregulation and during the subsequent years, in terms of expansion, consolidation, and concentration
- Discuss some of the innovations pioneered by the major air carriers in the early 1980s that had a profound effect on the structure of the industry
- Explain the role of the regional carriers in the air transport system
- Describe the airline certification process and DOT reporting requirements
- Highlight the significant traffic and financial statistics during the period 1960–2005, and demonstrate the cyclical nature of the airline industry

INTRODUCTION

In Chapter 1, the airlines were referred to as a segment within the air transportation industry. This chapter deals with the airlines as a separate industry. In order to avoid confusion about the term *industry*, it is best to define it at the outset.

An *industry* can be defined as a number of firms that produce similar goods and services and therefore are in competition with one another. In this sense, the airline industry is a segment or part of the broader air transportation industry. Several hundred U.S. companies engage in the carriage of persons or goods by air. For example, American Airlines earns revenues in excess of \$20 billion a year, while the smallest may operate a single plane only several months a year. Broadly defined, the airline industry consists of a vast network of routes that connect cities throughout the country, and indeed, the world. Over this network, a large number of airlines carry passengers and cargo on scheduled service.

STRUCTURE OF THE AIRLINE INDUSTRY

Growth and Regulation

To clarify the structure of the industry at the outset, it is useful to define the industry. When the Civil Aeronautics Act was passed in 1938, only a handful of air carriers operated regular schedules over prescribed routes, and when they received government certification, they became known as *certificated route, scheduled air carriers*, a term that is used to this day. The act empowered the Civil Aeronautics Board (CAB) to structure the interstate airline industry through regulation of passenger fares, air mail rates, route entry and exit, mergers and acquisitions, and intercarrier agreements. The CAB immediately “grandfathered” the routes of 23 existing airlines, which later became known as **trunk carriers** (a term borrowed from the trunk railroads of the day). By definition, trunk carriers were airlines certified to operate on medium- and long-haul interstate routes. These carriers came under Section 401 of the board’s regulations and thus were sometimes referred to as **401 carriers**. To be exempt from 401 certification, a carrier could not exceed a takeoff weight of 12,500 pounds (roughly the weight of a DC-3), which effectively limited aircraft to 19 passengers. Typically, two or three carriers provided service in a given market, although in some instances routes were covered by only one carrier. The CAB set standard fare levels to ensure cross-subsidization between profitable and unprofitable routes. Carriers were required to charge equal fares for equal distances. Cost increases were passed along to customers, and the CAB allowed the airlines to earn a reasonable rate of return.¹

Originally, there were two general classes of common-carrier air transportation: (1) the trunk airlines, which provided scheduled service on fixed routes, and (2) small nontransport carriers, principally operating from a fixed base, which furnished service on request, without schedules. For the nonscheduled carriers, transportation services were incidental to the principal business activities of sale and service of aircraft and flight instruction.

¹According to the CAB’s Domestic Passenger Fare Investigation (DPFI), fares were set according to the following formula: average costs (assuming planes flew 55% full) = reasonable return on investment (12%) + revenue requirement.

After World War II, a number of enterprising aviation entrepreneurs purchased war surplus DC-3s (C-47s) and DC-4s (C-54s) and began to transport people and cargo for compensation or hire with no fixed routes or schedules, much in the manner of tramp steamers. These operations, usually cutthroat in the worst sense of the term, became known as nonscheduled, or “nonsked,” air carriers to the public and as “large irregular air carriers” to the CAB, which was powerless to regulate them until the Civil Aeronautics Act was amended by Congress. The act was amended after World War II to create *supplemental air carriers* and *supplemental air transportation*² so that such operations also required certificates of public convenience and necessity. Originally designed to supplement the capacity provided by the trunk carriers, by the 1960s the **supplemental air carriers** had truly become competitive carriers, and by the 1970s the name supplemental had lost all meaning. Some carriers provided scheduled passenger and cargo services, whereas others concentrated on cargo only.

In the postwar period, there were also many feeder routes to be granted. The trunk lines claimed that they had grandfather rights (original certification) to provide such service feeding into the trunk routes, but their pleas were to no avail; the CAB chose instead to certificate a whole new level of service. The CAB assured the trunks that the feeders would be carefully watched and not permitted to provide service between the major metropolitan areas. The CAB awarded each local-service carrier a regionally centered route system that fed the trunks with additional passengers. These **local-service carriers**, which provided intrastate service to small communities, were exempt from CAB economic regulation, and many were eligible for government subsidies to cover operating losses. The charter services charged lower fares, did not operate published schedules, and were also exempt from CAB regulations.

Nineteen local-service airlines were certificated by the board between 1945 and 1951. Some of the first feeder lines, as they became known, were Allegheny (now US Airways); Mohawk and Lake Central (now part of US Airways); Frontier (now part of Continental); Bonanza, Southwest, and West Coast (later Hughes Airwest, later part of Republic, now part of Northwest); North Central and Southern (later part of Republic, now part of Northwest); Piedmont (now part of US Airways); and Ozark (which became part of TWA, which is now part of American Airlines).

During the 1950s and 1960s, subsidization of most local-service and many trunk routes continued. Local subsidy costs, exacerbated by fares deliberately set below marginal costs in accordance with the CAB formula, escalated rapidly as the local-service carriers added routes and replaced their original DC-3 aircraft with larger equipment. In an effort to reduce subsidy costs, the CAB at first shifted some low-density trunk routes to the local service carriers. When this approach failed, longer and potentially more profitable routes, often in direct competition with the trunk routes, were awarded. Despite this overlap of local-service and trunk carrier routes, the CAB largely maintained its vision of a bilevel industry. Trunk airlines served long-distance routes between major cities, while local-service carriers provided connecting service from smaller cities to trunk destinations. Consequently, many itineraries required a change of airlines. Because of poorly coordinated flight schedules, significant delays awaiting a connecting flight were common. Faced with suppressed routing and pricing options, the airlines competed on services such as meals, movies, and seating comfort.

²Civil Aeronautics Act, Sections 101(35) and 101(36), respectively.

Despite these problems, the industry grew rapidly, enjoying more than a tenfold growth in passengers between 1950 and 1970. Technological advances embodied first in the long-range DC-6 and Constellation aircraft and then in the first-generation commercial jet transports provided steady improvements in productivity. Jet transportation greatly increased the trunks' capacity levels and allowed them to schedule more frequent flights. Airlines that added capacity gained a disproportionate share of market traffic because customers were most likely to call the airline with the widest range of travel options. The purchase of new aircraft left both the trunk and the local-service carriers with weakened earnings and balance sheets, while competition intensified in the high-density markets, where business travelers sought maximum convenience. In the meantime, subsidies to the local-service carriers continued to increase. Air fares, though high, remained nominally stable but declined in real terms throughout the period. High fares, however, limited air travel to business and affluent passengers.

The industry's problems worsened during the Arab oil embargo of the 1970s. Between 1969 and 1978, fuel costs rose 222 percent (to 20 percent of operating expenses); inflation boosted labor costs (to 45 percent of operating expenses); and the stagnation of the gross national product curtailed demand growth (from 18 percent to 4 percent per annum).

Calls for regulatory reform first appeared in the early 1970s. Prohibited from competing on fares and routes, carriers responded by increasing flight frequency, lowering seating density, and adding ever more extravagant in-flight service. Anticipating continued rapid traffic growth that accompanied the introduction of jet aircraft, the major carriers placed new wide-body aircraft in service, exacerbating existing overcapacity. Load factors fell from 70 percent in 1950 to 50 percent by 1970. With the transition to jet aircraft complete, productivity gains that had cushioned the economic consequences of falling load factors slowed. The industry's financial health weakened.

The CAB responded to the deteriorating financial conditions by increasing its regulatory interventions. In addition to the ongoing denial of new carrier applications, it imposed a route moratorium on existing carriers, approved a 20 percent fare increase, and sanctioned capacity limitation agreements among the trunk carriers. These actions raised alarm outside the CAB, resulting in a consensus in government and academia that regulatory distortions imposed unacceptable burdens on the economy and society and did little to address the industry's underlying structural problems.

Sensing a winning issue, Senator Edward Kennedy held congressional hearings in 1975 sharply critical of CAB policies. Studies comparing intrastate airlines operating outside CAB control with the trunk carriers projected fares 50 to 70 percent lower if the industry was deregulated.

Deregulation

In response to the criticism, the CAB reversed its policies, beginning with the approval of new route applications. In 1977, it consented to American Airlines' request for "super saver" discounts some 45 percent below existing coach fares. When American Airlines' traffic grew as much as 60 percent in response, the solution to overcapacity seemed at hand. Other carriers quickly filed and received CAB approval for similar discounts. De facto deregulation was under way.

In 1978, now with the active encouragement of new CAB Chairman Alfred Kahn, Congress passed the Airline Deregulation Act. The act mandated that the CAB phase out its route approval authority over three years and its regulation of fares over five years, and

that it pass its remaining functions to the Department of Transportation. The CAB ceased operation at the end of 1984.

MAJOR AND NATIONAL CARRIERS

That deregulation was a landmark event in the history of the U.S. airline industry is illustrated by the fact that 5 of the top 12 airlines of 1978, as measured by revenue passenger miles (RPMs), no longer exist (see Table 5-1). Eastern (no. 4) and Braniff (no. 8) went bankrupt; Western (no. 7) was absorbed by Delta; National (no. 10) was absorbed by Pan Am; Pan Am (no. 6) broke itself up for parts, with most going to Delta and United; the remnant of Pan Am then dissolved in bankruptcy. Deregulation fueled a trend toward concentration of business with a new cluster of “mega-carriers,” with a number of small and midsize airlines being absorbed in the process. By the end of 2004, the top five carriers accounted for 74 percent of the business (see Table 5-2). In contrast, in 1978, under CAB control, the top five airlines accounted for 68 percent of the RPMs of the top 12.

The immediate consequence of deregulation was that the established carriers faced competition on many fronts. First, they competed vigorously among themselves, motivated in part by the belief that market share would determine the ultimate survivors in a restructured industry. This meant new routes and lower prices, which led to more available seat-miles but lower load factors, as capacity outstripped new passenger traffic, and to lower passenger revenue yields because of the reduced fares.

The competition within the established industry was intensified by three innovations pioneered by the major carriers in the early 1980s that collectively represent a radical change from the regulated era. Although each of the measures offered initial competitive advantage to the first movers, in the aggregate these innovations appear to have contributed to the very high volatility of industry revenues. First, airlines established “hub-and-spoke” route structures, designed to funnel traffic from outlying regions for further transit, at very high load factors, to major destinations. But hubs are very expensive to establish and maintain because of the high infrastructure costs; the high fixed costs hinder easy adjustment of route structures in response to changing patterns of demand, and the overall route structure produces more connections on long-distance routes, which is disfavored by full-fare business travelers. The hub-and-spoke structure also left the airlines vulnerable in the 1990s to low-fare carriers that fly point to point between destination city-pairs. Among other factors, the point-to-point carriers gain the advantage of higher aircraft utilization than do the hub-and-spoke carriers, which have to provide time in their schedules of long-distance routes for the arrival of feeder flights.

Second, the airlines adopted frequent-flier programs designed to enhance brand loyalty among business travelers and to exploit the differences between regional and national (or international) airlines in terms of more desirable destinations. The frequent-flier programs proved to be expensive to administer, and the potential liability of accruing free travel credits was an unwelcome overhang on an airline’s financial statement. Moreover, the frequent-flier programs came to play a somewhat perverse role in the design of route structures, in which destinations were added or retained to avoid the potential loss of frequent fliers.

Third, the airlines developed sophisticated reservations systems that they used for at least two purposes: (1) to skew in their favor the display of heduling information on the

TABLE 5-1 U.S. Airline Passenger Traffic for the Top 12 Air Carriers, 1978

Airline (ranked by RPMs)	Revenue Passenger Miles (millions)	Percentage of Total
United	39,399	18.46%
American	28,987	13.78
Trans World	26,967	12.7
Eastern	25,183	11.86
Delta	23,332	10.99
Pan American	21,054	9.91
Western	10,188	4.8
Braniff	9,604	4.5
Continental	8,626	4.1
National	7,892	3.7
Northwest	7,018	3.3
Allegheny	4,083	1.9
Total	212,337	100.0%

Source: Air Transport Association Annual Report, June 1979.

TABLE 5-2 U.S. Airline Passenger Traffic for the Top 12 Air Carriers, 2004

Airline (ranked by RPMs)	Revenue Passenger Miles (millions)	Percentage of Total
American	130,020	20.02%
United	114,536	17.64
Delta	98,041	15.10
Northwest	73,294	11.29
Continental	63,176	9.73
Southwest	53,415	8.24
US Airways	40,498	6.24
America West	23,318	3.59
Alaska	16,224	2.50
JetBlue	15,721	2.42
American Trans Air	12,539	1.93
AirTran	8,479	1.30
Total	649,261	100.0%

Source: Air Transport Association Annual Report, June 2005.

screens that were used in travel agents' offices and (2) to establish yield management programs. In accumulating data about traffic patterns and demand for particular flights, airlines could engage in sophisticated price discrimination in the effort to maximize revenues. For example, based on historical information and current demand, an airline could decide seat allocations for cut-rate, advance-planning leisure travelers versus full-fare, last-minute business travelers. However, the combination of hub-and-spoke route

structures and such efforts at fine-tuning led to complicated rate structures that facilitated price competition (because disciplining defectors from a particular benchmark fare was harder) and thus lowered passenger revenue yields.

The established carriers also faced competition from new entrants with significantly lower cost structures. Prominent examples in the early 1980s were People Express and New York Air, which brought an extremely low fare structure into lucrative markets in the northeast, and Southwest and Texas Air, which operated on a similar basis in the southwest. These new entrants were not part of the industry’s collective bargaining structure; they paid their employees well below the industry average, often 50 percent below industry scale, and, because of the absence of work rules, employed far fewer employees per available seat-mile.

The consequence of the dramatically changed competitive environment was financial distress for many carriers. For example, in an effort to operate on a national (and international) scale, Braniff expanded very rapidly but failed to fill seats. It went into Chapter 11 in 1982 and was liquidated shortly thereafter. An ailing Continental was taken over in a 1982 hostile tender offer by Texas Air, run by Frank Lorenzo. A year later, Lorenzo pushed Continental into Chapter 11 and, in a controversial move, voided the union contracts. Immediately thereafter, half the work force was fired and wages were cut by nearly 50 percent. Continental survived the machinists’ strike that preceded the bankruptcy and the pilots’ strike that followed by dramatically reducing fares. Continental was a major carrier with a well-developed route structure, and so its cut-rate fares put further pressure on industry profitability.

Thus, the airlines are an example of an industry sector subject to exogenous shocks that have undermined many of its previous ways of doing business. Not only did deregulation expose the airlines to powerful competitive forces that undermined profitability, but it also eliminated the implicit protection under government regulation against collapse and bankruptcy. As a result, the industry is making a transition to a new structure (see Figure 5-1).

At the top of the pyramid shown in Figure 5-1, and foremost among the carriers that make up the airline industry, are the major and national carriers. The 54 carriers that were included in these two categories at the beginning of 2004 hold certificates of public convenience and necessity and operate scheduled and nonscheduled or charter services

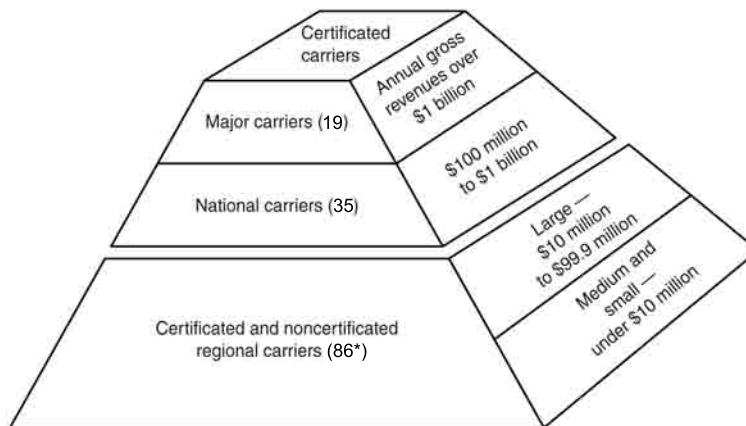


FIGURE 5-1 The structure of the airline industry – 2004.
 (*74 certificated)

over medium- and long-range national and international routes serving large population centers. Airlines are now classified as **major air carriers** if their annual gross revenues are over \$1 billion. They include:

AirTran	Continental	United
Alaska	Delta	UPS
America West	ExpressJet	US Airways
American	FedEx	
American Eagle	JetBlue	
ATA	Northwest	
Atlas/Polar	SkyWest	
Comair	Southwest	

National air carriers include airlines with annual gross revenues between \$100 million and \$1 billion. They include:

ABX	Florida West	Omni
Air Transport International	Frontier	Pinnacle
Air Wisconsin	Gemini	PSA
Allegiant	Hawaiian	Ryan International
Aloha	Horizon	Spirit
Amerijet International	Independence	Sun Country
ASTAR	Kalitta	Transmeridian
Atlantic Southeast	Mesa	Trans States
Champion	Mesaba	USA 3000
Continental Micronesia	Miami	USA Jet
Evergreen International	Midwest	World
Executive	North American	

REGIONAL CARRIERS

Regional air carriers are classified as large, medium, or small, depending on their annual gross revenue and whether they hold a certificate of public convenience and necessity from the DOT. Large regionals are certificated carriers with annual gross revenues between \$10 million and \$99.9 million. Medium regionals are certificated carriers with annual gross revenue less than \$10 million. The small regionals, commonly referred to as commuters, are noncertificated carriers.

Early Growth

Out of several thousand air taxi operators in January 1964, only 12 offered scheduled services, all to noncertificated points. By the end of 1968, there were over 200 scheduled air taxi operators. This explosive early growth in what became the regional/commuter airline industry resulted in part from the economic opportunity created by the service gap left by the withdrawing local-service carriers. Another important factor was the availability of new aircraft that were small enough to be exempt from CAB economic regulation yet large enough to carry profitable loads in scheduled short-haul operations.

Regulatory and economic changes in the 1960s improved the climate for the growth of scheduled air taxis. In 1964, the FAA promulgated Federal Aviation Regulation (FAR) Part 135, which defined the operational and safety rules of the industry. In 1965, the CAB amended its regulations to allow these carriers to transport mail and to provide service between certificated points, often as replacements for trunk or local-service airlines. In 1964, American Airlines contracted with Apache Airlines to replace it in serving Douglas, Arizona; this was the first "air taxi replacement agreement." In 1968, Allegheny Airlines (now US Airways) greatly expanded this concept by contracting its unprofitable routes to 12 independent commuters operating under the name "Allegheny Commuter"; this network continues today. The CAB officially recognized the commuter industry in 1969, defining a commuter air carrier as an air taxi operator that either (1) performs at least five round-trips per week between two or more points and publishes flight schedules that specify the times, days of the week, and origins and destinations of such flights, or (2) transports mail by air under contract with the U.S. Postal Service. By August 1978, 26 commuter airlines were providing replacement service for certificated carriers at 59 points, mostly without direct financial assistance.

During the 1970s, passenger enplanements on commuter carriers grew at an annual rate of slightly over 13 percent, compared with a 7 percent growth rate for the combined trunk and local-service airlines and a 3 percent annual growth rate in real gross national product.

As part of airline deregulation in 1979, the trunk and local-service carriers began their second stage of withdrawal from smaller communities. The commuters saw yet another opportunity to serve the traveling public and eagerly moved to provide service. Under congressional mandate, communities that stood to lose service as part of deregulation were placed under the Essential Air Service (EAS) program. As of early 2006, more than 114 communities were served by the program in the continental United States, Alaska, Hawaii, and Puerto Rico.

Role of the Regional Air Carrier

Today, the regional/commuter airline segment is an integral part of the nation's air transportation system. Regional carriers provide regularly scheduled passenger or cargo service on aircraft predominantly seating fewer than 60 passengers or holding cargo with an 18,000-pound or less payload. Regionals fly pursuant to schedules published in widely used airline schedule guides.

A typical regional flight operates over a trip distance of 100 to 400 miles and at lower altitudes than flights of the long-haul carriers. Regionals operate well-timed frequent flights from outlying communities to the associated hub airports to "interline," or connect, passengers and cargo with other scheduled flights. Seventy percent of all regional passengers make such connections.

Although the growth period of regionals has been relatively short and not without problems, continuing efforts by the industry principals are playing a significant role in helping to forge an integrated and complete air transportation system. Today, 9 out of every 10 airports in the United States receiving scheduled air transportation are served by a regional air carrier. By year-end 2005, regionals provided frequent and timely air service to 664 airports, with 664 of these communities depending exclusively on regional airlines for scheduled air transportation. By contrast, the major airlines served approximately 32 percent of the total.

The 94 certificated regional air carriers provide short-haul air service to small and medium-size communities across the country, typically linking those communities to the nation's larger airports in a hub-and-spoke network. This network of regional air services interconnects each city with others in the system, and the regional airline segment increasingly has become more integrated into the system.

Table 5-3 highlights regional/commuter airline activity from 1993 through 2004. The number of carriers declined from a high of 246 in 1981 to 74 by the end of 2004. This shakeout of many weaker carriers resulted from both a sluggish economy in the early 1980s and early 1990s and fierce competition. However, it is interesting to note that

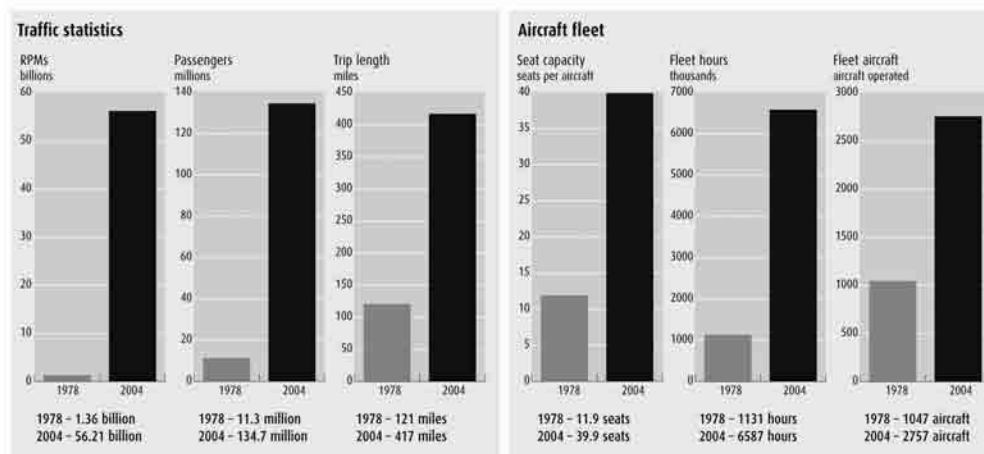
TABLE 5-3 Industry traffic statistics 1993–2004

Passenger Operations	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Percent Change from 2003
Carriers Operating	125	124	109	104	97	97	94	91	91	82	74	-9.8%
Passengers Enplaned (millions)	57.1	57.2	61.9	66.3	71.1	78.1	84.6	82.8	98.4	113.0	134.7	19.2%
Average Passengers Enplaned per Carrier	456,963	461,369	568,345	637,533	733,028	804,699	830,381	910,173	1,080,874	1,379,267	1,820,019	32.0%
Revenue Passenger Miles (billions)	12.02	12.75	14.22	15.30	17.42	20.81	25.27	25.74	32.77	43.34	56.21	29.7%
Average RPMs per Carrier (millions)	96.15	102.80	130.49	147.09	179.64	214.49	268.83	282.83	360.11	528.51	759.54	43.7%
Available Seat Miles (billions)	23.73	25.54	26.85	27.79	30.38	35.76	42.55	44.16	52.59	66.16	82.61	24.9%
Average Load Factor (percent)	50.64	49.91	52.98	55.04	57.36	58.18	59.39	58.28	62.31	65.50	68.03	2.5
Departures Completed (millions)	4.63	4.69	4.46	4.38	4.33	4.38	4.46	4.20	4.41	4.88	5.25	7.5%
Airports Served (North America)	806	780	782	766	773	737	729	726	707	709	735	3.7%
Average Passenger Trip Length (miles)	210	223	230	231	245	267	299	311	333	384	417	8.7%
Aircraft Operated	2,172	2,138	2,127	2,104	2,150	2,187	2,271	2,323	2,385	2,569	2,757	7.3%
Average Seating Capacity (seats per aircraft)	23.7	24.6	25.1	25.9	27.7	29.8	31.7	33.5	35.1	37.7	39.9	5.7%
Fleet Flying Hours (thousands)	4,565	4,659	4,568	4,695	4,631	5,058	5,362	5,161	5,248	6,088	6,587	8.2%
Average Annual Utilization (hours per aircraft)	2,102	2,179	2,148	2,231	2,154	2,313	2,368	2,222	2,201	2,370	2,389	0.8%

Notes: Prior to 1992, utilization results reflected airborne rather than block hours.

Data inclusive of carriers which may have operated during only part of calendar year 2004.

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Source: Regional Airline Association Annual Reports. Available at: http://www.raa.org/client_files/Carriers_services/Industry_Traffic_stats2005.pdf.

passenger enplanements experienced a massive increase during this period. Revenue passenger miles increased from 2.09 billion in 1981 to 56.21 billion in 2004.

Code Sharing

Approximately 90 percent of regional/commuter airline passengers connect to or from major airlines, saving passengers both time and money, as a result of tight marketing partnerships between regionals and majors known as *code sharing*. Today, close to 80 percent of U.S. regional/commuter carriers offer their service as part of a major airline network and, in the process, have created an integrated service, making regional/commuter airlines a vital link between small communities and the national air transportation system.

Begun as simple marketing arrangements between the majors and their regional/commuter airline partners in 1984, code sharing has developed into sophisticated liaisons that may or may not include some ownership by the major airline. Most code-sharing regional/commuter airlines adopt the paint schemes of their major counterparts, such as USAir Express, United Express, US Airways Express, American Eagle, Continental Express, and Northwest AirlinK. However, some, such as Delta Connection (also known as Comair), allow their regional partners to retain their own livery. Although the majority of the code-sharing regional/commuter airlines are independently owned and operated, together with their major partners they provide improved service to the small-community passenger. These interline agreements have been attractive to the small carriers, because they offer them access to more passenger traffic, limited airport facilities, financial support, and marketing intelligence. These marketing partnerships enable regional/commuter airline passengers to check in at their local airport, thereby avoiding long driving times and expensive parking fees. In addition, passengers can obtain boarding passes not only for their initial outbound flight but for their entire trip.

The overwhelming success of these partnerships has afforded the opportunity for regional/commuter partners to upgrade their fleets with new-generation aircraft, complete with the same avionics used by the major carriers. With this new equipment have come new industry service standards that mirror the standards passengers have come to expect from major carriers. The integration of regional/commuter and major airline schedules has also meant well-timed flights, providing fast hub-airport connections. Even for those whose destination is the hub city, regional/commuter airline service offers the out-and-back-in-one-day business trip.

These partnerships have also meant tremendous cost savings to regional/commuter airlines as their major partners assume the reservations functions, which, at the same time, increased passenger and travel agent convenience by offering one-stop shopping. In addition, code sharing means lower air fares, with many regional/commuter segments covered by a small "add-on" fare, sometimes as little as \$10. Frequent fliers are also offered mileage credits as much as triple that of the 250-mile average stage length of a regional/commuter airline flight.

In addition, these marketing partnerships mean that small communities, which might otherwise not be served by major jet aircraft, become part of the major airline network. In providing that vital link, regional/commuter airline partners offer savings in both fares and overall transportation costs, frequent departures, convenient connections, and shorter business trips for those not connecting. In short, they have become an integral part of the national air transportation system.

Flight Equipment

The majority of today's regional/commuter airline fleet are prop-jet-powered. New-generation equipment affords the same or more advanced avionics and cockpit instrumentation as even the largest commercial carriers have. In 2004, 27 percent of the fleet were turboprop planes, 14 percent were piston aircraft, and 59 percent were turbojets (Table 5-4). The regional carriers continue to rely on jet aircraft for a significant portion of their service. All trends indicate regional/commuter airlines will continue to expand in size moving from small turbo-prop aircraft to an increased focus on jet aircraft capable of flying a larger number of passengers over greater distances. However, regional/commuter airlines will continue to operate a mixed aircraft fleet as it affords the flexibility to tailor aircraft size to market and frequency needs.

Network expansion will be a key ingredient in the future success of regional/commuter airline growth. As the regional network evolves, competition between regional/commuter carriers and major carriers will increase. In some cases, regional/commuter carriers are already stepping on the toes of the majors causing great concern for both sides. There comes a point with successful regional/commuter carriers when they must decide to grow from being a big fish in a small pond to becoming a small fish in a big pond.

Transportation of cargo has also become important to the bottom line of many regional/commuter air carriers, and the growing all-cargo fleet reflects this trend. The number of aircraft utilized solely for cargo carriage grew to 1,438 planes in 1996.

AIRLINE STATISTICS

To fully understand the structure of the airline industry, it is important to review traffic and financial statistics, including performance measurements. Several excellent, readily available sources can provide this information in a more appropriate and timely manner than can be presented in a textbook. These include the annual reports from the Air Transport Association of America and the Regional Airline Association. Two annual FAA publications that are particularly good are the *FAA Statistical Handbook of Aviation* and *FAA Aviation Forecasts*. Another source for annual statistics and in-depth analysis of all segments of the airline industry is the June edition of *Air Transport World*. Finally, the *World Aviation Directory*, published quarterly, provides a comprehensive industry review and analysis along with statistics.

AIRLINE CERTIFICATION

Licensing functions are the responsibility of the Office of the Assistant Secretary for Policy and International Affairs of the Department of Transportation. Ordinarily, the assistant secretary or his or her delegate performs these functions for the DOT, but the secretary of transportation may exercise this authority in lieu of the assistant secretary. Staff actions are subject to review by the assistant secretary and ordinarily are effective 10 days after the action is served.

For the licensing applications subsequently described, the requirements for the filing of documents, including the number of copies to be filed, are specified in DOT procedural regulations.

TABLE 5-4a Summary of Aircraft in Regional Airline Use – 2004

Manufacturer	Piston		Turboprop	Jet	Helicopter	Total
	Single-Engine	Multi-Engine				
Aerospatiale/ATR			57			57
Bell					4	4
Bombardier/deHavilland	47		174	901		1,122
British Aerospace			45	52		97
Britten Norman		16				16
CASA			1			1
Catpass			2			2
Cessna	109	84	41			234
Convair			2			2
Embraer			81	665		746
Fairchild Dornier			13	10		23
Grumman		3	3			6
Pilatus			3			3
Piper	54	62	5			121
Raytheon	1	6	170			177
Saab			146			146
Total 2004	211	171	743	1,628	4	2,757
Total 2003	210	172	834	1,349	4	2,569
Percent Change	0.5%	-0.6%	-10.9%	20.7%	0.0%	7.3%

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Source: Regional Airline Association. http://www.raa.org/client_files/Carriers_services/Summary_Passenger_Aircraft.pdf

TABLE 5-4b Summary of All-Cargo Aircraft in Regional Airline Use – 2004

Manufacturer	Piston		Turboprop	Jet	Helicopter	Total
	Single-Engine	Multi-Engine				
Aerospatiale/ATR			26			26
Bell					2	2
Boeing					2	2
Bombardier/deHavilland			1			1
BAe Systems			1			1
CASA			9			9
Cessna	13	165	376	2		556
Convair		8	25			33
Curtis		2				2
Dassault				53		53
Douglas		22	2	12		36
Embraer			37			37
Fairchild Dornier			125			125
Fokker			21			21
Lear				117		117
Mitsubishi			38			38
Piper	23	93	4			120
Raytheon	1	104	165			270
Rockwell			41			41
Saab			3			3
Shorts			62			62
Total 2004	37	394	936	186	2	1,555

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Source: Regional Airline Association. http://www.raa.org/client_files/Carriers_services/Summary_Passenger_Aircraft.pdf

Section 401 Certificates

Each applicant for a Section 401 certificate for scheduled or charter air transportation must file an application with the DOT Documentary Services Division (DSD) in the Office of the General Counsel. Separate applications for interstate/overseas and foreign authorities must be filed, along with the required filing fees. There are basically three types of 401 certificate cases: (1) those requiring primarily a determination of fitness, (2) those requiring primarily a determination of public convenience and necessity (which includes international carrier selection cases), and (3) continuing fitness reviews under Section 401(r).

Fitness Determinations. To receive a Section 401 certificate, a carrier must be found fit for the type of service it will provide. **Fitness** of the applicant refers to the carrier's size, financial resources, flight equipment, strategy for conducting the proposed operations, and past conformity to various legal requirements. Applicants that have not been found fit previously or that are proposing substantial changes in operations (such as going from cargo to passenger service or from charter to scheduled operations, or planning the start-up of service after cessation) are required to establish their fitness to operate. Authority not used for one year is automatically revoked.

After receiving a fitness application, the DSD will assign it a docket number, date it, and forward it to the Air Carrier Fitness Division of the Office of Aviation Analysis for review and action. Within 21 days, this division will determine whether the application is complete. If it is not complete, the application will be rejected or the applicant will be notified and asked to provide further information to the DSD.

After the application is complete, the DOT will do one of two things. It will issue a show cause order, through the DSD, tentatively finding the carrier fit and proposing to issue the requested certificate. The *show cause order* solicits any party to present to the DOT reasons and considerations as to why a particular order of the DOT should not be put into effect. A final decision on the fitness application is made within 180 days after the application is complete. Alternatively, the DOT will institute formal proceedings before an administrative law judge to determine fitness. This course is followed in cases in which there is controversy concerning the applicant and in which the application involves novel issues or the facts are in dispute. In this event, a decision is made according to the process applicable to formal proceedings.

Public Convenience and Necessity Determinations. For carriers desiring to provide foreign air service, a determination of public convenience and necessity is required in addition to the fitness finding. Applicants that were previously found fit and that hold certificates for operations comparable to those sought may file, with the DSD, applications for additional authority, amendments, alterations, modifications, and renewals of their 401 certificates. The DSD gives each application a docket number, dates it, and forwards it to the Economic and Financial Analysis Division of the Office of Aviation Analysis for review and action. Within 21 days, this division determines whether the application is complete. If the application is not complete, the applicant is notified and asked to provide the required information to the DSD. Within 90 days after the application is complete, a decision is made to process the application in one of the following ways: (1) dismiss the application, (2) handle it under simplified procedures without an oral evidentiary hearing, or (3) institute a formal hearing if it is a case in

which, for example, a choice must be made between competing applications for limited-designation international route authority.

Continuing Fitness Reviews Under Section 401(r). U.S. certificated and commuter air carriers that do not institute service within one year of being found fit or that cease operations for at least one year have their authority revoked and must undergo a new fitness determination before commencing operations. Carriers that cease service and wish to resume service before the expiration of one year must file new fitness data at least 45 days before recommencing service.

U.S. Air Carrier All-Cargo Certificates Under Section 418

An applicant for a domestic all-cargo certificate under Section 418 of the Federal Aviation Act must file an application with the DSD in the Office of the General Counsel. The application is given a docket number, dated, and forwarded to the Air Carrier Fitness Division of the Office of Aviation Analysis for review and action. Within 14 working days, this division determines whether the application is complete. If it is not complete, the applicant is notified and asked to provide further information to the DSD. Once the application is complete, a notice is published in the Federal Register and 21 days are allowed for objections to a favorable fitness finding and issuance of the certificate.

Commuter Air Carrier Fitness Determinations Under Section 419

Under Section 419 of the Federal Aviation Act, commuter air carriers must be found fit to provide scheduled passenger service. Those wishing to establish a commuter air carrier service must file an application with the Air Carrier Fitness Division of the Office of Aviation Analysis. This office reviews the application to determine whether it is complete, and when necessary, it contacts the applicant for additional information. When all required information is received, the DOT issues a show cause order, through the DSD, stating tentative findings and allowing 15 days for objections to be filed.

Before commencing operations, commuter air carriers must also have on file a registration form and an insurance certificate. Commuter air carriers are also subject to the continuing fitness requirement of Section 401 of the Federal Aviation Act.

Before commencing operations, air taxi operators and commuter air carriers must have on file a registration form (DOT form 4507, formerly CAB form 298) and an insurance certificate covering their proposed operations. These forms, as well as subsequent amendments and insurance filings, are filed directly with the Air Carrier Fitness Division of the Office of Aviation Analysis. If the registration form is properly filled out and the insurance certificate provides coverage for the service proposed, the Air Carrier Fitness Division returns an approved copy of the registration to the applicant. In the case of new commuter applicants, the registration to provide scheduled passenger service is approved when the carrier's fitness has been determined.

DATA COLLECTION BY THE DOT

Data collection and dissemination are the responsibility of the Bureau of Transportation Statistics (BTS), acting in cooperation with the Office of the Assistant Secretary for Aviation and International Affairs.

Air Carrier Accounting and Guidance

Carriers receiving Section 401 certificates and operating aircraft designed for a maximum passenger capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds or providing service to a point outside the 50 United States, the District of Columbia, Puerto Rico, or the U.S. Virgin Islands are required to comply with the "Uniform System of Accounts and Reports for Large Certificated Air Carriers." The BTS's Office of Airline Information is responsible for accounting and related systems design and modification, as well as for interpretation of the regulations.

The BTS provides technical accounting expertise and guidance to air carriers and to other government agencies, including the Securities and Exchange Commission. The Regulations Division of the BTS also assists small air carriers participating in the Essential Air Service Program, such as air taxi operators, who may elect to implement the "Voluntary Accounting System for Small Air Carriers," and new or growing certified carriers, who may need assistance in familiarizing themselves with the required accounting systems and related rules in the Uniform System of Accounts. The BTS continually evaluates the airline industry accounting systems and related rules and coordinates with the Office of Inspector General on the need for audit assistance.

Financial and Statistical Reporting

Air carrier reporting requirements established by the CAB continue in effect until changed by the DOT. Authority to maintain these rules and manage the aviation information program is delegated to the BTS. Program operation is overseen by the BTS's Office of Airline Information.

Petitions for rule making on reporting matters are filed with the DSD. The petition is given a docket number, dated, and referred to the BTS for processing. Rules proposed and issued by the BTS are docketed in the DSD.

New reporting instructions, changes to existing instructions, and interpretations of reporting requirements for air carriers are promulgated by the BTS. These instructions, as well as written requests for waivers, interpretations, extensions of filing dates, substitutions of forms or formats, and confidential treatment of reports, are handled by the director of the Office of Airline Information.

Air carrier submissions are reviewed for acceptability by the Data Administration Division. This division may contact air carriers concerning the form or substance of their reports.

INDUSTRY AGREEMENTS

Regional airlines have become full partners in the air transportation system. The use of common ticket stock, shared airport facilities, commingled reservation schedules, joint fares, and interline agreements for the handling of baggage, cargo, and other express freight allows regional airlines to play an important role in an integrated system of air transportation.

Approximately half of the top 25 regionals are completely or partially owned by national or major airlines. This trend is expected to continue. Agreements between the larger carriers and regionals can be beneficial to both parties when the aim is to control a bigger share of the traffic. Few regionals have been able to develop enough of their own origination and destination (O & D) traffic to survive in today's competitive market without a partner feeding them traffic. However, as regional airlines grow, this trend is expected to change. Similarly, the larger partner benefits from having a regional carrier feeding traffic into its major hub. In a study titled "The U.S. Regional Airlines Industry to 1996—Markets, Competition and the Demand for Aircraft," the Economist Intelligence Unit of Economist Publications in New York states that the larger carriers now control, through marketing partnerships and acquisitions, three-quarters of the traffic flown by regionals.

Identification Codes and Airline Designators

Every airline that operates scheduled passenger or cargo services with other airlines requires an identification code. The code is printed as the first three digits of the airline's passenger traffic documents and cargo air waybills and identifies that airline for interline accounting purposes.

Airlines with headquarters in the United States or its territories and possessions request a form code from the Air Transport Association. Airlines with headquarters outside the United States or its territories and possessions request the form code from the International Air Transport Association.

Each airline that operates scheduled passenger or cargo services and publishes its schedules in industry schedule guides or that participates in the airline communications networks, such as ARINC or SITA, needs an airline designator. The two-letter airline designators are assigned and administered by the International Air Transport Association on behalf of the airline industry.

Publishing Schedules

The flight schedules of passenger-carrying airlines are published in the *Official Airline Guide (OAG)*, the *ABC World Airways Guide*, and the *American Express Sky Guide*; schedules of cargo-carrying airlines are published in the *OAG Air Cargo Guide*, the *ABC Air Cargo Guide*, and *Hereford's Cargo Guide*. There is no charge for publication of direct-flight schedules and fares of commuter air carriers.

Members of the ATA's Passenger Council have established the Interline Traffic Agreement—Passenger. All scheduled airlines may become parties to the agreement. The agreement becomes binding between parties upon execution of a concurrence.

The agreement gives each airline party the right to sell transportation at the appropriate fares over the lines of other parties with which it has a concurrence and to issue interline tickets providing for such transportation. Parties are required to honor interline tickets

issued by another party with which it has concurred. Where interline tickets have been issued under the agreement, the originating airline agrees to check the passenger's baggage to the final destination at the first stopover point, and the down-line airline agrees to accept and transport such baggage.

Interline Agreements

Interlining of air freight within the industry is an effective means of expanding air freight services to customers. The ATA has two specific air cargo agreements available to major, national, and regional carriers: the Air Freight Procedures Agreement and the Small Package Shipment Agreement. Each is a multilateral agreement that prescribes uniform documents and labeling and handling procedures for regular air freight and small-package services.

Airlines may also participate in the International Air Transport Association's multilateral interline traffic agreements as member or nonmember carriers.

Universal Air Travel Plan. Begun in 1936, the Universal Air Travel Plan (UATP) card is one of the world's oldest credit cards. During the early years, the UATP card covered only U.S. domestic airlines. It gained worldwide applicability on October 1, 1948, when international routes were brought into the plan. Today, the UATP card is good for transportation on practically all the world's scheduled airlines flying domestic and global routes. As of 2006, participating airlines now number more than 220.

Those carriers desiring to subscribe to this airline credit service can contract through an individual airline by meeting the individual carrier's requirements. Thirty-two airlines ("contracting airlines") are authorized to issue UATP cards, and the cards are honored by all participating carriers. The contracting airline bills the subscriber on a monthly basis for all air transportation used, regardless of the number of airlines involved.

Travel Agencies. As the travel agency industry grew and as travel agents began to generate a larger proportion of airline tickets, a need arose for an efficient system of reporting and accounting for ticket sales. What emerged was the Standard Agent's Ticket and Area Settlement Plan. The plan's most important innovations were a standard ticket stock and a single source to which travel agents reported and accounted for airline ticket sales. Travel agents were issued supplies of standard ticket stock with no carrier identification. In issuing a ticket, the agent fills in the name of the airline on which the seat is being sold. Every week, the travel agent forwards reports of tickets sold to a designated area bank. The agent receives a computerized sales report from the bank for each reporting period. The sales report provides important data on each ticket issued, as well as statistical summaries for the entire reporting period.

The commission paid to travel agents was deregulated in June 1980, allowing airlines to set the commission. With the Interline Settlement of Agent-Issued Documents Agreement, the ATA's Passenger Council has set up a procedure for settling interline service charges at a periodically determined commission rate.

TRAFFIC AND FINANCIAL HIGHLIGHTS: 1960–2005

The history of aviation in the second half of the 20th century is replete with cycles—an experience that is hardly unique to aviation. The aviation cycles we have observed are nothing more than exaggerated reflections of world economic activity. What distinguishes aviation from other forms of economic endeavor is the extent to which it is cyclical: the magnitude of its volatility and the curiously recurring patterns of its various cycles. That is to say, they are big, they are wide, and they tend to repeat themselves each time in a disconcertingly familiar way.

After losing close to \$38 million in 1961, the industry climbed steadily upward, reaching a record profit of \$427 million by 1966. The downslide reached bottom in 1970, when the industry lost \$200 million. The climb back up culminated in new record profits of \$1.2 billion in 1978, which were soon followed by record losses of \$916 million in 1982. With the exception of 1986, which reflected severe losses by Eastern, Pan American, and TWA, profits rose during the 1980s, reaching yet another all-time high of \$1.7 billion in 1988.

After a relatively profitable decade during the 1980s, the airline industry once again sustained heavy losses beginning in 1990. A recessionary economy, high fuel costs resulting from the Gulf War, and the subsequent bankruptcy of several major carriers caused losses of \$13 billion for the first half of the decade. The magnitude of this unprecedented loss during the last cycle eradicated nearly a half-century's retained earnings. It placed tremendous stress on the industry's financial statements, on global capital markets, and especially on investors' portfolios. By the mid-1990s, the economy strengthened, the stock market soared, many of the weaker carriers had disappeared, and the industry reported record profits starting in 1995. In 2001, the airline industry ran into great financial trouble leading up to the events of the 9/11 terrorist attacks. These catastrophic events pushed the industry over the edge resulting in record financial losses in late 2001 and 2002. In 2006, the industry is still trying to get back to "normal" operations but continues to face numerous challenges from increasing cost structures. Table 5-4 highlights traffic and financial performance during this period.

Early 1960s

Available seat-miles (ASMs) increased by 45 percent between 1960 and 1963 as more jet equipment was integrated into the airline fleets. **Revenue passenger miles (RPMs)** increased 30 percent during the same period, causing load factors to drop from a high of 63.7 in 1955 to 53.2 in 1963. By 1962, the certificated carriers reached a level of profitability, utilizing jet equipment, that was comparable to profits recorded in 1958 and 1959 principally from nonjet operations. The year 1963 was the first period of solid profitable operations in the jet age.

Late 1960s

Starting in late 1964 and continuing through the first half of 1969, the industry experienced tremendous growth. The economies of jet aircraft reduced unit costs, which enabled carriers to keep fares at about the same level during this period.

In 1965, the industry reached record-level profits and earned a comfortable 12 percent return on investments. The next year would have been just as good were it not for a strike

TABLE 5-5 Selected Traffic and Financial Statistics for the Certificated Air Carriers, 1960–2001

Year	Traffic				Financial			
	Revenue Passengers (millions)	Revenue Passenger Miles (billions)	Available Seat-Miles (billions)	Cargo Ton-Miles (billions) ^a	Operating Revenue (billions)	Operating Expenses (billions)	Net Profit (or loss) (millions)	Rate of Return on Investment (%) ^b
1960	62.3	38.9	65.6	0.9	\$ 2.9	\$ 2.8	\$ 9.1	3.0%
1961	63.0	39.8	71.8	1.1	3.1	3.0	(37.9)	1.6
1962	67.8	43.8	82.6	1.3	3.4	3.2	52.3	5.2
1963	77.4	50.4	94.8	1.4	3.7	3.5	78.5	6.1
1964	88.5	58.5	106.3	1.7	4.3	3.8	223.2	9.8
1965	102.9	68.7	124.3	2.3	4.9	4.3	367.1	12.0
1966	118.1	79.9	137.8	2.9	5.7	4.9	427.6	11.0
1967	142.5	98.7	174.8	3.4	6.9	6.2	415.4	7.6
1968	162.1	113.9	216.4	4.2	7.8	7.2	209.9	4.9
1969	171.9	125.4	250.8	4.7	8.8	8.4	52.8	3.2
1970	169.9	131.7	265.1	4.9	9.3	9.2	(200.5)	1.2
1971	173.7	135.7	279.8	5.1	10.0	9.7	28.0	3.5
1972	191.3	152.4	287.4	5.5	11.2	10.6	214.8	4.9
1973	202.2	161.9	310.6	6.0	12.4	11.8	226.7	5.1
1974	207.5	162.9	297.0	6.1	14.7	13.9	321.6	6.4
1975	205.1	162.8	303.0	5.9	15.4	15.2	(84.2)	2.5
1976	223.3	178.9	322.8	6.2	17.5	16.8	563.4	8.0
1977	240.3	193.2	345.6	6.6	19.9	19.0	752.5	10.9
1978	274.7	226.8	368.7	7.0	22.9	21.5	1,196.5	13.0
1979	316.9	262.0	416.1	7.2	27.2	27.0	346.8	7.0
1980	296.9	255.2	432.5	7.1	33.7	33.9	17.4 ^c	5.8
1981	285.9	248.9	424.9	7.1	36.6	37.1	(300.8) ^d	5.3
1982	294.1	259.6	440.1	6.8	36.4	37.1	(915.8)	2.1
1983	318.6	281.8	464.5	7.6	38.9	38.6	(188.1)	6.0
1984	344.7	305.1	515.3	8.1	43.8	41.7	824.7	9.9
1985	382.0	336.4	547.8	7.7	46.7	45.2	862.7	9.6
1986	418.9	366.5	606.4	9.0	50.5	49.2	(234.9)	4.9
1987	447.7	404.5	648.7	10.0	56.9	54.5	593.4	7.2
1988	454.6	423.3	676.8	11.5	63.7	60.3	1,685.6	10.8
1989	453.7	432.7	684.4	12.2	69.3	67.5	127.9	6.3
1990	465.6	457.9	733.4	12.5	76.1	78.1	(3,921.0)	(6.0)
1991	452.2	447.9	715.2	12.1	75.2	76.9	(1,940.2)	(0.5)
1992	475.1	478.6	752.8	13.2	78.1	80.6	(4,791.3)	(9.3)
1993	488.5	489.7	771.6	14.1	84.6	83.1	(2,135.6)	(0.4)
1994	528.8	519.4	784.3	15.9	88.3	85.6	(344.1)	5.2
1995	547.8	540.7	807.1	16.9	94.6	88.7	2,313.6	11.9
1996	581.2	578.4	834.7	17.7	101.9	95.7	2,824.3	11.5
1997	599.1	605.5	860.8	20.5	109.5	100.9	5,170.6	14.7
1998	614.2	619.4	874.1	20.4	113.3	104.0	4,894.0	12.0
1999	635.4	651.5	917.8	21.6	118.2	110.3	7,903.0	11.5
2000	666.2	692.7	956.9	23.8	130.8	123.8	2,486.0	6.4
2001	622.1	651.7	930.5	22.0	115.5	125.8	8,275.0	(6.9)
2002	612.9	641.1	892.5	24.6	107.0	115.5	11,312.0	n/a
2003	646.3	656.9	893.8	26.7	118.0	120.0	3,658.0	n/a
2004	697.8	731.9	968.0	28.0	131.5	132.9	9,071.0	n/a

Source: Air Transport Association Annual Reports.

^aIncludes freight, air express, U.S., and foreign mail.

^bRate of return on investment (ROI) reflects net profit plus interest paid on the noncurrent portion of long-term debt as a percentage of total investment. Total investment as a five-quarter average of total net worth (stockholders' equity) plus long-term debt.

^cIncludes \$294 million before-tax gain on the sale of the Pan Am building.

^dIncludes \$222 million after-tax gain on the sale of Pan Am's hotel subsidiary.

called by the International Association of Machinists (IAM) that shut down five trunk carriers for 43 days.

ASMs increased 136 percent between 1964 and 1969, reflecting the increased capacity provided by the jet equipment. Average seats per mile doubled from 55.0 seats in 1955 to 104.4 seats in 1965. RPMs increased by 114 percent during the period from 1964 to 1969.

Air transportation came of age as more businesses and personal travelers recognized the advantages of speed, economy, and safety it provided. In 1955, first-class travel constituted 59.9 percent of airline travel, but in 1960 it fell to 45.3 percent, and in 1965 to only 21.8 percent. Forecasting that this level of growth would continue into the 1970s, the carriers placed orders of close to \$10 billion for larger wide-body equipment between 1966 and 1970.

Signs of an economic downturn appeared in 1969, resulting from an overexpanded economy, which had tried to give us a “Great Society”³ on the home front at the same time we were fighting an ever-escalating war in Vietnam.

Early 1970s

The national economic recession that began in 1969 continued throughout 1970, which caused air traffic growth to level off. Total passenger enplanements declined for the first time in the industry's history. Inflation began to plague the airline industry at a rate of about 9 percent in 1970, almost double the national rate. The major portion of this inflationary pressure came from labor settlements, which increased airline wages by some 15 percent in 1970. The CAB kept a tight lid on fares until April 1971, when it finally granted an across-the-board increase of 6 percent, followed by another 3 percent increase later in the year.

Many carriers began cutting flight schedules to eliminate unprofitable flights and reduce uneconomic competition. This began in the second half of 1970 on a unilateral basis, and by May 1971, there were 5.2 percent fewer domestic flights.

Excess capacity, resulting from the use of wide-body jets, prompted the carriers to cancel or stretch out orders for new flight equipment, causing massive layoffs by the aircraft manufacturers. Extensive layoffs of airline employees also took place during the first two years of the 1970s, with some 12,000 people laid off in 1970 and another 10,000 in 1971.

The belt tightening continued into 1972, with carriers eliminating many extras to which the flying public had become accustomed. Gone on many flights were such amenities as free cocktails, snacks, meals at off-mealtime hours, and movies on morning flights. However, overall, things were looking up. Passenger traffic, as measured in RPMs, grew by 12.3 percent in 1972 over 1971, and cargo tonnage carried also increased over the previous year.

During 1973, the airline industry set new records. More than 200 million passengers were enplaned, total operating revenues topped \$12.4 billion, and freight revenues reached the \$1 billion mark for the first time. In addition, the carriers flew some 16 billion pieces of mail.

—For many years, jet fuel prices had remained stable and low. Between 1967 and 1972, fuel prices rose at an annual rate of only 2.6 percent. However, prices rose 8.5 percent between 1972 and 1973, to a 1973 average of 12.8 cents a gallon, and the 1973 Arab oil embargo marked the beginning of the real fuel problem. Between 1973 and 1974, the average price

³Refers to the numerous social programs launched during President Lyndon Johnson's administration.

rose from 12.8 cents to 24.2 cents per gallon, an increase of nearly 90 percent in a single year. By late 1974, the economy was sliding into a recession as a result of escalating fuel prices. Airline traffic fell off as businesses and individuals cut back their travel plans. The carriers implemented severe cost-cutting measures, but because of their substantial overhead capacity in facilities and equipment, they lost \$84 million in 1975.

Late 1970s

Spurred by an upturn in the nation's economy in the bicentennial year of 1976, airline passenger traffic reached a new high of 223 million passengers, accounting for some 179 billion passenger miles and 6 billion ton-miles of air cargo.

An important factor in bringing air travel to millions of people was the growing role of the travel agent, which became a major part of the airline industry's marketing and sales effort. In 1976, the number of approved travel agencies in the United States and Canada rose to 13,661, up from 12,500 in 1975. U.S. travel agents sold nearly \$7 billion worth of domestic and international air transportation in 1976. Airlines paid travel agents \$700 million in commissions in 1976, a record 29 percent increase over 1975.

While scheduled air service remained the predominant mode of intercity passenger travel, charter activity really took off. More than 5 million passengers flew civilian and military charter flights of scheduled airlines in 1976, an increase of 25 percent over the previous year.

Again in 1977, the airlines set all-time records in service to air passengers and shippers in domestic and international operations. RPMs increased 8 percent over 1976, and the industry's load factor was 55.9, compared to 55.6 for the previous year. On the gloomy side, fuel prices averaged 36.2 cents per gallon in 1977, compared to 10.4 cents in 1967, a 248 percent increase.

The year 1978 was a major one for the carriers, with operating revenues reaching \$22.9 billion and profits reaching \$1.2 billion. The Airline Deregulation Act was passed by Congress in October, ushering in a new era of competition in air transportation.

The economy began to slow down in 1979, but the fierce competition for air travelers was just beginning. Revenues increased 19 percent in 1979, primarily as a result of promotional fares, which increased passenger enplanements by 15 percent. Unfortunately, expenses—most notably fuel and labor—increased by 26 percent during the latter 1970s.

Early 1980s

During 1980, ATA member airlines recorded their safest year in history. There was not a single fatality among passengers or flight crews in more than 5 million flights in the United States and throughout the world. In other respects, however, 1980 was a difficult and disappointing year for the industry. Inflation, soaring fuel prices (up more than \$3 billion from 1979), and a generally sour economy resulted in a 6 percent decline in passenger enplanements, the sharpest drop in more than 50 years of scheduled air transportation.

In 1981, the trend continued in terms of safety and earnings. Carrying 286 million passengers and logging 7 billion cargo ton-miles on more than 5 million flights, the airlines completed a second consecutive year of jet service without a single passenger fatality. But financial losses mounted in 1981, caused by the recessionary economy, inflation, high interest rates, and the impact of the air traffic controllers' strike during the busy summer months. Severe price competition also contributed significantly to a record-breaking net loss.

In 1982, the industry experienced the worst financial year in its history, recording a net loss of \$916 million. This net loss occurred despite a growth in passengers carried and in RPMs and approximately the same level of operating expenses as the previous year. Operating revenues declined for the first time in the history of the U.S. airline industry.

The principal reasons for the industry's poor performance in 1982 were the deep discount fares being offered by the carriers in an intensely competitive environment and the increasing proportion of passengers taking advantage of those fares. The percent of full-fare-paying passengers fell from 52 percent in 1978 to only 15 percent in 1982.

After three years of severe financial losses totaling \$1.4 billion, the industry in 1984 improved significantly with a net profit of \$825 million. The economy had rebounded, and the airline industry followed the upswing with a 9 percent increase in passenger enplanements.

Late 1980s

As 1985 began, the Civil Aeronautics Board ended its notable service to the growth and maturity of air transportation. Meanwhile, the industry broke new traffic and revenue records, with net profits of \$863 million being recorded.

Stimulated by the greatest ever decline in air fares, a record 419 million passenger enplanements were recorded in 1986, which compares with a 1936 total of 1 million. However, fierce price competition resulted in a net loss of \$235 million for the industry and increased the pace of mergers, which reached a peak during 1986.

Optimism returned in 1987 as RPMs increased by over 10 percent and net profits reached \$593 million. Net profits of \$1.7 billion in 1988 were the highest in the history of the airline industry. That year marked the tenth anniversary of the airlines operating under deregulation, as well as the final year in one of the safest 10-year periods in history in terms of accidents and fatalities. Fares, while rising in 1988, had actually declined in real terms in 7 of the previous 10 years and had risen only half as fast as the Consumer Price Index since 1978. The hub-and-spoke system, which proliferated after deregulation, was becoming the target for many complaints about increased congestion and reduced competition, despite the fact that more communities were providing more service than ever before.

Airline employment went over 500,000 employees in 1989, and hiring continued at a rapid pace despite some dark clouds on the horizon. There was a long, crippling strike against Eastern Airlines, and fuel prices were rising. Both of these factors had a depressing effect on domestic air travel. The result was that, although several airlines had a good year financially, the industry's overall net profit dropped to \$128 million. Though higher fuel prices and a recessionary economy continued to hurt airline earnings in 1990, air travel nonetheless increased significantly in the first half of the year, and there was reason for continued optimism.

Early 1990s

Despite setting new records in passenger enplanements and cargo ton-miles in 1990, the airline industry lost close to \$4 billion, virtually all in the fourth quarter, as the result of the Iraqi invasion of Kuwait. Kerosene purchased by U.S. carriers rose from 60 cents a gallon in July, just before the invasion, to a peak of \$1.40 per gallon in October. Each 1-cent increase cost the airlines \$160 million if carried through the year, and according to

estimates, the added fuel costs alone set U.S. carriers back nearly \$3 billion. Recession and fear of terrorism caused traffic to fall off so much during the fourth quarter of 1990 and the first quarter of 1991 that some carriers were reluctant to impose fuel-cost-induced fare hikes for fear of driving even more traffic away.

The huge losses forced a number of carriers to cut back severely; to sell off major assets, including international routes, aircraft, and airport gates; and to postpone aircraft orders. Thousands of airline workers were laid off in 1991, including 18,000 Eastern workers, when that pioneer airline closed down in January, followed by Midway in November and Pan Am in December. Three other major carriers—America West, Continental, and TWA—operated under Chapter 11 bankruptcy during 1991 and 1992.

The recession deepened during 1991, and the airlines experienced their second-worst year ever, with net losses of \$1.9 billion. All categories of traffic were down in 1991 compared to the previous year. The industry downturn continued in 1992 with an unprecedented loss of \$4.8 billion. The year 1993 was characterized by intense public, media, and government interest in the financial condition of the U.S. airline industry. The formation and work of President Bill Clinton's National Commission to Ensure a Strong Competitive Airline Industry was the backdrop for most of the year's activities. The commission held numerous public hearings to examine the many problems and issues facing U.S. airlines, and its August report outlined recommendations and changes in public policy that would improve the financial future of the industry.

Unfortunately, because of competing interests and budgetary constraints, few of the commission's suggestions were implemented. Thus, while the National Airline Commission helped frame the problems of the industry on the national economic agenda, 1993 saw the industry experience its fourth consecutive year of financial losses. By year's end, U.S. airlines had collectively lost \$2.1 billion.

Losses shrank in 1994, in large part because of lower fuel prices. Capacity, in terms of available seat-miles, increased only slightly as carriers postponed or canceled purchases of new aircraft. Load factors, measuring the percentage of seats filled, reached record levels, and jet service to smaller markets was replaced with regional/commuter service. Operating revenues increased slowly while prices for both passenger and cargo services declined. Because revenue growth was limited by competition, airlines placed increasing emphasis on reducing or containing costs as the path to profitability.

Mid-1990s to the 21st Century

In June 1995, the U.S. airline industry carried its ten-billionth passenger in scheduled commercial service. The industry also had one of the safest years in its history and, perhaps even more important, finally turned the corner financially. The national economy was on the upswing, and net profits reached \$2.3 billion. However, the carriers accumulated a lot of new debt in the early 1990s, and the industry's capital requirements in the years to come will be enormous as the industry replaces its oldest, noisiest jet equipment.

In 1996, the airlines earned record profits of \$2.8 billion, as well as record numbers of passengers and amounts of cargo carried. Passenger traffic increased by 7 percent to 578.4 billion RPMs, and cargo traffic increased by 4.6 percent to 17.7 billion revenue ton-miles. The U.S. economy continued to expand, growing by 2.4 percent and fueling rising incomes for both individuals and businesses. This increase in income, in turn, stimulated additional demand for air travel and shipping. Air traffic was also affected favorably by the expiration and eight-month absence of the 10 percent federal excise tax on airline passenger tickets,

the 6.25 percent cargo waybill tax, and the \$6-per-passenger international departure tax. In the case of the ticket tax, both airlines and passengers benefited from its absence.

International traffic also experienced strong growth in 1996. The number of international passenger enplanements rose to 50.5 million, with the largest growth rates occurring in the Caribbean and Latin American markets, followed by the Pacific. The Atlantic markets grew more slowly as some U.S. airlines continued to restructure their service.

The two-year period of 1997–98 was bright for the industry. RPMs rose steadily, passing the 600 billion mark, and net profits remained relatively stable at around \$5 billion per year. Load factor was better than 70 percent in both years. Cargo ton-miles shot past 20 billion in 1997, and operating profit margin hit 8.2 percent in 1998.

As the economy began to show signs of slowing in 1999 and 2000, the airlines suffered. There were almost 1 trillion seat-miles available on U.S. airliners in 2000—a record number—and passengers were filling about 72 percent of all available seat-miles on any given flight, but the real bottom line was suffering. Despite solid RPM figures (692.8 billion), net profit, after a brief peak above \$5 billion in 1999, nose-dived to \$2.5 billion in 2000. Net profit margin had shrunk to a razor-thin 1.9 percent.

It goes without saying that, although the figures for 2001 are obviously and powerfully skewed by the events of September 11, they remain unique in two ways: first, they represent financial shockwaves that were felt by every airline in the industry; second, they were, in and of themselves, the worst ever seen by the U.S. airline industry. Negative numbers appear everywhere in the financial summaries: operating profit margin (-8.7 percent), net profit margin (-6.7 percent), and rate of return on investment (-6.9 percent). Net losses of almost \$8 billion were experienced; never before had the airlines experienced so much red ink. Load factors, RPMs, and ASMs were all down from the previous year.

What's more, the aftermath of the terrorist attacks took on a much more human side than these figures show. As schedules began to be cut by large margins in the weeks after the attacks, tens of thousands of airline employees around the country were laid off, furloughed, or forced into early retirement. Over a thousand airplanes were parked, with some airlines choosing to eliminate certain types from their fleets (such as United and its 727 operations). Entire companies were eliminated from the scene (for example, Midway Airlines), while the plights of others became so great that congressional action became inevitable. In late September, the Air Transportation Safety and System Stabilization Act was signed into law, providing some \$15 billion of much needed financial assistance to the industry. By year's end, an industry that had been predicted to experience climbing performance indexes in the fourth quarter was instead flatlining.

As of 2006, the airline industry still suffers from the events of 9/11 and continuously increasing costs (i.e., fuel, labor, maintenance, liability). Airline bankruptcies continue proving any airline, small or large, is vulnerable. US Airways, currently the seventh largest airline in the United States, entered bankruptcy on August 11, 2002, and reemerged in 2005 with a restructuring plan that included a merger with America West. In December 2002, United Airlines filed for bankruptcy protection blaming the events of 9/11 for their downfall. However the rise of low-cost carriers, labor disputes, and problems within the management structure of the company also contributed to financial losses. On February 1, 2006, United came out of bankruptcy. On September 14, 2005, Delta Air Lines filed for bankruptcy for the first time in its 76-year history with a debt load of \$20.5 billion. Delta is currently restructuring and plans to reemerge with a greater concentration on international routes. On the same day of Delta's filing, Northwest Airlines also entered

into bankruptcy protection for the first time in its 79-year history and plans to reemerge with a new business model and a complete restructuring of labor issues.

KEY TERMS

trunk carrier	regional air carrier
401 carrier	fitness
supplemental air carrier	show cause order
local-service carrier	ASMs
major air carrier	RPMs
national air carrier	

REVIEW QUESTIONS

1. How did the trunk and local-service carriers evolve? What was the role of the supplemental carriers? Discuss some of the problems faced by the industry in the three decades preceding deregulation. How did the deregulation movement get started?
2. Explain how the certificated airline industry has changed since deregulation in terms of expansion, consolidation, and concentration. Describe several innovations pioneered by the major air carriers in the early 1980s that radically changed the structure of the industry.
3. Describe the role of the major and national carriers. Identify some of the carriers in each category. How did the regional carriers get started? Describe a typical regional carrier in terms of its role in the air transportation system, type of aircraft flown, and route structure. What is meant by *hub-and-spoke network*? Why has the number of regional carriers declined since deregulation? Describe some of the changes that have taken place in this segment of the industry. What is *code sharing*?
4. What are the three types of 401 certificate cases? What is meant by the *fitness* of the applicant? By *show cause order*? Describe how the regionals have truly become partners with the majors and the nationals in the air transportation system.
5. Who is responsible for financial and traffic data collection within the Department of Transportation? Describe the role of this government bureau. What is the Interline Traffic Agreement—Passenger? What is the purpose of the Air Freight Procedures Agreement and the Small Package Shipment Agreement? Describe the Universal Air Travel Plan.
6. Highlight the industry's performance, in terms of traffic and finances, during the 1960s, 1970s, and 1990s. Describe the cyclical nature of the airline industry in terms of profitability. What was the reason for the tremendous losses incurred during the early 2000s?

WEB SITES

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