

SIGNIFICANT POINTS

- Although flight crews—pilots and flight attendants—are the most visible occupations, the vast majority of the industry’s employees work in ground occupations.
- Senior pilots for major airlines are among the highest paid workers in the Nation.
- A bachelor’s degree is increasingly required or preferred for most pilot and flight attendant jobs.
- More than 45 percent of workers are members of unions or covered by a union contract.

Nature of the Industry

Air travel in the U.S. grew at a rapid pace until 2001, expanding from 172 million passenger enplanements in 1970 to nearly 615 million in 2000. However, over the next 3 years, a combination of factors—the events of September 11th, 2001, an economic recession, and other factors—combined to reduce traffic back to 1995 levels. Nevertheless, air travel remains one of the most popular modes of transportation.

Airlines in this industry transport passengers and freight over regularly scheduled routes or on routes, called “charters,” specifically designed for a group of travelers or a particular cargo. Several classes of airlines function in the United States. There are 14 major passenger airlines—11 passenger and 3 all cargo, which the U.S. Department of Transportation defines as having operating revenues of more than \$1 billion. The largest of these, often called the “Big Six,” generally operate hub-and-spoke systems and also fly internationally. A hub is a centrally-located airport designated by an airline to receive a large number of its flights from many locations, and at which passengers can transfer to flights to any of the locations served by the airline’s system. In this way, the greatest number of passengers, from as many locations as possible, can be served in the most efficient way.

In competition with the Big Six are 6 to 10 low-cost low-fare carriers. These carriers have traditionally not used hub and spoke systems and offered flights between limited numbers of cities. They have primarily focused on flying shorter routes (400 miles or less) and on serving leisure travelers. But some low-fare carriers are expanding their routes to include longer transcontinental and nonstop flights. These moves have helped low-fare carriers expand their customer base to include more business travelers.

Another type of passenger airline carrier is the commuter or regional carrier. There are approximately 25 to 30 of these carriers. Regional airlines operate short- and medium-haul scheduled airline service connecting smaller communities with larger cities and with hubs. Some of the largest regional carriers are subsidiaries of the major airlines, but most are independently owned, often contracting their services to the majors. The regional airlines’ fleet consists primarily of smaller 19- to 68-seat turboprop and 30- to 100-seat jet aircraft. The regional airlines are the fastest growing segment of commercial aviation with 1 out of every 8 domestic airline passengers flying on a regional airline during at least part of his or her trip.

Air cargo is another sector of the airline industry. Cargo can be carried in cargo holds of passenger airlines or on aircraft designed exclusively to carry freight. Cargo carriers in this industry do not provide door-to-door service. Instead, they provide only air transport from an airport near the cargo’s origin to an airport near the cargo’s destination. Companies in the Couriers and Messengers industry provide door-to-door delivery of parcels either across town or across the continent.

Most sectors of the airline industry were in a downturn in 2002, with several passenger airlines having declared bankruptcy and others on the verge of doing so. After 6 relatively successful years in the late 1990’s, fueled by an increase in passenger volume and a booming economy, the growth in airline passenger traffic began to slow in 2001, coinciding with the economic recession. After the tragic events of September 11, 2001, passenger traffic dropped steeply, causing airlines to cut flights, lay off workers, and park surplus aircraft. Although passenger volume has since recovered somewhat, the growth rate in the industry will likely continue to be depressed for several years.

As the low-fare airlines continue to take market share away from the higher cost major airlines, and as passenger traffic remains lower, managing costs has become more critical to the survival of some airlines. Labor costs are the airlines’ largest cost component—amounting to 38 percent of some airlines’ operating costs—and reducing these costs is a key part of the recovery plans of several major airlines. Because the number of aircraft flight personnel often is fixed by passenger safety regulations, reducing costs usually involves getting the unions representing workers in the air transportation industry to renegotiate their contracts and agree to reduce wages.

The airline industry faces many challenges in the future. Airlines must focus on cost control, cash preservation and cautious growth. The goal of the industry is to be prepared to respond quickly to economic recovery. Passenger volume should slowly improve, but it will take longer for rapid employment growth to return to the air transportation industry.

Working Conditions

Working conditions in air transportation vary widely, depending on the occupation. Although most employees work in fairly comfortable surroundings, such as offices, terminals, or airplanes, mechanics and others who service aircraft are subject to noise, dirt, and grease and sometimes work outside in bad weather.

In 2002, the air transportation industry had 11.8 injuries and illnesses per 100 full-time workers, compared with 5.3 throughout private industry. Virtually all work-related fatalities resulted from transportation accidents.

Because airlines operate flights at all hours of the day and night, many workers have irregular hours or variable work schedules. Flight and ground personnel, including mechanics and reservation and transportation ticket agents, may have to work at night or on weekends or holidays. Flight personnel may be away from their home bases frequently. When they are away from home, the airlines provide them with hotel accommodations, transportation between the hotel and airport, and an allowance for meals and expenses. Flight attendants typically fly from 75 to 85 hours a month. In addition to flight time, they have about 50 hours a month duty time between flights.

Flight crews, especially those on international routes, often suffer jet lag—disorientation and fatigue caused by flying into different time zones. Because employees must report for duty well-rested, they must allow ample time to rest during their layovers.

Employment

The air transportation industry provided 559,000 wage and salary jobs in 2002. Most employment is found in larger establishments—nearly 2 out of 3 jobs are in establishments with 1,000 or more workers. However, nearly three-fourths of all establishments employ fewer than 20 workers (chart).

Most air transportation jobs are at major airports located close to cities. A substantial proportion are at airports that serve as central hubs for major airlines.

Occupations in the Industry

Although pilots and flight attendants are the most visible occupations in this industry, almost 70 percent of all employees in air transportation work on the ground in what are called ground occupations (table 1). Two of the largest ground occupations

are *aircraft mechanics and service technicians* and *reservation and transportation ticket agents and travel clerks*.

Aircraft mechanics and service technicians service, inspect, and repair planes. They may work on several different types of aircraft, such as jet transports, small propeller-driven airplanes, or helicopters. Many specialize working on either the airframe (the body of the aircraft), the powerplant (the engines), or avionics (the parts of an aircraft that depend on electronics, such as navigation and communication equipment). In small, independent repair shops, mechanics and technicians usually inspect and repair many different types of aircraft.

Some mechanics and technicians specialize in scheduled maintenance required by the Federal Aviation Administration (FAA). Following a schedule based on the number of hours flown, calendar days, cycles of operation, or a combination of these factors, mechanics inspect the engines, landing gear, instruments, and other parts of aircraft and perform necessary maintenance and repairs.

A *reservation and transportation ticket agent* is most often the first employee passengers meet after entering the airport. Ticket agents work at airport ticket counters and boarding gates and use computers to provide customer service to incoming passengers. They can make and confirm reservations, sell tickets, and issue boarding passes. They also may work in call centers, answering phone inquiries about flight schedules and fares, verifying reservations, issuing tickets, and handling payments. *Customer service representatives* assist passengers, check tickets when passengers board or disembark from an airplane, and check luggage at the reception area and ensure that it is placed on the proper carrier. They assist elderly or handicapped persons and unaccompanied children in claiming personal belongings and baggage, and in getting on and off the plane. They also may provide assistance to passengers who become ill or injured.

Other ground occupations include *airplane cargo agents*, who take orders from shippers and arrange for transportation of their goods. *Baggage handlers*, classified under *laborers and freight, stock, and material movers, hand* are responsible for loading and unloading passengers' baggage. They stack baggage on specified carts or conveyors to see that it gets to the proper destination and also return baggage to passengers at airline terminals. *Aircraft cleaners* clean aircraft interiors after each flight.

Flight crewmembers make up 31 percent of air transportation employment, and include pilots and flight attendants. *Airline pilots, copilots, and flight engineers* are highly trained professionals who fly and navigate jet and turboprop airplanes. Generally, the most experienced pilot, or captain, is in command and supervises all other crewmembers. The pilot and copilot split flying and other duties such as communicating with air traffic controllers and monitoring the instruments. Some aircraft have a third pilot in the cockpit—the *flight engineer* or second officer—who assists the other pilots by monitoring and operating many of the instruments and systems and watching for other aircraft. Most newer aircraft are designed to be flown without a flight engineer. Small aircraft and helicopters that transport passengers and cargo and perform activities such as crop dusting, monitoring traffic, firefighting, and rescue missions are flown and navigated by *commercial pilots*.

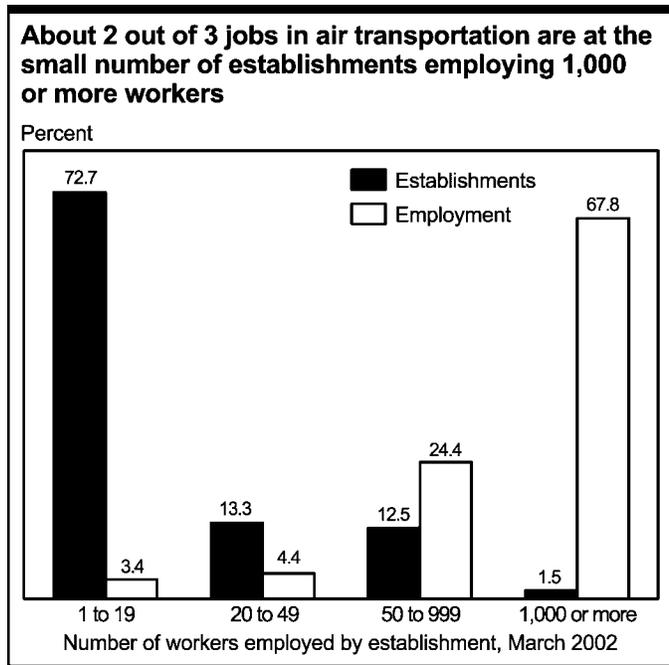


Table 1. Employment of wage and salary workers in air transportation by occupation, 2002 and projected change, 2002-12

(Employment in thousands)

Occupation	Employment, 2002		Percent change, 2002-12
	Number	Percent	
All occupations	559	100.0	12.0
Management, business, and financial occupations	31	5.5	21.8
Top executives	3	0.5	25.7
Transportation, storage, and distribution managers	3	0.6	18.7
Training and development specialists	3	0.5	22.7
Professional and related occupations ..	15	2.7	20.4
Computer specialists	4	0.7	24.6
Aerospace engineers	3	0.5	15.7
Aerospace engineering and operations technicians	2	0.4	15.4
Service occupations	118	21.1	15.7
Baggage porters and bellhops	12	2.2	10.6
Flight attendants	97	17.4	15.9
Sales and related occupations	7	1.3	15.3
Office and administrative support occupations	192	34.3	5.4
First-line supervisors managers of office and administrative support workers ..	11	1.9	0.6
Bookkeeping, accounting, and auditing clerks	4	0.6	4.1
Customer service representatives	29	5.1	15.8
Reservation and transportation ticket agents and travel clerks	111	19.9	4.2
Cargo and freight agents	8	1.4	-0.1
Production, planning, and expediting clerks	4	0.7	17.4
Stock clerks and order fillers	5	0.9	-8.0
Secretaries and administrative assistants	4	0.8	0.9
Office clerks, general	4	0.6	8.4
Installation, maintenance, and repair occupations	80	14.2	10.1
First-line supervisors managers of mechanics, installers, and repairers ..	4	0.7	21.1
Avionics technicians	2	0.3	6.6
Aircraft mechanics and service technicians	55	9.9	7.9
All other vehicle and mobile equipment mechanics, installers, and repairers ..	7	1.2	8.3
Maintenance and repair workers, general	7	1.2	17.8
Transportation and material moving occupations	113	20.3	16.2
Aircraft cargo handling supervisors	2	0.4	14.6
Airline pilots, copilots, and flight engineers	67	11.9	18.4
Commercial pilots	7	1.3	26.4
Airfield operations specialists	1	0.2	23.3
Transportation inspectors	2	0.4	10.2
All other related transportation workers ..	5	0.9	17.8
Cleaners of vehicles and equipment	5	0.9	7.7
Laborers and freight, stock, and material movers, hand	9	1.7	-3.8
Material moving workers, all other	4	0.8	10.7

NOTE: May not add to totals due to omission of occupations with small employment.

Airline flights must have one or more *flight attendants* on board, depending on the number of passengers. Their most important function is assisting passengers in the event of an emergency. This may range from reassuring passengers during occasional encounters with strong turbulence to opening emergency exits and inflating escape chutes. More routinely, flight attendants instruct passengers in the use of safety and emergency equipment. Once in the air, they serve meals and snacks, answer questions about the flight, distribute magazines and pillows, and help to care for small children and elderly and disabled persons. They also may administer first aid to passengers who become ill.

The airline industry also relies on many management, professional, and administrative support workers to keep operations running smoothly.

Training and Advancement

The skills and experience needed by workers in the air transportation industry differ by occupation. Some jobs may be entered directly from high school, while others require extensive specialized training. Most positions in the airline industry involve extensive customer service contact requiring strong interpersonal and communication skills. Mechanics and pilots require extensive specialized formal training and must be certified by the FAA; skills for many other air transportation occupations can be learned on the job or through company-sponsored training.

Pilots must have a commercial pilot's license with an instrument rating, and must be certified to fly the types of aircraft that their employer operates. For example, helicopter pilots must hold a commercial pilot's certificate with a helicopter rating. Pilots receive their flight training from the military or from civilian flying schools. Physical requirements are strict. With or without glasses, pilots must have 20/20 vision and good hearing, and be in excellent health. In addition, airlines generally require 2 years of college and increasingly prefer or require a 4-year college degree. Pilots who work for smaller airlines may advance to flying for larger companies. They also can advance from flight engineer to copilot to captain and, by becoming certified, to fly larger planes.

Applicants for flight attendant jobs must be in excellent health. Employers prefer those who have completed some college and have experience in dealing with the public. Speaking a foreign language also is an asset. Airlines operate flight attendant training programs on a continuing basis. Training usually lasts from 4 to 8 weeks, depending on the size and the type of carrier. Training may include crew resource management, which emphasizes teamwork and safety. Courses also are provided in personal grooming and weight control. After completing initial training, flight attendants must go through additional training and pass an FAA safety exam each year in order to continue flying. Advancement opportunities are limited, although some attendants become customer service directors, instructors, or recruiting representatives.

When hiring aircraft mechanics, employers prefer graduates of aircraft mechanic trade schools who are in good physical condition. After being hired, aircraft mechanics must keep up to date on the latest technical changes and improvements in aircraft and associated systems. Most mechanics remain in the maintenance

field, but they may advance to head mechanic and, sometimes, to supervisor.

A good speaking voice and a pleasant personality are essential for reservation and transportation ticket agents and customer service representatives. Airlines prefer applicants with experience in sales or in dealing with the public and most require a high school education, but some college is preferred. Formal company training is required to learn how to operate airline computer systems, issue tickets, and plan trips. Some agents and service representatives advance to supervisor or other administrative positions.

Some entry-level jobs in this industry, such as baggage handler and aircraft cleaner, require little or no previous training. The basic tasks associated with many of these jobs are learned in less than a week, and most newly hired workers are trained on the job under the guidance of an experienced employee or a manager. However, promotional opportunities for many ground occupations are limited due to the narrow scope of the duties and the specialized skills of some occupations. Some may advance to supervisor or another administrative position.

Earnings

Most employees in the air transportation industry receive standard benefits, such as paid vacation and sick leave and life and health insurance, and often profit-sharing and retirement plans as well. Some airlines provide allowances to employees for purchasing and cleaning their company uniforms. A unique benefit—free or reduced-fare transportation for airline employees and their immediate families—attracts many jobseekers. Earnings in selected occupations in air transportation appear in table 2.

In 2002, about 45 percent of all workers in the air transportation industry were union members or were covered by union contracts, compared with 15 percent of all workers throughout the economy.

Outlook

Wage and salary jobs in the air transportation industry are projected to increase by 12 percent over the 2002-12 period, compared with 16 percent for all industries combined. However, job

opportunities may vary from year to year, because the demand for air travel—particularly pleasure travel, a discretionary expense—fluctuates with ups and downs in the economy. In the long run, passenger and cargo traffic is expected to continue expanding in response to increases in population, income, and business activity.

Despite a recent slowdown in passenger air travel, demographic and income trends indicate favorable conditions for leisure travel in the United States and abroad over the next decade. The aging of the population, in combination with growth of disposable income among the elderly, should increase the demand for air transportation services. Also, business travel should improve with the economy and as world trade expands, companies continue to go global, and the economies in many foreign countries become more robust. However, as businesses also try to reduce costs, they are resorting to cheaper alternatives to flying and finding new ways to communicate. Many business travelers are using other means of transportation, such as driving or using the railway system, or are conducting more business by phone, e-mail, or better quality and lower cost video-conferencing technologies.

Cargo traffic is expected to increase with the economy and growing world trade. It should also be stimulated by the development of global e-commerce and manufacturing trends such as just-in-time delivery, which requires more materials to be shipped rapidly.

Job opportunities in the air transportation industry are expected to vary depending on the occupation. Pilots and flight attendants are projected to experience average growth through 2012 as the economy and passenger traffic rebound from the severe downturn in the industry. In the near term, the best opportunities will be with the faster growing regional and low-fare carriers. Persons with a college degree, or former military pilots, can expect to have the best job prospects. Turnover of flight attendants will also produce job openings for this occupation as many leave for more stable work schedules or better salary.

The number of reservation and transportation ticket agents will grow more slowly than the average as airlines phase out paper tickets and move to electronic “ticketless” travel, and as more passengers purchase electronic tickets over the Internet. However, the safety and security responsibilities of these jobs will continue, preventing a decline in these jobs. Competition for ticket agent and customer service representative jobs will continue to be keen as many more people are likely to apply for these jobs than there are openings.

Opportunities should be excellent for aircraft and avionics equipment mechanics and service technicians. The likelihood of fewer entrants from the military and a larger number of retirements indicates excellent opportunities for students just beginning technician training.

Opportunities also are expected to be good among unskilled entry-level positions, such as baggage handler and aircraft cleaner, because many workers leave these jobs and need to be replaced.

Sources of Additional Information

Information about specific job opportunities and qualifications required by a particular airline may be obtained by writing to personnel managers of the airlines.

Table 2. Median annual earnings of the largest occupations in air transportation, 2002

Occupation	Air transportation	All industries
Airline pilots, copilots, and flight engineers	\$126,840	\$109,580
Aircraft mechanics and service technicians	48,050	43,070
First-line supervisors/managers of office and administrative support workers	45,500	38,820
Commercial pilots	44,890	47,970
Flight attendants	43,200	43,140
Maintenance and repair workers, general	40,610	29,370
Cargo and freight agents	31,140	31,410
Customer service representatives	28,370	26,240
Reservation and transportation ticket agents and travel clerks	27,420	25,350
Cleaners of vehicles and equipment	24,110	17,060
Laborers and freight, stock, and material movers, hand	23,890	19,710

Information on these key air transportation occupations may be found in the 2004-05 *Occupational Outlook Handbook*:

- Aircraft and avionics equipment mechanics and service technicians
- Aircraft pilots and flight engineers
- Flight attendants
- Reservation and transportation ticket agents and travel clerks