

# Truck Transportation and Warehousing

(NAICS 484, 493)

## SIGNIFICANT POINTS

- Truck drivers hold 44 percent of all jobs.
- Job opportunities are expected to be good for qualified truck drivers and service technicians.
- Business activity in the industry is prone to rise and fall with upswings and downturns in the economy.

### Nature of the Industry

Firms in the truck transportation and warehousing industry provide a link between manufacturers and consumers. Businesses, and occasionally individuals, contract with trucking and warehousing companies to pick up, transport, store, and deliver a variety of goods. This industry includes three segments: general freight trucking; specialized freight trucking; and warehousing and storage.

*General freight trucking* provides over-the-road transportation of general commodities using motor vehicles, such as trucks and tractor trailers. This industry segment is further subdivided based on distance traveled and type of goods delivered. Local trucking establishments primarily carry goods within a single metropolitan area and its adjacent nonurban areas. Long-distance trucking establishments carry goods between distant areas.

*Local trucking* comprised 28,000 trucking establishments in 2002. The work of local trucking firms varies depending on the products transported. Produce truckers usually pick up loaded trucks early in the morning and spend the rest of the day delivering produce to many different grocery stores. Lumber truck drivers, on the other hand, make several trips from the lumber yard to one or more construction sites. Some local truck transportation firms also take on sales and customer relations responsibilities, in addition to delivering the firm's products. Some local trucking firms specialize in garbage collection and trash removal or hauling dirt and debris.

*Long-distance trucking* comprises establishments primarily engaged in providing long-distance trucking between distant areas and sometimes between the United States and Canada and Mexico. Numbering 41,000 establishments, these firms handle a wide variety of commodities.

*Specialized freight trucking* provides over-the-road transportation of freight, which, because of size, weight, shape, or other inherent characteristics, requires specialized equipment, such as flatbeds, tankers, or refrigerated trailers. This industry sector also includes the moving industry—that is, the transportation of used household, institutional, and commercial furniture. Like general freight trucking, specialized freight trucking is subdivided into local and long-distance subcomponents. The specialized freight trucking sector contained 45,000 establishments in 2002.

Some goods are carried across country using intermodal transportation to save time and money. Intermodal transportation

encompasses any combination of truck, train, plane, or ship. Typically, trucks perform at least one leg in the intermodal transportation of goods. For example, a shipment of cars from an assembly plant begins its journey when they are loaded onto rail cars. Next, trains haul the cars across country to a depot where the shipments are broken into smaller lots, loaded onto tractor-trailers, and sent off on the final leg of their journey to dealerships. Each of these steps is carefully orchestrated and timed so that the cars arrive just in time to be shipped on their next leg of their journey. Goods can be transported at lower cost this way, but they cannot be highly perishable—such as fresh produce—nor have strict delivery time schedules. Trucking still dominates the transportation of perishable and time-sensitive goods.

*Warehousing and storage* facilities comprised 13,000 establishments in 2002. These firms are primarily engaged in operating warehousing and storage facilities for general merchandise and refrigerated goods. They provide facilities to store goods; self-storage mini-warehouses that rent to the general public are also included in this segment of the industry.

Deregulation of interstate trucking in 1980 encouraged many firms to add a wide range of customer-oriented services to complement trucking and warehousing services and led to innovations in the distribution process. Increasingly, trucking and warehousing firms provide businesses full-service logistical services encompassing the entire transportation process, including inventory management, materials handling, and warehousing. Firms that offer these services are often referred to as third-party logistics providers. Logistical services manage all aspects of the movement of goods between producers and consumers, such as sorting bulk goods into customized lots, packaging and repackaging goods, inventory control and management, order entry and fulfillment, labeling, light assembly, and price marking. Logistical services such as computerized inventory information on the location, age, and quantity of goods available have improved the efficiency of relationships between manufacturers and customers. Many firms are increasingly relying on computer technology to expedite the distribution of good. Just-in-time shipping—where trucking companies deliver goods from suppliers just in time for their use—allows recipients to reduce costly inventories but requires constant communication and accurate inventory information. Packaging, labeling, and small assembly of manufacturers' products are other services that warehousing establishments use to attract poten-

tial customers. Some full-service companies even perform warranty repair work and serve as local parts distributors for manufacturers.

### Working Conditions

In the truck transportation industry in 2002, workers averaged 39.7 hours a week, compared with an average of 38.5 hours in warehousing and storage, and 33.9 for all private industries.

The U.S. Department of Transportation governs work hours and other working conditions of truck drivers engaged in interstate commerce. For example, a long-distance driver generally cannot work more than 60 hours in any 7-day period. Many drivers, particularly on long runs, work close to the maximum time permitted because employers usually compensate them based on the number of miles or hours they drive. Drivers frequently travel at night, on holidays, and weekends to avoid traffic delays and to deliver cargo on time.

Truck drivers must cope with a variety of working conditions including variable weather and traffic conditions, boredom, and fatigue. Many truck drivers, however, enjoy the independence and lack of supervision found in long-distance driving. Local truck drivers often have regular routes or assignments that allow them to return home in the evenings.

Improvements in roads and trucks are reducing stress and increasing the efficiency of long-distance drivers. Many advanced trucks are equipped with refrigerators, televisions, and beds for the driver's convenience. Included in some of these state-of-the-art vehicles is a satellite link with the company headquarters. Drivers can get directions, weather reports, and other important communications in a matter of seconds. In the event of bad weather or mechanical problems, truckers can communicate with dispatchers to discuss delivery schedules and courses of action. Dispatchers can also track the location of the truck and monitor fuel consumption and engine performance.

Vehicle and mobile equipment mechanics, installers, and repairers usually work indoors, although they occasionally make repairs on the road. Minor cuts, burns, and bruises are common, but serious accidents can be avoided when the shop is kept clean and orderly and safety practices observed. Service technicians and mechanics handle greasy and dirty parts and may stand or lie in awkward positions to repair vehicles and equipment. They usually work in well-lighted, heated, and ventilated areas, but some shops are drafty and noisy.

Laborers, and hand freight, stock, and material movers usually work indoors, though they may do occasional work on trucks and forklifts outside. Some occasions warrant heavy lifting and other physical labor.

Safety is a major concern of the truck transportation and warehousing industry. The operation of trucks, lifts, and other technically advanced equipment can be dangerous without proper training and supervision. Efforts are underway to standardize the training programs to make drivers more efficient and effective truck operators. Truck drivers already must adhere to federally mandated certifications and regulations. Federal mandates require drivers to submit to drug and alcohol tests as a condition of employment and more employers require periodic checks while on the job.

In 2002, work-related injuries and illnesses in the trucking and warehousing industry averaged 7.0 per 100 full-time workers, higher than the 5.3-incidence rate for the entire private sector. About 3 out of 4 on-the-job fatalities in the truck transportation and warehousing industry resulted from motor vehicle accidents.

### Employment

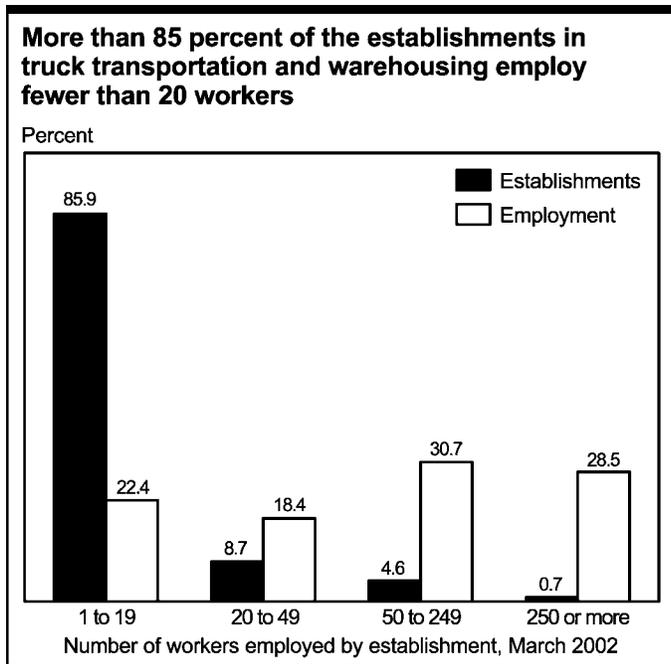
The truck transportation and warehousing industry provided 1.9 million wage and salary jobs in 2002. About 44 percent of the salaried jobs in the industry, or 810,000, were for truck drivers. Other transportation and material moving jobs numbered 417,000 and another 327,000 jobs were in various office and administrative support occupations. There were about 92,000 in management, business, and financial occupations; 55,000 vehicle and mobile equipment mechanics, installers, and repairers; and 43,000 sales and related workers. In addition to wage and salary workers, an estimated 255,000 workers in the industry were self-employed in 2002.

Most employees in the truck transportation and warehousing industry work in small establishments. Over 85 percent of trucking and warehousing establishments employ fewer than 20 workers (see chart). Consolidation in the industry has reduced the number of small, specialized firms. About 10 percent of truck drivers and driver/sales workers operate their own business. Although these owner-operators constantly enter the industry each year, intense competition has caused many to fail.

Trucking and warehousing establishments are found throughout the United States, with a higher concentration around the major interstate highways and in heavily industrialized regions of the country such as in California, New Jersey, and Texas.

### Occupations in the Industry

Transportation and material moving occupations account for 66 percent of all jobs in the industry (table 1). *Truck drivers and*



*driver/sales workers*, who hold 44 percent of all trucking and warehousing jobs, transport goods from one location to another. They ensure safe delivery of cargo to a specific destination, often by a designated time. Drivers also perform some minor maintenance work on their vehicles and make routine safety checks.

The length of trips varies according to the type of merchandise and its final destination. Local drivers provide regular service while other drivers make inter-city and interstate deliveries that take longer and may vary from job to job. The driver's responsibilities and assignments change according to the time spent on the road and the type of payloads transported.

Local drivers usually work more normal schedules and return home at the end of the day. They may deliver goods to stores or homes, or haul away dirt and debris from excavation sites. Many local drivers cover the same routes daily or weekly. Long-distance truck drivers often are on the road for long stretches of time. Their trips vary from an overnight stay to a week or more. On longer trips, drivers sometimes sleep in bunks in their cabs or share driving with another driver.

*Laborers, and hand freight, stock, and material movers* help load and unload freight and move it around warehouses and terminals. Often these unskilled employees work together in groups of three or four. They may use conveyor belts, hand trucks, or forklifts to move freight. They may place heavy or bulky items on wooden skids or pallets and have industrial truck and tractor operators move them.

Office and administrative support workers perform the daily recordkeeping operations for the truck transportation and warehousing industry. *Dispatchers* coordinate the movement of freight and trucks. They provide the main communication link that informs the truck drivers of their assignments, schedules, and routes. Often dispatchers receive new shipping orders on short notice and must juggle drivers' assignments and schedules to accommodate a client. *Shipping, receiving, and traffic clerks* keep records of shipments arriving and leaving. They verify the contents of trucks' cargo against shipping records. They may also pack and move stock. *Billing and posting clerks and machine operators* maintain company records of the shipping rates negotiated with customers and shipping charges incurred; they also prepare customer invoices.

Workers in installation, maintenance, and repair occupations generally enter these jobs only after acquiring experience in related jobs or after receiving specialized training. Most *vehicle and mobile equipment mechanics, installers, and repairers* require special vocational training. Service technicians and mechanics in trucking and warehousing firms perform preventive safety checks as well as routine service and repairs. Service technicians and mechanics sometimes advance to parts manager positions. *Parts managers* keep the supply of replacement parts needed to repair vehicles. Parts managers monitor the parts inventory using a computerized system, and purchase new parts to replenish supplies. These employees need mechanical knowledge and must be familiar with computers and purchasing procedures.

Sales and related workers sell trucking and warehousing services to shippers of goods. They meet with prospective buyers,

discuss the customer's needs, and suggest appropriate services. Travel may be required, and many analyze sales statistics, prepare reports, and handle some administrative duties.

Managerial staff provide general direction to the firm. They staff, supervise, and provide safety and other training to workers in the various occupations. They also resolve logistical problems such as forecasting the demand for transportation, mapping out the most efficient traffic routes, ordering parts and equipment service support, and planning the transportation of goods to the right place at the right time.

**Table 1. Employment of wage and salary workers in truck transportation and warehousing by occupation, 2002 and projected change, 2002-12**  
(Employment in thousands)

Occupation	Employment, 2002		Percent change, 2002-12
	Number	Percent	
<b>All occupations</b> .....	1,853	100.0	22.7
<b>Management, business, and financial occupations</b> .....	92	5.0	34.9
Top executives .....	35	1.9	30.6
Operations specialties managers .....	25	1.3	34.6
Business and financial operations occupations .....	23	1.2	38.6
<b>Sales and related occupations</b> .....	43	2.3	35.9
<b>Office and administrative support occupations</b> .....	327	17.6	16.8
Bookkeeping, accounting, and auditing clerks .....	21	1.1	13.3
Customer service representatives .....	24	1.3	36.7
Dispatchers, except police, fire, and ambulance .....	33	1.8	17.0
Shipping, receiving, and traffic clerks ....	36	1.9	18.8
Stock clerks and order fillers .....	53	2.9	13.1
Secretaries and administrative assistants .....	22	1.2	7.1
Office clerks, general .....	43	2.3	16.0
<b>Installation, maintenance, and repair occupations</b> .....	85	4.6	22.7
Vehicle and mobile equipment mechanics, installers, and repairers ....	55	2.9	14.5
<b>Production occupations</b> .....	36	1.9	40.9
<b>Transportation and material moving occupations</b> .....	1,226	66.2	21.9
First-line supervisors/managers of helpers, laborers, and material movers, hand .....	20	1.1	22.3
First-line supervisors/managers of transportation and material-moving machine and vehicle operators .....	33	1.8	19.9
Truck drivers, heavy and tractor-trailer .....	721	38.9	24.6
Truck drivers, light or delivery services .....	88	4.8	25.4
Laborers and freight, stock, and material movers, hand .....	195	10.6	8.4
Packers and packagers, hand .....	31	1.7	29.5

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

## Training and Advancement

Many jobs in the truck transportation and warehousing industry require only a high school education, although an increasing number of workers have at least some college education. Increased emphasis on formal education stems from increased complexity in the industry. Nearly all operations involve computers and information management systems. Many occupations require detail-oriented persons with computer skills. A growing number of employers recommend some form of formal training either in-house or through trade or union programs. Although the Federal Government does not mandate these programs, the trend is toward certification and standardized competency.

Whereas many States allow those who are 18 years old to drive trucks within State borders, the U.S. Department of Transportation establishes minimum qualifications for truck drivers engaged in interstate commerce. Federal Motor Carrier Safety Regulations require truck drivers to be at least 21 years old, have at least 20/40 vision and good hearing, and be able to read and speak English. They must also have good driving records. In addition, drivers must have a State commercial driver's license, for which they must pass a written examination and a skills test operating the type of vehicle they will be driving. Individual companies often have additional requirements applicants must meet.

Some truck drivers enter the occupation by attending training schools for truck drivers. Schools vary greatly in the quality of training they provide, but they are becoming more standardized. Many employers and some States support these programs.

Some large trucking companies have formal training programs that prospective drivers attend. Other companies assign experienced drivers to teach and mentor newer drivers. Local trucking firms often start drivers as truck driver helpers. As they gain experience and demonstrate their reliability, they receive assignments with greater earnings or preferred work schedules. Because of increased competition for experienced drivers, some larger companies lure these drivers with increased pay and preferred assignments. Some trucking firms hire only experienced drivers.

Some long-distance truck drivers purchase a truck and go into business for themselves. Although many of these owner-operators are successful, some fail to cover expenses and eventually go out of business. Owner-operators should have good business sense as well as truck driving experience. Courses in accounting, business, and business mathematics are helpful, and knowledge of truck mechanics can enable owner-operators to perform their own routine maintenance and minor repairs.

Unskilled employees may work as helpers, laborers, and material movers in their first job. They must be in good physical condition because the work often involves a great deal of physical labor and heavy lifting. They acquire skills on the job and often advance to more skilled jobs, such as industrial truck operator, truck driver, shipping and receiving clerk, or supervisor.

Office and administrative support jobs in the truck transportation and warehousing industry require good typing skills and familiarity with computers. Shipping and receiving clerks watch and learn the skills of the trade from more experienced workers while on the job. Stock clerks and truck drivers often ad-

vance to dispatcher positions after becoming familiar with company operations and procedures.

While some vehicle and mobile equipment mechanics, installers, and repairers learn the trade on the job, most employers prefer to hire graduates of programs in diesel mechanics offered by community and junior colleges or vocational and technical schools. Those with no training often start as helpers to mechanics, doing basic errands and chores such as washing trucks or moving them to different locations. Experience as an automotive service technician is helpful because many of the skills relate to diesel technology. Experienced technicians may advance to shop supervisor or parts manager positions.

For managerial jobs in the truck transportation and warehousing industry, employers prefer persons with bachelor's degrees in business, marketing, accounting, industrial relations, or economics. Good communication, problem-solving, and analytical skills are valuable in entry-level jobs. Since trucking and warehousing firms may rely heavily computer technology to aid in the distribution of goods, knowledge of information systems also is helpful for advancement. Although most managers must learn logistics through extensive training on the job, several universities offer graduate and undergraduate programs in logistics. These programs emphasize the tools necessary to manage the distribution of goods and are sometimes associated with the business departments of schools. Managers hired for entry-level positions sometimes advance to top level managerial jobs.

Some college graduates and persons without a college degree enter sales or administrative positions. Marketing and sales workers must be familiar with their firm's products and services and have strong communication skills.

## Earnings

Average earnings in the truck transportation and warehousing industry are higher than the average for all private industry, as shown in table 2. The average wage in the trucking sector of the industry was higher than the average wage in warehousing. Earnings in selected occupations in truck transportation and warehousing appear in table 3.

Most employers compensate truck drivers with an hourly rate or a rate-per-mile system. Truck drivers who operate heavy tractor-trailers generally have higher earnings than those who drive light delivery trucks. Benefits, including performance related bonuses, health insurance, and sick and vacation leave are common in the trucking industry.

**Table 2. Average earnings of nonsupervisory workers in truck transportation and warehousing, 2002**

Industry segment	Weekly	Hourly
<b>All private industry</b> .....	\$506	\$14.95
<b>Truck transportation</b> .....	627	15.78
General freight trucking .....	652	16.19
Specialized freight trucking .....	562	14.69
<b>Warehousing and storage</b> .....	572	14.87
Refrigerated warehousing and storage .....	662	16.37
Miscellaneous warehousing and storage ..	578	15.35
General warehousing and storage .....	563	14.66

The major union in the truck transportation and warehousing industry is the International Brotherhood of Teamsters. About 13 percent of trucking and warehousing workers are union members or are covered by union contracts, compared to about 15 percent of workers in all industries combined. Some trucking companies use “double breasting” in an attempt to lower labor costs. This involves employing union as well as nonunion operating divisions. Other companies use multi-tier wage scales and pay lower wages for new hires. Pay increases after predetermined periods and safe driving records.

## Outlook

The number of wage and salary jobs in the truck transportation and warehousing industry is expected to grow 23 percent from 2002 through 2012, compared with projected growth of 16 percent for all industries combined. Because the industry is large, many job openings will result—not only from employment growth—but also from the need to replace the large number of workers who transfer to other industries or retire. Opportunities in this industry should be good for qualified workers at all levels, especially for truck drivers and diesel service technicians and mechanics.

One of the main factors influencing the growth of the truck transportation and warehousing industry is the state of the national economy. Growth in the industry parallels economic upswings and downturns. As the national economy grows, production and sales of goods increase, thus increasing demand for transportation services to move goods from producers to consumers. In a recession, this industry is one of the first to slow down as orders for goods and shipments decline. Competition in the truck transportation and warehousing industry is intense, both among trucking companies and, in some long-haul truckload segments, with the railroad industry. Nevertheless, truck-

ing has been accounting for an increasing share of freight transportation revenue.

Additional employment growth will result from manufacturers’ willingness to concentrate more on their core competencies—producing goods—and outsource their distribution functions to trucking and warehousing companies. As firms in other industries increasingly employ this industry’s logistical services, such as inventory management and just-in-time shipping, many new jobs will be created. Also, the expansion of electronic commerce, as more consumers and businesses make purchases over the Internet, will continue to increase demand for the transportation and logistical services of the truck transportation and warehousing industry.

Opportunities for qualified truck drivers are expected to be favorable. In some areas, companies have experienced difficulties recruiting adequately skilled drivers. Truck driving pays relatively well, but many persons leave the career because of the lengthy periods away from home, long hours of driving, and the negative public image drivers face. Employment opportunities should be more plentiful with truckload carriers than with less-than-truckload (LTL) carriers because many workers prefer the working conditions of LTL carriers. Stricter requirements for obtaining—and keeping—a commercial driver’s license also make truck driving a less attractive career. Opportunities for diesel service technicians and mechanics also are expected to be favorable, especially for applicants with formal postsecondary training.

Growth in the truck transportation and warehousing industry should prompt an increase in office and administrative support employment. More dispatchers, stock clerks, and shipping, receiving, and traffic clerks will be needed to support expanded logistical services across the country. However, fewer secretaries, bookkeepers, and file clerks will be needed because computers and other automated equipment will make workers in these occupations more efficient and productive.

**Table 3. Median hourly earnings of the largest occupations in truck transportation and warehousing, 2002**

Occupation	Truck transportation	Warehousing and storage	All industries
General and operations managers .....	\$28.89	\$33.43	\$32.80
First-line supervisors/managers of transportation and material-moving machine and vehicle operators .....	21.40	18.35	20.63
Truck drivers, heavy and tractor-trailer .....	17.10	16.17	15.97
Dispatchers, except police, fire, and ambulance .....	16.72	15.01	14.56
Bus and truck mechanics and diesel engine specialists .....	15.49	17.56	16.53
Industrial truck and tractor operators .....	14.29	12.07	12.54
Customer service representatives .....	13.46	12.44	12.62
Bookkeeping, accounting, and auditing clerks .....	12.53	13.36	13.16
Laborers and freight, stock, and material movers, hand .....	11.46	10.87	9.48
Office clerks, general .....	11.11	11.23	10.71
Secretaries, except legal, medical, and executive .....	10.29	11.89	12.16

## Sources of Additional Information

For additional information about careers and training in the truck transportation and warehousing industry, write to:

- American Trucking Associations, 2200 Mill Rd., Alexandria, VA 22314.
- International Warehouse Logistics Association, 2800 River Rd., Suite 260, Des Plaines, IL 60018.
- International Association of Refrigerated Warehouses, 1500 King St., Suite 201, Alexandria, VA 22314.
- Professional Truck Driver Institute, 2200 Mill Rd., Alexandria, VA 22314. Telephone: (703) 838-8842. Internet: <http://www.ptdi.org>

Detailed information on the following occupations can be found in the 2004-05 *Occupational Outlook Handbook*:

- Diesel service technicians and mechanics
- Dispatchers
- Material moving occupations
- Shipping, receiving, and traffic clerks
- Truck drivers and driver/sales workers