

CHAPTER 3 UTILITIES SECTOR



This chapter provides an overview of the contribution of the utilities sector to the economy and the use of transportation by the sector. The utilities sector consists of establishments providing electric power, natural gas, steam supply, water supply, and sewage removal. Electric power includes generation, transmission, and distribution; natural gas includes distribution; steam supply includes provision and/or distribution; water supply includes treatment and distribution; and sewage removal includes collection,

treatment, and disposal of waste through sewer systems and sewage treatment facilities.¹

The utilities sector uses less transportation services than all other sectors in absolute dollars, but per dollar of output requires slightly more transportation services than most other sectors. The sector uses more dollars of pipeline transportation than any other mode. The utilities sector employs the largest number of workers as heavy tractor-trailer truck drivers.

In 2015 the utilities sector contributed \$288.3 billion (1.6 percent) to the national economy, as measured by gross domestic product (GDP) (figure 3-1). The sector contributed the least to the economy but generates and distributes the energy other sectors need to produce goods and services.

Table 3-1 Overview of the Utilities Sector's Contribution to Gross Domestic Product (GDP) and Use of Transportation

Utilities	Value	Year (latest year data is available)
Contribution to GDP	\$288.3 billion	2015
Use of transportation	\$19.2 billion	2014
Amount of transportation required to produce a dollar of output	4.6¢	2014
Number of transportation and material moving workers	9,890	2015
Transportation and material moving workers as percent of sector's work force	1.8	2015
Median annual wage of transportation and material moving workers	\$51,040	2015
Number of trucks used	679 thousand	2002
Truck miles accumulated	10,245 million	2002

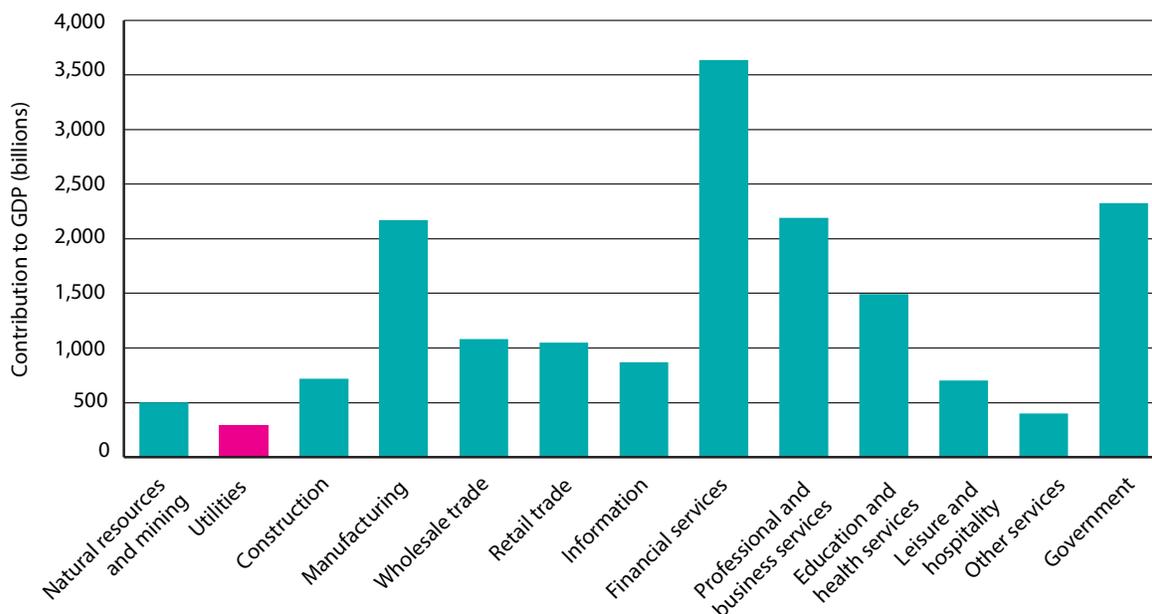
NOTE: Table presents latest data available, as of Feb. 1, 2016.

*Data on number of trucks and truck miles accumulated was last collected in the Vehicle Inventory and Use Survey for 2002.

SOURCE: Data for this table is drawn from figures and tables presented throughout this chapter.

¹ U.S. Department of Labor, Bureau of Labor Statistics, Industries at a Glance, www.bls.gov/iag/tgs/iag_index_naics.htm, as of September 1, 2015.

Figure 3-1 Utilities Sector's Contribution to Gross Domestic Product, 2015



NOTE: GDP = \$17,947 billion

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, Value Added by Industry, available at <http://bea.gov> as of August 11, 2016.

The largest amount of activity in the utilities sector occurred in Texas (\$30.9 billion), followed by California (\$29.1 billion), New York (\$19.7 billion), Florida (\$15.3 billion), Ohio (\$13.3 billion), Illinois (\$12.5 billion), and Pennsylvania (\$11.7 billion)—each of which accounted for 4 percent or more of national activity in the utilities sector in 2015 (figure 3-2, table 3-2). The States contributing the most to national activity in utilities are States with large gross state product (GSP) (table 3-2).

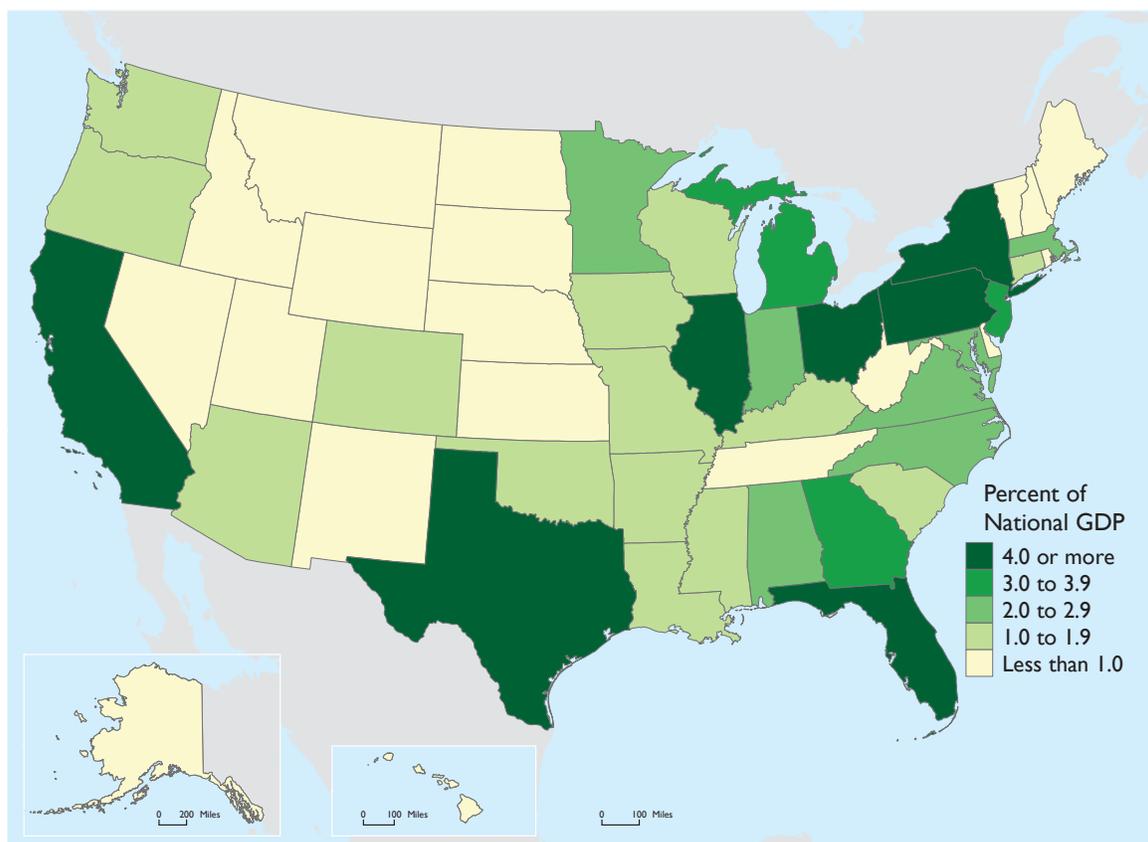
Computing the percent of utilities activity as a percent of a GSP, rather than as a share of GDP, also provides useful insights to U.S. production. Texas, California, New York, Florida, and Ohio lead in the production of utilities in 2015. Utilities, however, accounted for a small share (2.2 percent or less) of GSP in each of these States in 2015. Utilities accounted for the largest share of GSP in Mississippi (2.9 percent or \$3.1 billion) (see Appendix A).

The utilities sector was the smallest user of transportation services in 2014 (\$19.2 billion). The utilities sector relies heavily on for-hire transportation services— using more for-hire air, rail, truck, and water transportation services (\$4.2 billion) than in-house transportation operations (\$0.9 billion). The sector's use of for-hire air, rail, truck, and water transportation services, however, is smaller than the sector's use of pipeline transportation (\$7.3 billion) and transportation-related support activities (\$6.9 billion) (figure 3-3).

The utilities sector used \$19.2 billion of transportation services in 2014 (figure 3-3). In 2014 the sector used:

- Primarily pipeline transportation (37.8 percent, or \$7,262 million) (e.g., used to distribute natural gas and move waste through sewer systems) and transportation-related support

Figure 3-2 State Contributions to Utilities Related Gross Domestic Product (GDP)
(percent of national GDP related to utilities), 2015



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, Gross Domestic Product by State, available at <http://bea.gov> as of August 2016.

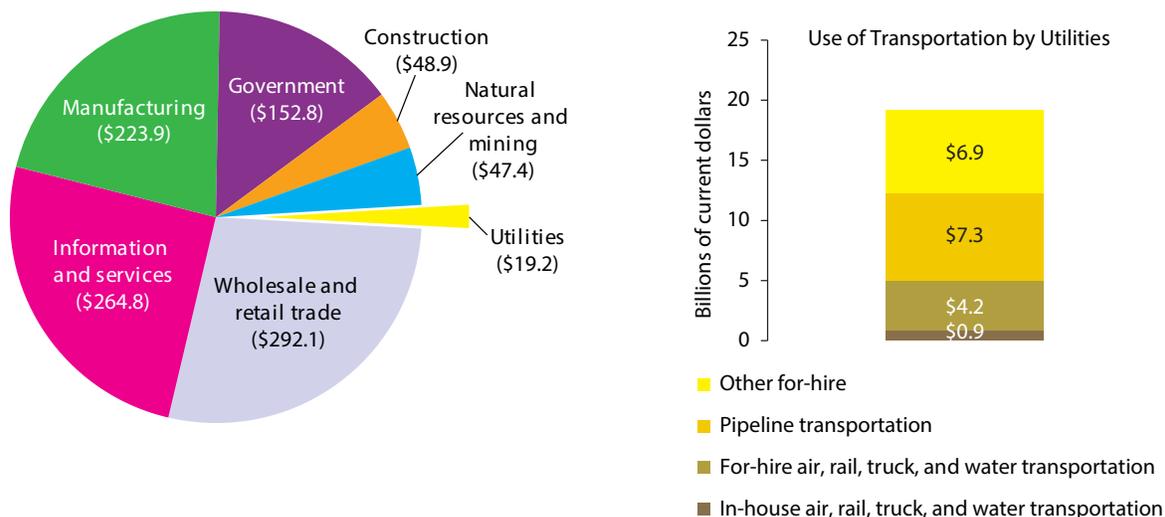
Table 3-2 States Contributing 4.0 Percent or More to National GDP Related to Utilities in 2015

State	Utilities (Utilities related GDP = \$288.3 billion)			All products and services (Total National GDP = \$17.8 trillion)	
	Utilities related GDP (billions)	Percent of national GDP related to utilities	Rank (1=contributes most to national GDP related to utilities, 51=least)	Dollar contribution to national GDP (billions)	Rank (1=contributes most to national GDP, 51=least)
Texas	30.9	10.7	1	1,586.5	2
California	29.1	10.1	2	2,458.5	1
New York	19.7	6.8	3	1,441.0	3
Florida	15.3	5.3	4	882.8	4
Ohio	13.3	4.6	5	608.1	7
Illinois	12.5	4.3	6	775.0	5
Pennsylvania	11.7	4.1	7	689.2	6

NOTE: Latest available data do not sum to latest available industry totals (shown in figure 3-1) due to difference in source data vintage.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, Gross Domestic Product by State, available at <http://bea.gov> as of August 11, 2016.

Figure 3-3 Use of Transportation by the Utilities Sector, 2014 (current dollars, billions)



NOTE: In-house transportation consists of transportation services (air, rail, truck, and water) provided by nontransportation industries for their own use. For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Airlines, railroads, transit agencies, common carrier trucking companies, and pipelines are examples of for-hire transportation industries. "Other" for-hire transportation includes: Transit and passenger ground transportation (excluding State and local government passenger transit); Sightseeing transportation and transportation support; Parcel delivery, courier, and messenger services (excluding U.S. Postal Service); Warehousing and storage; and Other transportation and support activities. The utilities sector did not use a measureable amount of in-house air, rail, or water transportation in 2014.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at <http://www.bts.gov> as of August 2016.

activities (32.6 percent, or \$6,270 million) (e.g., used to maintain and repair pipelines). Pipeline transportation and transportation-related support activities accounted for 70.4 percent (\$13,532 million) of the total amount of transportation services used by the utilities sector.

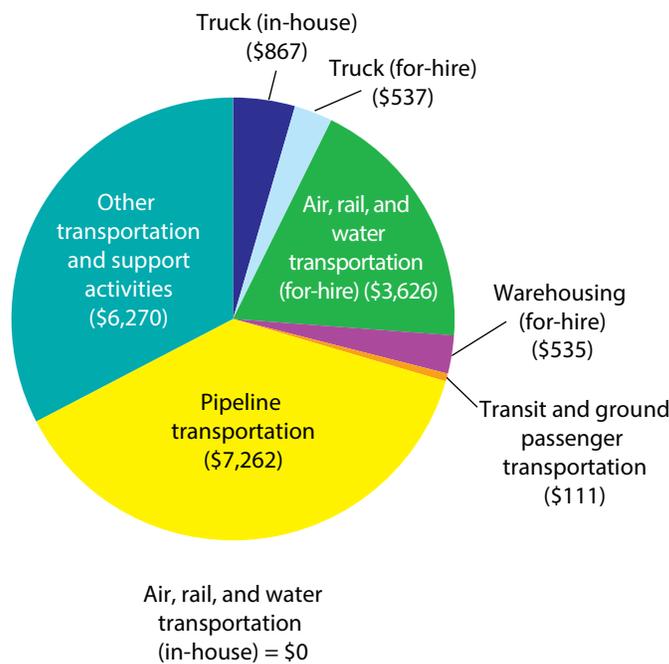
- For-hire air, rail, truck, and water transportation services (used, for instance, to move coal to electric generating plants operating on coal) summing to 18.9 percent (\$3,626 million) of the total amount of transportation services used by the sector.
- More in-house truck transportation operations than for-hire truck transportation services. In-house truck transportation

operations comprised 4.5 percent (\$867 million) of the total amount of transportation services used by the sector, while for-hire truck transportation accounted for 2.8 percent (\$537 million).

- No measureable amount of in-house air, rail, or water transportation operations.
- A smaller amount of for-hire transit and ground passenger transportation (e.g., bus transportation purchased for workers) (0.6 percent, or \$111 million) than any other transportation mode (figure 3-4).

The utilities sector used the least amount of transportation services in 2014 but ranked as the third most dependent sector on transportation,

Figure 3-4 Utilities Sector's Use of Transportation by Mode, 2014 (current dollars, millions)



NOTE: In-house transportation consists of transportation services (air, rail, truck, and water) provided by nontransportation industries for their own use. For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Airlines, railroads, transit agencies, common carrier trucking companies, and pipelines are examples of for-hire transportation industries. Transit and passenger ground transportation excludes State and local government passenger transit. Other transportation includes sightseeing transportation. The utilities sector did not use a measurable amount of in-house air, rail, or water transportation in 2014.

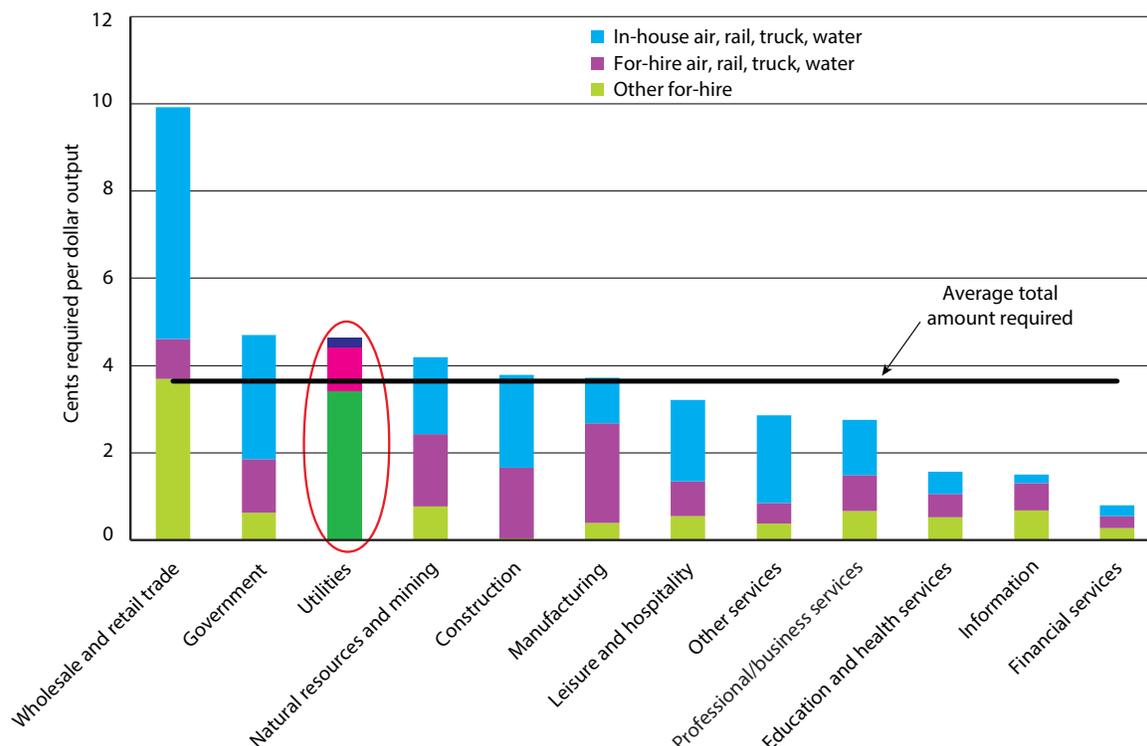
SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at <http://www.bts.gov> as of August 2016.

requiring slightly more transportation services than the average amount needed to produce one dollar of output. In 2014, the utilities sector required 4.6¢ worth of transportation services to produce one dollar of output, while the most dependent sector (wholesale and retail trade) required 9.9¢ worth of transportation services to produce one dollar of output. The utilities sector relied heavily on for-hire transportation services in 2014, requiring 4.4¢ worth of for-hire transportation services (primarily pipeline and

transportation-related support activities). The sector required a modest amount of in-house operations (0.2¢) to produce one dollar of output (figure 3-5).

The overall transportation requirement for the utilities sector (4.6¢) is relatively modest compared to other inputs. In 2014 transportation services ranked as the fourth most important input. Natural resources and mining products (e.g., coal, petroleum, etc.) ranked as most important input. The utilities sector required 10.4¢

Figure 3-5 Transportation Required Per Dollar of Output by the Utilities Sector, 2014



NOTE: In-house transportation consists of transportation services (air, rail, truck, and water) provided by nontransportation industries for their own use. For-hire transportation consists of the services provided by transportation firms to industries and the public on a fee-basis. Airlines, railroads, transit agencies, common carrier trucking companies, and pipelines are examples of for-hire transportation industries. "Other" for-hire transportation includes: Transit and passenger ground transportation (excluding State and local government transit); Pipeline; Sightseeing transportation and transportation support; Parcel delivery, courier, and messenger services (excluding U.S. Postal Service); Warehousing and storage; and Other transportation and support activities.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at <http://www.bts.gov> as of August 2016.

worth of natural resources and mining products to produce one dollar of output (figure 3-6).

In 2015 the utilities sector employed nearly 10 thousand transportation and material moving workers, accounting for 1.8 percent of its entire work force. The sector employed more material moving workers (6,340) than transportation workers (3,550)² (figure 3-7). Transportation workers include motor vehicle operators, ship

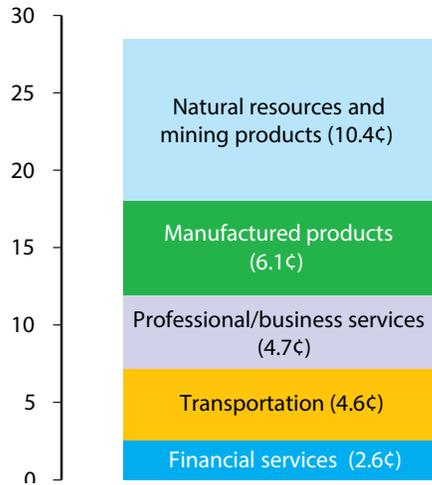
² Total for transportation occupations includes supervisors of material moving workers, which could not be separated from supervisors of transportation workers.

engineers, aircraft pilots and flight engineers, etc. Material moving workers support transportation activities and include occupations such as cleaners of vehicles and ship loaders.

Transportation and material moving workers in the utilities sector earned a median wage of \$51,040 in 2015, while workers of all occupations in the utilities industry earned a higher median wage (\$70,020) (figure 3-8).

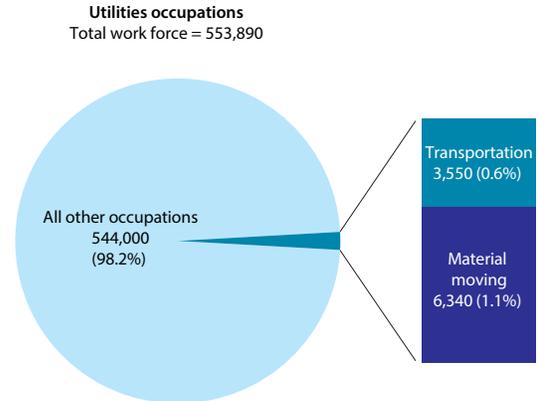
The utilities sector employed the largest number of transportation workers as heavy and tractor-trailer truck drivers (1,850), followed by light

Figure 3-6 Top 5 Most Required Inputs by the Utilities Sector to Produce a Dollar of Output, 2014



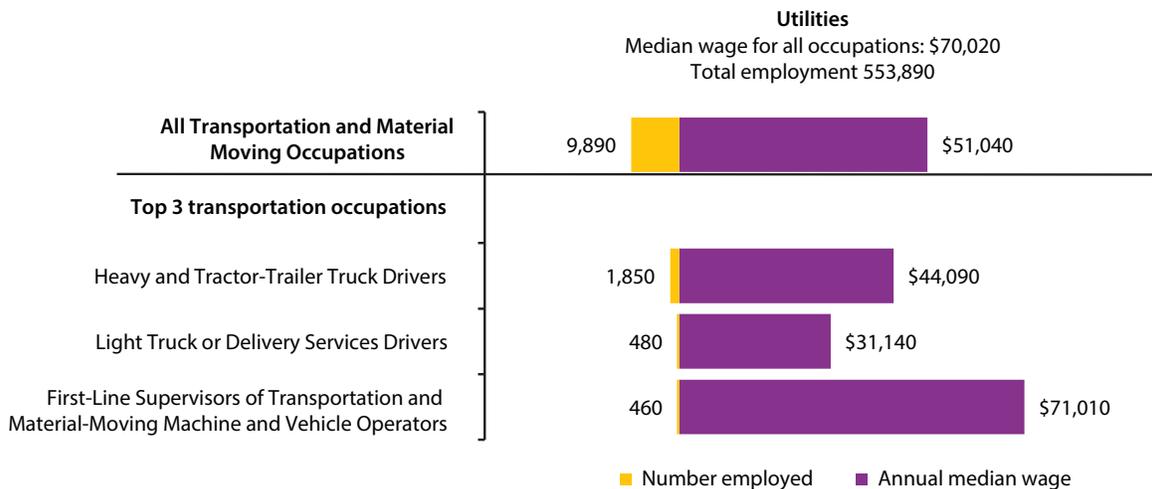
NOTE: Transportation includes in-house and for-hire.
SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Satellite Accounts, available at <http://www.bts.gov> as of August 2016.

Figure 3-7 Number of Workers Employed in the Utilities Sector by Occupation, 2015



NOTE: Total for transportation occupations includes supervisors of material moving workers, which could not be separated from supervisors of transportation workers.
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment and Wages, available at <http://www.bls.gov/oes> as of August 11, 2016.

Figure 3-8 Median Annual Wage and Employment for Most Common Transportation Occupations (Top 3) in Utilities Sector, 2015



NOTE: Top three transportation occupations are the transportation occupations employing the largest number of workers and are selected from detailed occupation group in Bureau of Labor Statistics Occupational Employment and Wages table. Material moving occupations not included in the selection of the top three transportation occupations. First-line supervisors of machine and vehicle operators includes first-line supervisors of material moving occupations.

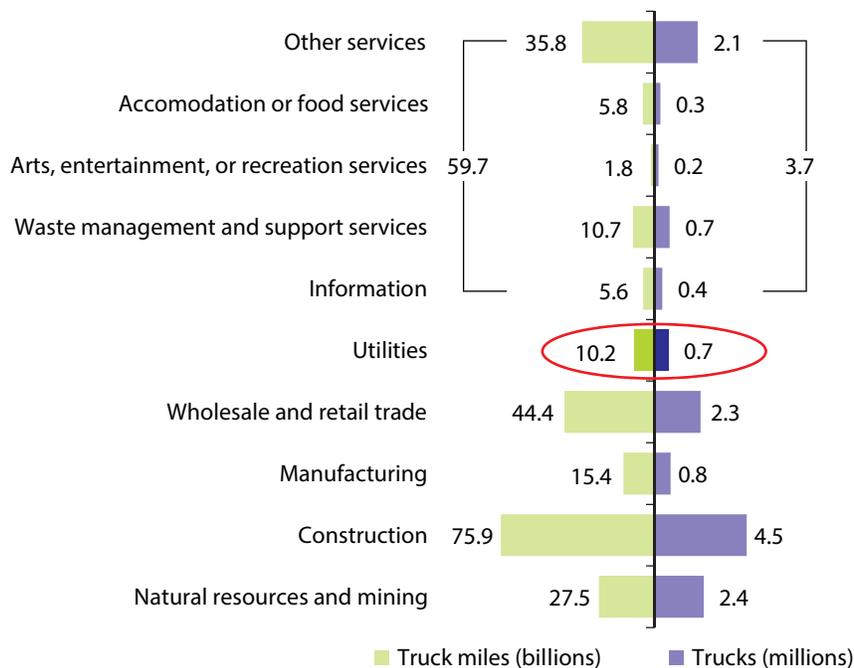
SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Employment and Wages*, available at <http://www.bls.gov/oes> as of August 11, 2016.

truck or delivery services drivers (480) and first-line supervisors of transportation and material moving and vehicle operators (460). Heavy and tractor-trailer truck drivers earned a higher median wage (\$44,090) than light truck or delivery services drivers (\$31,140) but significantly less than first-line supervisors (\$71,010). First-line supervisors earned a higher median wage than all transportation and material moving workers and a slightly higher median wage than all utilities

workers. Heavy and tractor-trailer truck drivers and light truck or delivery services drivers earned less than the sector median wage (figure 3-8).

The 2002 Vehicle Inventory and Use Survey (VIUS) is the most recent survey of vehicle ownership and use by industry. According to the 2002 VIUS, the utilities industry operated, at 0.7 million, fewer trucks than many other industries and accumulated fewer miles (10.2 billion) (figure 3-9).

Figure 3-9 Trucks Used and Truck Miles Accumulated for Business by the Utilities Sector, 2002



NOTE: Totals for trucks in use only.

SOURCE: U.S. Census Bureau, 2002 Economic Census Vehicle Inventory and Use Survey, Table 2a, available at <https://www.census.gov/prod/ec02/ec02tv-us.pdf> as of August 2012