

Texas Workforce Commission

# Report on Texas Growth Occupations - 2017

LMCI  
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## **I. Executive Summary**

Texas Labor Code Section 302.019 requires the Texas Workforce Commission (TWC) to gather and study information relating to existing and projected shortages in high-wage, high-demand occupations in Texas annually, including for selected industries.

This report summarizes findings relating to existing and projected shortages in high-wage, high-demand occupations by industry in Texas. Data included in this report was the most current data available as of the end of fiscal year 2017. Thus, the Quarterly Census of Employment and Wages (QCEW) data covers the period through first quarter 2017. The Current Employment Statistics (CES) and Help Wanted Online (HWOL) data cover the period through the September 2017 estimates.

As of September 2017, Texas has experienced 89 consecutive months of annualized employment growth.

Texas remains driven by a continued economic shift towards high-skilled jobs in the Business and Professional Services sector, while the state's rapid population growth and aging baby-boomer population increases demand for service sector jobs, primarily Leisure and Hospitality and Education and Health Services. These three industries, in addition to Trade, Transportation, and Utilities, account for over 55 percent of the jobs in Texas.

The occupations showing the highest current demand according to the HWOL data are typical of the Professional, Scientific, and Technical Services, Health Care, and Transportation and Warehousing sectors. These industries also currently show the highest employment growth rates.

For this report, TWC staff measured industry employment levels over the most recent available five-year period (first quarter of 2012 to first quarter of 2017) using employment levels reported by Texas employers under TWC's QCEW program. This report included industry-level employment data along with HWOL data to provide comparison and context.

This report contains TWC's most current long- and short-term projections for employment growth in Texas. Long-term projections were released in September 2016 with a base year of 2014 covering the period of 2014 to 2024. Short-term projections were released in February 2017 with a base year of 2016 covering the period of 2016 to 2018. As a result, this report uses current employment statistics programs such as QCEW, CES and HWOL to better understand the current economic situation. The next short-term employment projections, covering the period of 2017 to 2019, will be released in the Spring of 2018. The next long-term employment projections, covering the period of 2016 to 2026, will be released in Fall 2018.

Due to shifts in the economy, required education and job training for the occupations in this report ranges from professional occupations requiring a college degree, to skilled trades in construction or manufacturing that require specific technical skills training. Some jobs in this report require no post-secondary education. However, higher-paying occupations tend to require:

- a) a bachelor's degree and specific technical skill training, or
- b) some form of post-secondary education, specific technical skill training, and additional on-the-job training.

Since no official definition of a high wage occupation exists, TWC focused in this report on growing occupations that pay more than the Texas median wage of \$35,484 per year.

In preparing the projections, TWC examined more than 800 occupations, segmenting them for specific industries. Those growth occupations are listed by industry sector in Section II. For more information on TWC's methodologies, please refer to the Methodology section at the end of this report.

## **II. Growth Occupations in Growth Industries**

Increasing populations and higher demand for goods and services continue to drive demand for workers in the United States, particularly in Texas and its surrounding states. In some key occupations, local supply has at times struggled to keep up with demand.

This report focuses on the most in-demand occupations in Texas from 2014 through 2024 (long-term) and 2016 through 2018 (short-term). It is important to remember that even similar job titles will require unique combinations of technical skills, education, work experience, and soft skills based on each employer's unique needs.

This section identifies occupations within major industries as defined in Chapter 302. The charts display staffing and wage information for a specific occupation in that specific industry. Occupations are then ranked by the projected employment change in Texas from 2014 to 2024. Listed industry employment data corresponds with that industry's North American Industry Classification System (NAICS) code.

## A. Construction

The construction industry is projected to grow by 27.8 percent from 2014 to 2024, creating the need for 177,390 workers over 10 years. Occupational projections also indicate that the highest demand will be for supervisors and for specialty trade workers to fill positions such as Electricians, Plumbers, and Carpenters.

In first quarter 2017, employment with Construction companies reached 698,844 workers. The industry has grown 23.8 percent over the last five years according to QCEW data and demand for construction workers continues to rise. Texas second quarter 2017 home sales rose significantly, while housing inventory remains at 4.1 months, driving average home prices up 6.8 percent from last year. These trends indicate strong demand for residential, commercial and industrial building projects.

Construction occupations projected to add the most jobs in the long- and short-term and pay above the Texas median wage of \$35,484 are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Electricians	39,740	53,490	13,750	34.6%	\$45,064
Supervisors of Construction Trades and Extraction Workers	43,440	55,330	11,890	27.4%	\$64,518
Plumbers, Pipefitters, and Steamfitters	27,290	35,160	7,870	28.8%	\$45,765
Carpenters	27,930	34,970	7,040	25.2%	\$38,164
Operating Engineers and Other Construction Equipment Operators	23,650	29,650	6,000	25.4%	\$40,437
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	14,680	19,910	5,230	35.6%	\$43,211
Office Clerks, General	24,000	29,200	5,200	21.7%	\$38,046
General and Operations Managers	17,280	22,160	4,880	28.2%	\$126,436
Construction Managers	21,080	25,160	4,080	19.4%	\$94,737
Welders, Cutters, Solderers, and Brazers	13,450	16,460	3,010	22.4%	\$54,478

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016- 2018</b>	<b>Percent Growth 2016- 2018</b>	<b>Average Annual Wage 2016</b>
Supervisors of Construction Trades & Extraction Workers	47,920	51,490	3,570	7.4%	\$64,518
Electricians	43,260	46,210	2,950	6.8%	\$45,064
Carpenters	30,820	32,910	2,090	6.8%	\$38,164
Plumbers, Pipefitters, & Steamfitters	29,850	31,800	1,950	6.5%	\$45,765
Operating Engineers & Other Construction Equipment Operators	25,970	27,770	1,800	6.9%	\$40,437
Construction Managers	23,310	24,800	1,490	6.4%	\$94,737
Office Clerks, General	26,290	27,770	1,480	5.6%	\$38,046
General & Operations Managers	18,940	20,230	1,290	6.8%	\$126,436
Heating, AC, & Refrigeration Mechanics & Installers	15,960	17,020	1,060	6.6%	\$43,211
Welders, Cutters, Solderers, & Brazers	14,780	15,760	980	6.6%	\$54,478

## B. Manufacturing

Texas produces more than 11 percent of the total manufactured goods in the United States. It also exports more goods by dollar value to Mexico and Canada than to any other country. Despite a strong dollar, which typically reduces demand for exports, the Dallas Federal Reserve Bank (DFRB) manufacturing production index posted 15 consecutive positive readings in September, suggesting manufacturing output continues to expand in Texas.

The Manufacturing industry has changed in recent years with increased automation, driving up manufacturing wages for 94 consecutive months according to the DFRB monthly Manufacturing Outlook survey. This is likely due to an increase in demand for higher-skilled employees. These ongoing changes may have fed the contraction of 11,000 manufacturing jobs from first quarter 2012 to first quarter 2017. The industry began showing positive growth starting in November 2016.

Manufacturing industry employment is expected to increase by 7.2 percent by 2024. This increase spans a broad range of skill sets including Industrial Machinery Mechanics; Computer Controlled Machine Tool Operators; and Welders, Cutters, Solderers, and Brazers, among others as shown below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Industrial Machinery Mechanics	10,990	14,090	3,100	28.2%	\$54,224
Supervisors of Production and Operating Workers	32,130	34,910	2,780	8.7%	\$68,371
Computer-Controlled Machine Tool Operators, Metal and Plastic	12,180	14,580	2,400	19.7%	\$40,446
Welders, Cutters, Solderers, and Brazers	25,550	27,730	2,180	8.5%	\$40,281
Heavy and Tractor-Trailer Truck Drivers	12,890	15,000	2,110	16.4%	\$38,872
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	20,250	22,070	1,820	9.0%	\$69,338
Chemical Equipment Operators and Tenders	11,420	13,220	1,800	15.8%	\$62,746
Maintenance Workers, Machinery	7,110	8,660	1,550	21.8%	\$44,713
General and Operations Managers	16,750	17,990	1,240	7.4%	\$143,065
Inspectors, Testers, Sorters, Samplers, and Weighers	25,340	26,560	1,220	4.8%	\$41,330

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Industrial Machinery Mechanics	10,510	10,980	470	4.5%	\$54,224
Heavy & Tractor-Trailer Truck Drivers	13,420	13,780	360	2.7%	\$38,872
Electrical & Electronics Engineering Technicians	7,390	7,630	240	3.2%	\$58,563
Industrial Engineers	8,320	8,500	180	2.2%	\$95,355
Chemical Equipment Operators & Tenders	11,720	11,900	180	1.5%	\$62,746
Computer-Controlled Machine Tool Operators, Metal & Plastic	10,600	10,770	170	1.6%	\$40,446
Semiconductor Processors	3,990	4,160	170	4.3%	\$36,594
Software Developers, Systems Software	6,480	6,630	150	2.3%	\$105,988
Maintenance Workers, Machinery	6,970	7,120	150	2.2%	\$44,713
Electronics Engineers, Exc. Computer	4,540	4,680	140	3.1%	\$114,522

## C. Agriculture and Forestry

Though the Agriculture and Forestry industry is one of Texas' smallest in terms of employment, it leads the nation in many ways. The industry produces the most cattle, cotton, hay, sheep, goats and mohair of any state in the nation.<sup>1</sup> Texas also has the most farms and ranches in the country: 248,800 covering 130.2 million acres.<sup>2</sup>

In Texas and across the nation, this industry has been using fewer and fewer workers in recent decades as farming methods have become more efficient. Farms now tend to be fewer in number, larger and more expensive to operate, but also much more productive.

From first quarter of 2012 to first quarter of 2017 the Agriculture and Forestry industry in Texas grew by 6.5 percent, adding 3,617 jobs. This trend is also supported by the Conference Board's HWOL data which has shown a 64 percent increase in job postings over the year. The industry is projected to add nearly 6,700 jobs by 2024, growing to 64,850 jobs total.

Agriculture and Forestry industry jobs projected to add the most positions over the long- and short-term are listed below.

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<sup>1</sup> Texas Department of Agriculture (<https://texasagriculture.gov/About/TexasAgStats>)

<sup>2</sup> Texas Department of Agriculture (<https://texasagriculture.gov/About/TexasAgStats>)



### Long-Term

<b>Occupational Title</b>	<b>Annual Average Employment 2014</b>	<b>Annual Average Employment 2024</b>	<b>Number Change 2014-2024</b>	<b>Percent Growth 2014-2024</b>	<b>Average Annual Wage 2016</b>
Farmers, Ranchers, and Other Agricultural Managers	5,300	5,640	340	6.4%	\$94,086
Heavy and Tractor-Trailer Truck Drivers	1,680	2,010	330	19.6%	\$36,358
Logging Equipment Operators	640	770	130	20.3%	\$37,895
Supervisors of Farming, Fishing, and Forestry Workers	2,200	2,270	70	3.2%	\$52,112
Food Scientists and Technologists	190	220	30	15.8%	\$58,669
Commercial Pilots	120	140	20	16.7%	\$56,053
Supervisors of Production and Operating Workers	70	80	10	14.3%	\$49,581
Bookkeeping, Accounting, and Auditing Clerks	430	430	0	0.0%	\$40,184
Supervisors of Office and Administrative Support Workers	70	70	0	0.0%	\$64,643
Foresters	50	50	0	0.0%	\$58,847

### Short-Term

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Food Scientists & Technologists	180	180	0	0.0%	\$58,669
Foresters	50	50	0	0.0%	\$58,847
Supervisors of Mechanics, Installers, & Repairers	40	40	0	0.0%	\$55,952
Bus & Truck Mechanics & Diesel Engine Specialists	40	40	0	0.0%	-
Supervisors of Production & Operating Workers	70	70	0	0.0%	\$49,581
Supervisors of Transportation & Material-Moving Machine & Vehicle Operators	20	20	0	0.0%	\$47,089
Heavy & Tractor-Trailer Truck Drivers	1,720	1,720	0	0.0%	\$36,358
Bookkeeping, Accounting, & Auditing Clerks	430	420	-10	-2.3%	\$40,184
Logging Equipment Operators	620	600	-20	-3.2%	\$37,895

\*Due to limited coverage in this industry, many agricultural workers are self-employed and are not covered by Unemployment Insurance and are not sampled by the OES program.

## **D. Health Care and Social Assistance**

The Health Care and Social Assistance industry grew to 1,530,608 positions in first quarter 2017. The industry has averaged 3.1 percent annual growth over the past 5 years, resulting in 219,818 jobs added. According to long-term industry projections, Health Care and Social Assistance employment is expected to grow to approximately 1,892,000 jobs by 2024, posting the strongest growth of the 11 industries in this report at 32.2 percent.

Ambulatory Health Care Services, which consists of doctors' and dentists' offices, outpatient care centers and medical and diagnostic laboratories, comprises about 47 percent of the Health Care and Social Assistance industry. Ambulatory Health Care Services has averaged 3.2 percent annual growth over the past five years, slightly faster than Health Care and Social Assistance overall.

A consistent need for nurses drives occupational demand within the Health Care and Social Assistance industry. HWOL shows the industry job postings are down 14.5 percent over-the-year perhaps largely due to Registered Nurses (RNs) postings declining 20 percent over the year. RNs account for one in four job postings in the industry. Licensed Practical and Licensed Vocational Nurses (LVNs), Nursing Assistants and Medical Assistants are also among the top 5 most listed positions. This historically strong demand is reflected in long-term occupational projections with RNs and LVNs projected to add the most positions over the coming years.

Health Care and Social Assistance occupations projected to add the most jobs in the long- and short-term are listed below.

**Long-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2014</b>	<b>Annual Average Employment 2024</b>	<b>Number Change 2014-2024</b>	<b>Percent Growth 2014-2024</b>	<b>Average Annual Wage 2016</b>
Registered Nurses	168,960	225,170	56,210	33.3%	\$70,361
Licensed Practical and Licensed Vocational Nurses	58,430	75,000	16,570	28.4%	\$46,357
Office Clerks, General	37,670	47,550	9,880	26.2%	\$38,816
Dental Assistants	23,620	30,090	6,470	27.4%	\$35,534
Medical and Health Services Managers	15,990	21,030	5,040	31.5%	\$102,340
Physical Therapists	11,380	15,580	4,200	36.9%	\$96,858
Medical Records and Health Information Technicians	12,700	16,750	4,050	31.9%	\$38,867
General and Operations Managers	11,770	15,700	3,930	33.4%	\$102,874
Radiologic Technologists	14,340	18,020	3,680	25.7%	\$55,675
Nurse Practitioners	6,850	10,460	3,610	52.7%	\$110,504

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Registered Nurses	178,780	186,130	7,350	4.1%	\$70,361
Licensed Practical & Licensed Vocational Nurses	61,240	63,260	2,020	3.3%	\$46,357
Office Clerks, General	40,400	41,980	1,580	3.9%	\$38,816
General & Operations Managers	12,670	13,400	730	5.8%	\$102,874
Medical & Health Services Managers	16,990	17,690	700	4.1%	\$102,340
Physical Therapists	12,150	12,840	690	5.7%	\$96,858
Physicians and Surgeons, All Other	17,850	18,430	580	3.2%	\$207,656
Dental Assistants	25,250	25,830	580	2.3%	\$35,534
Speech-Language Pathologists	7,600	8,110	510	6.7%	\$91,130
Medical Records & Health Information Technicians	13,380	13,870	490	3.7%	\$38,867

## E. Educational Services

Demand for Educational Services will continue to grow in Texas due to an expanding population. From 2010 to 2016, Texas added 2,716,496 people--more than any other state in the nation. During this span, school enrollment for persons three years of age and older jumped by 405,370 students, a 5.6 percent increase. Enrollment grew even more drastically over 10 years with 1,036,409 students added since 2006, a 15.8 percent increase.

QCEW data shows Educational Services employment added 95,530 jobs over five years beginning first quarter 2012, an 8.6 percent gain that puts industry employment at 1,210,629 jobs for first quarter 2017. The industry is expected to expand by another 21.7 percent from 2014 to 2024 according to the Texas Workforce Commission's long-term industry projections. HWOL has shown strong industry demand by adding 10.4 percent more postings over the year.

TWC's Occupational projections data estimate that Elementary, Secondary, and Middle School Teachers as well as Educational Administrators for both public and private Texas schools will all increase by 24.6 percent by 2024. Educational Services occupations projected to add the most jobs in the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Elementary School Teachers	137,720	171,550	33,830	24.6%	\$54,801
Secondary School Teachers	100,550	125,250	24,700	24.6%	\$55,488
Middle School Teachers	69,040	86,050	17,010	24.6%	\$55,000
Education Administrators, Elementary and Secondary School	23,140	28,840	5,700	24.6%	\$82,432
Educational, Guidance, School, and Vocational Counselors	20,940	25,840	4,900	23.4%	\$59,690
Kindergarten Teachers	14,090	17,580	3,490	24.8%	\$55,075
Health Specialties Teachers, Postsecondary	11,840	15,250	3,410	28.8%	\$108,816
Self-Enrichment Education Teachers	9,350	12,300	2,950	31.6%	\$40,237
Special Education Teachers, Kindergarten and Elementary School	11,720	14,590	2,870	24.5%	\$55,853
Instructional Coordinators	11,260	13,810	2,550	22.6%	\$68,589

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016- 2018</b>	<b>Percent Growth 2016- 2018</b>	<b>Average Annual Wage 2016</b>
Elementary School Teachers, Exc. Special Education	155,540	161,300	5,760	3.7%	\$54,801
Secondary School Teachers, Exc. Special & Career/Technical Education	113,530	117,750	4,220	3.7%	\$55,488
Middle School Teachers, Exc. Special & Career/Technical Education	77,980	80,870	2,890	3.7%	\$55,000
Education Administrators, Elementary & Secondary School	26,160	27,140	980	3.7%	\$82,432
Educational, Guidance, School, & Vocational Counselors	22,640	23,610	970	4.3%	\$59,690
Health Specialties Teachers, Postsecondary	11,490	12,220	730	6.4%	\$108,816
Self-Enrichment Education Teachers	10,390	11,120	730	7.0%	\$40,237
Kindergarten Teachers, Exc. Special Education	15,980	16,580	600	3.8%	\$55,075
Special Education Teachers, Kindergarten & Elementary School	13,240	13,730	490	3.7%	\$55,853
Instructional Coordinators	12,480	12,970	490	3.9%	\$68,589

## F. Transportation and Warehousing

The Transportation and Warehousing industry grew to an estimated 501,546 positions in first quarter 2017. The industry has averaged 3.8 percent annual growth over the past five years, adding 84,361 jobs. According to long-term industry projections, Transportation and Warehousing employment is expected to grow to approximately 561,000 positions by 2024.

Truck Transportation makes up about 27 percent of the overall Transportation and Warehousing industry, and has averaged 2.3 percent annual growth over the past five years. According to HWOL, Transportation and Warehousing postings are down 17 percent over the year largely due to local general freight trucking being down 45 percent over the year. However, job postings for long-distance general freight trucking, specialized freight, and general warehousing and storage are up over the year. Long-term occupational projections reflect this demand, as Heavy & Tractor-Trailer Drivers and Light Truck or Delivery Services Drivers are expected to add the most positions in the overall Transportation and Warehousing industry over 10 years.

Warehousing and Storage employment grew at an 11.8 percent annualized rate over the past five years, representing the addition of 34,891 jobs. This accounts for about 41 percent of the overall employment gains in Transportation and Warehousing over the past five years. This trend is expected to continue as Amazon and other online retailers expand their distribution infrastructure in Texas.

Transportation and Warehousing occupations projected to add the most jobs in the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Heavy and Tractor-Trailer Truck Drivers	90,830	114,730	23,900	26.3%	\$45,136
Light Truck or Delivery Services Drivers	17,810	23,010	5,200	29.2%	\$41,037
Flight Attendants	12,550	16,090	3,540	28.2%	\$55,952
Postal Service Mail Carriers	21,440	23,770	2,330	10.9%	\$50,379
Airline Pilots, Copilots, and Flight Engineers	8,070	10,340	2,270	28.1%	\$203,524
Cargo and Freight Agents	8,740	10,980	2,240	25.6%	\$47,718
Dispatchers, Except Police, Fire, and Ambulance	8,800	10,900	2,100	23.9%	\$39,945
Customer Service Representatives	8,210	10,150	1,940	23.6%	\$37,051
Aircraft Mechanics and Service Technicians	8,930	10,820	1,890	21.2%	\$64,831
Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	7,900	9,660	1,760	22.3%	\$64,357

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Heavy & Tractor-Trailer Truck Drivers	94,150	97,410	3,260	3.5%	\$45,136
Light Truck or Delivery Services Drivers	19,380	20,560	1,180	6.1%	\$41,037
Flight Attendants	14,400	15,060	660	4.6%	\$55,952
Customer Service Representatives	9,060	9,520	460	5.1%	\$37,051
Cargo & Freight Agents	9,560	10,010	450	4.7%	\$47,718
Airline Pilots, Copilots, & Flight Engineers	9,280	9,690	410	4.4%	\$203,524
General & Operations Managers	7,300	7,670	370	5.1%	\$121,374
Supervisors of Transportation & Material-Moving Machine & Vehicle Operators	8,460	8,820	360	4.3%	\$64,357
Reservation & Transportation Ticket Agents & Travel Clerks	8,960	9,300	340	3.8%	\$43,614
Supervisors of Helpers, Laborers, & Material Movers, Hand	4,340	4,680	340	7.8%	\$52,143

## G. Mining, Quarrying, and Oil and Gas Extraction

The Mining, Quarrying, and Oil and Gas Extraction industry projections, prepared in 2016 with a 2014 base year, do not adequately capture the industry's upswing over the past year. HWOL data shows industry job postings growing 135.8 percent annually in Texas, representing a net increase of 1,183 job postings over the year.

Automation has impacted the numbers of oil workers needed on rigs, while numbers of support and headquarters office personnel continue to rise. As oil prices continue to rise, recovery in the Mining, Quarrying, and Oil and Gas Extraction industry is expected to continue.

Mining, Quarrying, and Oil and Gas Extractions occupations projected to add the most jobs in the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	440	480	40	9.1%	\$36,161
Lawyers	1780	1800	20	1.1%	\$189,338
Paralegals and Legal Assistants	340	350	10	2.9%	\$65,059
Cartographers and Photogrammetrists	130	140	10	7.7%	\$77,468
Excavating and Loading Machine and Dragline Operators	1,390	1,390	0	0.0%	\$40,797
Loading Machine Operators, Underground Mining	80	80	0	0.0%	-
Operations Research Analysts	50	50	0	0.0%	\$91,522
Economists	50	50	0	0.0%	\$129,697
Legal Secretaries	30	30	0	0.0%	\$57,152
Civil Engineering Technicians	30	30	0	0.0%	\$68,623



**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Heavy & Tractor-Trailer Truck Drivers	10,310	10,650	340	3.3%	\$42,351
Helpers, Extraction Workers	4,500	4,570	70	1.6%	\$36,864
Derrick Operators, Oil & Gas	5,930	5,990	60	1.0%	\$51,051
Rotary Drill Operators, Oil & Gas	6,290	6,350	60	1.0%	\$55,071
Computer Systems Analysts	2,870	2,910	40	1.4%	\$110,740
Geological & Petroleum Technicians	3,470	3,510	40	1.2%	\$73,109
Maintenance Workers, Machinery	1,210	1,250	40	3.3%	\$44,329
Inspectors, Testers, Sorters, Samplers, & Weighers	2,340	2,380	40	1.7%	\$49,361
Supervisors of Mechanics, Installers, & Repairers	1,170	1,190	20	1.7%	\$83,120
Bus & Truck Mechanics & Diesel Engine Specialists	950	970	20	2.1%	\$46,351

## H. Utilities

With 49,852 private sector jobs in first quarter 2017, Utilities is one of the smallest industries covered by this report. Historic trend according to the QCEW has shown this industry growing by 1.2 percent over the last five years.

The Texas Utilities industry is projected to grow at 17.8 percent from 2014-2024, adding 8,550 private sector jobs during that time. The driving force behind this growth will likely be the increased infrastructure needs for Texas' rapidly expanding population. According to the Census, between 2015 and 2016, the Texas population grew at a faster rate than the nation. The state ranked first in absolute population change over the year, growing by 432,957 people, more than any other state.

Some of the larger expected growth occupations in the Utilities industry from 2014-2024 include: Electric Power-Line Installers and Repairers, Industrial Machinery Mechanics, Power Plant Operators, Customer Service Representatives, and Wind Turbine Service Technicians.

Utilities occupations projected to add the most jobs in the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Electrical Power-Line Installers and Repairers	4,580	5,400	820	17.9%	\$60,167
Industrial Machinery Mechanics	1,150	1,630	480	41.7%	\$61,233
Power Plant Operators	2,590	3,060	470	18.1%	\$70,052
Customer Service Representatives	2,170	2,550	380	17.5%	\$40,801
Water and Wastewater Treatment Plant and System Operators	1630	1930	300	18.4%	\$37,402
Wind Turbine Service Technicians	210	510	300	142.9%	\$62,767
Control and Valve Installers and Repairers, Except Mechanical Door	1,460	1,720	260	17.8%	\$49,619
Supervisors of Mechanics, Installers, and Repairers	1,350	1,590	240	17.8%	\$77,176
General and Operations Managers	1,350	1,590	240	17.8%	\$136,482
Office Clerks, General	1,800	2,020	220	12.2%	\$37,048

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Water & Wastewater Treatment Plant & System Operators	1,720	1,820	100	5.8%	\$37,402
General & Operations Managers	1,420	1,450	30	2.1%	\$136,482
Customer Service Representatives	2,290	2,320	30	1.3%	\$40,801
Computer Systems Analysts	560	580	20	3.6%	\$95,297
Office Clerks, General	1,900	1,920	20	1.1%	\$37,048
Supervisors of Mechanics, Installers, & Repairers	1,430	1,450	20	1.4%	\$77,176
Control & Valve Installers & Repairers, Exc. Mechanical Door	1,530	1,550	20	1.3%	\$49,619
Maintenance & Repair Workers, General	650	670	20	3.1%	\$43,915
Power Plant Operators	2,770	2,790	20	0.7%	\$70,052
Financial Managers	270	280	10	3.7%	\$145,095

## I. Wholesale Trade

The Wholesale Trade industry in Texas is predicted to grow 22.1 percent from 2014-2024, adding an additional 118,430 jobs during that period. This exceeds the overall statewide industry forecasted growth rate of 20.7 percent over 10 years. Wholesale Trade has grown by 48,585 jobs over the last five years, a five-year job growth percentage increase of 9.2 percent according to QCEW.

The five largest growth occupations in the Wholesale Trade industry include: Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products; Heavy and Tractor-Trailer Truck Driver; Office Clerks-General; Drivers/Sales Workers; and Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products.

Wholesale Trade occupations projected to add the most jobs in the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	74,750	92,750	18,000	24.1%	\$74,126
Heavy and Tractor-Trailer Truck Drivers	23,190	28,610	5,420	23.4%	\$40,649
Office Clerks, General	26,660	31,280	4,620	17.3%	\$37,437
Customer Service Representatives	16,440	20,330	3,890	23.7%	\$36,443
General and Operations Managers	16,040	19,760	3,720	23.2%	\$140,048
Driver/Sales Workers	16,060	19,710	3,650	22.7%	\$38,125
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	14,520	17,910	3,390	23.3%	\$98,064
Supervisors of Non-Retail Sales Workers	8,480	10,520	2,040	24.1%	\$81,665
Supervisors of Office and Administrative Support Workers	7,000	8,630	1,630	23.3%	\$56,740
Parts Salespersons	6,450	7,860	1,410	21.9%	\$38,772

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Heavy & Tractor-Trailer Truck Drivers	22,850	23,350	500	2.2%	\$40,649
Sales Representatives, Wholesale & Manufacturing, Exc. Technical & Scientific Products	74,180	74,670	490	0.7%	\$74,126
General & Operations Managers	15,860	16,190	330	2.1%	\$140,048
Driver/Sales Workers	16,040	16,300	260	1.6%	\$38,125
Bus & Truck Mechanics & Diesel Engine Specialists	3,310	3,490	180	5.4%	\$47,572
Industrial Machinery Mechanics	2,630	2,800	170	6.5%	\$49,086
Market Research Analysts & Marketing Specialists	4,180	4,310	130	3.1%	\$77,002
Sales Representatives, Wholesale & Manufacturing, Technical & Scientific Products	15,430	15,560	130	0.8%	\$98,064
Computer Systems Analysts	3,310	3,430	120	3.6%	\$88,658
Customer Service Representatives	16,630	16,740	110	0.7%	\$36,443

## J. Retail Trade

Retail Trade is a large, important and growing industry in Texas. An expanding economy and growing population have increased demand for retail goods. In first quarter of 2017 alone, gross sales in Texas' Retail Trade industry reached \$99 billion.<sup>3</sup> Eight of the top 100 U.S. retail companies headquarter in Texas.<sup>4</sup>

The industry is projected to add nearly 250,000 jobs by 2024, growing to 1,494,870 jobs total. From first quarter 2012 to first quarter 2017, Texas' Retail Trade industry grew more than 13 percent, representing 2.5 percent annualized growth and 153,752 jobs added over five years. In the recent year, Retail Trade growth has slowed to 1.2 percent annually, likely due to the competition between brick and mortar retail and electronic commerce. Technology is immersing itself into the industry to a growing degree, with increasing analytics on customers, inventory and conversions.

Retail Trade industry jobs projected to add the most positions over the long-term are listed below. Typical Retail Trade industry jobs such as retail sales people, cashiers and stock clerks and order fillers are projected to grow by the largest number. However, these occupations pay below the state median wage and therefore do not appear in this analysis. In the coming years, given the increase in the use of technology in the industry, we may see changes in the in-demand occupations typically associated with Retail.

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<sup>3</sup> Texas Comptroller of Public Accounts, <http://comptroller.texas.gov/taxinfo/staxqtr/stxqtr02.html>

<sup>4</sup> National Retail Federation, <https://nrf.com/advocacy/retails-impact/tx>

**Long-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2014</b>	<b>Annual Average Employment 2024</b>	<b>Number Change 2014-2024</b>	<b>Percent Growth 2014-2024</b>	<b>Average Annual Wage 2016</b>
Supervisors of Retail Sales Workers	90,110	107,420	17,310	19.2%	\$46,783
Automotive Service Technicians and Mechanics	23,550	28,110	4,560	19.4%	\$41,874
General and Operations Managers	16,670	20,220	3,550	21.3%	\$107,552
Supervisors of Office and Administrative Support Workers	13,580	16,430	2,850	21.0%	\$50,889
Pharmacists	12,040	13,690	1,650	13.7%	\$126,302
Supervisors of Mechanics, Installers, and Repairers	4,480	5,570	1,090	24.3%	\$67,458
Automotive Body and Related Repairers	3,530	4,480	950	26.9%	\$47,442
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	4,250	5,150	900	21.2%	\$104,390
Heavy and Tractor-Trailer Truck Drivers	3,820	4,590	770	20.2%	\$37,917
Sales Managers	3,470	4,190	720	20.7%	\$130,654

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Supervisors of Retail Sales Workers	94,080	97,370	3,290	3.5%	\$46,783
Automotive Service Technicians & Mechanics	25,450	26,300	850	3.3%	\$41,874
General & Operations Managers	17,600	18,270	670	3.8%	\$107,552
Supervisors of Office & Administrative Support Workers	14,340	14,980	640	4.5%	\$50,889
Sales Representatives, Services, All Other	8,900	9,200	300	3.4%	\$41,487
Pharmacists	12,690	12,970	280	2.2%	\$126,302
Sales and Related Workers, All Other	4,090	4,300	210	5.1%	\$35,566
Sales Representatives, Wholesale & Manufacturing, Exc. Technical & Scientific Products	4,560	4,750	190	4.2%	\$104,390
Supervisors of Mechanics, Installers, & Repairers	4,830	5,020	190	3.9%	\$67,458
Automotive Body & Related Repairers	3,820	3,990	170	4.5%	\$47,442

## K. Finance and Insurance

From 2014 to 2024, the Finance and Insurance industry is projected to grow by 17.6 percent, adding 85,760 jobs. Projections indicate most jobs will be available in positions such as Insurance Claims & Policy Clerks, Customer Service Representatives, and Financial Services Sales Agents.

First Quarter 2017 QCEW data indicates the industry totaled 520,087 jobs and has grown 12.9 percent over the last five years.

Large firms are headquartered in cities across Texas, with the Dallas metroplex a large and continually growing international financial center. Texas' high population growth rate will also continue to drive this sector as more residents create demand for loans and insurance policies.

Finance and Insurance occupations projected to add the most jobs in the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Customer Service Representatives	48,030	57,440	9,410	19.6%	\$36,365
Insurance Sales Agents	35,890	44,220	8,330	23.2%	\$58,370
Insurance Claims and Policy Processing Clerks	26,130	31,730	5,600	21.4%	\$39,696
Personal Financial Advisors	12,470	16,840	4,370	35.0%	\$115,865
Loan Officers	21,240	25,570	4,330	20.4%	\$82,419
Loan Interviewers and Clerks	20,590	24,790	4,200	20.4%	\$47,110
Supervisors of Office and Administrative Support Workers	23,590	27,600	4,010	17.0%	\$64,491
Securities, Commodities, and Financial Services Sales Agents	22,860	26,860	4,000	17.5%	\$87,625
Claims Adjusters, Examiners, and Investigators	11,790	14,130	2,340	19.8%	\$71,335
General and Operations Managers	8,960	10,820	1,860	20.8%	\$172,151



**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Customer Service Representatives	51,260	53,870	2,610	5.1%	\$36,365
Insurance Claims & Policy Processing Clerks	29,010	31,300	2,290	7.9%	\$39,696
Supervisors of Office & Administrative Support Workers	24,460	25,190	730	3.0%	\$64,491
Securities, Commodities, & Financial Services Sales Agents	23,550	24,260	710	3.0%	\$87,625
Loan Interviewers & Clerks	21,620	22,270	650	3.0%	\$47,110
Loan Officers	22,040	22,630	590	2.7%	\$82,419
Secretaries & Administrative Assistants, Exc. Legal, Medical, & Executive	11,750	12,310	560	4.8%	\$41,010
Financial Analysts	9,290	9,790	500	5.4%	\$100,838
Accountants & Auditors	9,310	9,800	490	5.3%	\$91,239
General & Operations Managers	9,580	10,060	480	5.0%	\$172,151

## L. Professional, Scientific, and Technical Services

From 2014 to 2024, the Professional and Technical Services industry is projected to grow by 26.2 percent, adding 168,040 jobs. Establishments in this industry employ workers in many different occupations. Projections indicate most jobs will be available in highly skilled positions such as Software Developers, Accountants, and Lawyers.

QCEW data indicates jobs in this industry totaled 737,459 as of first quarter 2017. Also, for the first time in the QCEW series history, Professional, Scientific, and Technical Services is the industry with the largest employment in a Workforce Development Area (WDA) in Texas: The Capital Area WDA, which consists of Austin's Travis county. This aligns with the trend we have observed since 2014 with at least two dozen Silicon Valley tech companies relocating to or opening offices in Texas. A number of these firms recently built or expanded major campuses in Austin.

This large industry is expected to continue growing rapidly through 2024. Demand for highly skilled technology workers will likely drive growth in this industry group. This bodes well for Texas since many of these occupations also command higher than average salaries.

Professional, Scientific, and Technical Services occupations projected to add the most jobs in the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Accountants and Auditors	37,380	51,580	14,200	38.0%	\$82,599
Computer Systems Analysts	24,240	34,350	10,110	41.7%	\$96,510
Software Developers, Applications	19,170	26,470	7,300	38.1%	\$106,522
Lawyers	25,570	32,360	6,790	26.6%	\$155,716
Computer User Support Specialists	14,100	19,490	5,390	38.2%	\$55,872
Office Clerks, General	28,940	34,250	5,310	18.3%	\$39,264
Paralegals and Legal Assistants	17,290	22,220	4,930	28.5%	\$52,482
Software Developers, Systems Software	12,990	17,750	4,760	36.6%	\$110,807
General and Operations Managers	16,330	20,790	4,460	27.3%	\$162,158
Management Analysts	13,020	17,130	4,110	31.6%	\$106,006

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Computer Systems Analysts	27,800	29,890	2,090	7.5%	\$96,510
Accountants & Auditors	37,560	39,560	2,000	5.3%	\$82,599
Software Developers, Applications	22,200	23,720	1,520	6.8%	\$106,522
Computer User Support Specialists	16,060	17,160	1,100	6.8%	\$55,872
Software Developers, Systems Software	14,770	15,740	970	6.6%	\$110,807
Management Analysts	14,160	15,010	850	6.0%	\$106,006
Office Clerks, General	30,130	30,920	790	2.6%	\$39,264
General & Operations Managers	17,490	18,270	780	4.5%	\$162,158
Lawyers	25,350	26,080	730	2.9%	\$155,716
Customer Service Representatives	13,840	14,500	660	4.8%	\$38,264

## M. Accommodation and Food Services

The Accommodation and Food Services industry remains among the strongest performing industries in Texas and is projected to grow by 29.7 percent, adding 315,180 jobs over 10 years. This industry also grows with population and tourism which have been booming. Industry growth spans many occupations with a wide range of salaries and education levels such as Event Planners, Chefs, Accountants and Heavy Truck Drivers.

From first quarter 2012 to first quarter 2017, Accommodation and Food Services in Texas grew by more than 22 percent, adding 212,887 jobs. Over 80 percent of the industry consists of the Restaurants subsector, which has grown 24 percent over the last five years. Special Food Services comprises only 4.5 percent of the Accommodation and Food Services industry, but has grown 30.5 percent over the last five years, likely due to the recent proliferation of food trucks.

Accommodation and Food Services jobs projected to add the most positions over the long- and short-term are listed below.

### Long-Term

Occupational Title	Annual Average Employment 2014	Annual Average Employment 2024	Number Change 2014-2024	Percent Growth 2014-2024	Average Annual Wage 2016
Supervisors of Food Preparation and Serving Workers	64,540	88,150	23,610	36.6%	\$38,553
Food Service Managers	9,780	12,780	3,000	30.7%	\$59,658
Chefs and Head Cooks	6,360	8,380	2,020	31.8%	\$44,790
General and Operations Managers	6,500	8,480	1,980	30.5%	\$87,244
Lodging Managers	2,740	3,420	680	24.8%	\$52,271
Supervisors of Office and Administrative Support Workers	2,090	2,590	500	23.9%	\$45,330
Meeting, Convention, and Event Planners	1,280	1,650	370	28.9%	\$49,763
Accountants and Auditors	870	1,090	220	25.3%	\$56,374
Supervisors of Retail Sales Workers	510	680	170	33.3%	\$45,795
Public Relations Specialists	560	720	160	28.6%	\$54,696

**Short-Term**

<b>Occupational Title</b>	<b>Annual Average Employment 2016</b>	<b>Annual Average Employment 2018</b>	<b>Number Change 2016-2018</b>	<b>Percent Growth 2016-2018</b>	<b>Average Annual Wage 2016</b>
Supervisors of Food Preparation & Serving Workers	71,210	76,040	4,830	6.8%	\$38,553
Food Service Managers	10,810	11,440	630	5.8%	\$59,658
Chefs & Head Cooks	7,040	7,460	420	6.0%	\$44,790
General & Operations Managers	7,130	7,530	400	5.6%	\$87,244
Supervisors of Housekeeping & Janitorial Workers	2,250	2,310	60	2.7%	\$36,537
Supervisors of Office & Administrative Support Workers	2,210	2,270	60	2.7%	\$45,330
Meeting, Convention, & Event Planners	1,380	1,430	50	3.6%	\$49,763
Accountants & Auditors	940	980	40	4.3%	\$56,374
Public Address System & Other Announcers	780	820	40	5.1%	\$49,875
Public Relations Specialists	610	640	30	4.9%	\$54,696

### **III. Conclusions**

TWC reviewed the top growth occupations across the key industries for this report as required by statute. TWC tracks approximately 800 different occupations and employment is projected to increase in almost all those occupations across industries.

Economic changes can impact employment in all industries in Texas. Still, demand across occupations varies depending on the needs of employers in different industries and locations.

A key demographic shift is increasing demand for many occupations. Texas employers continue to experience the retirements of the Baby Boom generation. Baby Boomers have long dominated the workforce in many Texas industries. However, many are now in their sixties and are retiring at an increasing rate.

These workforce demographic and economic changes are occurring as Texas employers also have enhanced their employment requirements. Hiring managers are looking for more workers while also demanding more technical skills, work experience and education than in the past.

In high-demand, high-wage fields, such trends lead to rising demand for workers with:

- a) a bachelor's degree and specific technical skill training
- b) some form of post-secondary education, specific technical skill training, and additional on-the-job training

### **IV. Methodology**

TWC collects data and makes projections on employment by industry as part of its contracts with the U.S. Bureau of Labor Statistics and the Employment and Training Administration division of the U.S. Department of Labor (DOL). These contracts also guided TWC's statistical data standards. In accordance with the statistical methodology established by DOL and the federal Office of Management and Budget, TWC calculated employment data for approximately 800 occupations to analyze pay ranges and growth trends for these different occupations.

TWC measures many aspects of the Texas labor market. The number of workers employed and wages paid by industry are tracked by QCEW. This program utilizes data from TWC's Unemployment Insurance program and is updated every three months. Wage information for specific occupations is gathered from surveys sent to sampled employers in the Occupational Employment Statistics (OES) program, which updates each year.

Employers supply the data for these programs, and TWC analyzed the employment and wage data from both the QCEW and OES programs. This data is further supplemented by monthly employment data

from the CES program surveys of employers in Texas. These programs serve to validate each other in identifying staffing trends with employers.

TWC then examines the number of workers by industry as the basis for producing industry employment projections. TWC produces these industry employment projections and corresponding occupational employment projections to help job seekers, students, parents, policy makers, and company hiring managers better understand their regional labor market. Occupational employment growth is based on industry growth and other variables, which will include population growth and changing skill requirements by employers.

The current long-term projections for employment by industry and occupation were completed by TWC in September 2016 for the period of 2014 to 2024 and the short-term projections were completed in February 2017 for the period of 2016 to 2018. This report also includes industry employment level comparisons from QCEW data over the most recent five years and from HWOL data over the year to give context, as Section II of this report shows.

This report focuses on occupations with high demand or significant job openings and high pay rates as required by statute. Not all occupations are specific to a single industry.

The median pay across all occupations in Texas is \$35,484 a year, according to the most recent OES survey of Texas employers. For the purposes of this report, TWC only looked at occupations where the annual pay was estimated to be more than the statewide median, \$35,484 a year.