

Water & Wastewater Industry 2022 Salary Survey



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From the Desk of our Executive Director



It has been fifteen years since PRWA last completed a salary survey. In 2007 when that survey was completed, rural systems were struggling to set fair wages and rates. The industry was aware of an aging workforce, and fewer and fewer workers were joining our industry.

Fifteen years later, these trends continue. Our workforce has aged fifteen years, with little prospect of replacement. Additionally, systems report losing qualified and skilled workers to other industries and competing systems. Adding in the impacts of a national staffing crisis, systems struggle to maintain enough workers for basic services. In an attempt to shed some light on trends in our industry PRWA embarked on this Salary Survey.

The results revealed a few trends that may help systems and workers alike when considering a fair wage and how to retain workers. The results show three key points.

- 1) The private for-profit sector of our industry offers higher pay. This limits the availability of workers for the public or non-profit sectors.
- 2) Our industry pays less than competing industries, pushing skilled workers to shift career focus or start on different career paths.
- 3) At an individual level, experience and education provide for greater salaries.

As we enter a new age of employment, our industry must strive to train and keep the best workers we can. Public health and security depend on our ability to do so. We at PRWA hope that the data collected and analyzed in these pages helps each of you to see ways to improve your workforce and your system.

A handwritten signature in black ink that reads "Joseph Falcone". The signature is written in a cursive, flowing style.

Joseph Falcone
Executive Director

Pennsylvania Rural Water Association

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The Value of Retaining and Training Employees

Retaining employees typically costs less than hiring new staff. According to the Society of Human Resource Management, hiring a new employee can have an associated HR cost of over \$4,000. At the same time, the 2020 Industry Training Report suggests that training an existing employee will run about \$1,111 per year relating to internal company policy and protocols.ⁱ When discussing the costs of training and retaining licensed water and wastewater operators, the cost is exacerbated greatly due to the required experience, certification process, ongoing licensure training requirements, and time to proficiency at your unique system. Notwithstanding, maintaining competitive wages for existing employees against industry competitors and against competing industries is also essential for retaining trained and motivated employees. HR Profiling Solutions published an online article in 2021 (graphic below) outlining 10 potential benefits of retaining employees in the workplace that should cause pause for consideration of employers.ⁱⁱ The PRWA Salary Survey is intended to give you practical information and tools to maintain competitive employee compensation toward the end of retaining trained employees and achieving success and sustainability for years to come. If you need guidance, Chad Heister can offer sustainability advice. Contact him at (814) 404-1335. Joe Falcone can assist with other financial matters and can be contacted at (814) 353-9302.



Survey Methodology

Beginning in March of 2022, PRWA began collecting voluntary Salary Survey responses from workers in the Water and Wastewater industry. These workers included operators, managers, office staff, and laborers. Surveys were completed anonymously with only a worker's zip code identifying the location of employment.

PRWA received 623 surveys with reliable data. Surveys with errors or inconsistencies were excluded from all analyses by PRWA staff.

Due to the nature of industry wages, some calculations needed to be made for comparison. If a survey indicated an hourly wage, with or without overtime, the annual salary was calculated by multiplying hourly wage by a standard 40-hour work week along with any noted overtime hours. Similarly, if a survey only listed annual salary, this number was used to calculate an hourly wage. This report presents all survey results as hourly and annual wages.

If fewer than five responses were received for any groupings in the informational tables, the results were excluded. These sections are displayed an "NA" within the displayed tables.

Salary and Wage Survey Results

This survey shows workers in all job descriptions receive approximately \$64,000 per year in annual earnings. Workers in higher income counties were paid more than those in lower income counties. The income for all workers in this industry is higher than the mean salary for Pennsylvania workers of \$55,490ⁱⁱⁱ.

A clear trend was discovered when comparing public (authorities or municipalities), private for-profit, and private non-profit employers. For-profit employees made, on average, \$25,400 more per year than the average reported wage. Private non-profit employees made nearly \$5,000 less, and public employees made approximately \$1,000 less yearly than the average. The takeaway from this is private for-profit employers pay their workers more. Public and non-profit systems should consider these wages when seeking to retain or attract employees.

Wage Comparison of All Employee Types

All Employees Surveyed	Annual Salary			Hourly Wage		
	Statewide	*Higher Income County	*Lower Income County	Statewide	*Higher Income County	*Lower Income County
All Results	\$64,015.44	\$69,375.82	\$56,599.76	\$29.43	\$31.89	\$26.07
Non-Licensed Employees	\$51,165.12	\$55,624.30	\$46,588.59	\$24.35	\$26.47	\$22.17
Licensed Employees	\$65,821.06	\$71,051.78	\$58,321.14	\$30.14	\$32.55	\$26.74
Full Time	\$64,960.92	\$70,192.84	\$57,678.39	\$29.81	\$32.21	\$26.52
Part-Time (annualized)	\$45,263.57	\$51,860.90	\$37,723.77	\$21.76	\$24.93	\$18.14
Authority or Municipality	\$63,046.30	\$68,507.72	\$55,541.22	\$29.16	\$31.66	\$25.80
Private For-Profit	\$89,449.64	\$99,941.18	\$73,235.45	\$37.66	\$42.23	\$30.61
Private Non-Profit	\$59,229.81	\$57,901.95	\$61,221.60	\$27.04	\$27.05	\$27.02

* See page 16, Median Household Income data, to determine if you live in a higher or lower income county.

As expected, employees who have longer tenure at one system make more than newer counterparts. Employees with longer tenure may also enjoy greater benefits such as increased paid time off than less tenured employees, while systems reap the reward of their expertise.

Education also plays a role in an individual's pay. Certified operators receive, on average, \$14,500 per year more than non-certified operators. Furthermore, workers with more sub-classes and more education make more annually than those with few subclasses. Although the PRWA data may not show this in all categories, likely due to the number of responses for each category and individual differences between system pay, workers with more sub-classes and more education will normally make more annually than those with few subclasses.

Wage Comparison of Tenure at System

Tenure	Annual Salary			Hourly Wage		
	Statewide	*Higher Income County	*Lower Income County	Statewide	*Higher Income County	*Lower Income County
3 or less years	\$46,524.42	\$50,011.91	\$44,054.28	\$21.76	\$23.48	\$20.59
10 or less years	\$57,358.72	\$61,121.12	\$52,631.78	\$25.96	\$27.69	\$23.78
11 or more years	\$71,519.64	\$75,344.29	\$64,746.75	\$32.94	\$34.71	\$29.90

* See page 16, Median Household Income data, to determine if you live in a higher or lower income county.

Licensed Wastewater Operator Wages by Certification & Sub-classifications

License Classification	Annual Salary			Hourly Wage		
	Statewide	*Higher Income County	*Lower Income County	Statewide	*Higher Income County	*Lower Income County
A WW License	\$70,724.39	\$73,264.04	\$65,475.84	\$32.51	\$33.52	\$30.46
B WW License	\$63,478.01	\$66,586.92	\$57,704.31	\$28.98	\$30.78	\$25.63
C WW License	\$59,315.81	\$66,834.96	\$52,335.29	\$26.56	\$29.94	\$23.33
D WW License	\$47,520.14	NA	NA	\$22.74	NA	NA
E WW License	\$67,506.76	\$70,773.95	\$61,958.10	\$31.14	\$32.66	\$28.60
Sub-classifications	Annual Salary			Hourly Wage		
	Statewide	*Higher Income County	*Lower Income County	Statewide	*Higher Income County	*Lower Income County
One subclass	\$69,514.72	\$72,935.13	\$62,628.68	\$31.59	\$32.81	\$29.04
Two subclasses	\$57,915.84	\$59,560.39	\$54,399.78	\$26.94	\$27.71	\$25.39
Three subclasses	\$62,050.41	\$62,697.81	\$61,098.35	\$28.22	\$28.50	\$27.81
Four subclasses	\$72,255.13	\$77,850.79	\$63,108.25	\$33.16	\$35.91	\$28.66
Five subclasses	\$73,538.23	\$74,925.68	\$70,168.71	\$34.11	\$34.76	\$32.52

* See page 16, Median Household Income data, to determine if you live in a higher or lower income county.

Licensed Water Operator Wages by Certification and Sub-classifications

License Classification	Annual Salary			Hourly Wage		
	Statewide	*Higher Income County	*Lower Income County	Statewide	*Higher Income County	*Lower Income County
A Water License	\$70,870.13	\$76,290.79	\$62,149.74	\$32.10	\$34.94	\$27.66
B Water License	\$60,459.86	\$65,395.73	\$55,053.90	\$28.05	\$31.01	\$24.81
C Water License	\$53,951.05	\$63,664.32	\$46,180.43	\$24.60	\$29.04	\$21.04
D Water License	\$52,414.36	\$62,008.00	\$47,084.56	\$24.78	\$27.50	\$23.27
E Water License	\$63,712.30	\$71,104.25	\$55,372.67	\$29.10	\$32.72	\$25.01
Sub-classifications	Annual Salary			Hourly Wage		
	Statewide	*Higher Income County	*Lower Income County	Statewide	*Higher Income County	*Lower Income County
Three or less subclasses	\$58,936.45	\$64,649.97	\$51,740.25	\$26.85	\$29.05	\$24.16
Four to six subclasses	\$60,034.56	\$67,605.97	\$51,072.50	\$27.65	\$31.77	\$22.77
Seven to nine subclasses	\$80,462.29	\$88,132.63	\$66,301.68	\$36.29	\$39.72	\$29.97
Ten to twelve subclasses	\$71,152.00	NA	\$74,400.00	\$30.97	NA	\$31.89
Thirteen to fifteen subclasses	\$78,983.71	\$84,513.40	\$70,696.76	\$36.15	\$39.49	\$31.44

* See page 16, Median Household Income data, to determine if you live in a higher or lower income county.

Employee Benefits Survey Results

Pay is not the only consideration when looking at one's net salary. Benefits play an important role in overall employee compensation and morale. On average, employees are given 35.6 paid time off (PTO) days a year. When considering hourly wages reported, public employees receive \$8,350, Private For-Profit receive \$9,189, and Private Non-Profit receive \$7,920 in PTO each year.

Retirement is considered a standard benefit for most employers, and our industry is no different. Only 4.2 percent of those surveyed were not offered retirement benefits.

Municipal Authorities offered the majority of pension plans. Matching or profit-sharing 401K plans were the common options with For-Profit systems.

Paid Time Off by System Ownership Type

Paid Time Off		State-Wide Reported Average
Paid Holidays	ALL	9.8
	Authority or Municipality	9.9
	Private for Profit	8.4
	Private Non-Profit	10.1
Sick Days	ALL	8.5
	Authority or Municipality	8.7
	Private for Profit	4.8
	Private Non-Profit	7.3
Vacation Days	ALL	17.3
	Authority or Municipality	17.2
	Private for Profit	17.3
	Private Non-Profit	18.9
Total PTO	ALL	35.6
	Authority or Municipality	35.8
	Private for Profit	30.5
	Private Non-Profit	36.3

Retirement Package by System Ownership Type

Retirement Type		Percent Surveyed with Benefit
		Statewide
Retirement	457	2.52%
	401K	13.45%
	401K w/ match or profit share	20.00%
	None	4.20%
	Pension	59.83%
	Total	100.00%
Retirement if Authority or Municipality	457	2.79%
	401K	12.29%
	401K w/ match or profit share	16.76%
	None	4.47%
	Pension	63.69%
	Total	100.00%
Retirement if Private for Profit	401K	33.33%
	401K w/ match or profit share	62.96%
	Pension	NA
	Total	96.29%
Retirement if Private Non-Profit	401K	16.13%
	401K w/ match or profit share	38.71%
	None	NA
	Pension	41.94%
	Total	96.78%

Another standard benefit is insurance for a worker and their family. Nearly all respondents reported being able to receive health insurance through their employer. Of those with the option to receive health insurance, nearly half responded that they contributed monetarily to that plan.

Other insurances such as dental, vision, life, and disability were less common but offered to most employees. Private for-profit systems were more likely to provide these benefits than others. Compared to national averages, the water and wastewater industry provides more paid days off, insurance, and retirement benefits than most employers^{iv}.

When considering the annual total compensation afforded through these benefits, many assumptions must be made. Using the employee healthcare contribution percentages indicated in the survey below, public employees gain \$6,000 annually, private for-profit gain just under \$6,000 annually, and private non-profit gain \$5,000 annually. These approximations are based on Bureau of Labor and Statistics data for the national average cost of health insurance.^{iv}

Employee Insurance Compensation by Ownership Type

Ownership Type	Health (Yes)	Contribution to Health (Yes)	Dental (Yes)	Vision (Yes)	Life (Yes)	Short Term Disability (Yes)	Contribution to Disability (Yes)
All	91.68%	52.12%	79.52%	77.28%	74.88%	65.60%	11.06%
Authority or Municipality	91.81%	49.49%	79.00%	76.51%	74.56%	65.84%	9.04%
Private for Profit	96.43%	73.08%	96.43%	92.86%	89.29%	78.57%	19.05%
Private Non-Profit	85.71%	78.57%	74.29%	77.14%	68.57%	51.43%	42.11%

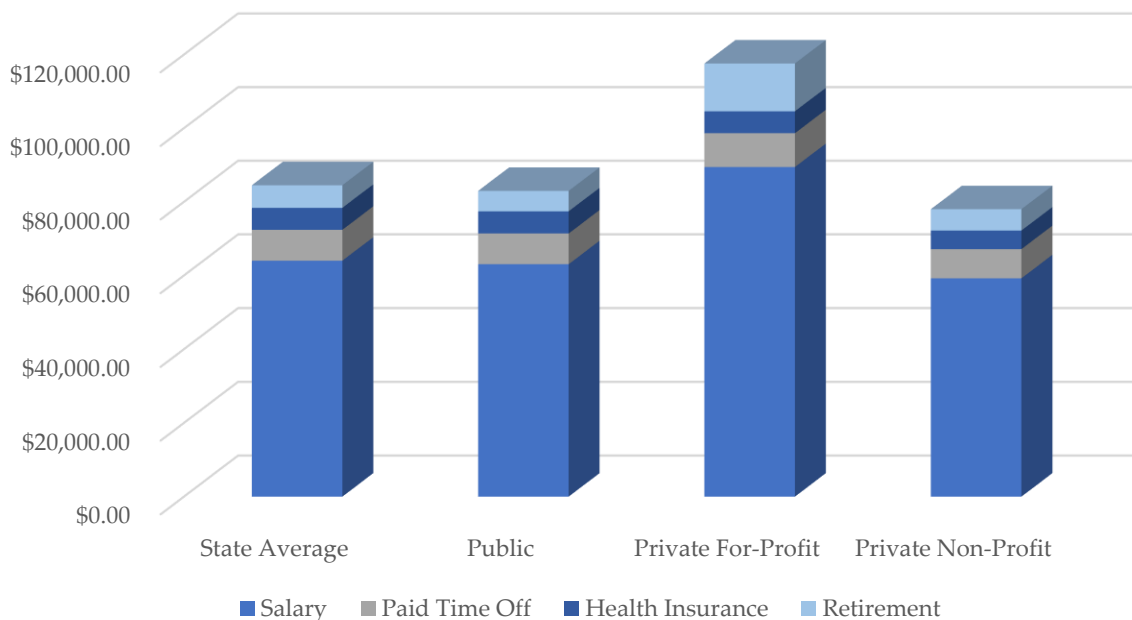
Graphic Analysis of Wage & Benefit Data

The information from the previous pages is presented here as graphs. This may be beneficial for some people. All costs for “net annual earnings” were extrapolated from PRWA data or the Bureau of Labor and Statistics data.^{iv}

Annual Salary by Industry Type



Net Annual Earnings



Industry vs Industry Wage Comparison

It is well known that positions will have differences in pay based on differing responsibilities. Each system may have many diverse positions in our industry due to the breadth of job descriptions of employees within the water & wastewater industry. Using data from this survey and that provided by the Bureau of Labor and Statistics, it is evident that our workers make less than they would in other similar industries. This is particularly true of our operators and laborers. To retain and recruit employees with greater success, wages must be comparable to other industries.^v

Wage Comparison by Job Description

All Employees Surveyed	Annual Salary		
	Statewide	*Higher Income County	*Lower Income County
All Results	\$64,015.44	\$69,375.82	\$56,599.76
Non-Licensed Employees	\$51,165.12	\$55,624.30	\$46,588.59
Licensed Employees	\$65,821.06	\$71,051.78	\$58,321.14
Indicated Job Title	Annual Salary		
	Statewide	*Higher Income County	*Lower Income County
Licensed Operator	\$59,893.37	\$64,610.13	\$53,118.60
Chief Operator	\$67,121.77	\$72,907.35	\$60,724.31
General Manager	\$85,509.97	\$89,122.45	\$77,408.03
Office Manager	\$59,473.31	\$64,937.79	\$53,588.48
Office Support	\$46,719.77	\$47,247.93	\$45,898.20
Unlicensed Laborer	\$39,753.11	\$41,740.16	\$38,217.67

* See page 16, Median Household Income data, to determine if you live in a higher or lower income county.

Wage Comparison Across Industries

Description of Occupation	Hourly	Annual
*General Managers	\$40.45	\$85,510
**Farmers, Ranchers, and Other Agricultural Managers	\$35.72	\$74,290
Transportation, Storage, and Distribution Managers (Warehouse)	\$50.28	\$104,580
Construction Managers	\$52.32	\$108,820
Office Managers	\$28.18	\$59,473
First-Line Supervisors of Office and Administrative Support Workers	\$30.36	\$63,160
Office Support	\$22.46	\$46,720
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$19.02	\$39,570
Billing and Posting Clerks	\$20.52	\$42,690
Bookkeeping, Accounting, and Auditing Clerks	\$21.38	\$44,470
Payroll and Timekeeping Clerks	\$23.29	\$48,440
Postal Service Clerks	\$25.43	\$52,890
Chief Operators	\$30.77	\$67,122
First-Line Supervisors of Production and Operating Workers	\$32.03	\$66,620
Licensed Operators	\$26.97	\$59,893
Water and Wastewater Treatment Plant and System Operators	\$26.64	\$55,420
Plant and System Operators, All Other	\$28.87	\$60,050
Plumbers, Pipefitters, and Steamfitters	\$31.53	\$65,580
Electricians	\$33.01	\$68,660
Derrick Operators, Oil and Gas	\$34.21	\$71,170
Gas Plant Operators	\$34.55	\$71,870
Chemical Plant and System Operators	\$34.64	\$72,040
Power Plant Operators	\$38.37	\$79,820
Unlicensed Laborers	\$18.57	\$39,753
Laborers and Freight, Stock, and Material Movers, Hand	\$17.33	\$36,040
Helpers--Electricians	\$17.59	\$36,600
Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	\$20.24	\$42,100
Maintenance and Repair Workers, General	\$21.28	\$44,250
Highway Maintenance Workers	\$21.99	\$45,740
Material Moving Workers, All Other	\$22.84	\$47,510
Service Unit Operators, Oil and Gas	\$22.85	\$47,530
Construction Laborers	\$22.86	\$47,550
Septic Tank Servicers and Sewer Pipe Cleaners	\$23.02	\$47,890
Cement Masons and Concrete Finishers	\$23.74	\$49,370
Rotary Drill Operators, Oil and Gas	\$24.69	\$51,350
Wellhead Pumpers	\$25.19	\$52,400
Paving, Surfacing, and Tamping Equipment Operators	\$26.43	\$54,980
Pipelayers	\$28.34	\$58,940

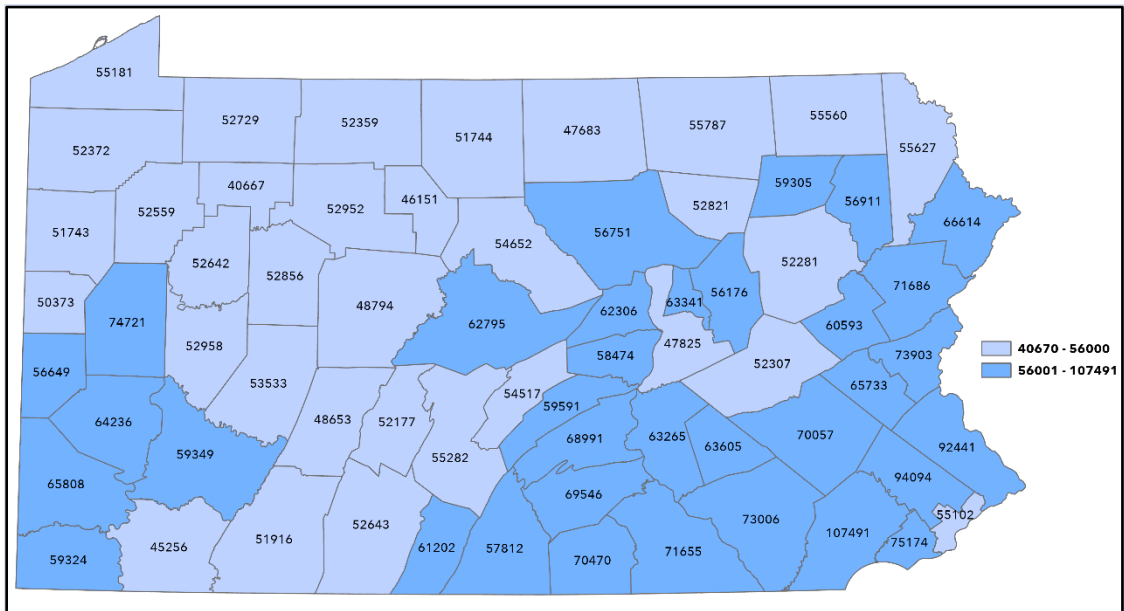
*Wage and Salary data in blue is from the 2022 PRWA Salary Survey

*All other data is from May 2021 US Bureau of Labor and Industry reporting"

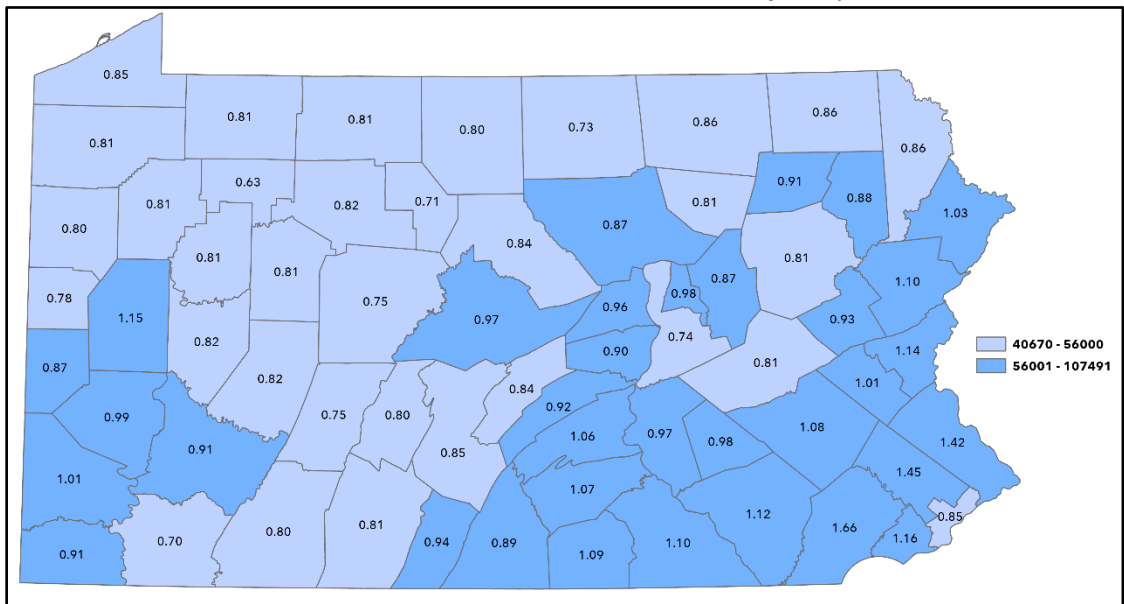
Median Household Income County Comparison

The graphics below display inflation-adjusted 2020 USDA county median and a multiplier to determine the ratio of a county's income to the statewide average. The 2020 Pennsylvania median household income is \$64,898.ⁱⁱⁱ The 2022 PRWA Salary Survey divides counties evenly into higher income and lower income in order to compare survey results against the general income discrepancy at the county level.

2020 USDA Median Household Income – County Level Comparison



2020 USDA Median Household Income – County Adjustment Index



Example Calculation for Centre County: $\$64,898 \times 0.97 = \$62,795$

References

- ⁱ Hill, J. (2022, June 24). What is the real cost of training employees? Bloomfire. Retrieved August 27, 2022, from <https://bloomfire.com/blog/cost-of-training-employees/#:~:text=Hiring%20new%20employees%20can%20be,the%202020%20Industry%20Training%20Report>.
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- ⁱⁱⁱ US Department of Agriculture. (n.d.). Unemployment (County Level Datasets). USDA Economic Research Service - Data Products. Retrieved August 29, 2022, from <https://data.ers.usda.gov/reports.aspx?ID=17828>
- ^{iv} March 2021 National Compensation Survey: Employee Benefits in the United States. U.S. Bureau of Labor Statistics. (2021, September). Retrieved August 30, 2022, from <https://www.bls.gov/ncs/ebs/benefits/2021/employee-benefits-in-the-united-states-march-2021.pdf>
- ^v Pennsylvania - May 2021 OEWS State Occupational Employment and wage estimates. U.S. Bureau of Labor Statistics. (2022, March 31). Retrieved August 27, 2022, from https://www.bls.gov/oes/current/oes_pa.htm#43-0000