

Appendix B: Additional Data

Water Department Assessment Data

As discussed in the report, The City’s water department was compared to national benchmarks set by the American Water Works Association (AWWA). Specifically, the City’s water department was compared to the median value for each metric. Per capita consumption is the daily amount of water used by the population served by the utility. This metric includes both residential and nonresidential consumption. Domestic per capita consumption is only the amount of residential water used in a service normalized by the population served.

Total Per Capita Consumption (gal/person/day)

Average Daily Production	Production (in gallons)	Population Served	Ratio	AWWA Median
6.03 MGD	6,030,000	54,040	111.6	110.6

Source: City of Findlay and AWWA

Residential Water Sales (gal/person/day)

Residential Water Sales	Production (in gallons)	Population Served x 365	Ratio	AWWA Median
909,625 HCF	680,399,500	19,724,600	34.5	60.8

Source: City of Findlay and AWWA

Note: HCF stands for Hundred Cubic Feet

Energy Consumption (kBTU/year/MG)

kBTUs	Average Daily Demands x 365	Ratio	AWWA Median
15,934,363	2,200.95	7,240	7,221

Source: City of Findlay and AWWA

Note 1: Consumption based on Purchases of Electricity, Natural Gas, and Other Fuels (minus stored amounts)

Note 2: kBTU stands for kilo-British thermal unit

The City of Findlay’s water department total production per person is slightly above the national median. For strictly only residential water sales per person, the city is below the national median. This may be due to numerous reasons such as industry presence in the City. Overall, the production consumes slightly more energy than the national median.

Water Staffing Comparison Data

The AWWA also provided national indicators to measure staffing levels. The indicators used in part of this audit were MGD of water produced per employee and customer accounts per employee. These indicators provide a measure of employee efficiency.

The City's water department delivered slightly less potable water by utility employees than the national median in 2019. The department is lower than the AWWA median of MGD of water produced by employee by 5 FTEs. However, on a water accounts per employee basis, the City's water department is well above the national median. The water department is better than the AWWA benchmark by an estimated 13.5 FTEs. Overall, taking the average of the two results, the City's water department is better than those AWWA staffing benchmark medians by 4.50 FTEs. The City of Findlay is overall handling more accounts per FTE than the national median.

AWWA Water Department Comparisons

	Value	Ratio	AWWA Median	Difference	Q3	FTEs Changed to be at Median
Average Daily Demand	6.03	0.17	0.20	(0.03)	0.27	(5.00)
Water FTEs + UB FTEs/2	34.5	-	-	-	-	-
Total Water Accounts	20,234	586.49	424	162.49	585.00	13.50
Water FTEs + UB FTEs/2	34.5	-	-	-	-	-
				Average		4.25
				Rounded to Nearest Half FTE		4.50

Source: City of Findlay and AWWA

Conducting staffing analyses related to staffing levels at the City's water department was done in comparison to the peers' average for each metric. Metrics used include flow in million gallons per FTE, Operation and Maintenance expenditures per FTE, and FTE per 1,000 of population.

Water Department Metric Peer Comparisons

Water Department	Client	Peers	Difference	Real FTE Variance
MG / FTE	63.76	49.00	14.76	10.50
O&M / FTE	\$177,343	\$184,892	(\$7,549)	(1.50)
O&M Treatment / FTE	\$100,606	\$63,744	\$36,862	20.00
O&M Distribution / FTE	\$47,021	\$40,408	\$6,613	5.50
FTE / MGD	5.72	7.45	(1.73)	10.50
FTE / Account	0.0017	0.0021	(0.0004)	8.50
FTE / 1,000 Population	0.64	0.84	(0.20)	10.50
Water Production Per FTE	0.17	0.13	0.036	11.50
Water Accounts Per FTE	586.49	469.67	116.83	8.50
			Average	9.33
			Rounded to Nearest Half FTE	9.50

Source: City of Findlay and Peers

Real FTE variance represents the amount of FTEs the City’s water department would have to either add or subtract in order to meet the Peers’ average for that metric. On average, Findlay’s water department is better by an estimated 9.50 FTEs to peers’ average. Overall, Findlay’s water department appears to be operating with a smaller staff than the peers and is in a position of growth.

Sewer Department Assessment Data

We conducted similar analyses by comparing the sewer department to AWWA metrics. The metrics used to compare the City’s sewer department to a national median were non-capacity and capacity sewer overflow expressed as the ratio of the number of events per 100 miles of sanitary collection system piping. They are intended to measure overflows created by conditions within collection system components under control of the utility, such as overflows from sanitary sewers and dry-weather overflows from combined sanitary/story sewers. Non-capacity overflow is a discharge related to maintenance issues. A capacity overflow occurs as a result of inflow and infiltration, generally a direct result of rain events.

AWWA National Benchmarks

Non-Capacity Sewer Overflow Rate	Value	Ratio	AWWA Median
Number of non-capacity sewer overflow events during the reporting period X 100	0	0	1.4
Total miles of collection system piping	319.1	-	-

Capacity Sewer Overflow Rate	Value	Ratio	AWWA Median
Number of capacity sewer overflow events during the reporting period X 100	1,200	3.76	0
Total miles of collection system piping	319.1	-	-

Energy Consumption WW (kBTU/Year/MG)	KWH	kBTU	Ratio	AWWA Median	Q3
Energy Consumption Based on Purchases of Electricity, Natural Gas, and Other Fuels (minus stored amounts) Converted to kBTU	6,960,456	23,735,155	6,426	10,910	8,857
Average Daily Production x 365 days	3,694	-	-	-	-

Source: City of Findlay and AWWA

In regards to the sewer collection system and its maintenance, Findlay’s ratio of events is below the national median. Their capacity sewer overflow rate is above the national median; however plans are in place in compliance with the EPA to reduce this occurrence.

The City’s annual energy consumption for the sewer department is well below the national median and third quartile. In other words, the City’s sewer department is consuming less energy per their annual processing than the top third quartile nationally. This may be in part due to the use of solar panels at the plant supplied by Marathon Petroleum Company.

Sewer Staffing Comparison Data

The same staffing analyses conducted for the water department was conducted for the sewer department. Comparisons to metrics to both the AWWA and the peers’ average.

The City of Findlay’s sewer department processed significantly more wastewater by utility employees than the national median in 2019. Compared to the AWWA median of MGD of wastewater treated per employee, the department is significantly more efficient by an estimated 28.0 FTEs. Also, on a sewer accounts per employee basis, the City’s sewer department is slightly better than the national median by an estimated 2.75 FTEs. Overall, taking the average of the two results, the City’s sewer department is comparatively better than the AWWA staffing benchmark medians by an estimated 15.50 FTEs.

AWWA Wastewater Department Comparisons

	Value	Ratio	AWWA Median	Difference	Q3	FTEs Changed to be at Median
Avg MGD Wastewater Processed	12.9	0.40	0.21	0.19	0.28	28.00
WPC FTEs + UB FTEs/2	32.5	-	-	-	-	-
Total Sewer Accounts	19,586	602.65	555	47.65	734.00	2.75
WPC FTEs + UB FTEs/2	32.5	-	-	-	-	-
					Average	15.38
					Rounded to Nearest .5 FTE	15.50

Source: City of Findlay; AWWA

Similarly to water department, staffing analyses related to staffing levels at the City’s sewer department were conducted in comparison to the peers’ average for each metric. Metrics used include flow in million gallons per FTE, Operation and Maintenance expenditures per FTE, and FTE per 1000 of population.

Wastewater Department Metric Peer Comparisons

WPC Department	Client	Peers	Difference	Real FTE Variance
MG / FTE	144.63	87.76	56.87	21.00
O&M / FTE	\$141,199	\$115,414	\$25,786	7.50
O&M Treatment / FTE	\$87,820	\$81,402	\$6,417	2.50
O&M Collection / FTE	\$37,207	\$34,011	\$3,195	3.00
FTE / MGD	2.51	2.48	0.037	(0.50)
FTE / Account	0.0017	0.0015	0.0001	(2.50)
FTE / 1000 population	0.72	0.47	0.26	(11.50)
Wastewater Production Per FTE	0.40	0.40	(0.0069)	(0.50)
Wastewater Accounts Per FTE	602.65	650.07	(47.42)	(2.50)
			Average	1.83
			Rounded to Nearest .5 FTE	2.00

Source: City of Findlay and Peers

Real FTE variance represents the amount of FTEs the City’s sewer department would have to either add or subtract in order to meet the Peers’ average for that metric. On average, Findlay’s sewer department is lower by an estimated 2.00 FTEs to the peers’ average. The interpretation of the FTE Variance column in the above table depends on the metric. For example, Findlay’s wastewater department is handling more total flow per FTE than the peers’ average. Accordingly, the City would be on par with the peers’ average production rate per FTE if Findlay had an additional 21.0 FTEs in the wastewater department. Overall, Findlay’s wastewater department appears to be in a position of operating with a smaller staff then the peers and in a position of growth.

Utility Staffing Comparison Data

The water and sewer department staffing analyses both include a split share of the total utilities billing department FTEs since utilities billing supports both funds. However, we also compared the portion in which the utilities billing staff makes up for the entire water and sewer operation within a city/county.

Utility Billing Department	FTEs	% of Utility Department
City of Findlay	9.0	15.5%
Peers Average	6.7	11.6%

Source: City of Findlay and Peers

Utility Department Assessment Data

The utilities billing department was also compared to multiple AWWA national benchmarks related to utilities billing in particular. The median metric was specifically used in these comparisons. This was done to have a comprehensive understanding of how the City of Findlay’s utilities billing department compares nationally in cost and performance.

The indicator, customer service cost per account, measures the amount of resources a utility applies to its customer service program over the course of one year (2019). It is expressed as the cost of managing a single customer account for one year. Billing accuracy measures the effectiveness of a utility’s billing practices and is reported as the number of errors per 10,000 billings where the lower number of errors made is preferred. Finally, the delinquency rate indicator provides a look at the percentage of overall accounts that are delinquent over the given year. The following tables are different benchmarks established by the 2019 AWWA national survey. These metrics are in the form of ratios. AWWA’s median or second quartile metric is the first comparison and the third quartile if necessary.

AWWA National Benchmarks

Customer Service Cost	Water & Wastewater Accounts	Cost per Account	AWWA Median
\$1,051,240	39,820	\$26.40	\$28.82

Source: City of Findlay, AWWA

City of Findlay’s Utility Billing Accuracy

Water Billing Accuracy	Client	Ratio	AWWA Benchmarks	
			Median	Q3
Number of Error-Driven Billing Adjustments x 10,000	500,000	4.4	9.8	1.8
Number of Bills Generated	114,638	-	-	-

Sewer Billing Accuracy	Client	Ratio	AWWA Benchmarks	
			Median	Q3
Number of Error-Driven Billing Adjustments x 10,000	680,000	5.9	10.2	2.4
Number of Bills Generated	115,825	-	-	-

Source: City of Findlay, AWWA

Delinquency Rate - 2019	Amounts	Ratio	Median	Q3
Average of Delinquent Accounts	860.9	2.2	9.9	2.4
Total Accounts	39,820	-	-	-

Source: City of Findlay, AWWA

In both Customer Service Cost and Billing Accuracy, the City’s Utility Billing Office performs significantly better than the AWWA median.

Fees Comparison Data

The City's water and wastewater revenues were compared to peer data. Percentages were used to analyze spending patterns, which helps normalize the data due to differences in operational capacity.

Water Department Revenue Breakdown

Water Departments	2019 O&M Expenditures	2019 Department Revenue	2019 Water Sales or Water Rental Revenue	2019 Water Fees	Revenue Ratios	
					% Water Sale of Revenue	% Water Fees of Revenue
City of Findlay	\$6,118,343	\$7,781,250	\$7,231,503	\$277,093	93%	4%
Peer Average	\$6,885,856	\$9,240,335	\$6,838,880	\$1,891,861	74%	20%
City of Alliance	\$6,149,141	\$5,691,713	\$5,420,641	\$93,365	95%	2%
City of Delaware	\$5,984,999	\$5,942,929	\$5,779,832	\$121,744	97%	2%
City of Lorain	\$8,485,672	\$18,938,622	\$10,649,375	\$7,215,889	56%	38%
City of Newark	\$6,923,612	\$6,388,077	\$5,505,671	\$136,448	86%	2%

Source: City of Findlay and Peers

Wastewater Department Revenue Breakdown

Sewer Departments	2019 O&M Expenditures	2019 Department Revenue	2019 Revenue from Sewer Charge	2019 Sewer Fees	Revenue Ratios	
					% WW Sale of Revenue	% WW Fees of Revenue
City of Findlay	\$4,588,978	\$8,845,778	\$8,571,725	\$124,310	97%	1%
Peer Average	\$2,399,742	\$10,825,921	\$8,063,800	\$2,402,485	74%	22%
Beavercreek	\$2,861,349	\$11,509,606	\$8,263,151	\$2,863,821	72%	25%
Sugarcreek	\$2,511,904	\$9,571,201	\$6,871,502	\$2,381,507	72%	25%
Uppermill Creek	\$1,825,974	\$11,396,956	\$9,056,748	\$1,962,127	79%	17%

Source: City of Findlay and Peers

Note: Sewer charges are solely from the usage charged on a rate basis. Fees include tasks outside the flow rate and can include mostly capacity charges, impact charges, and local services.

The City of Findlay spent \$6,118,343 and \$4,588,978 on their water and sewer department's operation and maintenance respectively in 2019. For the water department, 93% of the revenue, around \$7.24 million was covered by the volumetric charge for water use. That covers the total expenditures and so less weight is placed on fee revenue for the City as compared to the peers. The peers on average brought in around \$6.84 million which doesn't cover the entire average expenditure of \$6.89 million. The rest is covered by the revenue brought in by fees which is represented by the 74% and 20% split of revenue between volumetric charge and fees for the peers. A similar situation is the case for the sewer department.