

Electric Division Report – August 2014

Introduction

The Borough of Ephrata Electric Division dates back to 1902 when the Borough purchased the utility from Lancaster Valley Electric Company for \$7,000. The purchase included a small generating plant located on South State Street where the Borough operated the electric utility until 1923. In 1924 the Ephrata Borough Electric Plant was built along Church Avenue. The Borough generated electricity from that site until 1965 when increasing demands for electric power caused the Borough to begin purchasing electric power.



Full requirements contracts with a sole electricity supplier were the norm until deregulation of the electricity markets took effect in 2009. Now the Borough has adopted a Long Term Master Power Supply Plan that is rooted in the principle of diversity. The plan involves the purchase of a variety of electricity products from a variety of sources with contracts consisting of various lengths of time. An important source of electricity is actual power generation. The Borough and other municipal power partners have joined together to own and operate power generation facilities. Although the Borough may own just a small portion of the output of a large power plant, these types of long term power sources offer the Borough the advantage of market stability. With our own sources of generation we can obtain the power “at cost” and avoid other charges imposed by middle men.

The activities of the Electric Division are under the auspices of the Municipal Enterprises Committee of the Borough Council. The Borough distributes approximately 140 million-kilowatt hours of power annually and has about \$18.6 million dollars in sales. The Electric Division is operated for the sole benefit of the Borough. As a municipal power supplier we have no shareholders, pay no dividends, and all proceeds from the sale of electricity stay within the Borough to provide additional services and amenities for the residents of the community.

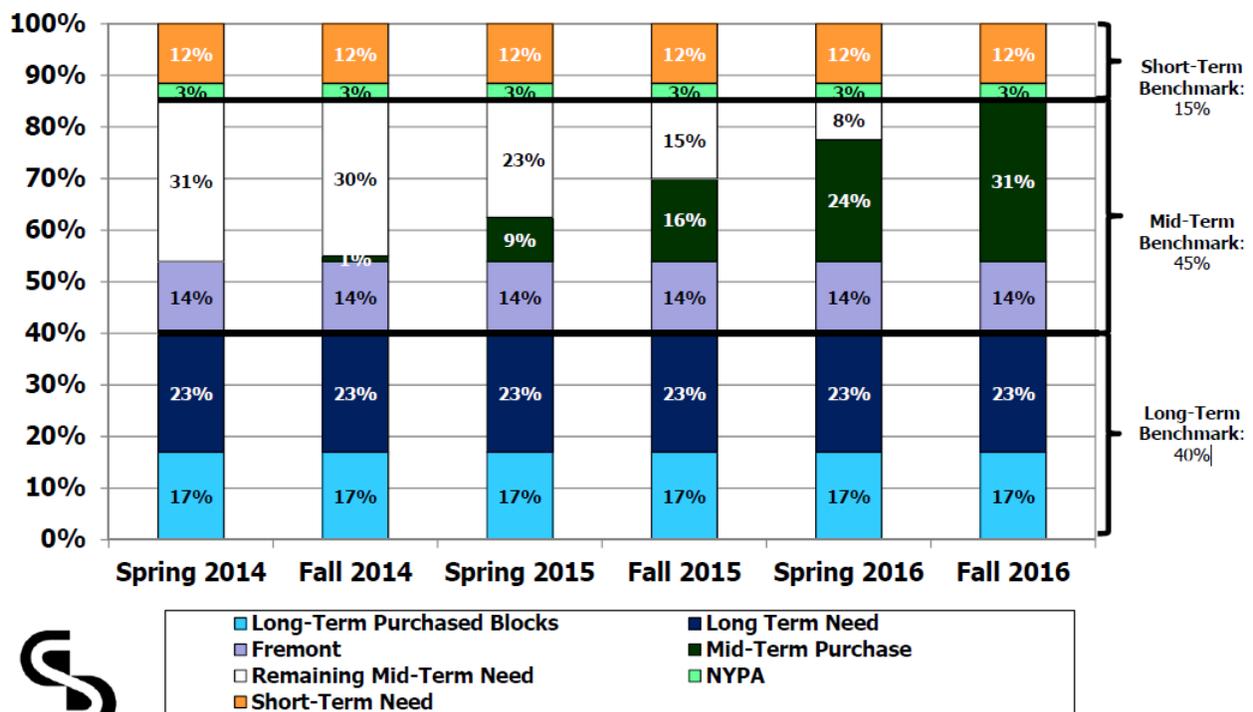
The eight employees in the Electric Division maintain the electric system that distributes power to approximately 6,630 meters within the Borough limits. The American Public Power Association recently honored the Borough with the Gold RP3 award. What the RP3 award means to Ephrata Borough residents is that they have a reliable, sustainable system that is maintained by skilled people who go about their work safely and efficiently.

Our electric system is an asset that should be a source of pride for the whole community. It’s a system in which we invest significant time, training, and manpower. We are building a system that will endure the test of time, providing safe, affordable, and reliable power now and well into the future.

Master Power Supply Plan

In 2012 Borough Council adopted a long-term Master Power Supply Plan that established the strategy for electricity procurement. The Plan involves the regular addition of power supply elements to achieve targeted benchmarks. Using this approach minimizes risk to the Borough by creating a diverse portfolio of power supply elements and minimizes our exposure to any individual power supply element. The chart below summarizes the goals of the Master Power Supply Plan to meet Short-Term, Mid-Term, and Long-Term needs that are projected for future years, in this case 2018.

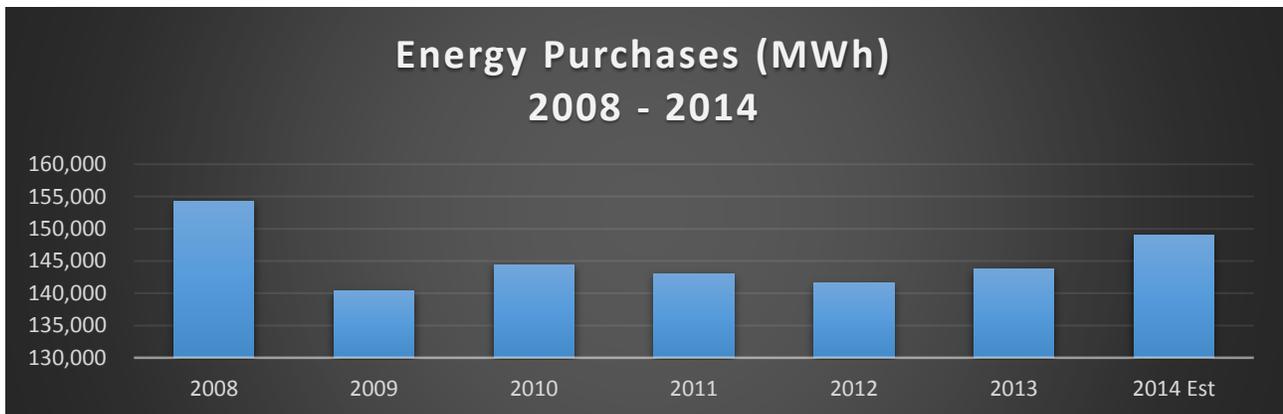
2018 Procurement Time Targets (4 years out)



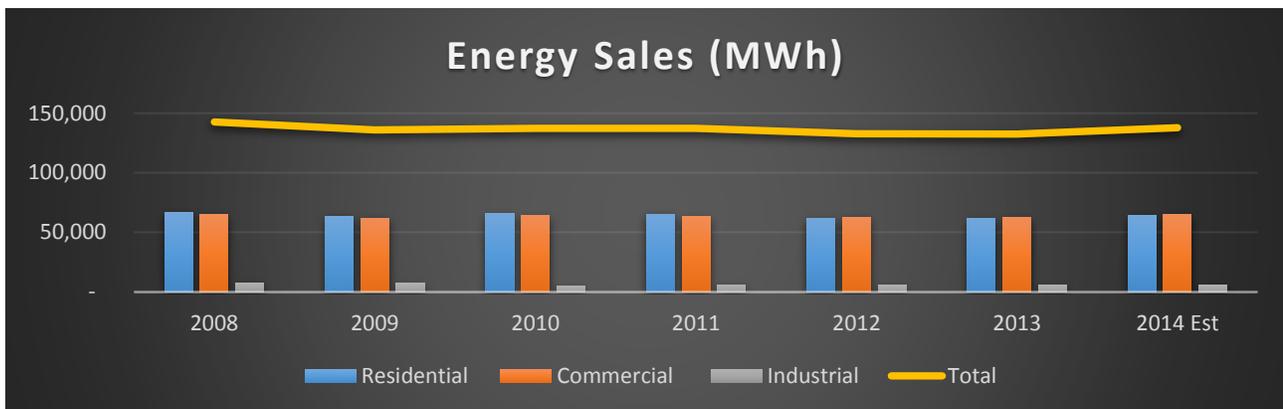
In accordance with the Master Power Supply Plan in the fall of 2013 the Borough procured monthly blocks for 2015 and 2016 to complete our projected requirements for those two years. In addition the Borough purchased a long-term 2 MW 7x24 block for 2018 through 2022. Both of these purchases were at price points lower than any other power supply element in our portfolio. The purchases in 2013 will ensure price stability or allow for lower costs in future years.

Electric Energy Purchases and Sales

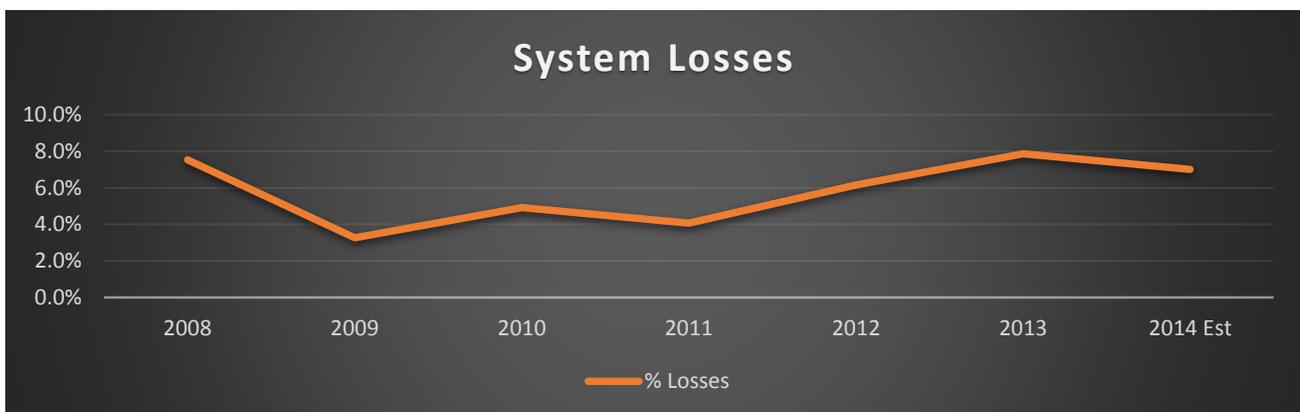
Electricity purchases have decline from 2008 levels, and have been relatively stable since 2009. The projected uptick in 2014 is largely due to the severe winter weather.



Electricity Sales over the same time period show a similar pattern:



The difference between purchases and sales is system losses. System losses are about the same as in 2008 but have increased slightly since 2011:



Current Electricity Rates

Electricity rates for customers of the Borough Electric Division have not changed since 2009. Borough electric rates are “all-in” rates that include energy, distribution, and demand charges. The Borough’s rate structure is not directly comparable to “price to compare” rates for energy only that are published by our surrounding investor owned utility (IOU). Nonetheless a valid comparison can be made. For example, if it is assumed a residential customer uses 1200 kwh in a given month the following cost comparison can be derived:

	<u>Ephrata Borough</u>		<u>Local Investor Owned Utility (Aug 2014)</u>
Customer kwh	1200		1200
Customer Charge	\$9.00		\$14.12
			<i>(IOU Price to Compare is 9.036 cents/kwh)*</i>
Energy Charges	\$150.86		\$108.43
Distribution Charge	none		\$38.77
Total Bill	\$159.86		\$161.32

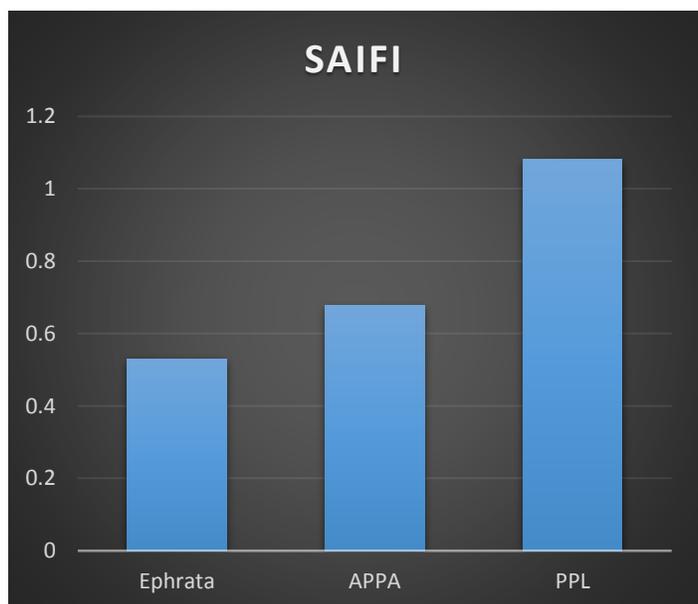
**Note: IOU Price to Compare is 9.036 cents/kwh as of June 1, 2014. IOU rates are subject to change every 3 months. Prices for Ephrata Borough have not changed in over 5 years.*

The table above demonstrates the value delivered to customers of the Borough Electric Division

Reliability

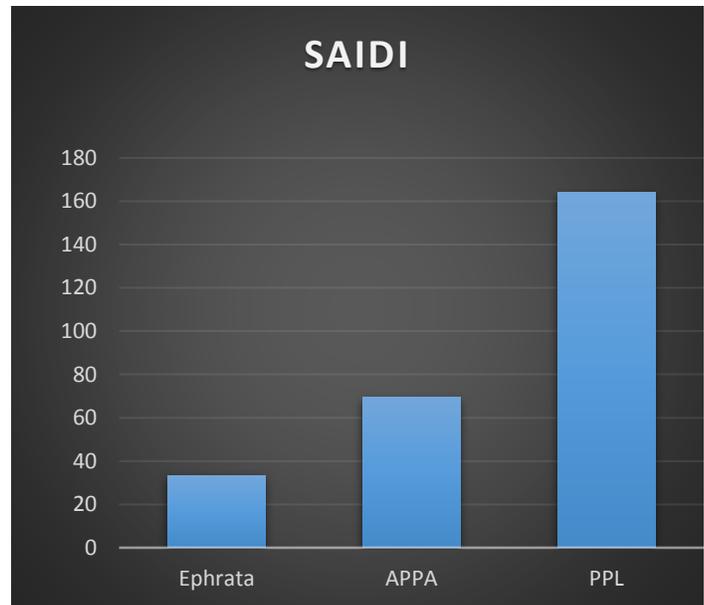
Because it is difficult to perform the routine tasks of everyday life without electricity, keeping electric power flowing to our customers is the number one priority of the Ephrata Borough Electric Division. The Division has an outstanding reliability record due in large measure to the excellent workmanship of our highly skilled line crew and their dedication to preventative maintenance. The limited geographic size of the Borough allows our crews to respond quickly to any power interruption.

One electric industry measure of reliability is called the "System Average Interruption Frequency Index" (SAIFI). SAIFI measures the average number of times during a year that a customer experienced a power outage longer than an instantaneous interruption. For 2013, Ephrata's SAIFI was 0.53, meaning that, on average, each Borough electric customer had no sustained power interruption during the year. This is an average number: many Borough customers experienced no sustained power interruption during 2013; some Borough

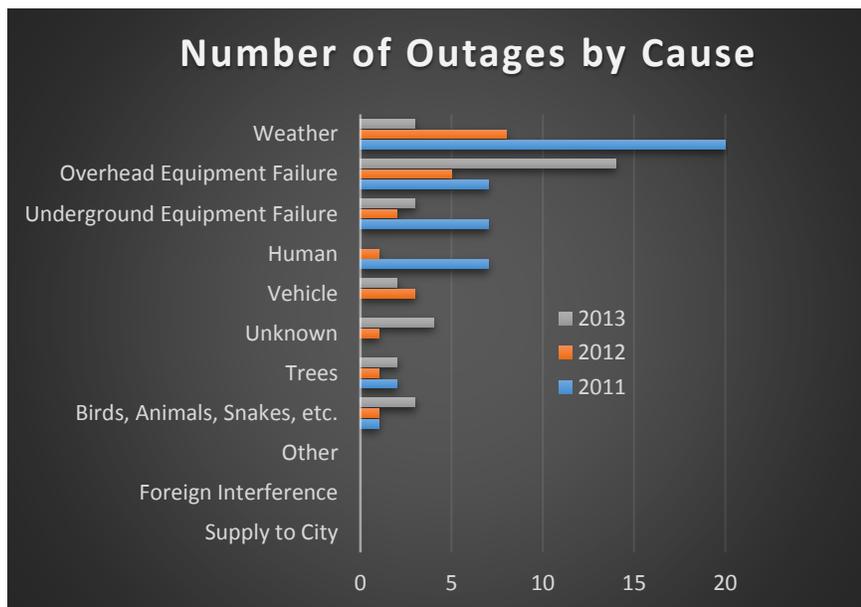


customers may have experienced more than one sustained interruption during the year. Just like in golf, lower SAIFI numbers are better. According to the American Public Power Association (APPA), which represents municipal electric systems across the United States, Ephrata's SAIFI of 0.53 is better than the SAIFI of 0.68 sustained interruptions experienced by customers in municipal systems of similar size to Ephrata. The comparable SAIFI for our local investor owned utility was 1.08 in the last year reported (2012). A value greater than 1 means that, on average, every customer had a sustained power interruption during the year.

Another industry measure of reliability is called the "System Average Interruption Duration Index" (SAIDI). This index is calculated to measure the average number of minutes for service interruptions longer than instantaneous interruptions for all customers served. Ephrata's SAIDI in 2013 was 33 minutes. This stacks up well against the SAIDI of 69 minutes reported by APPA for municipal systems of our size. The comparable SAIDI for our local investor owned utility was 164 minutes in the last year reported (2012) – almost five times more than a customer of the Ephrata Electric Division.



The Electric Division tracks the causes of outages in addition to the frequency of outages. Although many of the causes are beyond our control (weather, birds, etc.) the information is useful for planning future projects to prevent causes of outages that can be controlled. The chart at left depicts the causes of outages for the period between 2011 and 2013.



Cost of Service Study

From the discussion above it is clear that customers of the Electric Division enjoy system reliability that is substantially better than the local Investor Owned Utility along with competitively lower electric rates. The success of the Master Power Supply Plan is expected to lower rates even further.

Accordingly, in 2013 Borough

Council authorized a Cost of Service and Rate Study. The Study was commissioned to quantify the magnitude of rate reductions and to establish new rate classifications for customers. If endorsed by Council,

the recommendation of the Study is to unbundle rates so that customers receive rate reductions starting in 2015 that would be, on average, 7% lower than today.

Investing for the Future

Wise investments in the electric system will ensure that the system will continue to be a valuable asset for years to come. Investments typically are intended to address three general areas: Reliability, System Automation, and Power Supply. Examples are as follows:

- Reliability
 - Substation Switches – In 2013 Borough Council authorized the rebuild of all switches in the substation. This improvement will ensure the safe operation of the switches and minimize the duration of power outages.
 - Reconductoring Project – In 2013 Borough Council authorized engineering design for a project to increase the capacity of the Borough’s electric distribution system and to maintain and/or increase the existing level of system reliability.
 - Substation Security System – Staff is investigating options to modernize the security system to safeguard this critical system asset
- System Automation
 - Substation Data and Voltage Control – Staff is evaluating a project to provide real-time data for load measurement and voltage regulation.
 - Smart Meters – The term “smart meter” refers to a range of capabilities including those that enable customers to observe their real-time power usage while providing automated system information to determine precise location for power outages.
- Power Supply
 - “Behind the Meter” – Staff is actively evaluating options to add generation capabilities located inside the Borough. Borough generated electricity would be at cost and would eliminate transmission costs. The stabilizing impact of self-generation fulfill a critical need within the framework of the Master Power Supply Plan.
 - Renewable Energy Resources – A diverse portfolio of energy products is essential for long-term sustainability of the electric system. As environmental concerns impact the availability of power supply products proactively adding renewable energy resources could add significant value to the portfolio.

Benefits of Public Power to Ephrata

As stated earlier, Public Power has flourished in Ephrata since 1902. The benefits of owning and operating the Electric Division, although numerous, are sometimes not readily apparent. It is therefore appropriate that this summary lists some of those benefits:

1. Competitive Electric Rates – Ephrata Borough electric rates are currently lower than our local Investor Owned Utility and are expected to decline further going into 2015.
2. Sustainable Business Model – although power requirements change from year to year it is a certainty that Ephrata will need electricity in the future. The Master Power Supply Plan provides for Short-

Term, Mid-Term, and Long-Term needs. A diverse portfolio of power supply elements ensures long-term stability of the system.

3. Local Control – Public Power is operated for the benefit of the customers and is controlled by customers who are elected to Borough Council. Local control is best exemplified by the response to the excessive power costs during the bitter cold month of January 2014. The local leaders evaluated the impact of those charges and made the decision to absorb over \$656,000 rather than passing the excessive charges along to customers. There is no entity outside of Public Power that would have ever considered such a decision. Local control makes a difference.
4. Public Power has no external shareholders, pays no dividends, and is operated for the sole benefit of the Borough.
5. The Electric Fund supports the General Fund, Capital Fund, and Mobile Equipment Fund. In 2013, over \$2.1 million was transferred from the Electric Fund to the aforementioned funds. Without this support real estate taxes would need to more than double in order to provide the services that Borough residents have come to expect.
6. The operation and maintenance for street lights (\$160,000) and traffic signals (\$40,000) is paid for by the Electric Fund.
7. Electricity is provided at no cost to run traffic signals, street lights, Borough buildings, park facilities, community pool, library, and ambulance services. The cost of these free services would be in excess of \$250,000 per year. (Please refer to Appendix A at the end of this report)
8. The employees of the Electric Division are members of the community. Their friends and neighbors are customers. They frequent the shops, stores, places of worship, parks and other places throughout the community. They care about the community.
9. Because we have our own electric utility we know the people who work there and how to reach them if we have a question or problem
10. Our electric utility service is very reliable but if the lights go out customers know that the crews will respond quickly
11. Our public power utility contributes to the economic vitality of the community through the people it employs and the goods and services it purchases locally.
12. Ephrata is an area where the natural beauty is an integral part of the community and our economic base. The employees of the Electric Division have a vested interest in being responsible stewards of the local environment

Conclusion

Public Power is alive and well in Ephrata, Pennsylvania. The current system delivers reliable power at cost competitive rates while supporting the financial and economic needs of the community. A system that has been delivering electricity since 1902 is well positioned for a sustainable future.

Appendix A
Borough No Charge Electric Customers - Annual KWH for 2013
February 12, 2014

Description	Address	2013		2012	
		Annual KWH	Value	Annual KWH	Value
Traffic Signals	21 various sites	46,666	\$11,298.89	46,529	\$11,261.86
Flashers	2 various sites	11	\$362	10	\$361
Welcome Signs	2 various sites	63	\$370	1,947	\$673

Borough Buildings	Address	Annual KWH	Value	Annual KWH	Value
Borough Hall	124 South State Street	455,360	\$64,655	404,480	\$51,664
Public Works Garage	301 Church Avenue	49,893	\$7,565	50,068	\$7,590
Electric Garage	311 Church Avenue	25,996	\$4,196	23,065	\$3,769
Electric Sub Control House	Church Avenue	86,080	\$11,609	82,028	\$11,099

Park Sites	Address	Annual KWH	Value	Annual KWH	Value
Band Shell	425 Cocalico Street	276	\$224	204	\$213
Community Park	425 Cocalico Street	984	\$338	1,285	\$387
Park Pavillion	425 Cocalico Street	1,685	\$451	1,436	\$411
Softball Field	435 Vine Street	609	\$278	834	\$314
Swimming Pool	435 Vine Street	94,818	\$13,746	109,408	\$15,904
LHORA Ballfield	Lincoln Heights Playground	26,600	\$4,142	24,040	\$3,787
Haller House	190 Old Mill Road	3,046	\$670	2,904	\$647
Rec Center Shed	405 S Reading Road	31,913	\$4,955	28,903	\$4,544
Mt Zion Cemetery	Old Mill Road	1,374	\$401	980	\$338

All Other	Address	Annual KWH	Value	Annual KWH	Value
Railroad Station	E Main Street	41,703	\$6,407	28,611	\$4,492
Eicher Art Center	409 Cocalico Street	49,604	\$7,020	37,177	\$5,457
Ephrata Ambulance	528 W Main Street	60,877	\$9,111	61,177	\$9,154
Ephrata Public Library	550 S Reading Road	653,895	\$83,141	474,240	\$60,439
Lincoln Fire Company	38 S. Market Street	43,760	\$6,701	43,600	\$6,679
Lincoln Fire Company	1425 Lincoln Heights Ave	5,040	\$990	7,920	\$1,356
Pioneer Fire Company	135 South State Street	208,800	\$27,047	184,400	\$23,978

Grand Total		1,889,053	265,679	1,615,246	224,515
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