

Baseline Narrative

After reviewing energy consumption and expenditure data for all of our facilities, it is clear that the Library and Fire Department consume the most energy on average each year. In total, these two buildings cost the town over \$350,000 every year, roughly 60% of the town's total energy expenditure budget. When accounting for size of the building (i.e. square footage), the Library and Fire Department still stand out as the highest consuming facilities (125.0 kBtu/ ft² and 123.9 kBtu/ ft²). The Senior Center also has a relatively high EUI: 104.6 kBtu/ ft².

We think the Library consumes a large amount of energy due to building characteristics. The building itself is very large, and the main room has very high ceilings. Heating and cooling the building require a lot of energy. Furthermore, the library contains 48 computers that run during business hours, which may contribute to the high energy consumption. The Library's energy use has increased steadily over time (117.2 kBtu/ ft² in 2010 to 125.9 kBtu/ ft² in 2015). We attribute this to the addition of 30 computers in 2011 and increased programming for the public, sometimes outside of normal hours of operation.

The Fire Department likely consumes a large amount of energy because it is a relatively old building with poor insulation and is operated 24 hours a day. The building is cavernous with high ceilings in the common room and large garage bay doors. The boiler in the Fire Department building is at the end of its useful life and is not energy efficient. We suspect these building characteristics are contributing to high energy use particularly in the cold winter months.

The Senior Center is the third highest-consuming facility in our portfolio. The center notably has two commercial refrigerators and a small pool that is heated year-round. The Senior Center had seemingly above-average energy consumption in 2013. For the first time, the Senior Center hosted a series of camps to connect children with seniors over the summer of 2013. To keep all participants cool, the air conditioning was run in several rooms at a lower set point than usual. This increase in energy consumption related to cooling likely was another driver of the Senior Center's high EUI. However, the organizer of the camp has since moved to another town and the camp will not happen again in the near future.

The other properties in the town's building portfolio all seem to have relatively stable energy consumption and expenditure. Rhodyville will continue to monitor for increasing trends or abnormalities in energy consumption and expenditure as part of our ongoing energy management effort.

Based on our evaluation of our entire building portfolio, Rhodyville plans to improve the energy efficiency of the Library, Fire Department, and Senior Center.