

CARL ROLLINS UNIT

1013 Underwood St., Dalton, GA 30721

ENERGY & WATER EFFICIENCY PROGRAM OVERVIEW

September 2015



Project Overview

The Carl Rollins Unit of the Boys & Girls Clubs of Chattooga, Gordon, Murray, and Whitfield Counties in Georgia was able to improve summertime comfort significantly by reducing air-conditioning loads through replacement of inefficient lighting with high-performance LED.

Existing 400W metal halide gymnasium lighting was replaced with new 240W LED fixtures with dimming controls, and fluorescent lighting was also replaced with LED. The new lighting in the gym turns on instantly, whereas the old metal halide lighting took several minutes to warm up to full brightness.

Other improvements include new Web-based smart thermostats, removing vending machines to reduce plug loads, and replacing standard plumbing fixtures with low-flow fixtures.

Site Details

- Average daily attendance of 101
- 12,000 square feet
- Constructed in 1989

Energy & Water Benchmarks

- \$19,051 in baseline utilities cost
- 6 million Btu of energy per member per year
- 1,059 gallons of water per member per year

Improvements

- Invested \$67,161, or \$5.60 per sq. ft.
- Predicted return on investment (ROI) of 8%
- Actual savings – after only 7 months – of \$4,745, 21% energy savings, and 43% water savings

Projects Implemented	Predicted Annual Savings					Project Cost	Projected Return on Investment
	Water (kgallon)	Costs	Million Btu (Site)	Million Btu (Source)	CO ₂ Emissions (tonnes)		
LED lighting & controls	-	\$3,991	107	336	15.2	\$52,517	8%
Install smart thermostats and complete minor repairs to HVAC	-	\$1,476	62	131	6.0	\$5,113	29%
Replace exterior doors	-	\$378	40	40	1.9	\$6,946	5%
Remove vending machines	-	\$294	8	25	1.1		
Replace existing 3+ GPF water closets with 1.28 GPF, and 0.5 GPF urinals with pint-flush	45	\$201	-	-	-	\$2,585	8%
Projected Total Savings, Cost, & ROI	24%	27%	27%	27%	27%	\$67,161	8%



About the Boys & Girls Clubs of America Energy & Water Efficiency Grant Program (BGCA EWEP): The Southeast Region of BGCA was selected to participate in an important pilot program to demonstrate the economic and environmental benefits of high-impact energy and water efficiency improvements in club facilities. Funded by The JPB Foundation, the program's ultimate goals were to reduce club utility expenses by 20 percent annually and to improve conditions in existing facilities, so they may be better used in support of BGCA's mission.

Project Highlights

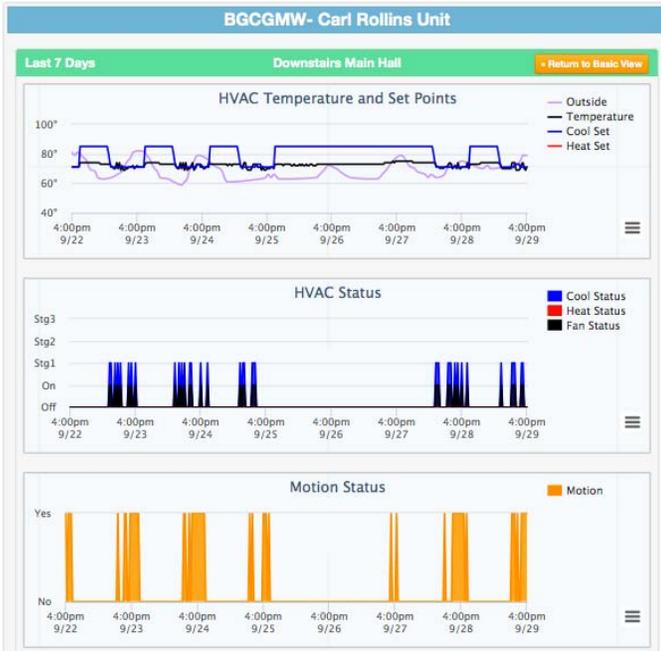


Figure 1: Web-based Thermostat Trends

New Web-based thermostats for HVAC systems are controllable online or via smartphone providing access so clubs can view conditions and trends and so Southface can assist in fine-tuning HVAC operations. The graphic above illustrates that HVAC system operation correlates closely to periods of occupancy, thus the club is doing a good job in scheduling their systems in this particular area.



Figure 2: Vending Machines Removed

The club has removed their vending machines to reduce energy use and cost, and to promote healthy habits!



Figure 3: New Pint Flush Urinals

Pint-flush urinals use 75% less water than previous fixtures.



Figure 4: New LED Lighting & Controls Throughout

Existing lighting throughout was replaced with high-performance LED with occupancy/vacancy controls.



Figure 5: Engaged Board of Directors

Having the board engaged helped ensure top-down support for club staff on project implementation.