

ROXBURY COMMUNITY COLLEGE CENTER FOR SMART BUILDING TECHNOLOGY

BETTER BUILDINGS WORKFORCE ACCELERATOR

From 2020 to 2023, RCC Center for Smart Building Technology participated as a partner in the [Better Buildings Workforce Accelerator](#) (BBWA). The BBWA is a Department of Energy initiative seeking to raise the level of building science and energy efficiency knowledge in the nation's building-related workforce. Through the BBWA, DOE engaged industry partners in activities that build interest and awareness, streamline pathways, and improve skills for people pursuing green building careers.

Roxbury Community College Center For Smart Building Technology partnered with PowerCorpsBOS to create a building operations pathway to train participants for jobs that reduce greenhouse gas emissions in large buildings by maintaining building operations at peak efficiency.

About the Partner

Since opening in January 2020, [Roxbury Community College's \(RCC\) Center for Smart Building Technology](#) has prepared the highly skilled workforce needed to implement the sustainable, high performance, and energy efficient smart building practices required to achieve Boston's 2050 carbon neutral plan. The program offers certificate programs in Smart Building Technology and a concentration as part of RCC's engineering associate degree program. Opened in Fall 2022, the Center's \$700,000 lab trains students to operate complex building automation systems and manage HVAC equipment. In addition to equipment like programming kits, controllers, and building automation devices, the lab contains an air handling unit and transparent ductwork.

About the Project

The RCC Center for Smart Building Technology partnered with PowerCorpsBOS, a green jobs program intended to support equitable and inclusive workforce pathways for historically marginalized young people, and A Better City, a nonprofit multi-sector group of business leaders, to develop a Buildings Operations Pilot Pathway which provides participants with skills and job training to grow the green building workforce. For 18 weeks, participants study at the Center twice a week, intern twice a week at in-service opportunities coordinated by A Better City, and receive career workshops from PowerCorpsBOS once a week.

AT A GLANCE

- ▶ **Partner:** Roxbury Community College Center for Smart Building Technology
- ▶ **Project:** PowerCorpsBOS Building Operations Pilot Pathway
- ▶ **Program Location:** Boston, MA
- ▶ **Technology:** Energy Management Systems, Automation, Controls
- ▶ **Audience Served:** Diverse and Underrepresented Jobseekers
- ▶ **Better Buildings Workforce Accelerator Focus Area:** Streamline Career Pathways, Improve Skills



PowerCorpsBOS Building Operations Pilot Cohort

“This experience was very helpful. People took time with me, learned the fundamentals of efficiency, and prepared me well...for the job. Now I look at buildings differently. I’m now more resourceful, feel I belong, and can do things! [I] learned the skills that are really important to have [and am] more confident when I go into public and into buildings...an eye-opener.”

Sean Perera, program graduate and maintenance engineer

Challenges

Most new commercial construction includes smart building technology that delivers automated services such as lighting, cooling and heating, and air quality, as well as reductions in GHG emissions and energy costs. [A press release](#) from the opening of the Center for Smart Building Technology describes a “local shortage of skilled workers to install or maintain” smart building systems. This need is particularly relevant to the city of Boston where [70% of GHG emissions come from the building sector](#).

Solutions

Young adults participate in a training program aimed at cultivating career readiness and connections to employers in the green building industry. Participants are paid for hands-on training, which helps prepare them for living-wage careers.

The program’s goal is for participants to transition to employees at the end of the program. The public-private partnerships built through the PowerCorps Building Operations pathway aim to enhance Boston’s economic health and competitiveness while contributing to equitable growth for in-demand jobs.

Lessons Learned

RCC Center for Smart Building Technology highlighted changes for the second cohort based on findings from the pilot program. The Center

concluded that the original 250-hour, two-days-a-week model was too long, and training should be reduced to a 90-hour, three-days-a-week structure. Additionally, the curriculum will be updated to add Building Science Principles, remove the Energy Audit Introduction, and incorporate Interplay Learning, a virtual reality trades training program, as homework.

Moving forward, the Center for Smart Building Technology aims to establish individual partnerships to create structured internships and incorporate four to six weeks of interning after the completion of the courses. Additionally, a goal for the second cohort is to further define roles and responsibilities between PowerCorpsBOS, A Better City, and RCC.

Outcomes and Impact

Throughout the initial 18-week program, eight students completed courses and earned industry-recognized certificates. These opportunities included:

- ▶ Green Professional Building Skills Training (GPRO) Fundamentals of Building Green
- ▶ GPRO Operations & Maintenance Essentials
- ▶ Building Operator Certification (BOC): Fundamentals of Energy-Efficiency Building Operations.



Katherine James, Recruitment & Career Development Manager at RCC Center for Smart Building Technology (left) and PowerCorpsBOS participant, Sean Perera (right)

Additionally, students completed a capstone project, including a benchmarking analysis and commercial energy audit of Roxbury Community College. Three students were hired as full-time employees after their internships.

Internship partners included the City of Boston; Beacon Capital Partners and their operating partner, Newmark; the Federal Reserve Bank of Boston, JLL, Mass General Brigham, and Dana-Farber Cancer Institute.

The second PowerCorpsBOS building operations cohort launched in July 2023.

This case study was developed with content from [RCC Center for Smart Building Technology](#), the [city of Boston](#) and [PowerCorpsBOS](#), the [Mayor's Office of Workforce Development](#), and [A Better City](#).