

SHOWCASE PROJECT: STATE OF MARYLAND: WESTERN MARYLAND RAILWAY STATION

SOLUTION OVERVIEW

The Western Maryland Railway Station in Cumberland, Maryland was built in 1913 and operated as a passenger station by the Western Maryland Railway until 1959. The building went through various transformations, housing offices until 1988 when the Western Maryland Scenic Railroad began service. Today, the station continues to operate as a heritage railroad while also serving as the headquarters of the Canal Place Preservation and Development Authority (CPPDA). The State of Maryland renovated the facility primarily to address occupant comfort issues, and although the historical facility presented unique challenges for improvements, a comprehensive building upgrade resulted in a 21 percent annual energy savings and an annual cost savings of \$12,100.

The 24,730-square-foot brick building houses offices, a museum, and two small retail shops. The facility also features a C&O Canal National Historic Park exhibit and associated visitor's center. The CPPDA is an independent agency of the State of Maryland.

SECTOR TYPE

State Government

LOCATION

Cumberland, Maryland

PROJECT SIZE

24,730 Square Feet

FINANCIAL OVERVIEW

\$332,330

SOLUTIONS

CPPDA worked in collaboration with the Maryland Energy Administration and Department of General Services to conduct an energy audit of the facility with support from the U.S. Department of Energy. The audit identified several cost-effective energy conservation measures which included replacement of the building's 20+-year-old HVAC system, updates to the lighting system, and improvements to the building envelope involving air sealing and insulation.

The table below lists the facility upgrades implemented at the Western Maryland Railway Station

with associated costs. These measures were essential to improving occupant comfort while reducing the historic building's energy consumption and costs.

Savings Measure	Cost	Savings	Notes
HVAC replacement	\$266,300	\$5,000 annually	Replaced 10 HVAC split systems with DX air conditioning systems using hydronic coils as main heat source
Lighting replacement	\$54,370	\$3,600 annually	Replaced 550 short-lifespan fixtures with LED bulbs and fixtures
Building envelope upgrades	\$11,660	\$3,500 annually	Included installation of building insulation and air sealing

OTHER BENEFITS

Before this project, tenants of the building used space heaters in their offices and workstations to address drafts and uncomfortable temperatures in the building. Sealing and insulating the building envelope and upgrading the HVAC system improved building comfort and eliminated the energy consumption of individual space heaters. In addition, CPPDA realized significant cost savings from reduced maintenance and repair of the HVAC and lighting systems. The facility was budgeting more than \$5,000 annually to maintain and repair the HVAC system, which had to be regularly recharged with coolant due to leaky refrigerant lines. The lighting upgrade added projected maintenance savings of \$3,600 annually.

Annual Energy Use

(Source EUI)

Baseline(2016)



Actual(2019)



Energy Savings

21%

Annual Energy Cost

Baseline(2016)



Actual(2019)



Cost Savings

\$12,100



Western Maryland Railway Station