

“Building for Human and Environmental Health: Following LEED” Audio Tour 617-627-1444

Welcome to the “Building for human and environmental health: following LEED” audio tour of the Collaborative Learning & Innovation Complex at 574 Boston Avenue.

Introduction to LEED certification

The “Building for human and environmental health: following LEED” educational tour describes the features of this building that helped it gain LEED certification.

LEED stands for Leadership in Energy and Environmental Design, and is an internationally recognized green building certification program developed by the U.S. Green Building Council, also known as the USGBC. LEED provides third-party verification that a building is designed and constructed for improved environmental and human health performance.

LEED is a credit-based program, with the number of credits governing the level of certification a building receives – from the lowest level, simply called “certified,” to silver, gold or platinum. 574 Boston Avenue achieved LEED certification for implementing practical and measurable strategies and solutions aimed at achieving high performance in sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

Listen on for a description of some of the general features of the building.

Sustainable Sites

For this building, Tufts chose to rehabilitate a structure located in an already developed area served by infrastructure such as roads, utility lines, and public transit. This reduces strain on the environment by avoiding the material and ecological impacts of creating new infrastructure, hardscape, and building materials. Building occupants can also more easily access the building through alternate transportation modes, promoting physical health and reducing the greenhouse gas emissions from automobile use.

Using the Building as an Educational Tool

Signs placed around the building educate occupants and visitors about the features and benefits of green buildings, and the content is accessible through this audio tour. Information about how the building is sustainable and energy efficient is also posted on the Tufts University website.

***Stop 1 –Facilities for cyclists and fuel efficient vehicles**

To promote a healthy environment and lifestyle, covered bike racks are available near the entrances on either side of this building. Showers and changing rooms for cyclists and other active commuters are located on the first floor near the Harvard Street entrance.

For those who need to travel during the day, a fuel-efficient Zipcar is located close to the building entrance (in the parking lot). Zipcars can be rented by the hour, allowing them to serve

multiple drivers per day. This provides building users with the flexibility to travel to the site by an alternate mode of transportation but still have a vehicle at their disposal.

Reducing the number of single-occupancy vehicles traveling to this facility helps alleviate rush-hour traffic, decrease the number of parking spaces needed to serve the building, and reduce greenhouse gas emissions.

Stop 2 – Outdoor Water Use Reduction and Stormwater

This site's landscaping has been designed to limit the use of potable water for irrigation. Planting materials include native and drought tolerant species, and the irrigation system uses automatic controllers that adjust for seasonal weather changes. The project has reduced potable water usage by 66%.

Stormwater runoff from impervious surfaces can cause downstream flooding and negatively impact water quality in the Mystic River watershed. To help prevent this, a rain garden and two large subsurface infiltration chambers were constructed between Harvard Street and this building. These hold and filter a large volume of stormwater on-site, cleaning the water and allowing it time to infiltrate into the underlying soil, helping to restore and maintain the natural hydrologic system.

Stop 3 – Certified Wood

All new wood in this building, including plywood, millwork, and subflooring, is certified by the Forest Stewardship Council (FSC). FSC certification ensures that the wood products have come from third-party-certified forests that comply with the FSC principles and criteria – including community relations, workers' rights, and environmental impact.

Stop 4 – Green Cleaning

Tufts University's Green Cleaning Program specifies the use of environmentally-friendly cleaning products and practices to maintain a healthy, safe, and clean environment for building users and cleaning staff. Custodial staff are trained in the use of green cleaning methods, training logs and reporting tools, and on the safe storage of cleaning products.

Stop 5 – Indoor Water Use

High efficiency plumbing fixtures that use 36% less water than the baseline use of similar facilities are installed throughout this building.

Water bottle filling stations located throughout the building encourage building users and visitors to use reusable water bottles. This helps reduce waste and the social and other environmental impacts caused by commercially produced single-use plastic water bottles.

Stop 6 – High Efficiency Lighting

By using energy efficient Light Emitting Diode (LED) lighting, this building is expected to use 35% less energy for interior lighting and 53% less for exterior lighting than a standard building. Occupancy sensors and daylight sensors further reduce the amount of energy used for lighting.

Stop 7 – Optimized HVAC Energy Performance

This building has a high-efficiency heating, ventilation, and air conditioning (HVAC) system that reduces environmental impacts associated with excessive energy use. In addition, the building's triple pane windows and six inches of closed-cell spray foam insulation reduce disruptive outside noise. They also help seal the building against changes in external temperature, reducing energy costs and improving occupants' thermal comfort.

Stop 8 – Urban Heat Island Reduction

Urban areas tend to be hotter than rural areas because they have less vegetation and more non-reflective surfaces. The roofs of this building and the adjacent carriage house have a Solar Reflectance Index (SRI) of 93. SRI quantifies how hot a surface will get relative to standard black (an SRI of 0) and white (an SRI of 100). It provides a way to compare materials' ability to stay cool. These light-colored, reflective roofs help keep the buildings and surrounding air cool in the summer.

Stop 9 – Low Emitting Materials

Materials with low volatile organic compounds (VOCs) were used to reduce the quantity of indoor air contaminants that are potentially irritating or harmful to building occupants. Low VOC materials used include adhesives and sealants, paints and coatings, flooring systems, and composite wood and agrifiber products.