

STANDARD EIGHT: PHYSICAL RESOURCES

WPI is situated on approximately 80 acres of land bordering the professional, residential neighborhoods of Worcester. Currently, the campus has 32 major buildings encompassing nearly 1,200,000 gross square feet (GSF) of space. In addition to the buildings on the main campus, WPI owns 38 houses and a 24-unit apartment building in the nearby neighborhood. It also owns, and operates through a real estate management firm, a 108-unit apartment complex, Salisbury Estates, situated within walking distance of the campus. WPI owns approximately 25 acres of land in nearby Holden, the property consisting of 15 major buildings now leased to a private for-profit corporation, ARL Inc. The University recently purchased 12 acres of land located one-quarter mile from campus on Grove and Prescott Street. The purchase of this land, which was acquired as an investment, is a joint real-estate venture with two other investors. WPI also leases space in Southborough and Waltham, Mass., for graduate and continuing education programs.

The Plant Services Department is responsible for maintaining all the facilities located on the main campus, as well as the houses peripheral to the campus proper. WPI's two satellite locations in Waltham and Southborough are rented, so maintenance is the responsibility of the landlord. The current operating budget for Plant Services is in excess of \$6 million, and the current staff numbers 86. The organization includes the director of physical plant and his direct reports: the managers of business affairs, buildings and events, technical trades, environmental and occupational health and safety, grounds and properties, and contracts and construction. In addition, there are three custodial supervisors and an information systems supervisor. Hourly personnel include five powerhouse operators, 42 custodians, 15 technical trades, nine groundskeepers, and three administrative support staff. The director of physical plant reports to the vice president for administration; both are members of the President's Cabinet.

The **Building Services** (custodial) division of plant services is responsible for the cleaning of campus buildings, recycling, and the setup and support of campus special events. The division solicits feedback from the community via meetings with department heads and e-mail. Periodic e-mail correspondence to the campus community helps the division obtain feedback on issues related to cleaning and recycling on campus.

The **Grounds Services** division maintains all campus grounds, athletic fields, and the 38 peripheral houses. The Grounds Department is responsible for maintaining flowerbeds, mowing, pruning, leaf removal, fertilizing, vehicle maintenance, and snow removal. **Technical Trades**, with subcontractor support in such specialty areas as elevators, alarms, and controls, is responsible for building maintenance needs, including electrical, plumbing, carpentry, HVAC, locks, painting and the Power Plant. **Environmental and Occupational Health and Safety** is a new full-time position focused on safety issues in campus facilities and laboratories, including

hazardous material handling, lab safety training, Campus Safety Committee activities, fire safety and related issues. The manager of contracts and construction works with the support of other department managers to undertake minor annual maintenance and repair projects totaling about \$3.5 million.

The core of the WPI campus, consisting of a number of buildings built between 1865 and 1920, is listed as a Historic District on the National Register of Historic Places. In 1997, a preservation plan was prepared to oversee the care and maintenance of these facilities. In addition to this plan, a five-year planning document categorizes campus renewal and repair projects into 27 priorities to plan for annual facility renewal and repair projects.

As one of the goals of the strategic plan, WPI is focused on a facility reinvestment rate of 2 percent of the current replacement value of the campus physical plant, with an ultimate goal of keeping deferred maintenance below \$10 million. Another aspect of the strategic plan is space allocation for future institutional needs. The Space Allocation Committee, composed of faculty and administration, reviews resources and needs. The committee's recommendations are approved by the president and his Cabinet or the Physical Facilities Committee of the Board of Trustees, as necessary.

Since 1990, WPI has invested in excess of \$28 million, above and beyond the annual project investment, in major campus renovations. These projects included the renovation of Alden Memorial, the renovation and addition to Higgins Laboratories, and a significant reinvestment in residence hall facilities. The latter project resulted in the complete renovation of over two-thirds of the WPI residential housing (four major residence hall complexes) at a cost of approximately \$15 million. This project also included the renovation of the primary dining and kitchen facility during the summer of 2000.

In 1997, two major site projects were implemented on the campus. The first was the landscaping of the center of the campus along what was formerly a portion of West Street, a thoroughfare that had separated the eastern and western portions of the campus for nearly 100 years. A successful petition to the City of Worcester resulted in the transfer of the street to WPI late in 1996. During the summer of 1997, the area was redesigned and landscaped into a pedestrian mall. At the center of the mall is Reunion Plaza, which includes a fountain surrounded by a seating area. That same summer, the rubber track and artificial playing field, installed in 1985, was replaced with a new running surface and an Astroturf playing surface.

WPI opened the 71,000 gross-square-foot, \$17 million Campus Center in March 2001. The building houses all student affairs offices, space for student groups, the Events Office, the University bookstore, à la carte dining, mail facilities and considerable meeting space.

Safety and compliance with Americans With Disabilities Act (ADA) have been given high priority in recent years. For example, 13 campus buildings have been furnished with motorized door openers to accommodate the disabled. During the past three budget years, nearly \$700,000 has been invested to modernize classrooms. Along with new seating and interior finish upgrades, the work has included the installation and upgrade of IT and AV equipment, particularly in larger lecture facilities.

The safety of the WPI campus has improved significantly over the past 10 years through the installation of sprinkler systems in 10 buildings. Fire alarm systems have been installed or updated in all residence halls and six other major campus buildings. Major investments in energy conservation during the 1990s included the retrofit of 10,000 campus light fixtures with energy efficient lamps and ballasts, the replacement of an older chiller in the library, the installation of a water tower in the computer science building for low cost winter cooling of chilled water, and the retrofit of the chemistry and chemical engineering hoods with variable speed exhaust systems to conserve air flow while improving safety. In addition, most campus building HVAC control systems have been retrofitted with energy management systems.

Space allocation for future institutional needs is also part of WPI's overall planning. The Space Allocation Committee, composed of faculty and administrators, reviews resources and needs. The committee's recommendations are approved by the president and his Cabinet or by the Physical Facilities Committee of the Board of Trustees, as necessary.

Appraisal

The appearance of the WPI campus has changed dramatically over the past 10 years. Improvements on West Street created an open-air venue that provides space for community members to sit and interact, but also permits students wireless access to the Internet. Renovations to the athletic field provide the community with an exceptional sport and fitness facility. The rehabilitation of classrooms and labs has increased their functionality. However, parking on campus continues to be a challenge; options to address the parking issue are being discussed. Nevertheless, the overall improvements to the campus make WPI a much more welcoming place.

An effort needs to be made in the area of customer relations on campus to address customer concerns. Department managers and supervisors need to allocate additional time and effort to seek out customer opinion related to cleaning, work order completion and other plant related issues. A formal feedback loop needs to be established, whether by scheduled verbal discussions with customers or an electronic feedback process that employs a Web-based survey or the MAXIMO work management system.

The average age since construction of WPI's building age is 56 years, and the average time since a major renovation is 25 years. This presents WPI with the constant challenge of facility care. Annual project spending has averaged \$2.5million over the past five years, with a pace closer to \$3 million annually anticipated and planned. As indicated above, WPI is aiming for a facility reinvestment rate of 2 percent of the current replacement value of the campus physical plant, with an ultimate goal of keeping deferred maintenance below \$10 million. The current deferred maintenance list is at \$12.5 million projecting out over a five-year period.

WPI must look at its academic space and assess its needs going forward. An external space audit is currently under way. Between 1995 and fall 2000, the WPI tenure-track faculty grew from 192 to 218; and WPI's research base is growing. Providing appropriate space to meet these growing needs may be a challenge in the years ahead.

Projection

Looking forward, WPI faces numerous facility and space challenges. Currently the long range Capital Plan for the college exceeds \$100 million. Notable on this list are projects related to the modernization of aging athletic facilities, the provision of card access control for campus buildings, additional academic space and the renovation of older current academic buildings including the library, and that constant campus challenge--more parking.