



Leveraging

Facilities managers are key players in advancing campus sustainability. Their efforts advance tactical value through the management of the facilities portfolio. However, this tactical value is not consistently translated to the strategic mission of educational institutions—educating tomorrow’s leaders. Through a sustainability initiatives inventory project, facilities managers and academic faculty at the University of Wisconsin Madison collaborated to identify current and future opportunities to link sustainability in campus facilities with campus academics and research. The results of the inventory identify a diversity of existing relationships, partnerships, and collaborations around campus sustainability that serve as a baseline for further advancing campus sustainability initiatives.

Campus Facilities to Advance Sustainability in Academics

By Daniel Aragon, Bill Elvey, P.E., FMP, APPA Fellow, and Alfonso Morales, Ph.D.

Over the past few decades, efforts to improve campus sustainability have been transformed from the experiments of a few early adopters to a central concern of many modern educational institutions. The change can be seen both in the management of campus facilities, and in the educational objectives of many academic departments. Although sustainability efforts are unevenly distributed among institutions, sustainability investments deliver positive returns to the triple bottom line of economic value, environmental improvement, and increasing social capital.¹ As campus sustainability efforts become more widespread, it is worth evaluating how these successes are leveraged across educational and operational settings.

Facilities management and sustainable campuses are ultimately in service to the strategic institutional mission of educating tomorrow's leaders. Facilities managers contribute to this mission by advancing tactical value through ongoing activities, special projects, and emergent initiatives in their portfolios. Their leadership and management improve this complex system of human and physical resources. However, these tactical operations do not consistently deliver the strategic educational value they are capable of generating.

The sustainable university has the unique opportunity to translate tactical management into strategic value by advancing sustainability-based relationships between facilities management and academic partners. These relationships can produce a variety of goals through making the campus a living laboratory that teaches through operations design and management.²

To realize the full strategic value of a tight reciprocal relationship between education and campus operational sustainability we need a baseline understanding of existing partnerships that help identify opportunities for new sustainability efforts. This article describes one such scoping effort at the University of Wisconsin Madison, initiated by the associate vice chancellor of facilities planning and management.

SUSTAINABILITY AND RESPONSE TO CLIMATE CHANGE

Climate science tells us that avoiding dangerous climate change impacts on society requires limiting atmospheric temperature increases to less than 3.6°F above pre-industrial levels. This means the developed countries will need to contribute an 80 percent reduction in greenhouse gas emissions by 2050.³

Such reduction is daunting, even for those with experience implementing highly successful conservation projects.

The American College & University Presidents' Climate Commitment is a promising sign of educational institutions taking the lead on sustainability.⁴ But this commitment that includes developing climate neutrality plans, has been judged by some as too conservative to reach meaningful milestones in an adequate timeframe.⁵ Knowledge of climate change and climate change mitigation exemplifies the type of complex problems that students are grappling with in the classroom and that they will face in postgraduate professional environments.

There is a two-sided opportunity associated with this complex problem. On the one hand, when facilities professionals identify sustainability-related projects and goals, they can partner with their academic colleagues to advance mutually beneficial learning and research goals. On the other hand, when academic curricula are designed to employ campus sustainability as a teaching tool, the work of facilities management is creatively utilized to deliver new value. Both approaches may require additional tasks of facilities managers, yet the benefits are often reciprocal.

Faculty and students may already be engaged in projects implicating facilities offices and personnel. Systematically meshed with facilities, student organizations, and engaged faculty capably develop and implement activities and programs that expand the capacity of facilities managers to meet their sustainability goals. What is clear is that the challenges posed by today's sustainability problems call for *all* members of the campus community to work beyond conventional organizational boundaries and traditional educational paradigms.

ORGANIZATIONAL SUSTAINABILITY

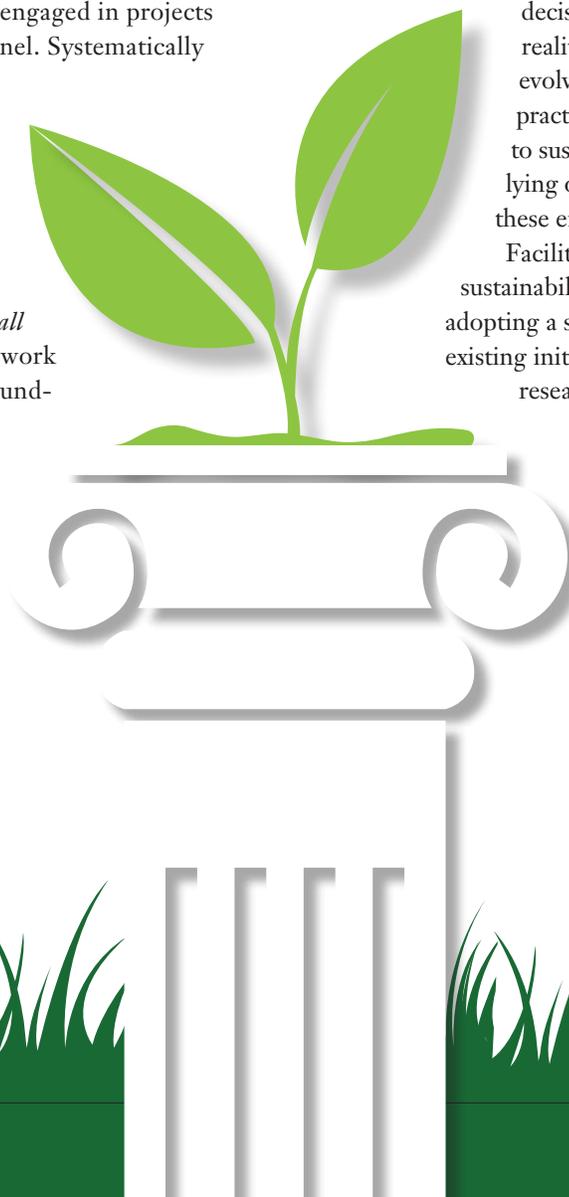
Facilities managers directly affect the sustainability of their institutions. The physical assets they administer represent large investments that may be valued well above the endowment of the institution.⁶ These assets have direct and wide-ranging environmental impacts. However, such assets can also be harnessed to academic and pedagogical goals.

Besides directly enriching academic missions, the work of facilities managers will indirectly influence societal sustainability through the 50 percent of people over 25 who will have spent at least some time in a college setting.⁷ In short, campus sustainability has legitimate educational and social functions. While most facilities managers have a full schedule of day-to-day operational responsibilities, it is equally clear that facilities management works in the three dimensions of strategic sustainability—the economic, the environmental, and the social⁸, as well as the academic and pedagogical.

Complete integration of sustainability into the campus institution is not a straightforward task. Authors in *Facilities Manager* have described such barriers as commitment to short versus long paybacks periods, access to financing, greenwashing, politics, and the inevitable long-term commitment needed to achieve sustainability goals.⁹ Adopting sustainability into academic disciplines and education has its own related, yet unique challenges.

Ideally, sustainability would be incorporated into the highest levels of the campus organization—the mission and vision statements, and the subsequent decision-making activities.¹⁰ However, the reality is that most institutions are in an evolving process of adopting sustainability practices, defining curriculum in reference to sustainability, and developing the underlying organizational framework to support these efforts.

Facilities management can help advance sustainability initiatives across an institution by adopting a strategic perspective that is attentive to existing initiatives. Campuses are places of deep research, innovation, and domain expertise. Facilities management can engage these strengths by partnering with faculty and students to solve problems and discover new opportunities. Facilities managers' existing service role also makes them ideal connectors in the campus organizational framework. Facilities professionals advance sustainability—yet, facilities professionals that do a better job of integrating realize important goals that reach beyond the campus.



THE UNIVERSITY OF WISCONSIN MADISON'S EFFORTS

The division of Facilities Planning & Management (FP&M) at UW-Madison is a full-spectrum facilities management organization consisting of six major functional departments: Physical Plant; Space Management; Capital Planning & Development; Campus Planning & Landscape Architecture; Environment, Health & Safety; and Transportation Services. FP&M also has a long and successful tradition of integrating sustainability into its philosophy of doing business with programs such as WE CONSERVE, UW Builds Green, and management of a 300-acre Lakeshore Nature Preserve.

The challenge, however, is ensuring productive alignments among the departments, and further, producing productive partnerships with academic units. In 2010, UW-Madison published the *Sustainability Initiative Final Report*. The report challenged the institution to improve sustainability outcomes by enhancing strong, two-way communications between campus operations and the university's educational and research components.

To address the report's concerns, it is essential that not only facilities management extend operational sustainability efforts to educational and research settings, but that other campus operational components such as Athletics, the Division of Informational Technology, Wisconsin Union, Housing, Purchasing, and others also do the same.

PROJECT IMPLEMENTATION

Bill Elvey joined UW-Madison in 2012 as the associate vice chancellor for FP&M. In early 2014, he engaged support from professor Alfonso Morales of the Department of Urban & Regional Planning. Together they developed a scope of work for a year-long project to scope the interaction between FP&M departments and campus academic units. Elvey's initiative built on the 2010 report and infuses sustainability in every business decision made by FP&M departments. Operationally his leadership empowers department directors by fostering self-determined sustainability programs, projects, and initiatives. Professor Alfonso Morales identified the important partnerships to scope, engaged a team, and is directing the effort. In short, the UW-Madison academic/administrative collaboration

exemplifies firm and visionary leadership at a high level of the university administration with inventive and resourceful faculty and student talent.

The conceptual foundation for the assessment is based on dynamic, emergent, and multilayered partnerships. Our understanding of sustainability efforts on college campuses has evolved from two observations. The first is that motivated and

inspired actors might initiate sustainability efforts from nearly anywhere in the organizational structure of the institution.¹¹ This includes students and student organizations, research groups, academic instructors, and facilities management departments. Second, we observe that many sustainability projects are born of interdisciplinary partnerships within and across different interests. Our model captures the relationships and organizational structure of sustainability partnerships (see Figure 1).

Our assessment began with collecting data about prior and existing partnerships between facilities and academic units. Elvey emphasized the project to his leadership team and the academic partners examined documents and conducted interviews with

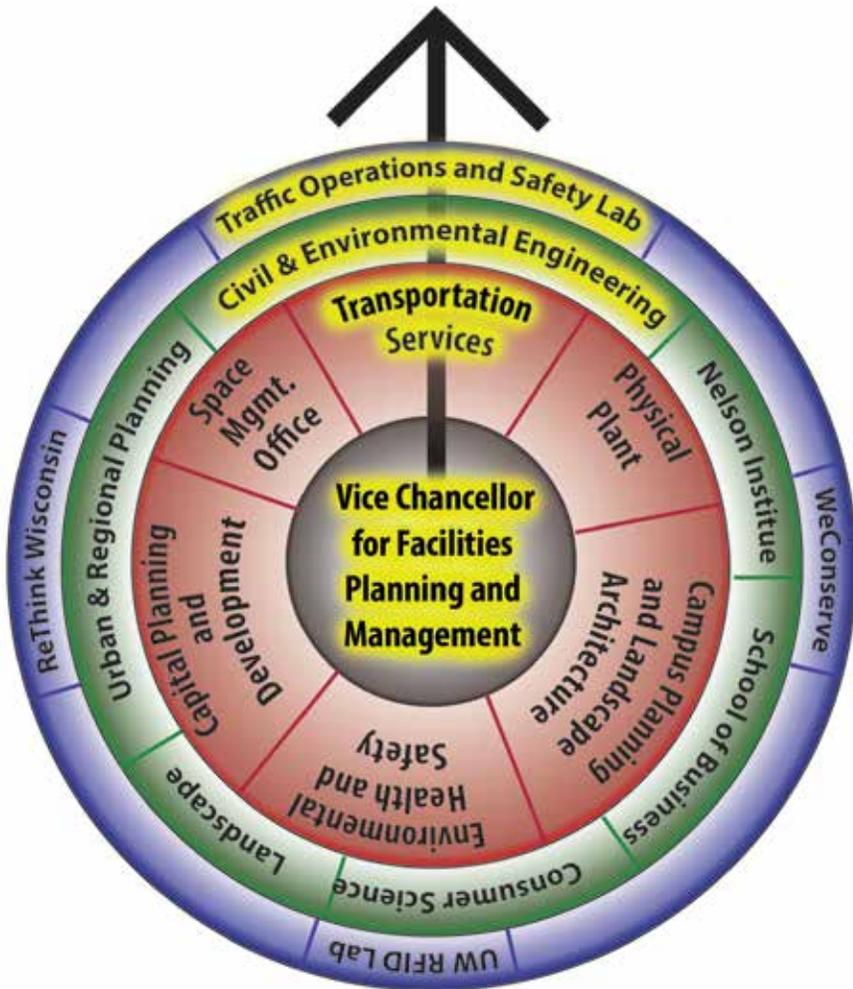
units in FP&M as well as across campus academic units. Some of these actors engaged research projects with units of FP&M, others crafted curriculum that uses campus sustainability as a teaching tool in a range of academic fields.

We also identified and interviewed student organizations at the university that work to advance a range of sustainability objectives. These various interviews collected the details of discrete projects, ongoing programs, curriculum and syllabi, published research, permitting activities, and proposed work that advance campus sustainability. We are intentionally framing this data collection through the lens of tactical and strategic institutional value. We also are careful to document the evidence of partnerships across the various university units.

This database of sustainability projects will inform the FP&M departments and the greater campus community of an active and often unseen network of findings and opportunities. By taking a thorough assessment of sustainability activities on campus we are identifying storehouses of knowledge and data that can be leveraged for multiple purposes—academic, pedagogical, and administrative.

**Facilities management
can help advance
sustainability initiatives
across an institution
by adopting a strategic
perspective that is
attentive to existing
initiatives.**

Figure 1. Emissions Reductions Study: Traffic light conversion to roundabout



The conceptual model for the inventory captures the products of collaborations across FP&M departments, academic classes, and research units. This emissions reduction study was a product of the Traffic Operations Safety Lab, Engineering faculty, and the Transportation Services Department in FP&M. An interactive Web version of the model makes clear the dynamic nature of such partnerships from the AVC perspective.

In this assessment we are able to identify the types of partnerships that are particularly productive and lead to sustainability innovations and we are beginning to understand the characteristics of those partnerships. The initial work confirms that the facilities management units have many sustainability assets to be proud of and that the strategic value of these assets is not lost on their managers. However, in the words of Dan Okoli, UW-Madison's capital planning & development director, "We are not skilled at broadcasting our successes." This challenge is central to our effort at UW-Madison and we are developing Web-based mapping and graphical platforms that use interactive data to communicate the breadth of sustainability initiatives on campus.

INTEGRATING

In short, facilities managers are important to engaging the behaviors and decision making of the campus community, and further, they can utilize campus assets to enhance academic and pedagogical missions. When these efforts are designed to integrate with the strategic mission of educational institutions, their value is further increased. For those managing campus facilities, developing the strategic value of the campus infrastructure will become even more important in the digital age as the campus is no longer a prerequisite for higher education.¹²

Taking stock of the existing efforts and relationships can help an organization become more self-aware and make better decisions on how to leverage the value of sustainable campuses. Furthermore, such scoping can identify emerging efforts from around the campus and point toward potentially significant opportunities for new initiatives. Creating sustainable campuses should infuse existing pedagogical methods with facilities concerns,



in this way concurrently addressing educational and operational sustainability challenges. ☺

ENDNOTES

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