

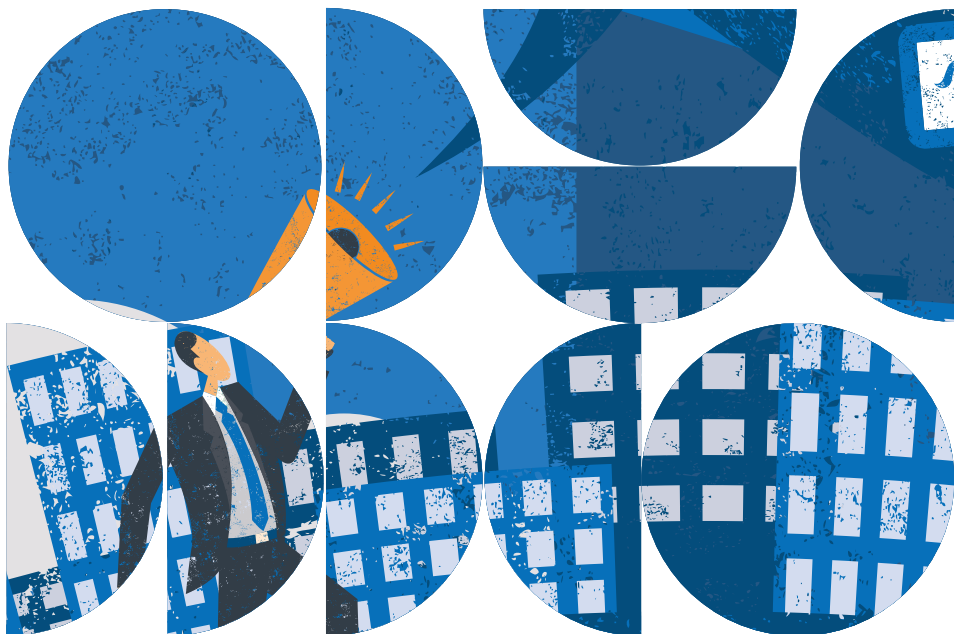


EAB

Capital Renewal Funding Playbook

Compendium of 100 Tactics
to Fund Deferred Maintenance Projects

Facilities Forum





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Facilities Forum

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Supporting Members in Best Practice Implementation

Resources Available with Your Membership

This publication represents only one of our many resources to support members in their efforts to address maintenance—including deferred maintenance projects and preventive maintenance programs. Details about additional resources are provided below.

For additional information about any of these services—or for an electronic version of this publication—please visit our website (eab.com/facilitiesforum), email your institution’s dedicated advisor, or email research@eab.com with “Facilities Forum Capital Renewal Funding Playbook Request” in the subject line.

Addressing Increasingly Complex Deferred Maintenance Decisions

- Crafting a compelling narrative that increases stakeholder awareness of deferred maintenance backlog and buy-in for solutions
- Improving the rigor of prioritization by aligning facilities investments with academic priorities and financial constraints
- Building flexible but principled short-, mid-, and long-term plans to ensure Facilities is effectively spending limited capital dollars

Shifting the Balance from Reactive to Preventive Maintenance

- Creating greater preventive maintenance capacity by streamlining inefficient processes and eliminating common timesinks
- Stretching the operating budget to create dedicated preventive maintenance roles or teams
- Exploring the future of predictive technologies and impact on maintenance

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How to Use This Resource

Exploring Capital Renewal Funding Options and Leveraging Successful Strategies

The deferred maintenance backlog is a huge (and growing) problem almost all campuses face. Capital renewal funding to address deferred maintenance is often inadequate, as other institutional priorities compete for increasingly limited resources. Given the magnitude and pervasiveness of this issue, institutions are searching for new ways to obtain more dollars for renewal.

While there are no silver bullets for tackling a large backlog, Facilities leaders can learn from colleges and universities that have used creative tactics to successfully fund capital renewal projects. This publication arms leaders with 100 creative strategies for a broad set of options to help identify realistic funding opportunities.

The first section details 10 executive-level lessons for successful capital renewal funding in higher education. Facilities leaders can review these lessons to gain a macro-level understanding of which tactics might best support renewal projects at their institution.

The second section is a compendium of 100 successful capital renewal funding strategies, providing a wide array of funding opportunities. Tactics are organized into 11 distinct subsections. Clearly, not every tactic will be relevant to each institution's unique campus circumstances. Nor will one or two tactics solve the funding challenge. Rather, the ideas represent the full menu of options for institutions looking to diversify capital renewal funding, enabling institutions to find 10 to 12 applicable tactics that combine to have a meaningful impact.

Section:

- 1 Lessons in Funding Capital Renewal**
Ten executive-level lessons based on EAB's analysis of diverse capital renewal funding strategies across higher education.
- 2 Detailed Capital Renewal Funding Strategies**
Detailed capital renewal funding strategies and potential impact on maintenance funding, prevalence, implementation guidance, and case studies of successful implementation for each tactic.

Tactic Evaluation and Comparison

Each capital renewal funding strategy is presented along with detailed implementation guidance and case studies of successful execution. Readers can use this list to identify tactics that have worked well for institutions with similar demographic profiles.

Furthermore, each tactic is evaluated on two metrics: maintenance funding potential and prevalence. Maintenance funding potential gauges the relative ability of each tactic to generate funds to support capital renewal. Prevalence measures how commonly institutions use each tactic to directly fund capital renewal. The table below provides specific definitions for the metric scales.

Metric	Scale	Indicator
Maintenance Funding Potential <i>Relative measure of each tactic's ability to direct funds to capital renewal</i>	Low	\$
	Mid-to-Low	\$\$
	Moderate	\$\$\$
	High	\$\$\$\$
Prevalence <i>Approximate gauge of how commonly the tactic is used to directly fund capital renewal</i>	Less than 10% of institutions	•
	11%-30% of institutions	••
	31%-50% of institutions	•••
	51%-100% of institutions	••••



Lessons in Funding Capital Renewal

SECTION

1

Lessons from Funding Tactics

Recurring Funding Sources

1. Advocate for Reliable, Predictable Funding

Facilities leaders need access to reliable, predictable funding to effectively plan and prioritize maintenance and renewal projects. The most reliable funds are drawn from the Facilities operating budget and annual capital allocations. Most institutions have these funds in place, but Facilities needs help securing more. Many of the tactics profiled in this resource focus on increasing the number and amount of reliable capital renewal funding sources. One way some Facilities leaders have had success locking in a reliable source of funding is by establishing green revolving funds to provide annual dollars for sustainability projects on infrastructure. Institutions have also successfully included a capital renewal charge in auxiliary utility rates to lock in infrastructure renewal funding.

2. Secure Guaranteed, Annual Increases

Some Facilities leaders have had success advocating for annual percentage increases of current funding streams. Guaranteed annual increases reduce the burden of making recurring requests. For example, one institution agreed to automatically increase shop rates, ensuring they keep pace with changing costs without an additional time burden for Facilities. Another way institutions have successfully locked in dollars is by advocating to the board for incremental increases in the annual allocation over multiple years. This eases the impact on the institution's operating budget and ultimately improves long-term project planning.

3. Explore Student Fees as a Reliable Source of Dollars

Student fees can help Facilities better support capital renewal by serving as a reliable source of dedicated annual dollars. Seven institutions profiled in this publication have introduced fees that provide capital dollars for Facilities. The goal of these fees is maximum flexibility so money can be directed to where it is most needed. However, successful implementation of this strategy partially depends on transparency around the use of these dollars with stakeholders. In cases where students or campus leaders initially resisted a student fee, tying the fee explicitly to sustainability efforts—typically giving students a voice in how the money is spent—has helped garner support.

Partnerships with Advancement

4. Encourage Donors to Fund Capital Renewal

Facilities leaders at several institutions are working closely with their Advancement offices to direct donors away from constructing new buildings and toward comprehensive renewals of older structures. Establishing “no net new” square footage policies helps support this re-direction. Some Advancement offices are working to better communicate to donors how renewing existing buildings improves campus condition and responsibly stewards resources. One institution translates donor interest in supporting specific academic programs into renewals of the buildings that house those programs.

5. Establish Maintenance and Capital Renewal Endowments

A number of institutions have established endowments to fund the maintenance and renewal of new and existing buildings. Endowments provide a consistent, dedicated funding source for building maintenance and renewal. While donors may prefer their money be limited to their supported facility, some institutions have been able to direct dollars to a central endowment as opposed to individual accounts for each building. These central dollars allow Facilities leaders to spend money more flexibly and allocate funds to best address campus needs. One innovative institution establishes maintenance or renewal endowments for existing buildings by selling naming rights for older, “unnamed” buildings.

Lessons from Funding Tactics (cont.)

Outside Funding Sources

6. Distribute Responsibility of Funding Facilities

Some institutions are looking for new ways to spread the responsibility of funding renewal across more stakeholders. Examples include requiring donors for capital projects to contribute to central infrastructure improvements, levying a maintenance tax on cost centers, and requiring auxiliaries to pay for compulsory preventive maintenance. A few institutions ensure that units support capital renewal of utility distribution systems by charging a capital renewal tax in utility rates.

7. Position as a Partner to the Broader Community

Many successful non-traditional funding ideas originate from institutions positioning themselves as a partner to the community. For example, some institutions hold garage sales with donated items, partner with private companies to provide tutoring and test preparation services, and enter into arrangements such as corporate research facility joint ventures. These non-traditional tactics provide untapped revenue streams for renewal that Facilities can pursue either independently or without much competition from other entities on campus.

8. Partner with the Private Sector

While not right for every institution, public-private partnerships (P3s) can help increase capacity to improve campus and reduce the risk of undertaking new development projects. These arrangements leverage the funding capacity, efficiency, and speed of the private sector to help institutions address critical renewal needs while keeping costs “off the books”. Institutions are employing P3s to construct and maintain new student housing, dining areas, and energy infrastructure—even entire campuses.

9. Collaborate to Advocate to the Government

All public schools advocate to the state for additional funds, but creative advocacy is increasingly necessary as traditionally reliable sources of funding disappear. Facilities leaders are increasingly collaborating with other public institutions to advocate collectively to the government. A diverse set of stakeholders underscores the critical renewal needs that manifest across various public entities within the same state. Colleges and universities have collaborated with other higher education institutions or public entities within the state or province to collect data on facility condition and risk resulting from unfunded projects. Many of these collective presentations to legislatures have resulted in additional governmental funding. Even private institutions are working with public entities such as municipalities to apply for state or federal grants for infrastructure improvements or building renewals.

10. Century Bonds Not the Only Debt-Based Solution

While a number of institutions have taken out long-term bonds to fund capital renewal projects, there are several options for institutions looking to creatively finance renewal projects. For example, Facilities leaders have established department partnerships to lobby for capital renewal bonds. Facilities leaders are also working closely with the chief financial officer to leverage short-term debt to kick-start capital projects or improve liquidity, which can improve the institution’s credit rating and future access to bonds with more favorable terms.



Detailed Capital Renewal Funding Strategies

SECTION

2

Fundraising

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#1: Request Central Funds for Capital Renewal to Match Donor-Funded Renovations	\$\$\$	●●	When donors fund partial building renovations, Facilities requests additional money for deferred maintenance projects in the building. The goal is to bundle projects and reduce overall costs and construction time.
#2: Bundle Deferred Maintenance Costs with College Fundraising Efforts	\$\$	●●	Institutions require deans to cover the cost of addressing deferred maintenance in spaces where donor funds are supporting programmatic renovations.
#3: Steer Donors Toward High FCI ² Buildings	\$\$	●	Institutions coordinate with undecided donors to support projects in buildings in poor condition. Donors fund either a complete renovation or demolition and replacement.
#4: Require Donors to Contribute to Central Infrastructure	\$	●	Institutions request that donors who fund new construction provide additional dollars to support an upgrade to central infrastructure or shared utility systems.

1) See page 6 for grading scales.
 2) Facility Condition Index.

Implementation Guidance	Case Study
<p>To make the case for additional university funds, Facilities leaders should emphasize the cost savings opportunities associated with bundling projects. It is also important to communicate that donors appreciate seeing the institution partially or fully match investment in a donor-initiated project. This signals the institution's commitment to long-term maintenance. It has the added benefit of yielding repeat donors who welcome the institution's commitment to maximizing the impact of funds to improve campus condition.</p>	<p>At Messiah College, when a donor funds a capital project in a building with high deferred maintenance needs, the Facilities leader goes to the board and requests additional money to address deferred maintenance in that building. For example, when a donor agreed to fund an addition to the wellness center, the Facilities leader argued that bundling the roof repair with the expansion would be cheaper for the institution than tackling the roof repair at a later date. This bundling of capital renewal and new construction allowed Messiah to bring the entire roof up to code, minimized construction time and campus disruption, and reduced the cost of the roof upgrade by one-third.</p>
<p>This tactic allows Facilities to bundle projects without using scarce resources for issues that may not be at the top of Facilities' list. Additionally, requiring deans to coordinate with Facilities on maintenance projects and renovations encourages deans and department chairs to submit renovation plans to the capital planning office before beginning the project.</p>	<p>At the University of Dayton, when colleges secure private donations for building renovation and renewal projects, they are required to cover the cost of addressing deferred maintenance in that space. The board, which approves all construction projects over \$5M, asks to see plans to address deferred maintenance before approval.</p>
<p>Facilities should inform Advancement of capital renewal needs and link those needs with academic and institutional priorities. Advancement can then emphasize the programmatic importance of the requested renewal when communicating with donors. Advancement staff can also leverage alumni's nostalgic connection to existing buildings on campus to pitch renewal projects over new construction.</p>	<p>At Caltech, Facilities keeps the Advancement team informed of the buildings with the greatest capital renewal needs. This enables Advancement to steer donors toward buildings in worst condition. Half of the \$20 million Caltech spends each year on capital renewal projects comes from donations. For example, when a donor gave \$7 million for the construction of a drone research facility in an existing lab, Caltech leveraged the donation to also eliminate \$1 million in deferred maintenance.</p>
<p>To make the case to donors, Facilities leaders should highlight how the upgrade will benefit campus. Institutions can provide donors with estimates of the impact the new building will have on central infrastructure to demonstrate the importance of funding upgrades, in addition to showing how operations in the new building will benefit from the upgrades.</p>	<p>When the University of Texas at Dallas undertakes new construction, they ask project funders to contribute to central infrastructure upgrades. They make the case that if a building is going to be using central infrastructure and utility systems, the project should contribute to the upkeep of those systems. UT Dallas frames this as a "tax" on new construction. It is not calculated in a systematic way (e.g., based on capacity or load); instead, the Facilities leader looks to the next infrastructure upgrade on his priority list and asks the sponsor of that project to pay for it. For example, if a project sponsor wants to fund a new research building and the central system needs a new chiller, the Facilities leader might request that the donor pay for the expansion, explaining that because the new research building will rely on central chillers, it is in the sponsor's interest to have them in good condition.</p>

Source: California Institute of Technology, Pasadena, CA; Messiah College, Mechanicsburg, PA; University of Dayton, Dayton, OH; University of Texas at Dallas, Richardson, TX; Facilities Forum interviews and analysis.

Fundraising

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#5: Offer Naming Rights for Existing Facilities to Establish Maintenance Endowment	\$\$\$\$	●	Institutions offer potential donors the opportunity to name a building in exchange for funding a maintenance endowment.
#6: Fundraise for a Fixed Percentage Capital Renewal Endowment	\$\$\$	●●	Institutions establish a capital project fundraising target that reflects both the cost of construction and the creation of a capital renewal endowment. The fundraising goal for the capital renewal endowment is a fixed percentage over the cost of construction.
#7: Fundraise for an Operations and Maintenance Endowment Based on Projected Building Needs	\$\$\$	●	Institutions include an allocation for an operations and maintenance endowment when they ask donors for money for new construction. The amount requested is calculated based on the building's projected maintenance needs.
#8: Create Separate Endowments for Capital Renewal and for Operations and Maintenance	\$\$\$	●	Institutions ask donors to give a certain percentage beyond the cost of construction of a new building to create two maintenance endowments specifically for that building. One endowment is reserved to fund long-term capital renewal needs while the other supports annual operations and maintenance costs.

1) See page 6 for grading scales.

Implementation Guidance

Institutions can apply this tactic to both newly constructed buildings and existing buildings that do not already bear a donor's name. Focusing on the donor's pride in the condition of the building is one of the most effective ways to secure endowment funds; donors want their namesake buildings to be well-maintained to support their legacy.

The fixed percentage set aside for the endowment will vary based on specific institutional goals, but must be high enough to yield sufficient revenue to support renewal across the life of the building. While Facilities leaders should advocate for as high a percentage as possible, institutions have successfully adopted renewal endowments ranging from 15-30% of the gift.

Communication between Advancement and Facilities is essential to providing donors with accurate project estimates in initial requests, including the endowment necessary to effectively renew a building. Capital renewal endowments can assure donors that their gift will be well maintained in perpetuity.

Communication between Advancement and Facilities is essential to providing donors accurate project estimates that reflect the endowment necessary to effectively maintain the facility. The endowment may or may not be called out in the request, depending on the campus climate. Maintenance endowments can reassure donors that their gift will be well-maintained for the life of the building. However, the donor may not be willing to fund the full endowment request. Advancement can also emphasize the importance of not burdening the next generation with the expenses of maintaining a complex and technologically advanced building, particularly when talking with more senior donors.

Institutions set aside separate endowments for annual and long-term needs to ensure adequate funds for both maintenance and future renewal projects. Since new buildings have few immediate renewal needs, institutions using this practice instead recommend more flexible pooled endowments to support maintenance and renewal where most needed that year. However, tying funds to a specific building can increase donor comfort with funding an endowment because they know the money will be used to maintain their specific gift.

Case Study

One institution leveraged donors' desires to name buildings and preserve their legacies to create maintenance endowments for both new and existing buildings. The tactic was so effective that the institution made establishing a maintenance endowment a requirement for anyone seeking to name a building on campus. The institution has created a \$20 million dollar endowment by selling naming rights.

In 2007, the **University of Idaho** began fundraising 15% beyond the cost of construction to establish a capital renewal fund for each new building. The Advancement office levies a 5% project management fee and the remaining 10% is invested in a single capital renewal fund managed by the Facilities executive. To date, 12 education and general projects have contributed funds to the renewal endowment totaling \$564,000. Earnings are currently being reinvested back into the principal to generate higher returns and grow the endowment.

Wheaton College requires donors to fund both the cost of construction and an operations and maintenance endowment. The endowment request is calculated based on projected operations and maintenance needs for the building and generally falls around 25% of the cost of construction. While Wheaton maintains building-specific maintenance endowments, the payout revenue is credited to the Facilities operating budget and can be used at the Facilities leader's discretion. The Advancement team explains to donors that maintenance endowments provide great value by preventing students from funding the operating costs of new buildings through tuition.

Furman University has been fundraising 30% beyond the cost of construction for new buildings since 1996. Furman splits the 30% into two discrete building-specific endowments; 80% of the money goes to an operations and maintenance endowment, while the remaining 20% goes into a capital renewal fund. While some endowments can be used on any building on campus, most can only be used to address maintenance needs in a specific building.

Student Fees

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#9: Institute Student Fee to Address Budget Shortfalls	\$\$	●●	Institutions implement a student fee that contributes to the general Facilities budget.
#10: Levy Student Fee for General Capital Renewal Fund	\$\$	●●	Institutions implement a student fee to support a general capital renewal fund that is allocated to renewal projects as needed.
#11: Require Student Fee to Fund a Specific Capital Renewal or Maintenance Plan	\$\$	●●	Institutions implement a student fee to fund a specific capital renewal or maintenance plan approved by senior leaders or the board.
#12: Create a Student Fee to Fund Debt Service	\$\$	●●	Institutions implement a student fee to pay the debt service on funding previously obtained for capital renewal projects.
#13: Levy Student Fee to Fund Renewal in Student Buildings	\$\$	●●●	Institutions introduce a student fee to fund improvements in student-centered buildings, like the student union.
#14: Introduce Student Fee to Build Needs-Based Capital Renewal Fund	\$\$	●	Institutions or university systems collect a student fee and distribute it to renewal projects based on demonstrated condition or life/safety risk.
#15: Create Sustainability Fee	\$\$	●●●	This student fee funds projects specifically designed to improve sustainability and reduce emissions and the campus carbon footprint.

1) See page 6 for grading scales.

Implementation Guidance	Case Study
<p>By not tying student fees to specific projects or plans, institutions have flexibility to spend money where it is most needed. These fungible dollars can be allocated toward hard-to-fund projects or to bridge a gap in the Facilities budget.</p>	<p>The University of Alaska Anchorage has used a student facilities fee between 2013 and 2016 to respond to budget shortfalls and obtain a reliable, Facilities-controlled pool of money. This student fee has slowly grown from \$3 to \$6 per student credit hour (for students enrolled in 1 to 15 credits), totaling approximately \$1.5 million a year. Most of these funds are prioritized for student-related capital renewal needs.</p>
<p>Institutions can minimize pushback against a general student fee for Facilities renewal by providing transparency about how the money is spent. Sharing the details of specific projects as they are completed shows the direct benefits of the fund to campus. Publish regular updates on funded projects on the Facilities website.</p>	<p>Indiana University collects a student fee (ranging from \$60-\$185 per semester depending on the campus) to devote to renovation and renewal. They implemented this fee when state funding disappeared in 2011. The Facilities leader minimizes pushback on the fee by providing complete transparency about how the university spends the money.</p>
<p>Institutions should provide a predetermined renewal plan stipulating which projects will be funded by student fees to make the board feel more comfortable implementing the fee. A comprehensive renewal plan will be particularly helpful in showing trustees the value of the projects to campus. Fees can be phased in to reduce pushback.</p>	<p>The University of Arkansas first introduced a student fee in 2009. The fee began at \$2 per student credit hour and has increased annually, currently standing at \$14 (2016-17 academic year). Each year, the funds are distributed to support a variety of capital renewal projects. The fee has helped to reduce the deferred maintenance backlog from \$254 million to \$160 million.</p>
<p>While these student fees do not directly fund deferred maintenance projects, they pay the debt service on larger loans from other capital projects and expand the capability of institutions to finance additional major renewal projects.</p>	<p>The University of North Carolina at Charlotte charges an annual infrastructure student fee of \$200 per full-time student. This fee pays the debt service for approximately \$70 million worth of bonds for their five-year capital plan.</p>
<p>Institutions that have difficulty getting the support to implement a general Facilities fee may have more success if the money raised is directed exclusively toward student needs. Because the fee will be used to maintain and improve student buildings, the student government is more likely to support it.</p>	<p>Florida State University created a Capital Investment Trust Fund, funded by a student fee of \$4.76 per class. This generates about \$4 million per year, but can only be used on student buildings like the student union or recreation center.</p>
<p>Controlling maintenance dollars centrally ensures Facilities can spend it on the most urgent projects.</p>	<p>Each institution in a Midwestern university system collects a \$4 per credit hour student maintenance fee and remits it to the system level. The system-level Facilities leader communicates with campus Facilities leaders and distributes those funds to projects with the most immediate needs.</p>
<p>On campuses where sustainability and environmental issues are an important part of campus culture, a sustainability student fee is less controversial than a more general fee with less mission-focused goals.</p>	<p>The University of New Mexico has a Green Fund raised through student fees. While anyone can apply to use these funds, they are also used on infrastructure projects that increase energy efficiency.</p>

Source: Florida State University, Tallahassee, FL; Indiana University, Bloomington, IN; University of Alaska Anchorage, Anchorage, AK; University of Arkansas, Fayetteville, AR; University of New Mexico Green Fund, <http://sustainability.unm.edu/greenfund.html>; University of North Carolina at Charlotte, Charlotte, NC; Facilities Forum interviews and analysis.

Auxiliaries

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#16: Charge Auxiliaries for Utilities	\$	●●●●	Facilities charges auxiliary units for utilities to preserve funds for renewal.
#17: Include Capital Renewal Funding in Utility Rates	\$\$	●●	Institutions factor infrastructure renovation and repair costs into utilities fees for auxiliaries to provide reliable funds for renewal of utility distribution systems.
#18: Require Auxiliaries to Contribute to Building Renewal	\$	●●	Auxiliaries that share institution-owned spaces or buildings are asked to contribute when renewal and renovation projects are undertaken in those spaces.
#19: Institute Annual Increases to Shop Rates	\$	●	Institutions implement a mechanism that enables and prescribes annual increases of shop rates charged by Facilities, based on the cost to perform work.
#20: Levy a Maintenance Tax	\$\$	●●●	Institutions charge a standardized tax or fee on auxiliary units that occupy their own building to fund maintenance and capital renewal projects.

1) See page 6 for grading scales.

2) Responsibility centered management.

Implementation Guidance	Case Study
<p>Auxiliaries are charged for actual usage of utilities if buildings are metered, or a flat fee (typically total consumption averaged across all units) if they are not.</p>	<p>Most institutions charge auxiliaries for average or metered utility consumption.</p>
<p>The renewal fee can be flat rate or pro-rated based on metered consumption, above and beyond utility rates. If Facilities gets pushback on this charge, explain that the improvements made to infrastructure benefit auxiliaries by increasing the reliability of distribution systems.</p>	<p>The University of Minnesota has an RCM² budget model where units are charged for metered utility consumption. Units must also pay a capital renewal fee to support infrastructure upgrades. This fee is specifically earmarked to cover the costs of utility production and distribution, up to (but not inside) the building.</p>
<p>This tactic works best for smaller auxiliaries that are not the sole occupants of their own building, like bookstores and restaurants, and encourages collaboration between Facilities and auxiliaries. Bundling reduces overall project costs and diminishes the impact of construction on the campus community.</p>	<p>Auxiliary units at the University of North Carolina at Greensboro are asked to contribute to capital projects when their projects intersect with main university efforts, such as renovating an academic building that has a smaller dining facility.</p>
<p>This may require approval from the president and cabinet or from the board, but it removes the need to regularly request rate increases. The mechanism and updated rates should be clearly communicated to clients. This approach allows institutions to ensure their shop rates cover the full cost of work and prevents Facilities from effectively subsidizing maintenance work in auxiliaries.</p>	<p>The Facilities leader at the University of Texas at San Antonio implemented a mechanism, approved by the President and cabinet, allowing Facilities to update shop rates annually to increase operational sustainability. Before, shop rates were more than ten years old. Now, Facilities uses this mechanism to calculate new shop rates every year, which are reviewed and approved by Business Affairs and communicated to clients.</p>
<p>Transparently reinvesting the tax or fee into auxiliary capital renewal projects can help assuage complaints about redirecting auxiliary revenue. This tactic also helps defray the cost of performing preventive or reactive maintenance in auxiliary buildings.</p>	<p>The University of San Francisco charges auxiliaries for facilities support, but reinvests their contributions into maintenance of those buildings, especially residence halls.</p>

Source: University of Minnesota, Minneapolis, MN; University of North Carolina at Greensboro, Greensboro, NC; University of San Francisco, San Francisco, CA; University of Texas at San Antonio, San Antonio, TX; Facilities Forum interviews and analysis.

Auxiliaries

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#21: Require Auxiliaries to Cover Basic Preventive Maintenance	\$\$	●	For institutions providing maintenance support for auxiliary units, require them to cover basic preventive maintenance needs. This ensures that auxiliary spaces are maintained to the same standard as the rest of campus. It also allows the institution to charge units for any maintenance beyond basic preventive needs.
#22: Increase Parking Fees to Fund Renewal Projects	\$\$	●●●	Institutions increase campus parking fees specifically to fund renewal projects on campus roads, parking lots, and transportation assets.

1) See page 6 for grading scales.

Implementation Guidance	Case Study
<p>Auxiliary units are charged for all maintenance activities, including required preventive maintenance. This prevents Facilities from subsidizing auxiliaries, which may be prohibited by state law. Auxiliaries must hire Facilities to perform basic preventive maintenance, but can also pay Facilities to perform more thorough, discretionary preventive maintenance. Institutions should establish a maintenance plan with clearly delineated requirements and maintenance level options to provide transparency. To make the case, demonstrate the return on investment of hiring Facilities to perform basic preventive maintenance tasks for auxiliaries.</p>	<p>About 10 years ago, the University of Texas at San Antonio implemented a preventive maintenance program that requires auxiliaries to perform a minimum level of preventive maintenance, which includes regulatory and mission-critical work. Some auxiliary units perform the required preventive maintenance themselves, but others hire Facilities. Beyond that, auxiliaries are allowed to decide how much additional preventive maintenance is done. Facilities charges for all maintenance work performed. UTSA finds that the ROI auxiliaries see with improved facility condition is generally worth the cost of paying Facilities to perform the maintenance.</p>
<p>Institutions should use the increase in parking fees exclusively to perform renewal on roads and parking lots. This eases complaints and alleviates pushback from payers, who will directly benefit from the work supported by their dollars. It is essential to start addressing capital renewal issues quickly after implementing the fee to show the campus community the money is being used appropriately and efficiently.</p>	<p>The University of Kansas increased parking fees on campus by 20% to 40% (increases vary based on parking permit group) in 2014 to fund road work and expand parking on campus. Quick and noticeable results like improved road conditions placated the campus community. KU has even won awards such as "Excellence in Concrete" from the Concrete Promotional Group and was named one of the 2014 Sustainable Success Stories by the Mid-America Regional Council for the upgrade of the main artery on campus, Jayhawk Boulevard.</p>

Source: University of Kansas, Lawrence, KS; University of Texas at San Antonio, San Antonio, TX; Facilities Forum interviews and analysis.

Energy Gainsharing and Sustainability

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#23: Carve Out Sustainability Allocation from Central Funds	\$\$	●●	Institutions establish a dedicated allocation either within the Facilities' budget, the institution's operating budget, or at the Board level to support energy infrastructure upgrades and sustainability projects.
#24: Maintain a Green Revolving Loan	\$\$	●●●	Institutions create an internal revolving loan that finances utility consumption reduction efforts, infrastructure upgrades, and other sustainability-related projects with longer-term payback periods.
#25: Participate in Gainsharing with Energy Service Provider	\$\$\$	●●●	Institutions partner with an energy service provider to upgrade utility infrastructure and reduce energy consumption in exchange for a portion of the savings.
#26: Engage in an Energy Savings Performance Contract	\$\$\$\$	●●●	Institutions partner with an energy saving company (ESCO) to upgrade utility infrastructure and reduce energy consumption in a budget-neutral way by sharing the cost savings.

1) See page 6 for grading scales.

Implementation Guidance	Case Study
<p>Facilities leaders find implementing a sustainability fund easiest to accomplish when reducing carbon emissions or increasing consumption of sustainable energy sources is a high-priority strategic initiative. Potential funding sources include government-sponsored energy efficiency programs, private donations, the institution's operating budget, utility savings from efficiency upgrades, student fees, or unit-level utility taxes.</p>	<p>California State University, Los Angeles has an energy and utility budget supported through state funding and one-time fiscal resources that enables Facilities to make upgrades and repairs to utility systems. These upgrades include lighting retrofits, mechanical system upgrades, and water reduction measures—projects that reduce utility consumption and increase sustainability.</p>
<p>Institutions can require projects to generate utility cost savings, but other potential target returns on investment include reducing carbon emissions, utility consumption, or operating costs for the institution. The receiving unit must pay back the loan by a predetermined deadline.</p>	<p>Harvard University's Green Revolving Fund is a \$12 million revolving fund that supports projects that reduce the university's environmental impact. Projects must have a payback period of 10 years or less. This fund has supported over 200 projects since its inception and generates over \$4 million in energy savings annually. The University of Texas at San Antonio maintains a utilities reserve account where utility savings and rebates from utility projects accumulate. Funds are used to complete more energy and water conservation infrastructure projects. To date, the reserve has funded over \$4 million in conservation projects.</p>
<p>Institutions engage in gainsharing with an energy service provider when they do not have the capital for an energy upgrade and can partner with energy provider to finance it. These partnerships should be carefully negotiated to ensure that the institution can achieve sustainability goals and benefit from cost reductions.</p>	<p>California Polytechnic State University, San Luis Obispo partnered with the Pacific Gas and Electric Company to creatively finance over \$4 million dollars in energy conservation measures including lighting retrofit projects, central plant upgrades to boiler controls and condenser water systems, and advanced wireless thermostats. Cal Poly is repaying one of the loans by paying the same monthly bills as before (though utility costs are lower). When the loan is repaid in 10-13 years, the institution will get to keep the utility savings.</p>
<p>This tactic is particularly relevant for large, complex energy projects. ESCOs have extensive design and implementation experience and provide a financial guarantee for the energy savings generated. ESCOs oversee the financing, project design, and implementation of the performance contracts in exchange for a portion of the energy savings generated. At the end of the contract, which typically ranges from 5 to 20 years, the institution owns the resulting physical assets and future cost savings.</p>	<p>Roxbury Community College is partnering with Ameresco to upgrade the institution's energy infrastructure and increase renewable energy resources. The \$20.1 million performance contract includes 23 energy conservation measures, such as switching to LED lighting and an upgrade of the energy management system. In total, Roxbury expects \$860,000 in energy savings annually.</p>

Source: California State University, Los Angeles, Los Angeles, CA; "Cal Poly San Luis Obispo Creative Energy Project Finance," 2015, <http://www.greenbuildings.berkeley.edu/bestpractices/2015/calpolyso-creative-energy-finance.html>; Harvard University, Cambridge, MA; "Roxbury Community College and Ameresco Partner for Renewable Energy and Energy Infrastructure Improvements in Part to Achieve a Green Urban Campus," Ameresco, October 4, 2016, <http://www.ameresco.com/node/1608>; University of Texas at San Antonio, San Antonio, TX; Facilities Forum interviews and analysis.

Energy Gainsharing and Sustainability

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#27: Establish a Hybrid Energy Savings Performance Contract	\$\$\$\$	●●	Institutions partner with an energy saving company (ESCO) to upgrade utility infrastructure and reduce energy consumption in a budget-neutral way. However, the institution funds the project.
#28: Partner with a Cogeneration Company to Improve Sustainability	\$\$\$	●●	Institutions facing high energy costs or focused on shifting to sustainable energy sources partner with a cogeneration company to build a cogeneration plant.
#29: Partner with Government to Support Large-Scale Sustainability Projects	\$\$\$	●	Institutions partner with government agencies or initiatives to procure funding for projects that align with both governmental and institutional priorities.

1) See page 6 for grading scales.

Implementation Guidance	Case Study
<p>Institutions may pursue this model when they wish to maintain ownership of their assets but benefit from an ESCO's expertise in performing energy audits and designing projects, as well as guaranteed energy cost savings. ESCOs oversee the audit, project design, and implementation of the performance contract and receive a portion of the energy savings.</p>	<p>Arizona State University has a hybrid Energy Savings Performance Contract (ESPC) with Ameresco, who is contracted to generate a minimum level of greenhouse gas reduction through identified projects, as well as remove a minimum amount of deferred maintenance. Arizona State sells bonds to fund these projects, paying the debt service with utilities cost savings. Ameresco is responsible for guaranteeing the utilities savings, as well as for conducting the audit and identifying the savings opportunities. Arizona State Facilities still owns and maintains the asset.</p>
<p>This is a very costly investment. Institutions should only pursue this option if the potential return on investment is significant; for example, if the project will reduce energy costs, increase energy reliability, and eliminate the use of less sustainable fuels.</p>	<p>In 2016, Messiah College built a cogeneration plant on campus that uses natural gas with the help of UGI HVAC Enterprises, a cogeneration company. In the first year, Messiah realized \$800K of savings from a more efficient and sustainable energy generation process.</p>
<p>Institutions can identify project overlap by reviewing websites listing grants or provincial or state energy websites, such as https://www.epa.gov/grants. Combining funding from both governmental and private sources reduces the risk burden on one funding source. This is a complex legal arrangement, but has the potential for significant benefits.</p>	<p>Ithaca College is partnering with New York State and energy firms (including Greenwood Energy) to build a 2.9 megawatt ground-mount solar energy installation. Greenwood Energy will own the array, covering all upfront costs and maintenance, and finance the project through a power purchase agreement with Ithaca College. The college buys energy at a set price over 25 years, which will meet about 10% of the College's energy needs. A net reverse metering program reduces future electricity bills through credits each year from the production of solar energy and will provide \$10,000 to \$50,000 in savings annually. It's important to note that Ithaca received financial support from New York State, who provided a \$1.6 million grant from the NYS Energy Research and Development Authority. This funded 25% of the cost to develop and construct the solar array.</p>

Source: Ameresco, "Arizona State University," 2015, http://www.ameresco.com/sites/default/files/sm_case_study_arizona_state_university.pdf; Maley D, "Ithaca College Solar Project Frequently Asked Questions (FAQ)," *IC News*, February 22, 2016, https://www.ithaca.edu/news/releases/ithaca-college-solar-project-frequently-asked-questions-faq-40988/#_WBDFY0rJEY; Messiah College, Mechanicsburg, PA; Facilities Forum interviews and analysis.

Third-Party Funding Arrangements

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#30: Engage in a Public-Private Partnership (P3) for Building and Maintaining Dorms	\$\$\$	●●●●	Institutions engage in a long-term land-lease arrangement with a private company who builds and maintains residences for students. In exchange, the company collects revenues from rents through the university.
#31: Establish a P3 for Demolishing Old and Building New Dorms	\$\$\$	●●●	Institutions establish a long-term lease agreement with a private company to demolish old dorms (thereby eliminating deferred maintenance). The company then builds and maintains new residences for students.
#32: Engage in a P3 for Campus Expansion	\$\$\$\$	●	Institutions expand the size of campus through contracting with a private company. The company typically owns the designing, building, financing, operations, and maintenance of the campus expansion, but the specifics of the contract vary from deal to deal.
#33: Lease Parking Facilities Through a P3	\$\$\$\$	●	Institutions establish a long-term lease of parking facilities to a private parking provider, which results in a lump payment that can be endowed and used to perform capital renewal.

1) See page 6 for grading scales.
 2) CampusParc is the company created by QIC Global Infrastructure to manage OSU parking operations.

Implementation Guidance	Case Study
<p>Institutions must balance the desired level of control over their land and the policies in the buildings within the parameters of the contract. Since a private company is financing and assuming the risk for the project, the university is able to reserve debt capacity and existing funding sources for other projects. The university also may receive part of the rent revenues from the company, depending on the agreement. Institutions that are successful with this approach obtain expert legal advice before entering into an agreement. Institutions have reduced the cost of preventive maintenance through maintenance contracts with the private company.</p>	<p>The University of Kansas (KU) has entered into a public-private partnership to construct a new science teaching and research facility, student union, residence hall, apartment complex, and parking garage. KU also plans to construct a new power plant and related infrastructure. The P3 utilizes a lease/lease-back arrangement with a third party-affiliated corporation as the borrower. There are several different funding sources related to each component of the project. The lease arrangement, in addition to the debt financing, includes on-going payments for operation and maintenance needs of all the buildings. The university retains ownership of the land and facilities throughout the life of the contract.</p>
<p>Institutions must balance the desired level of control over their land and the policies in the buildings within the parameters of the contract. This mechanism can provide new, luxury dorms to allow institutions to successfully compete for students without taking a large financial risk. Institutions that are successful with this approach obtain expert legal advice before entering into an agreement.</p>	<p>The University of Kentucky partnered with Education Realty Trust in 2011 to both replace old dorms and build new student housing totaling 9,000 beds. The \$422 million contract gave Education Realty Trust the responsibility to develop, finance, construct, and maintain the housing across a 75-year lease. The university owns the buildings and pays an annual 2% management fee, but receives 25% of the net rental income.</p>
<p>If institutions are concerned about the condition of their assets, wrap-up conditions, or standards for asset condition at the end of the term of lease, can be written into the contract to guarantee condition at the end of the lease. Institutions that are successful with this approach obtain expert legal advice before entering into an agreement.</p>	<p>University of California, Merced, expecting a 50% increase in enrollment by 2020, partnered with JLL on a \$1.14 billion campus expansion plan to grow by 3,300 students. JLL will design, build, finance, operate, and maintain new facilities, including teaching facilities, research space, and 1,700 new beds over a 39-year contract. This partnership is funded through private financing from JLL, institution funds, and \$600 million in revenue bonds issued by the UC Board of Regents and covers preventive maintenance and capital renewal of 1.5 million square feet.</p>
<p>The terms of the lease have to be sufficiently attractive to merit relinquishing control of parking facilities for an extended period of time. Because this is a relatively new strategy for higher ed, there's no consensus about what constitutes an attractive deal. Institutions that have successfully negotiated these contracts maintain the ability to set parking policies to ensure that campus parking needs are being met. Institutions that are successful with this approach obtain expert legal advice before entering into an agreement.</p>	<p>The Ohio State University privatized parking operations in 2012 through a 50-year lease agreement with CampusParc² in exchange for upfront cash payment of \$483 million. The private firm is responsible for renovations, equipment upgrades, and repairs and has already invested \$10M in infrastructure. OSU estimates the \$483 million will generate \$3.1 billion in investment earnings. OSU has 16 garages, 196 parking lots, and 37,000 parking spaces. Parking rate increase is capped at 5.5% annually for the first 10 years and at 4% or a rolling five-year average of inflation after.</p>

Source: Mitchell K, "The 50-Year Agreement: OSU's \$483M Parking Deal Stands Alone Among Other Schools After Year 1," *The Lantern*, December 19, 2013, <http://thelantern.com/2013/12/50-year-agreement-osus-483m-parking-deal-stands-alone-among-schools-year-1/>; University of California, Merced, "UC Merced Kicks Off \$1.3 Billion Expansion," *University News*, October 14, 2016, <http://www.ucmerced.edu/news/2016/uc-merced-kicks-historic-13-billion-expansion/>; "University of Kentucky's Housing P3 Continues to Break Ground," *The National Council for Public-Private Partnerships*, July 18, 2015, <http://www.ncppp.org/university-of-kentuckys-housing-p3-continues-to-break-new-ground/>; University of Kansas, Lawrence, KS; Facilities Forum interviews and analysis.

Third-Party Funding Arrangements

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#34: Develop Mixed-Use Spaces Through a P3	\$\$\$	●●	Institutions partner with a private company to develop a mixed-use space on campus, including housing for students and dining options for both students and the community. The company may also finance, operate, and maintain the mixed-use space, depending on the specific contract.
#35: Construct Dining Facilities Through a P3	\$\$	●●	Institutions engage in a contract with a private company to develop or renew (and potentially operate) dining facilities.
#36: Use a P3 to Renovate and Repurpose Old Buildings into Luxury Apartments	\$\$\$\$	●●	Institutions can set up a ground or building lease that allows a private company to complete capital renewal and develop student housing in exchange for rent revenue.
#37: Lease Land to Commercial Developers	\$\$\$	●●●	Institutions establish a long-term (e.g., 99-year) lease on land that can be developed commercially to provide additional revenue, as well as encourage development of the surrounding community. Institutions lease university-owned land, grounds, or buildings to private investors and developers for long-term time periods. Institutions can make the capital renewal of buildings on the leased land the responsibility of the developer, and can use the rents to fund capital renewal elsewhere on campus.
#38: Arrange a Lease-to-Own Donor Gift to Build Residences or Auxiliaries	\$\$\$\$	●●●	Institutions lease out land to a donor willing to finance, design, and construct a building; for example, a residence hall. The institution leases the building back for a certain number of years, at which point the donor gifts the building to the institution.

1) See page 6 for grading scales.

Implementation Guidance	Case Study
<p>Institutions can allocate income from the lease toward capital renewal of campus buildings. The lease agreement should require the private company to perform preventive maintenance and regular capital renewal. This tactic can also improve town-gown relationships because it contributes amenities to the surrounding community. Institutions should obtain expert legal advice before entering into an agreement.</p>	<p>The College of New Jersey leased land to The PRC Group for 50 years in a \$120M contract to build student housing and private retail and dining space. Over the course of the contract, The PRC Group designed, built, and will manage the buildings. A second phase of the partnership will include more housing, as well as redesigning the institution's main entrance with new landscaping, fencing, and signs.</p>
<p>Institutions that are successful with this approach to improving dining facilities obtain expert legal advice before entering into an agreement. This allows institutions to maintain the desired level of control over their land and the policies in the buildings. This arrangement can help institutions remain competitive as students' expectations around dining options and facilities have increased in the past decade.</p>	<p>Eastern Kentucky University has engaged Aramark Educational Services to provide food services for the campus and maintain dining facilities for 15 years. Aramark will contribute \$37 million. Aramark will also demolish an old dining facility and build a three-story, 55,000 square foot dining facility. Aramark performs regular renewal and operations and maintenance.</p>
<p>Institutions can allocate revenue from the lease to other capital renewal projects. Successful partnerships are carefully negotiated and involve consultations with legal experts.</p>	<p>Howard University partnered with Jair Lynch Real Estate Partners to convert an underused residence hall built in 1942 into luxury apartments on a 99-year ground lease. This partnership eliminated \$31 million of deferred maintenance and provided off-campus housing for faculty and staff. The redevelopment also increased surrounding property values. Howard is using the \$22 million from the upfront payment to address deferred maintenance elsewhere on campus.</p>
<p>Institutions must carefully consider the terms of the lease. The return on investment must be large enough to justify giving up control of the land for an extended period of time. Highly specialized legal advice can provide vital guidance.</p>	<p>The University of British Columbia is leasing land to housing developers to generate additional revenue for the university endowment, a portion of which is used to finance deferred maintenance projects. 99-year leases are sold to developers who develop housing communities and then sell individual condominiums and townhouses to the public. Because homeowners do not need to be affiliated with the university, UBC can tap into Vancouver's housing market and generate significant profits through this program, in addition to contributing to a vibrant community at the university.</p>
<p>Institutions must set the time period of the lease to the length necessary for the donor to recover their investment. Auxiliaries are particularly attractive candidates for this arrangement. This keeps the construction off of the institution's balance sheets while allowing a donor to make a substantial, legacy-enhancing contribution.</p>	<p>The University of San Francisco has partnered with a donor who will finance, design, and build a residence hall that the university will lease back and pay rent on. After a certain amount of time the facility will become a gift to the university.</p>

Source: "Aramark to Finance, Build New Dining Hall," *EKU Stories*, July 1, 2016, <http://stories.eku.edu/students/aramark-finance-build-new-dining-hall/>; Reed T, "Moody's: Howard University's Real Estate Boosting its Turnaround Efforts," *Washington Business Journal*, June 28, 2016, <http://www.bizjournals.com/washington/breaking-ground/2016/06/moodys-howard-universitys-real-estate-boosting-its.html>; Rojas C, "Construction Ahead of Schedule on TCNJ's \$120M Campus Town Project," *NJ.com*, http://www.nj.com/mercer/index.ssf/2015/03/progress_on_tcnjs_120m_campus_town_project_is_movi.html; University of British Columbia, Vancouver, BC; University of San Francisco, San Francisco, CA; Facilities Forum interviews and analysis.

Advocating to the Government

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#39: Shift State- or Province-Provided Capital Funding to Renovation and Renewal Budget	\$\$\$\$	●	Advocate to the legislature to shift funding from capital projects to renewal dollars.
#40: Lobby State or Provincial Legislature for One-Time Capital Renewal Funding	\$\$\$	●●●	Advocate to the state or province for a one-time increase in capital renewal funding. The goal is to secure funds to perform specific projects.

1) See page 6 for grading scales.
 2) Canadian Association of University Business Officers.

Implementation Guidance	Case Study
<p>Institutions that have successfully lobbied their legislatures recommend focusing on demonstrating how investing in renewal and renovation improves campus condition, increases graduation rates, and supports the local economy. Additionally, advocates should point out that they are asking for budget-neutral change.</p>	<p>Indiana University successfully advocated to the state legislature to dedicate limited state dollars to fund renovation and renewal instead of new capital projects, as sourcing renewal dollars is more difficult to obtain than capital funding. The state agreed to invest nearly \$50 million annually to fund large-scale (whole-building) renovations and small infrastructure over the past three biennial budget cycles (FY2010-2016). Indiana credits part of their success to being transparent with leaders about project needs without inciting panic.</p>
<p>Institutions that have successfully used this strategy emphasize the importance of advocating as a unit. Collaborate with other higher education institutions or public entities within the state or province to collect data on facility condition, backlog, and risk resulting from unfunded projects. Engaging a third party to conduct assessments can increase credibility and allow for benchmarking to support funding requests. Leaders should clearly demonstrate the return on investment for the state or province.</p>	<p>McMaster University has participated in a national effort that was led by CAUBO² to present a comprehensive assessment of building condition on campuses in Canada. Specifically in Ontario, continuous discussions, studies, and analyses of the deferred maintenance backlog has resulted in five-fold an increase in deferred maintenance funding over a four-year period (from nearly \$20 million to \$100 million over four years) for the entire province.</p>

Source: Indiana University, Bloomington, IN; McMaster University, Hamilton, ON; Facilities Forum interviews and analysis.

Additional Government Funding

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#41: Apply for Federal Grants	\$\$\$	•	Online grant databases such as Grants.gov , Reconnecting America , and GrantWatch are regularly updated and serve as valuable sources of information.
#42: Apply for State Grants	\$\$	••	Online grant databases such as GrantWatch are regularly updated and serve as valuable sources of information.

1) See page 6 for grading scales.

2) Transportation Investment Generating Economic Recovery.

Implementation Guidance	Case Study
<p>Institutions should search for grants to support specific projects, particularly for projects that will also benefit the community. Federal grants can support a variety of initiatives and capital projects. Check deadlines and requirements carefully. Some grants are best submitted in conjunction with the local municipality. For example, an institution may collaborate with the local municipality on a project to upgrade the fiber optics infrastructure and improve the broadband network. Demonstrating the return on investment of the project for both the institution and the community will increase the chances of a successful application. Support for writing and submitting the grant may be available through your institution's grants office.</p>	<p>The TIGER² Grant Program is a \$500 million federal program to fund transportation projects across the US. The University of Kansas, in conjunction with their local municipality, applied for TIGER funds to build a new terminal for the city bus system, as well as a larger parking structure to support the terminal. KU would match the grant funds at 20 cents on the dollar. The application was unsuccessful.</p>
<p>Contact your state and check deadlines and requirements carefully. To increase the chances of success, institutions should look for opportunities to collaborate with the local municipality on specific projects or initiatives, as state grant dollars often support projects that encourage community development. Support for writing and submitting the grant may be available through your institution's grants office.</p>	<p>The New York State Higher Education Capital Matching Grant Program finances capital projects at independent higher education institutions in New York State, many of which are renovation projects. For example, Nazareth College received almost \$900,000 for renovations to Smyth Hall in 2016. The project converted Smyth Hall from a 1940's administrative and academic building into the home of Nazareth's Department of Nursing. Florida's Public Education Capital Outlay (PECO) program funds public higher education construction and maintenance projects. Florida State University received approximately \$8.8 million in PECO's for minor repairs and renovations in the fiscal year 2016-17. Florida State was also awarded \$12 million for work on the Earth Ocean Atmospheric Sciences Building.</p>

Source: Capital Projects Plan for 2016-17 Fiscal Year, *Florida Department of Education*, <http://www.fldoe.org/core/fileparse.php/7501/urlt/1617CPPlan.pdf>; Fixed Capital Outlay, *Florida Department of Education*, <http://www.fldoe.org/finance/fco/>; Higher Education Capital Match Program Approved Projects, *HECap Board Meeting*, February 4, 2016, http://www.dasny.org/Libraries/HeCap_Board_Docs/Project_Exhibit_2016.pdf; NYS Higher Education Capital Matching Grant Program, *New York State*, <http://www.dasny.org/finance/grantadministration/hecapboard.aspx>; TIGER Discretionary Grants, *US Department of Transportation*, <https://www.transportation.gov/tiger>; University of Kansas, Lawrence, KS; Facilities Forum interviews and analysis.

Additional Government Funding

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#43: Apply for Minority-Serving Institutions Grants	\$ \$	● ●	Online grant databases for grants such as Grants.gov , Reconnecting America , and GrantWatch are regularly updated and serve as valuable sources of information.
#44: Pursue Historic Building Tax Credits	\$ \$ \$	● ● ●	The US Federal Government offers a 20% tax credit for the certified rehabilitation of registered historic structures and a 10% tax credit for the rehabilitation of non-historic, non-residential buildings built before 1936. Thirty-three US states offer an additional historic building tax credit, such as Virginia's 25% tax credit for rehabilitation of certified historic structures.

1) See page 6 for grading scales.

Implementation Guidance

Institutions should search and apply for grants specific to the student population served by an institution to support projects and initiatives, particularly those that benefit the local community. Institutions should check deadlines and requirements carefully and look for opportunities to collaborate with the local municipality. These grants often support projects that have clear benefit for the surrounding community. Demonstrate the return on investment of the project for both the institution and the community to underscore project importance and appeal to increase chances of success. Support for writing and submitting the grant may be available through your institution's grants office.

Institutions cannot use tax credits themselves and monetize the credits by selling them to a third-party investor in exchange for project equity. This typically nets between 15-18% of a total project's cost. Investors use the tax credits to reduce their financial liability and gain better loan security and financing. Canada is currently lobbying for a similar system to that of the US. The Facilities Forum does not provide legal advice and recommends that all interested institutions contact legal counsel before pursuing this tactic. Institutions may also benefit from consulting with historic preservation professionals, as these projects are generally very complex.

Case Study

The **Historically Black Colleges and Universities Grants** support HBCUs in expanding their role and effectiveness in addressing local community development needs. Projects can involve neighborhood revitalization, housing, and economic development. **Elizabeth City State University** received \$800,000 in 2010 to rehabilitate 25 substandard homes occupied by elderly, disabled, and low-income residents. The goal of the project was to bring the homes up to code, making them safe and energy efficient. Support was also provided for low- and moderate-income families who were first time home buyers secure safe, affordable housing.

The **University of Kansas** sells historic building tax credits at 90 cents on the dollar to generate additional revenue that finances historic building renewals. For example, in 2009, KU performed necessary repairs and upgrades to the Chancellor's residence using historic tax credit revenues because the residence is a historic, state-owned building without its own funding source. The Chancellor lives on the upper floors while the ground floor is a public space used for university-related events. **Shenandoah University** used federal and Virginia historic tax credits to raise 38% of the equity for the repurposing of historic property for student housing.

Source: Gemmill J, "HUD Awards \$789,000 to Tennessee State University Through the Historically Black Colleges And Universities Grant," *HUD Archives: News Releases*, May 16, 2011, <http://archives.hud.gov/local/tn/news/pr2011-05-16b.cfm>; Turner JD, Gabel NM, Wishneff E, "Inviting Investment," *Business Officer*, November 2015, http://www.nacubo.org/Business_Officer_Magazine/Magazine_Archives/November_2015/Inviting_Investment.html; University of Kansas, Lawrence, KS; Facilities Forum interviews and analysis.

Unit-Sourced Funding

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#45: Institute Infrastructure Renewal Fee	\$	●●●	Facilities levies a fixed percentage fee on construction or modernization projects (distinct from the project management fee). The funds are set aside to support future capital renewal projects.
#46: Require Units to Fund Maintenance and Renewal Endowment	\$\$	●●	Institutions require units to set aside a certain amount of money (often percentage of the current replacement value of their assets). This money is used to create a unit-specific endowment for maintenance and renewal needs.
#47: Levy a New Building Tax	\$	●●	Institutions collect a tax from units that are planning to construct a new building. This tax is used to support campus-wide renewal needs.
#48: Pool Unspent Capital Project Funding into R&R ³ Fund	\$	●	Institutions pool unspent dollars from construction or maintenance projects into a central fund controlled by the finance or facilities office. The surplus comes from departmental contributions or central funding allocations. The money is allocated to future capital renewal projects.
#49: Introduce a Variable Utility Tax to Fund Capital Renewal	\$	●●	Institutions levy a tax on unit utility consumption to raise funds for capital renewal infrastructure projects, adjusted to reflect actual utility consumption.

1) See page 6 for grading scales.
 2) Responsibility centered management.
 3) Renovation and Renewal.

Implementation Guidance	Case Study
<p>Institutions find this fee is most successfully applied to capitalized projects with a budget over a predetermined amount. One way institutions have made this tactic more politically palatable is to have a senior leader, such as the chief business officer, administer the fund. The key is to carefully choose a fund owner who will ensure the dollars are actually carved out for renewal and renovation.</p>	<p>The University of Kansas charges a 1.5% fee on construction projects over \$25,000 to fund future renewal needs. These funds are used for projects to benefit the broader campus. For example, KU used the funds in 2015 to reconstruct a main campus intersection, improving traffic flow and safety. This work benefited campus by removing the previous bottleneck and increasing campus accessibility and safety.</p>
<p>Units may push for some degree of agency over how the money is spent, but it is important for the Facilities leader to provide oversight to ensure appropriate unit-specific projects are ultimately funded. The percentage set for the fund should take into account both projected maintenance needs and the financial situation of the specific unit.</p>	<p>Washington University in St. Louis has an RCM² budget model that requires cost centers (e.g., colleges) to maintain their own repair and rehabilitation funds to support their renewal projects. Initially, the rate was set at 2% of the current replacement value of the cost center's occupied buildings, but has since been reduced to 1.86%. Cost centers do not have to clear the purchases with the central budget office. The fund has been so successful that Washington University has few unmet renewal needs.</p>
<p>Institutions can frame this tactic as a charge, fee, or request by Facilities, depending how willing campus units are to contribute to Facilities. Institutions frequently find success using this funding to complete renewal projects that are difficult to fund otherwise, such as central infrastructure repairs.</p>	<p>The University of Massachusetts Amherst requires that 1.5% of the total construction cost of all new projects is set aside in a reserve fund. This fund is used to support renewal, replacement, and renovation of campus facilities. UMass Amherst used the funds in 2009 to renew the major components of the central heating plant and related infrastructure.</p>
<p>This fund is especially beneficial in a use-it-or-lose-it environment, where units must return unspent operating dollars to central administration. Institutions interested in implementing this tactic must implement a budget structure that allows funds to be rolled over from year to year.</p>	<p>The University of Denver established the Millennium Sinking Fund in 2013. This fund serves as a supplemental funding source for capital renewal in buildings constructed since 2000. Denver's lifecycle cost analysis calculated these buildings would require \$6.9 million for capital renewal projects initially, with an annual contribution goal of \$4 million. Denver sources this fund from \$2.5 million in year-end surplus dollars annually that previously supported new construction.</p>
<p>Taxing based on unit-specific consumption which requires sub-metering buildings. Successful institutions have used this money for utilities renewal and modernization to show clear benefits as a result of the additional charge. This tax is also a reliable source of dollars for infrastructure projects that are more challenging to fund.</p>	<p>The University of Minnesota applies a variable tax based on utility consumption for each department. The funds obtained from this tax are earmarked for maintenance and renewal, usually on the utility production and distribution systems themselves.</p>

Source: University of Denver, Denver, CO; University of Kansas, Lawrence, KS; University of Massachusetts Amherst, Amherst, MA; University of Minnesota, Minneapolis, MN; Washington University in St. Louis, St. Louis, MO; Facilities Forum interviews and analysis.

Unit-Sourced Funding

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#50: Incorporate Renewal Costs into Flat Rate Utility Charge	\$	●●	A fixed, overhead cost for utilities is charged to campus units to accumulate funds for capital projects on infrastructure.
#51: Direct a Portion of F&A ² Recovery Toward Deferred Maintenance	\$	●	Institutions reallocate existing F&A funds to support capital renewal projects.

1) See page 6 for grading scales.

2) Facilities and administrative costs.

Implementation Guidance	Case Study
<p>Facilities leaders determine the charge rate based on project needs and other existing taxes units pay for utility consumption. Demonstrating how units will benefit from renewal completed through this charge will reduce pushback.</p>	<p>The University of South Florida bundles some of its fixed capital renewal costs into its utilities charges. This passes some of the burden of renewal onto the departments that will benefit from the renewal work.</p>
<p>Reallocating existing revenue reduces the possibility of using this limited pool of funds for other types of projects that would increase the burden on Facilities.</p>	<p>One institution allocates approximately 8 percentage points of its 54% indirect cost rate toward capital renewal funding (not restricted to research building maintenance).</p>

Source: University of South Florida, Tampa, FL; Facilities Forum interviews and analysis.

Budgeting Techniques

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#52: Incrementally Increase Annual Capital Renewal Funding	\$\$\$	●●	Facilities leaders establish an agreement with senior leaders or the board to increase capital renewal funding by a consistent amount each year, ensuring renewal funding will continue to grow while not overwhelming institutional sources.
#53: Incrementally Increase Facilities Allocation Through Operating Budget	\$\$\$	●●	Institutions work with senior leaders or the board to secure an annually increasing allocation from the operating budget to support capital renewal. This can either take the form of a line item in the revenue column of the Facilities budget or a discrete capital renewal fund that Facilities controls.
#54: Offer Fixed and Actual Charge Options for Project Costs	\$	●●	Facilities offers customers the option of paying a fixed cost or the actual cost for a renovation or renewal project. If customers choose the fixed cost option and Facilities performs the project under budget, some of the surplus can be allocated toward capital renewal.
#55: Earmark Interest Earnings from Working Capital	\$	●●	The institution earmarks interest payments from liquid or working capital accounts to fund capital renewal projects.
#56: Direct Year-End Surpluses Toward Short-Term Capital Projects	\$	●●●	Facilities seeks ownership of any remaining end-of-year resources to fund shorter, shovel-ready capital renewal projects.
#57: Direct Non-Recurring Funds from Vacant Positions	\$\$	●●	Unpaid salaries and other costs associated with a vacant position are budgeted to Facilities for capital renewal projects.

1) See page 6 for grading scales.

Implementation Guidance	Case Study
<p>Facilities leaders should work to develop an advocate in a senior leader, particularly the chief business officer. Leaders with high-level support are more likely to succeed in winning an incremental increase from the board or the president. Clearly specify the desired timeline, funding goal, and benefits of increased funding levels to help secure buy-in from senior leaders.</p>	<p>In 1997, Western University's board initiated an annual transfer from Western's operating budget into the Maintenance and Modernization Fund. The allocation began at C\$750,000 and increases by C\$750,000 each year. This allocation was renewed for another decade in FY06 and will hit its max of \$15.5 million in 2017. Because the board controls this allocation, it functions on "auto-deposit"—only they can slow or cancel the increase.</p>
<p>Facilities leaders should highlight the importance and benefits of long-term capital renewal funding stability. Creating a dedicated funding source in the Facilities operating budget prevents money from being diverted or cut in later years. This fund can be rolled over or spent annually depending on the needs of the institution in that year, as well as on budget model of the institution.</p>	<p>Facilities leaders at Baylor University convinced senior leaders to establish a Facilities reserve fund in 2000. The fund was seeded with \$1 million, and senior leaders committed to increase the annual allocation from the operating budget each year by 10%.The fund currently stands at \$6.8 million, with another allocation of \$4 million expected from the board in 2016.</p>
<p>Customers appreciate the ability to plan out their expenses that the fixed cost option provides. Facilities keeps any surplus if the project comes in under budget. To incentivize efficiency in the shops and encourage them to complete projects under budget, Facilities can split the surplus between the shops and a capital renewal fund.</p>	<p>The University of Oklahoma gives customers the option of paying for a project at actual cost or at a fixed cost. Many customers choose the certainty of a fixed cost for their project budget. If Facilities can deliver the work at a lower cost than bid, some of the money is allocated to the shops that performed the work as an incentive, who can use it for tools or specialized equipment. The rest supports capital renewal. In the actual cost option, Facilities breaks even.</p>
<p>Institutions generally reinvest interest payments automatically or set them aside in a general pool. As this money is not typically considered poachable by other units of the institution, there's likely limited competition for funding.</p>	<p>The chief financial officer at Furman University sets aside the interest earned from working capital low-interest bank accounts for capital renewal projects.</p>
<p>Stand-alone and uncontroversial infrastructure projects are the best targets for this funding source, as they do not require much deliberation. At the end of the fiscal year, senior leaders see a well-prepared proposal for surplus funds as a quick win. If the institution's state has roll-over restrictions on education and general funds, projects should have no more than a two- to six-month turnaround time, and be as close to planned as possible without actually requiring budget dollars. This helps ensure the project can be completed by the end of the fiscal year.</p>	<p>The University of North Carolina at Wilmington uses end-of-year funds to finance smaller infrastructure renewal and modernization projects that take two to six months, such as plumbing and electrical line replacements. When end-of-year funds become available, Facilities pitches these plans to senior leaders to obtain a portion of that funding to spend on these immediate projects.</p>
<p>Some positions may have restrictions or caveats due to funding source or other legal conditions. These funds can be reserved for large capital projects or spent on smaller, shovel-ready projects depending on state roll-over restrictions.</p>	<p>The Facilities leader at East Carolina University convinced senior leaders to dedicate money generated from vacant positions that haven't filled across the past year to support capital renewal. In the past, those funds had been allocated to a number of different campus needs, but now Facilities receives an average of \$1.5 million each year.</p>

Source: Baylor University, Waco, TX; East Carolina University, Greenville, NC; Furman University, Greenville, SC; University of North Carolina at Wilmington, Wilmington, NC; University of Oklahoma, Norman, OK; Western University, London, ON; Facilities Forum interviews and analysis.

Debt

Tactic	Maintenance Funding Potential ¹	Prevalence ¹	Capsule Description
#58: Issue Long-Term Bonds	\$\$\$\$	●●●●	An institution obtains long-term bonds to raise money for capital renewal.
#59: Establish Department Partnerships to Lobby for Capital Renewal Bonds	\$\$	●●	Institutions establish agreements with academic departments or other units to identify capital renewal needs and bundle departmental projects. This allows institutions to better coordinate across units and lobby collectively for bond funding.
#60: Leverage Short-Term Debt to Kick-start Capital Projects	\$\$	●●	Institutions initiate capital renewal projects using short-term debt, which is easier and faster to access than bonds. Institutions then convert that short-term debt into bonds or reduce their debt portfolio. The goal is to improve the institution's financial footing, enabling them to take advantage of better deals.
#61: Leverage Short-Term Debt to Improve Liquidity	\$\$	●●	Institutions take out short-term debt to improve their liquidity and cash flow. This improves the institution's credit rating and capacity to borrow on better terms, which can then be used to convert the short-term debt into bonds for capital renewal funding.

1) See page 6 for grading scales.

Implementation Guidance	Case Study
<p>Long-term bonds complement the long-term investment horizons of capital renewal projects in higher education. Century bonds (i.e., 100-year bonds) are the most common choice.</p>	<p>Ohio University obtained \$148 million from a century bond as part of a six-year, \$796 million Capital Improvement Plan (of which \$333 million was set aside for capital renewal projects). The century bond allowed Ohio University to reduce the cost of obtaining funding to reduce their deferred maintenance backlog.</p>
<p>Institutions that prioritize noticeable and unit-valued renewal projects obtain more support from departments. This strategy can also be used to reduce direct costs on department-initiated, non-critical projects that dovetail with critical infrastructure work, such as carpet repair and painting.</p>	<p>The University of California, Irvine secured a \$20 million bond for capital renewal and infrastructure modernization by partnering with academic departments. First, Facilities helped the departments reprioritize capital projects based on feasibility and sorted them into buckets that spanned across all units. Then, Facilities (together with the academy) focused senior leaders on funding needs by bucket, leading to the \$20 million bond. Looking forward, UC Irvine plans to issue a \$100 million century bond, \$33 million of which will support capital renewal.</p>
<p>Facilities leaders should work with the institution's chief financial officer to arrange the details of using short-term debt for this purpose.</p>	<p>Harvard University's Faculty of Arts and Science used short-term debt to help fund the initial phase of the Harvard House Renewal program. This debt allowed them to complete renewals of three residential houses in a short span of time as part of a strategic pilot of a full residential renewal plan without significantly tapping into endowment principal dollars. Harvard is now in the process of using its debt capacity, expanded by paying off other institutional debts, to fund future projects in the House Renewal program.</p>
<p>Facilities leaders should work with the institution's chief financial officer to arrange the details of using short-term debt for this purpose.</p>	<p>In 2010, Harvard University borrowed \$500 million to fund capital projects and refinance their debt to help preserve their credit rating during the Great Recession. This influx of funds kept capital projects going while ensuring the institution remained in good financial health to borrow money or obtain bonds in the future.</p>

Source: Coward K, "OU Plans to Spend \$226 Million for Housing and Construction Projects in Capital Improvement Plan," *The Post*, August 30, 2016, <http://www.thepostathens.com/article/2016/08/ohio-university-plans-for-about>; Groll EJ, "Harvard to Borrow \$480 Million to Fund Capital Projects, Refinance Debt," *The Harvard Crimson*, January 9, 2010, <http://www.thecrimson.com/article/2010/1/9/harvard-debt-rating-last/>; Harvard House Renewal Strategic Assessment Report, *Harvard University*, May 24, 2016, http://www.fas.harvard.edu/files/fas/files/external_release_house_renewal_strategic_assessment_05312016_rev4.pdf; Harvard University, Cambridge, MA; University of California, Irvine, Irvine, CA; Facilities Forum interviews and analysis.

Nontraditional Funding Strategies

Tactic	Maintenance Funding Potential ¹	Prevalence ¹
#62: College-Affiliated Retirement Communities	\$\$\$	●
#63: Campus-Grown Gourmet Foods	\$	●
#64: Campus Wineries	\$	●
#65: University Columbaria	\$\$	●
#66: Exterior Micro-Signage	\$	●●

1) See page 6 for grading scales.

Capsule Description	Implementation Guidance
<p>A growing number of institutions are developing college-affiliated retirement communities marketed to alumni and other local community supporters. Residents have access to campus events, facilities, and services (including medical care), and may participate in academic enrichment opportunities. Lasell College generates \$1 to \$2 million annually through management fees, a lease payment, and maintenance fees for 188 apartments across 16 buildings.</p>	<p>This strategy may create additional work for Facilities, like the construction, maintenance, and renewal of the community spaces. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Depending on how the agreement is setup, Facilities may be able to use the money to cover costs beyond those incurred by this strategy.</p>
<p>A handful of universities sell campus-grown gourmet foods, including olive oil, cheese, and ice cream. The University of California, Davis sells \$12 bottles of campus-grown olive oil online and in the campus bookstore, with profits funding the equivalent of one research director position at the UC Davis Olive Center. Washington State University's creamery funds two research assistantships, a faculty position, and a portion of wages and benefits for three administrative positions in the School of Food Science.</p>	<p>This tactic may create additional work for Facilities, such as maintenance of agricultural grounds or operations within production centers. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Depending on how the agreement is setup, Facilities may be able to use the money to cover costs beyond those incurred by this strategy.</p>
<p>Universities with viticulture and enology departments produce, bottle, and sell commercial wines. California State University, Fresno produces 12 to 15 different wines each harvest, affording students the opportunity to assist in production, marketing, and sales.</p>	<p>Facilities can lease land to college or department looking to create a vineyard. Establish clear standards for stewardship of the land and facilities in the contract to avoid conflicts over maintenance.</p>
<p>A growing number of institutions erect columbaria (memorial walls filled with niches for urns), with a typical columbarium holding several hundred to several thousand niches at approximately \$1,500 to \$5,000 per niche. Able to “blend in” with campus grounds fairly easily, columbaria have the advantage of not requiring the space or up-front investment needed for memorial gardens or campus cemeteries, and provide a more lasting alternative to alumni having their ashes scattered on football fields or other campus landmarks. Columbaria are most common at universities with deep athletic, military, or religious ties, but are expanding to other institution types as administrators see opportunity in marketing niches not only to alumni, but also to long-tenured faculty and staff.</p>	<p>This strategy may add to Facilities’ workload through the required long-term maintenance and repair of niches and urns. These additional responsibilities can be leveraged to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Depending on how the agreement is setup, Facilities may be able to use the money to cover costs beyond those incurred by this strategy.</p>
<p>A growing number of institutions sell outdoor advertising space on bus shelters, information kiosks, parking garage lighted panels, bike racks, and trash and recycling receptacles. MSSmedia provides and maintains the facilities; sells advertising space on a per-panel, per-month basis; and provides institutions with some internal advertising space and veto power over objectionable ads. Large institutions generate around \$20,000 in annual revenue and avoid \$50,000-\$150,000 in facilities purchase, replacement, and maintenance costs.</p>	<p>In many circumstances, Facilities may own, operate, or manage the spaces where exterior micro-signage can be established. Facilities therefore may have the authority to directly sell such signage. If that is not possible at the institution, Facilities can leverage their knowledge of campus to advise signage location (e.g., spots with high foot traffic). They can also assess and provide for maintenance needs. In exchange, Facilities can request full ownership over or a portion of the revenue generated by the signs.</p>

Source: California State University, Fresno, Fresno, CA; Lasell College, Newton, MA; University of California, Davis, Davis, CA; Washington State University, Pullman, WA; Facilities Forum interviews and analysis.

Nontraditional Funding Strategies

Tactic	Maintenance Funding Potential ¹	Prevalence ¹
#67: Flatscreen Advertising	\$	●●
#68: Lifetime Premier Stadium Seating	\$\$	●
#69: 24/7 Automats	\$	●
#70: Install Coffee Shops	\$\$	●●
#71: Town-Gown Transport Partnerships	\$	●

1) See page 6 for grading scales.

Capsule Description	Implementation Guidance
<p>Institutions pursue additional advertising revenue by leveraging flatscreen monitors on campus, often installed for emergency notification system purposes. Especially attractive in student unions, these screens alternate displays of campus and external programming (such as student broadcasts or music videos), event announcements, and vendor advertisements.</p>	<p>Some institutions sell screen-saver advertising space in computer labs; however, schools focusing on reducing energy consumption may prefer to enable automatic sleep. Institutions can set aside a portion of revenue generated from the flatscreens for maintenance and renewal purposes, especially if Facilities is responsible for maintaining the flatscreens.</p>
<p>A growing number of institutions are expanding luxury suites and premium stadium seating, with pricing determined by commitment length. Alumni, fans, and local businesses often sign multi-year commitments (i.e., three-, five-, or seven-year leases), with visiting school alumni able to purchase excess seating on a game-by-game basis. Mezzanine-level seats at the University of Maryland College Park's Capital One Field at Maryland Stadium cost \$800 to \$2,000 annually or \$10,000 to \$30,000 for a lifetime membership during a capital campaign to raise funds for stadium renovations.</p>	<p>While athletics may own the seating in stadiums, Facilities can request a portion of the revenue to support capital renewal of athletic facilities, both now and in the future.</p>
<p>One public university sells 24-hour convenience items through self-service, outdoor units offering products not included in typical vending machines, e.g., milk, six-packs of soda, and toiletries. All Seasons Services, Inc. installed its first U.S. "Shop24" automat at SUNY Morrisville in 2005 after successfully opening over 160 units in Europe. Automats are especially attractive to institutions in isolated areas or those interested in capturing market share from late-night convenience stores, with a medium-sized institution able to generate an estimated \$1,000 in daily sales per unit.</p>	<p>Facilities departments that oversee some or all auxiliary units can more easily advocate for or simply install automats. The net revenue can be used to support capital renewal projects.</p>
<p>A growing number of institutions install a library or bookstore coffee shop to improve dwindling budgets and drive traffic by attracting new patrons. One school generates \$100K per year through a licensed Starbucks coffee shop operated out of the campus bookstore. Although many library cafés provide meals, one recent study demonstrated that snacks accounted for nearly 71% of income. In 2006, the Whispers Café within the Washington University library was the top-grossing café in St. Louis, with approximately 2,800 visitors each day spending an average of \$2.85 each.</p>	<p>Many institutions implement policies to protect publications and merchandise from food and carefully consider the items most likely to sell in the café. Facilities departments that oversee some or all auxiliary units are more likely to be able to successfully advocate for a coffee shop. The net revenue can be used to support capital renewal projects, especially in the library or bookstore facility.</p>
<p>A handful of institutions have absorbed select bus transportation lines in their local municipalities, with the college or university now operating those lines deemed necessary for many students and employees to commute to campus. Although margins are small, institutions benefit from having a predictable ridership.</p>	<p>Revenue generated from such partnerships can be used to address capital renewal of institution-owned roads and bus stops, as well as in buildings with exteriors facing the town instead of solely accessible through campus.</p>

Source: SUNY Morrisville, Morrisville, NY; University of Maryland, College Park, College Park, MD; Washington University in St. Louis; St. Louis, MO; Facilities Forum interviews and analysis.

Nontraditional Funding Strategies

Tactic	Maintenance Funding Potential ¹	Prevalence ¹
#72: Laundry Services	\$	●●
#73: Early Move-In Fee	\$	●●●●
#74: Peak-Hour Course Fee	\$	●
#75: Bandwidth Leasing or Sale	\$	●●
#76: Child Care Centers	\$	●
#77: Prompt Payment Rates	\$	●●

1) See page 6 for grading scales.

Capsule Description	Implementation Guidance
<p>Institutions provide dry cleaning and laundry services, either on a one-time “pay as you go” basis or through pre-paid plans, priced by allotted pounds of laundry over a period of time (e.g., 20 lbs over 12 weeks). 24-hour drop boxes are installed for student convenience, with additional pricing incurred for dorm pickup/delivery and service during holiday breaks and exam periods.</p>	<p>Facilities departments that oversee some or all auxiliary units are more likely to be able to offer this service. A partnership with a local laundry service may reduce the need to build and maintain laundry facilities while still bringing in additional revenue. The net revenue can be used to support capital renewal projects.</p>
<p>Some institutions charge students \$50 to \$200 per night for early arrival to residence halls.</p>	<p>Facilities departments that oversee residence hall operations and maintenance are more likely to be able to introduce and preserve this fee. Explaining to senior leaders how early move-ins impact the maintenance schedule may increase chances of approval. The fee can be allocated to support capital renewal in residence halls (and potentially other buildings).</p>
<p>A handful of institutions are considering charging additional fees to students taking courses at peak times, thereby maximizing space utilization by incentivizing students to enroll in courses at off-peak times (e.g., 8:00 am, Friday afternoon).</p>	<p>While this fee is more likely to be implemented by the Provost’s office, institutions with classroom space constraints can introduce the idea to academic leaders. Schools that have successfully introduced this fee use it to support the construction and renewal of academic spaces.</p>
<p>One private research university leases excess Educational Broadband Services bandwidth, under a Federal Communications Commission (FCC) stipulation that allows schools and universities to lease up to 95% of their licensed bandwidth. In 2016, the FCC set a starting price of \$461 million for the auction of Howard University’s broadcasting spectrum rights.</p>	<p>Leasing fee or sale contract can include a fixed charge for maintenance and renewal, both for the infrastructure necessary to maintain the bandwidth and other unrelated maintenance needs.</p>
<p>Institutions operate child care centers that not only serve the campus community but also external customers at a higher price point. Schools with specialized academic or research programs in child development further benefit from the opportunity to provide students with a unique on-site research and training opportunity. Due to liability, quality, and accreditation concerns, centers typically have a higher adult-to-child ratio and lower prices than their private sector counterparts, making large profit unlikely.</p>	<p>Facilities departments that oversee some or all auxiliary units are more likely to be able to offer this service. The net revenue can be used to support capital renewal projects, particularly in the building housing the center. Hiring student workers will reduce the cost of the child care center.</p>
<p>Many institutions negotiate with vendors to receive a 10% rebate if the university pays its invoice within 10 days. Although vendors may protest this “double tax” if also paying purchasing card/ghost card transaction fees, universities with an average of \$200 million operating spend can see \$500,000 to \$800,000 in annual rebate revenues.</p>	<p>Facilities has the most leverage to promote this tactic with vendors who provide supplies to the maintenance department. Savings can be reserved for funding capital renewal projects.</p>

Source: Reed T, “Moody’s: Howard University’s Real Estate Boosting its Turnaround Efforts,” *Washington Business Journal*, June 28, 2016, http://www.bizjournals.com/washington/breaking_ground/2016/06/moodys-howard-universitys-real-estate-boosting-its.html; Facilities Forum interviews and analysis.

Nontraditional Funding Strategies

Tactic	Maintenance Funding Potential ¹	Prevalence ¹
#78: Centralized Surplus Good Sales	\$\$	●
#79: Donated Item Garage Sales	\$	●
#80: Rooftop Solar Panels	\$\$	●●
#81: Parking Lot Solar Trees	\$\$	●
#82: Wind Farm Contracts	\$\$	●
#83: Local Hotel and Conference Space Partnerships	\$\$	●●

1) See page 6 for grading scales.

Capsule Description	Implementation Guidance
<p>A growing number of institutions centralize the sale of surplus goods (such as old computers, furniture, and lab equipment) to the public, often through warehouses open at set times per week. Internal campus customers typically attend advance sale days to purchase items for departmental (not personal) use, with later sale dates for the general public, attracting both personal shoppers and resellers. One large public university's surplus program generates \$1.5 million in revenue annually, with over 25% of profit distributed back to university departments and the remainder funding overhead and program improvement.</p>	<p>This strategy may create additional work for Facilities, as Facilities likely has ownership of the collection and storage of such materials. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover required Facilities services. Depending on how the agreement is setup, Facilities may be able to use the money to cover costs beyond those incurred by this strategy, such as capital renewal.</p>
<p>One college estimates generating up to \$25,000 through a garage sale featuring items donated (from art to autos) from the campus community. Institutions also rent garage sale space to interested individual vendors for a fee of \$30 to \$75 per booth and also sell concessions at the event.</p>	<p>Facilities may be responsible for setting up and breaking down the sale. Negotiating for a portion of revenue can help defray these expenses, as well as provide for any infrastructure or space improvements necessary to prepare and possibly repair the event space.</p>
<p>A growing number of institutions in sunny locales are selling access rights to private-sector energy firms to deploy solar panels on rooftops of campus buildings. Energy companies typically fund capital and conversion expenses, sign 25-year leases to provide below-market electricity, and share in proceeds from potential surplus energy sales. Universities are securing favorable lease terms due to the positive public relations opportunity and chance for large-scale proof-of-concept demonstration for energy companies.</p>	<p>This strategy may create additional work for Facilities, including the assessment and maintenance of the solar panels and the supporting roof structures. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Depending on how the agreement is set up, Facilities may be able to use the money to cover costs beyond those incurred by this strategy. Facilities can also bundle capital renewal on roofs or electrical systems while installing solar panels on the buildings.</p>
<p>University parking lots are proving a desirable location for power-purchase agreements featuring so-called "solar trees," or state-of-the-art solar panels that maximize energy capture by adjusting angles throughout the day following the sun's path. These solar trees provide shade for parked cars, reducing pushback from campus.</p>	<p>Facilities departments that oversee parking are more likely to be able to establish solar trees. Facilities should ensure that the contract requires the energy company to maintain the solar trees. The net revenue can be used to support capital renewal projects.</p>
<p>A handful of universities sign long-term leases with energy companies to fund deployment and maintenance of windmills on campus-owned land. The near-term goal for institutions is to generate clean energy for institutional consumption, with the long-term ambition of generating surplus kilowatts for revenue-generating resell to utilities.</p>	<p>Net revenue generated from a lease can be reserved for capital renewal projects or renewal of utility infrastructure. Pushback from campus can be minimized through establishment of a revolving loan to support sustainability projects with the revenue and clear reporting of how funds are spent.</p>
<p>One commuter institution lacking residential space partnered with nearby hotels to create joint conference space, with the university providing event and meeting rooms and the hotel providing lodging. Similarly, universities with residential space partner to provide housing and meals for attendees of conferences located at city or hotel conference centers without sufficient lodging capacity.</p>	<p>Facilities departments that oversee residence halls are more likely to be able to successfully advocate for this arrangement. Funding for capital renewal in the spaces should be included in the negotiations.</p>

Source: Facilities Forum interviews and analysis.

Nontraditional Funding Strategies

Tactic	Maintenance Funding Potential ¹	Prevalence ¹
#84: Centralized Facilities Availability Database	\$\$\$	●
#85: Farmers Markets	\$	●
#86: Off-Peak Parking Lot Rental	\$	●
#87: Outdoor Movies	\$	●
#88: Smart Classroom Rental	\$	●
#89: City-Funded Satellite Campus Development	\$\$\$\$	●

1) See page 6 for grading scales.

Capsule Description	Implementation Guidance
<p>Institutions create a centralized database and contact line for all on-campus meeting and event facility reservations, allowing customers to easily view availability and combine rentals for space owned by separate and previously uncoordinated units (i.e., student union, residence halls, event center, and classrooms). Although spaces are still owned by different units on campus, outside customers receive the impression of centralization needed to appeal to corporate clients expecting high levels of service and quick reservation turnaround. Sophisticated institutions also create one point of contact and a system for purchasing all potential conference-related services, including catering, A/V, recreation services, and arts and entertainment.</p>	<p>Facilities is the ideal owner of the on-campus meeting and event facility reservations list, as Facilities already collects and updates (and potentially manages) much of this information. Use this natural ownership to advocate for a portion of revenue generated from the space leases to go to Facilities, in particular for the maintenance and renewal of those spaces.</p>
<p>Institutions generate recurring profits from parking lots or other open campus space by holding weekly farmers markets, tapping into campus demand for locally-grown produce while supporting local farmers.</p>	<p>Facilities may be responsible for setting up and breaking down the market. Profits can be allocated toward renewal of the space used for the market, particularly parking lots.</p>
<p>Institutions partner to provide long-term evening and weekend parking for companies with night shifts, nearby churches, and apartment buildings that are over-capacity or undergoing parking lot renovations.</p>	<p>In situations where Facilities oversees parking, Facilities earmarks some portion of the revenue toward road and parking lot renewal. In situations where Facilities does not directly oversee parking, make the case for some portion of the revenue to cover related Facilities costs, such as landscape beautification, campus roads, and the electrical infrastructure behind lampposts.</p>
<p>A handful of institutions hold drive-in movie nights on campus parking lots, charging for tickets as well as food and beverage sales. Universities may increase revenue by marketing special events, such as classic film nights, to alumni and community members, which can also support town-gown relations.</p>	<p>Facilities can make a case for receiving some of the revenue from these events through the need for renewal of the parking lots and grounds. If Facilities oversees auxiliaries, profits from concessions can also be allocated towards renewal.</p>
<p>Universities rent smart classrooms to corporations interested in hosting training sessions or other events in spaces with interactive presentation equipment such as integrated podiums and document cameras.</p>	<p>Facilities should advocate for a small addition to the rental price to cover the future renewal needs of the smart classroom. This small fee can be reserved in a renewal endowment for classrooms.</p>
<p>One public university proposed that a nearby city government fund construction of a new satellite campus, with the university paying for operations and maintenance. However, this practice may be difficult to implement as the locations in greatest need of satellite campuses are often the most economically depressed.</p>	<p>If the main campus Facilities department is responsible for operating and maintaining the satellite campus, Facilities should approach the budgeting arrangement with maintenance and long-term capital renewal needs in mind. The goal is to minimize the deferred maintenance backlog of the satellite campus. Facilities can potentially use net revenue to reinvest in the main campus.</p>

Nontraditional Funding Strategies

Tactic	Maintenance Funding Potential ¹	Prevalence ¹
#90: Corporate Research Facility Joint Ventures	\$\$\$\$	●
#91: Exterior Cellular Antenna Stealthing	\$\$	●●
#92: Interior Cellular Distributed Antennas	\$\$\$	●●
#93: Professional Society Testing Partnerships	\$	●
#94: For-Profit Educator Testing Site Rental	\$	●
#95: Tutoring and Test Preparation Leasing	\$\$	●

1) See page 6 for grading scales.

Capsule Description	Implementation Guidance
<p>A growing number of institutions see pharmaceutical and other research companies as attractive development partners, not only for capital investment potential but also for student internship and faculty research partnership opportunities. Emmanuel College in Boston received \$50 million for a 75-year ground lease of an acre of land to Merck to build a 12-story, 300,000-square-foot research facility.</p>	<p>This strategy may create additional capital projects for Facilities, such as building new research facilities and supporting infrastructure. Use these additional costs to advocate for a piece of the revenue or at least a project management fee to support future capital renewal projects.</p>
<p>Many institutions previously reluctant to maximize cell site leasing due to aesthetic concerns are now willing to expand coverage due to “stealthing,” a practice by which carriers finance construction and maintenance of foam structures that hide cell antennas by blending in with building architecture or campus environs (such as by mimicking bricks or trees).</p>	<p>Facilities can advocate that their unit should be allowed to enter into these arrangements independently if they use unclaimed campus space. This strategy may create additional work for Facilities, including the construction and renewal of the stealthing structures. Use these additional costs to advocate for a piece of the revenue to help fund future capital renewal projects.</p>
<p>A growing number of institutions are implementing distributed antenna systems (DAS) above ceiling tiles to improve in-building reception. Institutions typically contract with vendors who determine gaps in interior coverage and solicit carriers to house signals together in a single DAS. Revenues are estimated to be equal to or higher than those generated from campus exterior cellular sites (approximately \$1,500 to \$3,000 per site, per month, depending on location).</p>	<p>Facilities can advocate that their unit should be allowed to enter into these arrangements independently, particularly if the institution is already leasing unoccupied space for exterior cellular antenna stealthing. This strategy may create additional work for Facilities through maintenance of the DAS, so use these additional costs to advocate for a piece of the revenue.</p>
<p>Institutions provide testing services in American Psychological Association-accredited areas, such as giftedness, learning and emotional development, and Attention-Deficit/Hyperactivity Disorder. Graduate student interns conduct services after completing training modules supervised by licensed practitioners, allowing the university to minimize labor costs while also providing students with educational opportunities. Implementation challenges include providing the appropriate licensing, supervision, and medical billing expertise.</p>	<p>This strategy may create additional work for Facilities through after-hours or weekend utilization. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Depending on how the agreement is set up, Facilities may be able to use the money to cover renewal costs beyond those incurred by the partnership.</p>
<p>Institutions rent space in online education testing centers to proprietary schools, often in conjunction with other purchased services (e.g., library use, information technology resources).</p>	<p>This strategy may create additional work for Facilities, like additional operations and maintenance on the rented space. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Facilities may be able to use the money to cover renewal costs.</p>
<p>Institutions may look to learning centers as a possible revenue opportunity given enough potential business from the campus and local community. As a side benefit, college employees can receive discounts for their children. One private college pays \$36,000 to operate a franchise of a freestanding learning centers, with the college receiving a portion of student fees and the company paying rent and fees for human resources and computer support services.</p>	<p>This strategy may create additional work for Facilities, such as the operation and maintenance of the learning center and its renewal following the lease’s term. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Depending on how the agreement is set up, Facilities may be able to use the money to cover additional renewal costs.</p>

Source: Emmanuel College, Boston, MA; Facilities Forum interviews and analysis.

Nontraditional Funding Strategies

Tactic	Maintenance Funding Potential ¹	Prevalence ¹
#96: For-Profit Educator Leasing	\$\$	●
#97: Private Sector Office Space	\$\$\$	●
#98: Retail Ground Leasing	\$\$	●●
#99: Real Estate Gift Specialists	\$\$\$	●
#100: Under-Utilized Real Estate Audits	\$\$\$	●

1) See page 6 for grading scales.

Capsule Description	Implementation Guidance
<p>Institutions lease space and resources to for-profit educators. One private university leases space and equipment to a for-profit provider of health certificate programs (e.g., nursing, surgery preparation, and pharmacology) in exchange for a percentage of the profits. Faculty receive overload teaching opportunities and certificate programs contribute to the university's outreach goals, with the provider and university partnering to help certificate students apply to associate's and eventually bachelor's degree programs.</p>	<p>This strategy may create additional work for Facilities through operating and maintaining the for-profit space, as well as its renewal following the lease's term. Use these additional responsibilities to advocate for a portion of the revenue, either a flat fee or percentage of net revenue, to cover Facilities services. Depending on how the agreement is set up, Facilities may be able to use the money to cover renewal costs for the space.</p>
<p>Institutions develop and rent office space to private companies. One institution develops new office buildings on campus, two-thirds of which will be rented to the private sector. The university expects to generate a few million dollars in profit over a 12 to 15 year period while paying back the initial capital expenditures; after that, the buildings are expected to generate \$40 to \$50 million per year.</p>	<p>This strategy may create additional capital projects for Facilities, like constructing office space and supporting infrastructure renewal. Use these additional costs to advocate for a piece of the revenue to help fund future capital projects, or build renewal costs into contracts with renters.</p>
<p>Many institutions lease retail space to merchants and restaurants, typically finding retail leasing to be most profitable when offerings serve both the campus and surrounding community. Facilities on the borders of the institution—often facing outward to the community rather than inward to the campus—are most attractive, as well as mixed-use spaces in surrounding areas, especially those including student and faculty housing structures.</p>	<p>This strategy may create additional capital projects for Facilities, like new space construction, capital renewal at the end of the lease's term, and supporting infrastructure modernization. Use these additional costs to advocate for a piece of the revenue to help fund future capital projects.</p>
<p>Institutions previously reliant on the development office to solicit gift properties from the standard donor pool are now leveraging real estate specialists to actively solicit real estate gifts, attending retirement seminars and homeowners' association meetings, advertising on email lists, and offering commissions to real-estate brokers who bring property to the university. Specialists also provide expertise in whether gift properties are actually attractive assets, an all-too-often neglected activity that requires evaluating ease of sale, potential liability issues, and future maintenance costs.</p>	<p>Facilities should work with Advancement to ensure that any real estate gifts include coverage of the maintenance and renewal for the new real estate to reduce future costs to the institution.</p>
<p>Many institutions evaluate their real estate portfolios to identify properties for which the potential market value is greater than the value to the campus. One public university in a metropolitan area estimates it could generate \$20 million to \$30 million from the sale of four underutilized properties. Likely candidates include properties, often donated to the institution, that are poorly suited for instructional, research, or mixed-use space (such as private residences, gardens, or properties in remote locations).</p>	<p>Such sales can reduce the deferred maintenance backlog by removing properties with high capital renewal needs that do not directly support the strategic priorities of the institution.</p>

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