Administrative Review

Facilities Management:
Final Report and Recommendations

Report to Chancellor Page and the Board of Trustees
March 2015
The goal of this Administrative Review for Facilities Management is to improve facility management efficiency and services, and to identify facility-related cost savings so they may be invested in teaching, research, and public service.
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Executive Summary

Background and Charter Executive Summary:

This report chronicles the efforts of the Administrative Review team and its findings and recommendations for the future of the University of Maine System’s facility management functions and for the facility portfolio itself. The team was chartered in September 2013 with an approximately 21-month authorization, and it submits this report at approximately the 18-month mark of that period. The team’s official charter is among the appendices.

Methods Executive Summary

The team was comprised of nine members representing a variety of perspectives including Trustees, Chief Financial Officers, Presidents and Facility Directors; from Universities larger and smaller; from campuses north and south. Hundreds of individuals attended campus briefings and hundreds of comments were received by the team either at those forums or via electronic and other means made available by the team.

Because of the size and scope of the review, the team divided into two primary work groups: a Functional Team to review operational administration and management of all UMS facilities, assets, and services; and a Planning Team to develop a strategic, system-wide, multi-year plan to manage UMS facilities.

The team itself convened weekly to hold discussions and to hear presentations on various topics by individuals and organizations with expertise both from within and from outside the University community. Ad hoc groups formed by the team or standing groups already existing within the University System also were engaged to review specific issues and to provide input.

This initiative is indebted to and grounded in other related efforts. This review began as a product of a 2012 pilot mapping of the University of Maine System’s facilities administrative function. The current initiative also follows the adoption of the Goals and Directives of the Board of Trustees in January 2012 and the Chancellor’s Strategic Direction document as adopted by Trustees in July 2014. This report is intended also to be consistent with those recommendations soon to emerge from the parallel initiative authorized by Trustees in November 2014, which is aiming to develop a comprehensive financial management structure reflecting unified finance and administrative services for the University of Maine System.
In keeping with the standards established by previous UMS Administrative Reviews, this project adheres to a four-stage approach:

I. Analyze and Evaluate
II. Design and Develop
III. Implement
IV. Measure, Audit, and Repeat as Necessary

This report largely accomplishes an initial phase I analysis and evaluation. It also touches on design. In some cases, the report also will identify areas where some level of implementation has begun, while acknowledging those efforts are not by the team but are in keeping with its recommendations and supported by the team. We also observe that design and implementation is largely the work that is next to come if these recommendations are adopted. Lastly, the team believes its recommendations position the University of Maine System for success in phase IV with its recommended initial benchmarks and metrics.

Findings and Recommendations Executive Summary

This report presents the specific recommendations of the team to help achieve the highest cost-effective use of capital facilities, property, and infrastructure in order to best support the collective mission of the University of Maine System and its individual campuses.

An executive summary is by necessity not the complete picture, and the team recommends for adoption the further action steps and particulars described in the full report. Among the key findings and recommendations are these:

1. UMS should right-size the facility portfolio to reduce costs and improve the quality of facilities. Examples of recommendations include:

   ✓ Establish a long-term Net Asset Value (NAV) goal, with an interim goal of steadily improving the NAV annually starting in 2016. Attempt to achieve a net asset value systemwide of 70 percent or better, with an interim goal of 63 percent by Fiscal Year 2022. The facility portfolio currently has a net asset value of approximately 59 percent.

   ✓ Work to right-size the overall UMS facility portfolio using the density factor metric. Attempt to achieve a systemwide density factor of at least 340 users per 100,000 gross square feet of space by Fiscal Year 2022 and ultimately a density of 400 users or more. Strategies to improve density generally involve increasing the users or reducing space in some manner.

   ✓ Update Board policy and System procedure to require Trustee review and approval for any project that would increase the amount of square footage owned or occupied by the University of Maine System or which would increase operating costs.
2. Identify and fund the long-term capital needs of the System. Examples of recommendations include:

- Adopt a 3-tiered planning strategy across the enterprise that involves each campus having and maintaining a campus master plan to guide the general direction of the campus; a 5-year capital plan that is aligned with the master plan and a component of the multi-year financial analysis; and a 1-year capital work plan that is aligned with the other layers and is a component of the annual budget considered by Trustees. The one-year work plan should include not only improvements, but also the annual identification of any surplus real property which should be or could be considered for disposal or repurposing.

- Update the budget procedures to include capital budgets as a distinct component of the annual budget process.

- Continue to strive to reach the 100 percent funded depreciation goal and to avoid losing ground from gains achieved while still being open to adjustments in the timeline for achieving the goal in a way that is consistent with the annual budget proposed to and ultimately adopted by the Board of Trustees.

- Implement the Total Cost of Ownership principle throughout the University of Maine System, with required reporting and eventual goal setting.

3. Review current prioritized processes for best practices or improvements. Examples of recommendations include:

- Functionally align the current capital project management function to better serve the needs of the University of Maine System and improve the ability of industry to work with the System.

- Work toward the consolidated processing of work orders and the establishment of a centralized work control or work coordination processing function.

- Formalize and make permanent the pilot project in enterprise Safety and Environmental Services to serve those needs Systemwide.

- Implement the LEAN management team’s findings to streamline lease processing and lease administration.

- Increase efforts and opportunities to promote sharing of best practices and expertise statewide, including in the areas of grounds, trades and custodial.
Monitor the Strategic Integration Target 2 and 3 initiatives in particular and be prepared to consider and to achieve additional structural reorganization as may be necessary for facilities management to remain effective and efficient in a changed organizational landscape.

4. Benchmark UMS operations and institutionalize selected benchmarks. Examples of recommendations include:

- Implement the suggested twelve Key Performance Metrics across the University of Maine System to measure and monitor facility quality, costs and performance. Key among these measures are: Density; Net Asset Value (NAV); Capital Expenditures on Existing Space; Annual Facilities Operating Expenses; Total Cost of Ownership (TCO); and Energy consumption and cost.

- Ensure the adoption and beneficial use of the Integrated Workplace Management System, now in implementation.

- Update and formalize the procedural matrix for UMS capital projects and offer periodic professional development regarding UMS capital procedures.

- Monitor and report on staffing ratios to ensure UMS continues to function at least as aggressively as benchmark zone indicators suggest should be achievable, including in the functional areas where most facilities management personnel work: grounds, trades and custodial.

Implementation Executive Summary

The team recommends that the Chancellor, Vice Chancellor for Finance and Administration and Presidents assign personnel as necessary to carry out these recommendations if adopted by the Board of Trustees. In particular, the team recommends that the System Director of Facilities Management and General Services be assigned to lead and coordinate the implementation, including making the further recommendations and decisions that will be necessary to the task.

Financial Impact Executive Summary

The greatest economic impact is likely to come from inaction, and the impact of inaction will not be advantageous to the University of Maine System’s mission, including its talent recruitment, retention efforts, and its financial future.
With current systems and practices, the overall condition of the UMS’s facilities has declined since 2006; density has declined by nearly 20 percent, the deferred maintenance and lifecycle reinvestment need has increased to nearly $1 billion; the percentage of space with a renovation age of 50 years or greater has grown to 38 percent of all space; and the System’s daily service costs as measured by Sightlines LLC have remained higher than peer benchmarks. Those trends make facilities more costly to maintain and renovate, more likely to fail, and more expensive to operate.

There will be implementation costs. Potential examples include the investments that will be needed in master planning, functional reorganization and space reductions or reorganization. It is important to note that some of the largest potential one-time costs that might have been associated with these recommendations already are in place with the funding for the Integrated Workplace Management System – a key technology project that has been the type of efficiency recommended by other reviews but which in this case already is in progress – and the facility and ongoing financial assessment services provided by Sightlines LLC.

There will also be long-term costs, notably in addressing the improvements needed in the existing facility portfolio. The University of Maine System will need a sustained annual capital investment in the range of up to $50 million annually to make progress against the major quality and cost recommendations in this report.

The team recommends the identification of up to $250,000 to support the initial implementation of its recommendations and suggests that strong consideration be given to offsetting that investment with the proceeds of the sale of UMS real property as such sales occur or as the implementation effort finds other ways to monetize the System’s facility assets. The team further suggests that the extent to which the Integrated Workplace Management System is completed below budget, that those resources may also be dedicated to the initial implementation, with the total initial implementation funds recommended by the team not to exceed $500,000.

The Administrative Review team suggests the work of financial impact and financial implementation should be done as a next step in this Administrative Review process and that it be undertaken as part of the next phase. The Administrative Review team itself is elsewhere making the underlying recommendations to update the System’s capital planning and capital budgeting procedures and requirements to make those next steps more feasible.

The Team’s Appreciation

The team expresses its thanks and appreciation to all those who participated in the development of this report, from the individuals who spoke up at campus discussions, the staff who responded generously to the team’s requests for information to the leaders who made staff available to participate and all those too numerous to comprehensively cite. This work would not have been possible without you.
II. Background and Charter

Background

The University of Maine System is made up of seven distinct universities. It has more than 550 facilities over approximately 9.3 million gross square feet (GSF). The facilities function within the University of Maine System is comprised of individual offices on each of the seven primary campuses acting in conjunction with the System Office of Facilities Management and General Services. The primary focus of the facilities function is to support each individual institution to achieve excellence in delivering outstanding teaching, research, community outreach, and residential programming. Services offered include housekeeping and custodial, maintenance and operations, alterations, construction management, waste management, transportation, recycling, health and safety, operation of central power plants and more. Each campus is committed to a culture of sustainability and environmental responsibility.

The University of Maine System has an aging facility infrastructure with considerable space in high risk stages of facility life, also known as renovation age. Space Systemwide is aging faster than it can be maintained and has fewer faculty, staff and student users than in the past. Recent reports from Sightlines (Appendix B) indicate an overall reduction in the total number of students enrolled in University of Maine System classes since 2005. Future enrollment projections support this downward trend (see Figure 2a*).

Figure 2a:

* Population figures come from the U.S. Census Bureau Population Estimates Program. Population forecast projections are based on linear regression. Fall headcount forecast projections are based on multiple linear regression using Maine’s population of individuals aged 15 to 24 years and individuals aged 25 to 64 years.
Informed by this and other data, the Facilities Management Administrative Review team has committed to understanding the role and workings of the University of Maine System’s facilities function. In order to fully support UMS in the fulfillment of its mission statement, the review team conducted its review with an eye toward both quantitative and qualitative information, and in this report seeks to make recommendations to reduce costs, reduce risks, and improve quality in support of the mission and generally to work toward an optimized facilities management function.

Charter

The Administrative Review team (ART) was preceded by assessments in 2012-2013, which gathered information on a variety of functions and at a mid-level of detail on facilities management in particular. The following tasks were identified (See Appendix B) as logical next steps in the review process:

1. Create an exhaustive inventory of all administrative functions upheld throughout the University of Maine System (excluding Information Technology, Human Resources, or Procurement, as they have likewise been specifically targeted for other Administrative Reviews).

2. Formulate a pilot “mapping”, or schematic portfolio of the Facilities Management administrative function.

3. Produce a schedule for continued evaluation of the pool of unexamined administrative functions, in order to determine the most appropriate candidates for Administrative Review within the University of Maine System.

This pilot study of the Facilities Management administrative function (Appendix B) included Rowena Clukey (Administrative Support; UM), Kathleen Dexter (Dean of Students; UMA), Laurie Gardner (Executive Director for Finance and Administration; UMF), Dave Stevens (Executive Director of Organizational Effectiveness; UMS), and Michael Stevenson (Senior Fellow for Academic Affairs, UMS) were all involved in the pilot project, which was chaired by Judy Ryan (Vice President for Administration & Financial Management; UM). Following an initial round of campus visits and data collection, this team participated in a day-long retreat in order to finalize their recommendations.

The result of their careful deliberation resulted in a preliminary functional review of UMS Facilities Management and a decision to sanction a comprehensive System-wide Administrative Review. That team’s recommendation for a specific, in-depth review of facilities management resulted in the current effort and, ultimately, in this report.
The current team, now concluding its work, was chartered in September 2013. The team is comprised of two parallel working groups and reports through the Vice Chancellor and Chancellor to the Administrative Review Steering Committee and to the Presidents’ Council. The team made an interim report in January 2014 outlining how this review was to be carried out and identifying the key issues.

The team members met nearly weekly, generally in their respective Planning or Functional groups, and occasionally all together as the single team. Team members were:

- Karl Turner, UMS Trustee, Planning Group
- Norman Fournier, UMS Trustee, Functional Group
- Cynthia Huggins, UMS Chief Academic Officer & former UMM President, both groups
- Michael Stevenson, Senior Fellow for Academic Affairs, UMS, Planning Group
- John Murphy, Vice President for Administration, UMFK, Functional Group
- Robert Bertram, Executive Director of Facilities Management, USM, Functional Group
- Stewart Harvey, Executive Director of Facilities & Capital Mgmt., UM, Planning Group
- Ryan Low, Vice President for Administration and Finance, UM, overall Team Co-Chair
- Chip Gavin, Sys. Dir. of Facilities Mgmt. and General Services, overall Team Co-Chair

The separate Planning and Functional team meetings were conducted back-to-back each week on Tuesday for 75 minutes. These weekly meetings began in the fall of 2013, and continued throughout 2014, resulting in approximately 55 total conferences for each team ranging from short check-in meetings to all-day in person working sessions.
III. Methods

Communication

Since the commencement of the Facilities Management Administrative Review, both the Planning and Functional groups have placed a strong emphasis on the importance of communication. Realizing that the facilities function touches every corner of the University of Maine System and its estimated 5,000 employees and 30,000 students, a robust and regular dialog with various stakeholders was deemed critical in order to cultivate lasting success. Throughout the entire Administrative Review process, the team deliberately fostered communication in several ways.

The team recognizes that more communication always can be done, but substantial outreach occurred. Each team’s weekly agenda began with a communications update. Regular group updates were shared with standing groups, such as the Presidents’ Council, the Shared Services Advisory Council, the Chief Academic Officers’ Group, and Facilities Management Directors across all seven campuses. Updates were provided at various junctures to the full Board of Trustees, the Finance, Financilies and Technology Committee of the Board of Trustees, and the student representatives to the Board of Trustees. Additionally, the team routinely shared updates and sought input from individual and group stakeholders throughout the University of Maine System, including the Integrated Workplace Management System (IWMS) implementation team, a multi-business unit and interdisciplinary group of facility managers, financial personnel, and ITS staff and others who are working to implement a new, integrated, and unified software solution for facilities data management. In addition, the Facilities Review team posted updates to the Think Mission Excellence website, allowing faculty and staff of the University of Maine System to keep abreast of their work and progress, and providing the opportunity to leave comments and questions.

Outreach

While the Facilities Administrative Review team began its campaign with the available facilities data, there was unanimous agreement that facts and figures alone would not be an adequate foundation for decision making. Team members committed to looking beyond campus maps and data in an effort to understand the distinctive challenges caused by such factors as campus mission, geography, and buildings of historical significance. To that end, the team determined that consultation with and solicitation of feedback from faculty, staff, and students would be paramount to understanding the impact of facilities operations on the University of Maine System community at large.
A. Campus Visits

As part of the Administrative Review process, team members also scheduled two distinct series of site visits to each of the seven primary campuses. The first round of visits took place throughout March, April, and May of 2014, and were designed and executed with four primary goals in mind.

I. Presentation of current findings and progress to date.
   A PowerPoint presentation was designed to help illuminate the preliminary efforts of the Administrative Review team. The presentation, made up of 21 slides, included a summary of the team’s interim findings and emerging recommendations, along with key facilities data and statistics to support these ideas. Moreover, seven distinct, customized versions of the slide deck were prepared to account for the unique conditions seen across each individual campus. A full version of each campus presentation may be found in Appendix C of this document. The four major recommendations areas in the executive summary of this report were identified and communicated in those campus presentations and have remained consistent.

II. Going beyond “data” to fully appreciate the unique facilities challenges faced by each campus.
   The first order of business at each of the visits was a tour of the campus and its facilities, led by the Facilities Director or President of the institution. These tours provided Administrative Review team members with the opportunity to explore the nuances and specific conditions at each campus while, at the same time, gleaning valuable source information from experienced facilities personnel.

III. Dialog with the university community.
   An approximately 60-minute open forum was held at each of the site visits to encourage participation from the campus community. These assemblies were advertised to the universities at large in order to promote ample and widely varied attendance. In some cases, Polycom technology was employed to allow remote participation from interested parties.

IV. Seeking input and feedback to better understand the impact of facilities management across individual campuses.
   At each of the seven previously described campus visits, a representative from the University of Maine System Office of Organizational Effectiveness participated to moderate the campus feedback session and to document the feedback and input that was received from the university community.
The Administrative Review team conducted its second set of campus visits primarily in November 2014. These visits provided team members with the opportunity to share their updated findings and emerging recommendations with each of the University of Maine System’s seven university communities. Much like the first series of campus visits in format, each event was approximately two hours long, and consisted of a brief overview, a presentation of the team’s emerging recommendations, and an open forum where participants could ask questions and offer feedback.

The team’s November campus visits were arranged and carried out following four chief objectives:

1. Background and timeline.
2. Emerging themes.
3. Emerging recommendations.
4. Community dialog, feedback, and input.

A PowerPoint presentation was used at each campus to provide a summary of the team’s emerging recommendations regarding the Facilities Administrative Review. The presentation was based on the ideas and outcomes expressed in this report, and may be viewed in its entirety in Appendix C of this document, or on the web at [http://thinkmissionexcellence.maine.edu/](http://thinkmissionexcellence.maine.edu/).

Following the Emerging Recommendations presentation at each university, attendees were invited and encouraged to share their questions, comments, and suggestions with Administrative Review team members. Representatives from Organizational Effectiveness were present to take notes and facilitate dialog amongst participants.

**B. Recognition and Incorporation of Feedback**

All feedback from each campus visit was documented by Organizational Effectiveness and provided to the team. In addition to the live campus opportunities for input, all members of the University of Maine System community were invited to provide additional statements for the Administrative Review team via the team’s specific portion of the [Think Mission Excellence](http://thinkmissionexcellence.maine.edu/) website. Comments from the campus communities were cataloged to ensure that particular attention was paid to each concern, question, and suggestion. The issues on the resulting feedback matrix (Appendix C) was discussed at numerous weekly meetings of both the Team, and regularly updated as new insights were offered. The team has endeavored to document also its response to every comment it received to help make clear that the feedback it received was considered and addressed.
C. Facilities Management Positions Survey

One of the Administrative Review team’s data collection initiatives was to compile an updated, comprehensive inventory of facilities management positions Systemwide. This roster (found in Appendix B of this report) served as a detailed tool to guide the team through its deliberation and decision making. The data also directly enabled the fulfillment of additional team goals, such as the evaluation of facilities staffing ratios at the University of Maine System against known industry benchmarks and other standards.

Options for successful completion of a Systemwide facilities staffing inventory were discussed during January 2014 meetings of the Functional team. It was concluded that an informational request regarding the matter of facilities Full Time Employees (FTEs) would be developed and distributed across all seven campuses and the UMS System office. The survey tool utilized a combination of previously collected data from the University of Maine System’s Human Resources department, as well as findings from the Facilities Management Administrative Review Pilot Report (2013) and the 2009 New Challenges, New Directions report.

The resulting Facilities Management Positions Survey can be found in Appendix C. It involved confirming the existence of positions as well the percentage of each employee’s work week spent on tasks from each of 32 specified categories. Responses were received in May 2014 and compiled. A third-party consultant was engaged by the team to evaluate the data set, providing the team with two different independent assessments of the data: one under the auspices of the System’s existing work with Sightlines LLC and a second by Hickling & Associates facilities management consultants which the team engaged specifically for this purposes.

The Hickling analysis aimed to identify the current staffing numbers and density for UMS custodial, maintenance, landscaping, and facilities administration FTEs, and whether the staffing levels deviated from the expected benchmarks. He also offered observations made possible from the data analysis about the University of Maine System institutional O&M activities, costs, staffing, and observed practices.

Hickling and Associates used data provided by the campuses and collected through the FM Positions survey. Data from Sightlines and APPA was also consulted by Hickling and Associates as well as directly by the team to determine accurate space measurements and applicable comparable campus data from other institutions. The final report from Hickling and Associates (Appendix B) was used to inform the ensuing staffing-related recommendations for the University of Maine System, as referenced throughout this report.
D. Capital Planning Survey

Because so many of the Facilities Management Administrative Review team’s initial emerging recommendations involved both capital and master planning, the team also took stock of the current planning-related practices, policies, and procedures across the System. Tactics for effectively evaluating the status quo were discussed during numerous Team meetings. In the end, another survey tool was created in an effort to gather the pertinent information needed to accurately educate team members.

The Capital Planning survey consisted of various components designed to gather information about: lower quality, lower utilization facilities; 50+ year renovation age facilities; buildings removed from the portfolio over the past ten years; individual capital work plans; the status of each campus’ master plan; the potential removal of particular land parcels; and, campus comments and feedback.

This planning-related informational request was initially completed and distributed to each of the University of Maine System’s seven campuses in early May, 2014, with an amended version sent out at the beginning of June, 2014. As with the Facilities Management Positions Survey, an optional conference call was held in order to address potential questions, comments, or concerns from the respondents.

After the responses to the team’s Capital Planning survey (Appendix C) were received, the collected data was subject to preliminary analysis and given priority status at weekly team meetings during July and August. Careful consideration of the reported facts provided the team with a pragmatic perspective of the established UMS facilities planning policies and procedures. The Capital Planning survey and subsequent analysis of current practices (Appendix C) provided assurance during the decision making process. The team is grateful for the continued involvement and support from all participants.

Collaboration

A. Community Affiliates

Throughout the Facilities Management Review process, the team reached out -- not only internally but also to a variety of organizations, both on a national scale and throughout the state of Maine, to scout for potential opportunities for learning and collaboration.
Meetings were held with representatives from the executive branch departments of the State of Maine, the non-profit Maine and Company organization and various private sector facility management related firms ranging from architectural and engineering firms to those specializing in providing third-party facilities management services such as custodial services. More detail is available in Appendix C of this document.

B. Work Groups

In addition to external groups, internal standing groups, individuals and campus discussions, the team also formed various ad hoc work groups to consider particular issues or questions. A sample of those working groups and their respective leaders are below in figure 3a. More detail is available in Appendix A.

Figure 3a:

<table>
<thead>
<tr>
<th>Specific Function</th>
<th>Led By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Management</td>
<td>Michael Swartz, UM; Peter St. Michel, UMA</td>
</tr>
<tr>
<td>Prequalification for Professional Services</td>
<td>Carolyn McDonough, UM</td>
</tr>
<tr>
<td>Construction &amp; Capital Project Management</td>
<td>Gregg Bouchard, UMPI</td>
</tr>
<tr>
<td>Lease Administration</td>
<td>Bill Kelley, UMS; Kim Jenkins, UMS</td>
</tr>
<tr>
<td>Five-year Capital Planning Assistance</td>
<td>Darla Reynolds, UMS; Miriam White, UMS</td>
</tr>
<tr>
<td>Safety &amp; Environmental Management</td>
<td>Wayne Maines, UM; Bill Kelley, UMS</td>
</tr>
<tr>
<td>Work Control</td>
<td>Peter St. Michel, UMA</td>
</tr>
<tr>
<td>USM Pilot Project</td>
<td>William Wells, USM; Chip Gavin, UMS</td>
</tr>
<tr>
<td>UMM Pilot Project</td>
<td>Joyce Hedlund, UMM; Mark Hatt, UMM</td>
</tr>
<tr>
<td>Facilities Management Best Practices</td>
<td>UMS Facilities Directors</td>
</tr>
</tbody>
</table>
IV. Findings and Recommendations:

A: Right-size the facility portfolio to reduce costs and improve the quality of facilities.

1. Background and Process

The University of Maine System has a current and ongoing contract with Sightlines LLC, a facilities asset advisory firm that works with more than 450 colleges, universities, and other educational institutions across the United States, the District of Columbia and Canada.

Sightline has accumulated an extensive data set for these organizations with verified data regarding more than 50,000 buildings and 1.4 billion square feet. Sightline provides facilities assessment and benchmarking analysis both internally and across UMS peer comparison groups. The collected data cannot describe every nuance and detail that makes up the sum of the University of Maine System’s space, but it a powerful, reliable and the best available tool for examining the System’s overall space portfolio over time.

The most recent assessment from Sightlines (Appendix B) indicates that the University of Maine System presently retains more space than it can afford to sustain or responsibly use for the current and projected size of its total user community. System-wide, approximately nearly 40 percent of all square footage is in the 50+ year renovation age category. This is higher than the national average for public universities, which is approximately 20 percent. In general, the Sightlines data indicates UMS facility portfolio is aging steadily (see Figure 4a) and is experiencing an estimated 15 percent fewer users per square foot over the past eight years (Appendix B).

To support the collective mission of the University of Maine System and its individual campuses, its capital facilities, infrastructure, property, and other assets must be utilized in a highly cost-effective way. UMS must set out on a course to ensure that individually and collectively its institutions has space that is appropriate in its amount, relevance, quality and cost.

The following recommendations in this area are a result of months of research and collaboration among Administrative Review team members. The team has identified them as the most promising potential strategies to move the University of Maine System toward the fulfillment of its long-term facility goals.
Figure 4a:

Maine System age profile, 64% of space over 25

Space over 50 years old (highest risk) grown from 27% in FY06 to 36% in FY14

Campus Age Distribution Over Time

Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.10

Maine System age profile, 64% of space over 25

Space over 50 years old (highest risk) grown from 27% in FY06 to 36% in FY14

Campus Age Distribution Over Time

Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.11
Figure 4a1:

Renovations and removal of buildings slows aging process
Public institutions average 18% of space over 50 in FY14

Maine System Percent of Space Over 50

27% 27% 28% 29% 32% 33% 34% 37% 38%

FY14 Public University Average

Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.13
2. Net Asset Value

The Net Asset Value (NAV) Index represents the condition of an institution’s facilities necessary to carry out its academic mission by comparing the backlog of work needed with the replacement value of those facilities. The NAV is expressed as a percentage, and may be calculated by subtracting the asset reinvestment backlog from the replacement value and dividing it by the replacement value: \[ \text{NAV} = \left( \frac{\text{CRV} - \text{Asset Reinvestment Backlog}}{\text{CRV}} \right) \times 100 \], according to the Sightlines methodology.

A university’s Net Asset Value has a significant and lasting impact on its annual budgeting, capital planning, and investment strategies. A paradigm developed by Sightlines LLC (Figure 4b) illustrates how investments in facilities become more constrained as NAV decreases.

**Figure 4b:**

*Source: Sightlines LLC, FY2013 ROPA Presentation; The University of Maine System, March 2013, p.22*
As indicated below (Figure 4c), the Net Asset Value of the University of Maine System has been declining since 2006. The Systemwide NAV for Fiscal Year (FY) 13 is a reported 59%, with recognized variations between the individual campuses. This overall average as well as the estimates for each of the members of the system places the facility portfolio in the “Systemic Renovation Stage”, where facilities may necessitate larger, more substantial repairs and/or sizeable capital expenditures. This is the phase of life for facilities in which the projects pick you (as described in Figure 4b), rather than the other way around.

**Figure 4c:**

In order to retain a reasonable amount of control over its projects, an organization must retain a NAV of at least 70%, the threshold for Sightlines’ “Repair and Maintain” stage. To this end, the Facilities Management Administrative Review team has decided formally to recommend the institution of a long-term Net Asset Value target of 70 percent or better for the University of Maine System. That task can seem daunting, and the team is recommending an interim goal of arresting the decline in net asset value and striving to achieve 63 percent net asset value within 2022. The FM Review team acknowledges the important role of the proposed key performance metrics (Appendix B) in the fulfillment of this aim, and is in favor of implementing a specific KPI in connection with the Net Asset Value issue. Additional details may be found later in this report.
2.Disposition of Assets

The Facilities Management Administrative Review team approached the concept of the potential disposition of assets with great caution and care. The goal of the team members was to systematically evaluate the University of Maine System’s overall portfolio for size, to encourage consideration on campus of identifying surplus real property, as well as to make an initial attempt at identifying facilities which campuses could consider for action. A variety of sources were consulted to inform this area of consideration.

Review team members relied heavily on direct feedback and input from the individual universities across the System. The data collected from the Capital Planning Survey (Appendix C) was intended to solicit candid, real-world opinions from respondents around the true state of facilities management on their campus. The surveys included a number of questions around the potential removal of particular facilities on each campus. Participants were presented with specific lists of options that were selected based on recent data collected by Sightlines and the UMS Project and Facilities Software Manager (Appendix B).

The buildings that appeared on these lists were those which had been identified by Sightlines as being potentially “high risk”. As part of their work with the University of Maine System in 2014, Sightlines distributed a template describing the level of utilization for all of the facilities on each of the seven campuses.

There was a particular focus on lower quality, lower utilization facilities with a renovation age of over fifty years. Sightlines’ assessment was that these buildings may be potential candidates for removal from UMS inventory and, if not removal, then would require action of some kind to restore the facility. The removal of such facilities, when appropriate, can improve net asset value, reduce backlog and increase density. Figure 4d from Sightlines represents the estimated Systemwide total of lower quality, lower utilization facilities (576,584 gross square feet). When facilities of historic value or other particular criteria are removed due their special status regardless often of condition or utilization, the total remains at more than 300,000 square feet. Potential solutions ranging from demolition to renovation were listed, and participants were asked to report their likelihood to endorse each one on a five point scale.

Some of the facilities identified in this process have uses or value when looking beyond the data that would recommend them for a future other than disposal, but the exercise provides a reasonable roster for consideration and discussion. The team, more than suggesting anything particular about these facilities, is instead providing this data, and is recommending as part of the annual budget process and the newly recommended capital planning process, that each institution and the overall System be required to identify potential surplus real property not less than annually.
Figure 4d:

*Candidates for Potential Removal*

Buildings with Low utilization and Poor condition good candidates for removal

<table>
<thead>
<tr>
<th>High Utilization Rate</th>
<th>Poor to Fair Condition of Buildings</th>
<th>2,312,471</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Utilization Rate</td>
<td>Good to Excellent Condition of Buildings</td>
<td>314,735</td>
</tr>
<tr>
<td></td>
<td>576,584</td>
<td></td>
</tr>
<tr>
<td></td>
<td>116,500</td>
<td></td>
</tr>
</tbody>
</table>

*Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.18*

*The information represented in the four quadrants of this image was provided by each of UMS’s individual institutions, and refers to buildings with a renovation age of 50 years or more.*

*Over 50 Template Distributed to Every Institution*

Sample taken from UMM

<table>
<thead>
<tr>
<th>Building Name</th>
<th>GSF</th>
<th>Program Use</th>
<th>Historic</th>
<th>Utilization Rate</th>
<th>Condition</th>
<th>Value to Program</th>
<th>Value to Institution's Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senators Hall</td>
<td>10,504</td>
<td>Residences</td>
<td>No</td>
<td>High</td>
<td>Poor Condition</td>
<td>1: Valuable</td>
<td>2: Aligns with Institution's Mission</td>
</tr>
<tr>
<td>Senators Hall North Wing A</td>
<td>12,599</td>
<td>Residences</td>
<td>No</td>
<td>High</td>
<td>Poor Condition</td>
<td>1: Valuable</td>
<td>2: Aligns with Institution's Mission</td>
</tr>
<tr>
<td>Eben House</td>
<td>5,006</td>
<td>Offices</td>
<td>No</td>
<td>Low</td>
<td>Poor Condition</td>
<td>1: Valuable</td>
<td>1: Supports Institution's Mission</td>
</tr>
<tr>
<td>Dorr Hall West Wing A</td>
<td>21,158</td>
<td>Residences</td>
<td>No</td>
<td>High</td>
<td>Poor Condition</td>
<td>1: Valuable</td>
<td>1: Supports Institution's Mission</td>
</tr>
<tr>
<td>Klabbel Hall</td>
<td>27,929</td>
<td>Administration</td>
<td>No</td>
<td>High</td>
<td>Poor Condition</td>
<td>1: Valuable</td>
<td>1: Supports Institution's Mission</td>
</tr>
<tr>
<td>MECA STUDENT HALL</td>
<td>30,626</td>
<td>Residences</td>
<td>No</td>
<td>High</td>
<td>Poor Condition</td>
<td>1: Valuable</td>
<td>1: Supports Institution's Mission</td>
</tr>
</tbody>
</table>

*The following slides will dig deeper into some of the buildings on this list.*

*Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.15*
In an effort to support the individual campuses, the Facilities Management Administrative Review team is formally supporting campus consideration of the potential disposition and/or removal of those facilities identified as “very likely to endorse” by campuses facility leaders during the course of this review. A sample listing of potential facilities are included in the table below, and a full list may be found in Appendix B of this report. It should be noted that a facility’s inclusion in these rosters does not signify any particular endorsement or recommendation from the Administrative Review team. Instead, it is an indication of potential interest as reported by campus during this review.

Figure 4e:

<table>
<thead>
<tr>
<th>Building Name</th>
<th>GSF</th>
<th>Renovation Age</th>
<th>NAV Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Park Building 14, UM</td>
<td>2,198</td>
<td>53</td>
<td>55%</td>
</tr>
<tr>
<td>144 Quebec Street (International House), UMF</td>
<td>5,020</td>
<td>65</td>
<td>49%</td>
</tr>
<tr>
<td>222 Deering Avenue, USM</td>
<td>3,420</td>
<td>58</td>
<td>53%</td>
</tr>
<tr>
<td>Gagne Residence, UMFK</td>
<td>2,066</td>
<td>63</td>
<td>63%</td>
</tr>
</tbody>
</table>

While the Administrative Review team does not seek to avoid this often difficult step, it does seek to take this step respectfully and with the input and support of campus leaders and to avoid ill-informed recommendations about any specific one of the great number of facilities in the portfolio. The team believes this collaborative approach is already producing results as evidenced by the initial pilot project reports that are coming forwarded from the first campuses to attempt them.

The team at this time is not making any recommendation regarding the acquisition of space or the use of leased space vs. owned space, other than its recommendations that increases in space should be considered by the Board of Trustees.

Another avenue explored by the Capital Planning survey dealt strictly with the issue of undeveloped and potentially underutilized real property among University of Maine System’s portfolio. Intended as a separate companion piece, the team supplied each campus with a list of likely properties and inquired whether some of them might be sold, leased, or otherwise disposed of for revenue without unduly harming the mission of the institution. If the survey participants indicated that the disposal of a particular parcel of land was an idea worth exploring, the property was itemized and brought before the Administrative Review team for discussion.
Nearly 2,500 combined acres were identified by the individual campuses as worthy properties for the team’s consideration. This inventory was presented to the Planning team for its consideration. Team members readily agreed that there were a number of noteworthy opportunities to be found, in terms of sites or parts of sites that might be utilized in a different or better way.

The team also acknowledges that the issue of liquidating land is a sensitive topic throughout the University of Maine System, rife with potential complications and potential barriers. For instance, a great deal of UMS land is used in the pursuit of research through various partnerships with individuals and organizations throughout the state of Maine. In order to successfully sell or otherwise dispose of such properties, the System would have to be in close communication with stakeholders and identify the recipient of the potential proceeds with respect to the infrastructure needs at the individual sites.

The team thoroughly supports the potential disposition and/or removal of any UMS facilities that have been formally acknowledged by campus administrations as very likely to receive their endorsement. A comprehensive list of these facilities has been prepared using data collected via the Review team’s Capital Planning survey, and may be found in Appendix B of this document. This roster should be treated as a pool of possible projects that the team is recommending for consideration, and does not necessarily denote official team sanction for definite action. Furthermore, this list should by no means be considered exhaustive or inflexible, and is not intended to defer or waylay other opportunities that may emerge.

At this time, Administrative Review team members have declined to include specific examples of potential surplus land in this report. They recognize that, while the liquidation of some UMS properties is a valuable idea for reducing the footprint and generating revenue, a more in-depth review of these locations is absolutely required before further action is taken. The team notes that some possible specific action on this item is likely to come forward again as part of the initial pilot projects already being undertaken on campuses to carry out these recommendations.

To position this recommendation for success, the Facilities Management Administrative Review team looks again to its recommendation that the identification of surplus real property become part of the annual capital planning process and part of the required annual budget process. It is recommending that probable parcels of land should be evaluated and thoroughly understood, both in terms of utilization and connection to the stakeholders and the University of Maine System at large. The Facilities Management Administrative Review team strongly suggests that this follow-up be completed, and stresses the overall importance of this work.

3. Density Factor

As a benchmark, density factor can provide context on the utilization of space and the efficiency of campus operations. Density is a measure of how many people are using a campus on a regular basis. The density factor metric broadly gages how busy a campus is in relation to the physical footprint.
If a university is less dense and carrying more facility space than its competitors, it is also carrying more cost than its competitors. Because it is such a commonly utilized metric by institutions of higher education, the team views density as a reasonable and rationale way to measure the efficiency and cost-effective use of space broadly across the University of Maine System.

Density factor is defined as users per 100,000 gross square feet (GSF). For the University of Maine System, Sightlines defines “users” as the full time equivalent (FTE) of students (both graduate and undergraduate), faculty, and staff. Campus GSF data come from the annual Return on Physical Assets (ROPA) analysis performed by Sightlines and are vetted by each of UMS’s individual institutions (Appendix B). The most recent data available from Sightlines LLC shows that the University of Maine System’s density level has been decreasing over the last decade.

Additionally, as illustrated below (Figure 4f), UMS’s recorded density levels for FY14 (290) are significantly lower than the average of its public school peer group members (460). In its 2013 ROPA presentation for the University of Maine System, Sightlines identified some strategies that are helping UMS peer institutions to lower their density factor. The elimination of poor quality and lower utilized space not only increase density numbers, but has additional benefits such as lowering facilities operating costs and reducing deferred maintenance. Limiting new construction projects to those that replace poor quality space or support programs that will attract new students can also increase density factor. Finally, implementing aggressive strategies to boost the enrollment of both traditional and non-traditional students, and repurposing buildings to align with these priorities is a proven technique to increase density.

**Figure 4f:**

![Density at Maine System Level](image-url)

*Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.7*
There is no single, stand-alone tactic that will effectively or quickly increase density. Consequently, the University of Maine System must employ various long-term policies and strategies in order to positively impact its density factor levels. To adequately support this trend, the Facilities Administrative Review team recognizes the importance of a strong initial data set, as well as careful, consistent density reporting. The Systemwide adoption of the twelve selected starting Key Performance Indicators (KPIs) will strategically promote appropriate and accurate data collection around density factor.

4. Increases to the Facilities Footprint and Cost of Operations

Early deliberation by the Facilities Management Administrative Review team led to a proposed change in practice regarding the potential impact of future projects on the University of Maine System’s physical footprint and operating costs.

These interim suggestions would require that any project (including new and renewed leases) which would lead to a net increase in UMS’s footprint be authorized by the Finance, Facilities, and Technology Committee (FFT) or the full Board of Trustees. Moreover, all facility-related agenda sheets prepared for the Board of Trustees would require specific details describing whether the project would result in a net increase in space and/or operating costs. These suggested changes are designed to give management the chance to confirm or deny the opportunity to use existing space, and to support the overall goal of right-sizing the facility portfolio.

These preliminary changes in practice were endorsed by the Board of Trustees and put into effect in March 2014. Consequently, a number of proposed projects were brought before the FFT and the Board in subsequent months, based on their anticipated impacts on the UMS footprint and/or operating costs. One such example was seen during a May meeting of the Finance, Facilities, and Technology Committee. The University of Maine sought the committee’s approval to expand the footprint of Cutler Health Center’s ambulance bay by roughly 670 square feet in order to provide additional space for a second ambulance employed by the University Volunteer Ambulance Corps (UVAC). In addition to the increase in space, this project would increase annual operating costs by an estimated $450 for heat and electricity, with the extra utility costs to be paid for by the anticipated increased revenue associated with the second ambulance. The presentation of this proposal was met with the approval of Finance, Facilities, and Technology Committee members, who decided to sanction the project and expand the ambulance bay.
Team members acknowledge the benefits and operational flexibility provided by these change in management practice under the Facilities Management Administrative Review. At this time, the Administrative Review team has decided to recommend that the University of Maine System, through management but not through Board policy, require that any project which increases the facility footprint or would increase operating costs must be reviewed for approval by the Finance, Facilities, and Technology Committee and/or the full Board of Trustees for approval.

5. Updates to the Delegation of Authority Matrix

Sections 701, 801, and 802 of the University of Maine System’s Board of Trustees policy manual deal specifically with operating and capital budgets, and the acquisition and disposal of property. The official authority outlined in these policies are summarized and illustrated in the Delegation of Board of Trustees Authority matrix for real estate transactions and related matters (Appendix B).

One of the team’s early interim recommendations focused on updating this matrix to include and make clearer the authority for the disposition of real property with regards to Board of Trustee policy. During the months of February and March, the FM Administrative Review team brought their recommendation and suggested updates before the University of Maine System Finance, Facilities, and Technology Committee and the Board of Trustees, as these governing bodies own the delegation of authority matrix. The team’s proposal received Board approval on March 24, 2014, and the prescribed edits were made to the document (Appendix B).

At the present time, the pilot policy has been in place for nearly a year, resulting in more systematic Board of Trustee review on matters of space and strong sense across the institution that new or increased space should be considered only when the reasons are truly compelling. The proposed changes to the delegation of authority matrix have resulted in more frequent, elevated discussions amongst stakeholders concerning the University of Maine System’s facility footprint.

It is the formal recommendation of the Facilities Management Administrative Review team that these changes remain in place and that a further updated delegation of authority matrix is considered for adoption in the coming months to solidify these recommendations. The necessary updates and changes to policy, Administrative Practice Letters, and the delegation matrix should be completed by UMS management and by the Board of Trustees to make clear the existing authorities.
Figure 4g:

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>Management Authority</th>
<th>BOT Authority</th>
<th>Committee Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction, Renovation &amp; Equipment - Total project cost for construction of a new</td>
<td>If less than $500,000.</td>
<td>If greater than $500,000. Bot Policy 701</td>
<td>If greater than $500,000 and less than $1 million.</td>
</tr>
<tr>
<td>facility or the capital renewal/alteration/renovation of an existing facility, or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the purchase and installation of equipment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisition of Real Property - Acquisition of real property through purchase, gift,</td>
<td>If less than $50,000.</td>
<td>If greater than $50,000. Bot Policy 801</td>
<td>If greater than $50,000 and less than $200,000.</td>
</tr>
<tr>
<td>or bequest requires approval prior to transfer of title.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Leased to UMS (UMS is the Lessee) - Initial term of any lease of real</td>
<td>If less than $100,000 and less than 5 years.</td>
<td>If greater than $100,000 and/or greater than 5 years. Bot Policy</td>
<td>If the total value of the lease is greater than $100,000 and less than $500,000, and if the term is greater than 5 years and less than 10 years.</td>
</tr>
<tr>
<td>property where UMS is leasing from other entities.</td>
<td></td>
<td>801</td>
<td></td>
</tr>
<tr>
<td>Property Leased from UMS (UMS is the Lessor) - Initial term of any lease of real</td>
<td>If less than $100,000 and less than 5 years.</td>
<td>If greater than $100,000 and/or greater than 5 years. Bot Policy</td>
<td>If the total value of the lease is greater than $100,000 and less than $500,000, and if the term is greater than 5 years and less than 10 years.</td>
</tr>
<tr>
<td>property where UMS is leasing to other entities.</td>
<td></td>
<td>802</td>
<td></td>
</tr>
<tr>
<td>Disposal of real property by demolition</td>
<td>Any demolition unless the project requires Trustee consideration under other real property criteria, such as the project cost exceeding $500,000.</td>
<td>If any of the criteria in the categories above are present, Bot Policy 802 and associated APLs</td>
<td>If any of the criteria in the categories above are present.</td>
</tr>
<tr>
<td>Disposal of real property by sale or other transfer - Disposal of real property</td>
<td>If the value of the property to be transferred is less than $50,000 and the Governor's approval is not required.</td>
<td>All sales with value greater than $50,000. Note: Governor's approval also may be required for certain sales, Bot Policy 102 and 802 and associated APLs</td>
<td>n/a</td>
</tr>
<tr>
<td>through sale, gift, or other transfer requiring transfer of title.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The most recently updated Delegation of Authority Matrix as displayed in section 701 of the UMS Board of Trustees policy manual. The complete Board of Trustees policy manual may be found online at: [http://www.maine.edu/about-the-system/board-of-trustees/policy-manual/](http://www.maine.edu/about-the-system/board-of-trustees/policy-manual/)
IV. Findings and Recommendations:

B: Identify and fund the long-term capital needs of the System.

Background and Process

On June 30th, 2014 the Planning team conducted an in-person meeting at the University of Maine System office in Bangor. This gathering was intended as an augmentation to the team’s weekly 75- minute discussions, and designed to give members an opportunity to examine the larger issues in a face-to-face setting. All members of the Planning sub-team were in attendance, and were joined by leaders of the Office of Organizational Effectiveness and the UMS Budget Office, who were invited to share their insight and expertise. There were three main discussion documents distributed to the team (Appendix B) to facilitate an open dialog and foster the decision-making process. Agenda items of particular prominence focused heavily on the identification and potential funding of the University of Maine System’s long-term financial needs. The Administrative Review team for Facilities Management presents the following four recommendations around the System’s long-term capital needs.

1. Master Planning

To have a solid, properly prepared master campus plan is to systematically determine the characteristics and costs of both the property and facilities which will satisfy the operational and functional requirements of an institution (B.T. Lewis, Facility manager’s operation and maintenance handbook, 1999). There are other definitions and details, but the principle is always the same: There should be a guiding plan for the physical campus and infrastructure that has been generated with the participation of the campus community to guide and inform the future of the campus and the thousands of decisions which must be made as the work of maintaining and improving that infrastructure is carried out in practice.

A full-fledged facilities master plan provides direction, cost estimates, and clear prioritization for proposed projects on a campus, sometimes to a great level and with many layers of detail. Other versions of a master plan may be less ambitious but nonetheless can provide the foundation on which facility-related decisions are made and are an important guide for facilities related work plans.

The Administrative Review team members realize the array of potential benefits of establishing and maintaining a well-developed master plan for each of the University of Maine System’s seven universities.
The master plan recommendation includes that each master plan must:

1. Have evidence of external engagement by master planning professionals in its preparation;

2. Incorporate community dialog and input, and reflect the shared, understood, and communicated vision for the future of the campus;

3. Be updated at least once every decade, preferably two or more years prior to the campus due date for the New England Association of Schools and Colleges Commission on Institutions of Higher Education (NEASC) self-study (Appendix B); and,

4. Be tied to the future mission of the institution, with attention to the unique qualities of each campus and its contribution to the University of Maine System as a whole.

In an effort to gather more information and remain sensitive to the dynamic nature of UMS, the Planning team decided to incorporate a section about campus master planning into its Capital Planning survey (Appendix C). Questions were designed to ascertain the current status of each campus’ master plan (who prepared it, date of most recent updates, how closely the campus follows the plan, etc.). The responses from each university were assessed and considered by the Review team during the summer of 2014. The outcome was that one campus had a master plan that met the above criteria, four had a master plan that was partially in compliance with the proposal, and two campuses had no known master plan.

Facilities Management Administrative Review team members formally recommend that each university in the University of Maine System must prepare, adopt and maintain a campus master plan that adheres to the criteria above.

2. Total Cost of Ownership

According to findings from the Barkley Advisory Group, Total Cost of Ownership is the superlative metric of the economic perspective (Appendix B). It is widely considered a best practice - - if rarely achieved standard - - for measuring the sustainability of the sum of all investments in a given asset while considering the capacity to afford that asset relative to its role in fulfilling the mission of the institution.

Total Cost of Ownership refers to the sum of the one-time costs of asset construction or acquisition and disposal, the annual costs of maintaining and operating, & the periodic recapitalization costs of the asset. It is expressed in terms of dollars per gross square foot (GSF).
Another way to envision the TCO model is as a cradle-to-grave analysis of asset management that employs a cost framework to inform the University of Maine System’s strategic investment strategy. For all existing assets, the construction/acquisition costs are fully realized, as are the future disposal costs. Consequently, the primary elements that will influence the TCO metric are maintenance, operations, and recapitalization, which may be thought about as sustainment of the existing asset. Any predetermined improvements or scheduled upgrades may be regarded as recapitalization.

Figure 4i:

Total Cost of Ownership
A Holistic View of Asset Management

Life Cycle Components
1. Acquisition Costs
   - Buy, Build, Lease
2. Daily Maintenance Costs
   - Cleaning, Trash, Grounds
3. Periodic Maintenance Costs
   - Corrective, Preventive, Predictive
4. Utility Costs
   - Electricity, Gas, Water, Sewer
5. Capital Renewal Costs
   - HVAC, Water, Electric, Gas, Sewer, Roof, Safety, Streets
6. End-of-Life Costs
   - Demolition for New or Rehab

Sources of Funds
- Gifts, Endowment, Bonds
- Annual Operating & Maintenance Budget
- Annual Utility Budget
- Capital Reserves, Gifts, Funded Depreciation, Other One-Time Institutional Resources
Successful adoption of the Total Cost of Ownership standard will have a measurable effect on many other areas that are currently being considered by the Administrative Review team.

Practically, adopting Total Cost of Ownership will have at least two benefits.

First, it will help the System ensure it can afford any new structures it proposes to construct or acquire. At a minimum, will make clear any gap between the University of Maine System’s aspirations and the reality of the resources available at the time decisions are made rather than only after those decisions are made.

Second, adopting Total Cost of Ownership will help the University of Maine System better understand its funding for facilities management. It will allow the System to address those areas better where gaps exist between the need for funding and the availability of funding. Understanding the connection between funding sources and types of facilities cost could be key to steering a long-term sustainable path for net asset value and for identifying and targeting those areas of cost where the resource gap is greatest.

3. Capital Planning

The capital planning process entails identifying facilities and infrastructure needs, consistent with the master plan for the space, and ideally budgeting resources for the future of the University of Maine System’s long term plans. It includes allocating funds for new and replacement machinery and equipment, research and development, management of new and existing facilities, and other major capital expenditures. A thoroughly prepared capital plan can provide many benefits System-wide. Allowing management the opportunity to systematically evaluate all of UMS’s potential projects at the same time will increase their ability to best assume and apply financing and consolidate projects to diminish costs.

As referenced elsewhere, the Facilities Management Administrative Review team recommends the adoption of a three part capital planning process System wide. The proposed elements are the individual campus master plans (discussed in further detail elsewhere in this document), a five-year capital plan, and an annual work plan. These documents will be applicable in different contexts and utilized for various purposes. The explicit intention is for them to be designed to work in unison and to inform each other wherever possible.

As part of the annual work plan, it will be part of the new expectation under this report’s recommendations that a 5-year capital plan and 1-yeare annual work plan be prepared for each campus as part of the annual budget cycle.
Initially these plans may be connected to the budget process only as a mechanical matter, that is, they are to be prepared and submitted as part of the budget process. Ultimately the 5-year capital plan and 1-year work plan should be in sync with the budget. That is, the resources called for in the capital plan should be reflected in the actual budget. And, vice versa, the reality of the resources available in the budget should be reflected in the capital work plan.

In addition to the more typical components of the 5-year and 1-year plans, which often might include activities focused on building or improving selected facilities, the Administrative Review team is recommending that each university’s annual capital work plan also specifically identify any potentially surplus facilities or undeveloped real property which could be disposed of or put to other use during the period of time covered by the plan. These real properties will be publically advertised each year to alert host communities, businesses and others to the potential of partnering with the University of Maine System.

This surplus real property recommendation comes in part from a sub-group that was tasked with streamlining the University of Maine System’s asset management processes. Because of the importance of public notice and the System’s responsibilities as a public institution, that team recommends this proactive identification of potentially surplus real property as the best way - rather than short-cutting the public notice process - to help the System achieve its own goals and to be in the strongest position to respond to requests for entrepreneurs, communities, neighbors and others who may look to UMS for real property partnerships.

At the present time, the sale, lease or other disposal of real property is handled in a disaggregated way, and individual resources are dealt with on a case by case basis as each opportunity arises. The University of Maine System strives to be entrepreneurial while, at the same time, providing fair and reasonable public notice with regards to its business opportunities. The judgment of this work group is that an annual, public list of potential surplus real property is the best course of action to balance the needs of the System.

4. Funded Depreciation

Funded depreciation is a reserve setup to cover the necessary replacement costs of those capital assets covered within the depreciation schedule. Depreciating an asset means apportioning the cost of an asset over its useful life (the time period in which the University of Maine System intends to use this asset in its operating activities and processes). This is an important practice, as it is designed to help UMS improve the functionality and efficiency of its capital resources. Funded depreciation was implemented throughout the University of Maine System in Fiscal Year (FY) 2011, and stewardship grew on all campuses (Appendix B). According to the most recently available data from the Office of the Treasurer, the University of Maine System is currently funding depreciation at an overall average rate of 83% (figure 4j).
Depreciation is considered to be an operating expense, therefore UMS operating revenues should be sufficient to offset all operating expenses including depreciation. To that end, it has been the objective of the University of Maine System to fund depreciation at a rate of 100 percent by Fiscal Year 2016.

Funding depreciation is not a single, magic solution to the fiscal challenges confronting the System’s infrastructure, but it can be an important tool. Increased funding of depreciation has been a contributing factor in the System’s ability to slow the decline of the net asset value of facilities portfolio and could be an important factor in arresting and reversing that trend.

Figure 4k:

<table>
<thead>
<tr>
<th>Campus</th>
<th>Depreciation</th>
<th>Required Funding</th>
<th>Actual Funding</th>
<th>Over/(Under) Funded</th>
<th>% Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMAINE</td>
<td>$14,741,710</td>
<td>$13,578,183</td>
<td>$11,998,300</td>
<td>$(1,579,883)</td>
<td>81%</td>
</tr>
<tr>
<td>UMA</td>
<td>$1,404,380</td>
<td>$1,265,792</td>
<td>$1,566,517</td>
<td>$300,725</td>
<td>112%</td>
</tr>
<tr>
<td>UMF</td>
<td>$1,774,877</td>
<td>$1,643,180</td>
<td>$1,625,812</td>
<td>$(17,368)</td>
<td>92%</td>
</tr>
<tr>
<td>UMFK</td>
<td>$652,933</td>
<td>$608,783</td>
<td>$743,485</td>
<td>$134,702</td>
<td>114%</td>
</tr>
<tr>
<td>UMM</td>
<td>$545,153</td>
<td>$512,061</td>
<td>$291,986</td>
<td>$(220,075)</td>
<td>54%</td>
</tr>
<tr>
<td>UMPI</td>
<td>$820,732</td>
<td>$746,330</td>
<td>$76,282</td>
<td>$(670,048)</td>
<td>9%</td>
</tr>
<tr>
<td>USM</td>
<td>$6,785,901</td>
<td>$6,204,981</td>
<td>$5,517,083</td>
<td>$(687,898)</td>
<td>81%</td>
</tr>
<tr>
<td>UMS Avg.</td>
<td>$30,213,519</td>
<td>$27,698,360</td>
<td>$24,958,515</td>
<td>$(2,739,845)</td>
<td>83%</td>
</tr>
<tr>
<td>National Avg.</td>
<td>$3,487,833</td>
<td>$3,139,050</td>
<td>$3,139,050</td>
<td>-</td>
<td>90%</td>
</tr>
</tbody>
</table>

Average Rate of UMS Required Funding

92%
The Administrative Review team recognizes that achieving 100 percent funded depreciation will be a challenge, and that when universities invest in their facilities, their funded depreciation costs stand to increase in some instances.

Even so, the Administrative Review team supports the continued pursuit of achieving 100 percent funded depreciation as soon as practicable and urges that a new specific timetable be set for doing so if FY16 is not achieved.

IV. Findings and Recommendations:

C: Review current prioritized processes for best practices or improvements.

Background and Process

The Functional Team held an in-person meeting on July 2, 2014 on the campus of the University of Maine at Augusta Bangor. All team members were in attendance, along with Organizational Effectiveness. The first action item on the team’s agenda was a previously established decision matrix (Appendix B) concerning specific functional structure and governance issues across the University of Maine System.

As a result of their ongoing review of University of Maine System’s current processes, the Administrative Review team offers five recommendations for consideration. The recommendations are in the areas of:

1. Lease administration
2. Safety and environmental management
3. Risk Management
4. Surplus equipment and non-real property
5. Grounds, Trades and Custodial Staffing
6. Work Control
7. Capital Project Planning and Administration
8. Enterprise Energy Team

The Administrative Review team is recommending alignment, reorganization and other improvements in connection with specific, selected services and functions in Facilities Management. Examples of functions where changes are being recommended include Capital Project Management; Safety and Environmental Management; Real Property Lease Management; and Surplus Property for materials other than real property.
The team is not at this time recommending a comprehensive functional alignment of all the work units of Facilities Management. In particular, the team is not at this time recommending the functional alignment of the work units where the greatest headcount exists: Grounds; Trades; and Custodial Services. This is further detailed below.

The team also at this time is not making a recommendation but did want to document the issue of so-called “charge backs”, which refers to the practice of internally billing a university department for facility related work when the work and the cost is born by the department that benefits rather than by a general facility budget. The smaller campuses generally do not have this practice. It may be an area for future consideration as other campus practices come into alignment.

The team also recognizes in parallel with its own efforts and the recommendations in this report that the Board of Trustees has directed a comprehensive financial management structure to be developed. The structure is to reflect unified finance and administrative services that are functionally aligned to the degree possible consistent with the Board of Trustees 2014 Strategic Outcomes Targets 2 and 3. This parallel initiative has at least two substantial areas of potential intersection with the Administrative Review team's work.

First is capital budgeting. This is further addressed in section IVB of this report regarding budgeting and planning. In brief, the Administrative Review team has recommended a change in capital budgeting to provide for a process that would include review and approval of capital budgets as a designated portion of the annual budget process. The team believes this change in the budget process also may be a component of the Strategic Integration recommendations and strongly encourages and supports such a change. The goal being to have future capital expenditures estimated as part of the budget process to make more clear in advance and as part of the budget approval process to what extent the System is investing in this area.

The second area of potential intersection between the Administrative Review team and the Strategic Integration 2 & 3 effort is the functional alignment of personnel and resources to accomplish the work at hand in facilities management. While this Administrative Review report recommends targeted changes, the team recognizes that exactly what results from the unified finance and administrative services initiative could have real implications for facilities management. If, for example, the existing infrastructure of Chief Financial Officer positions and reporting lines were to change from a functional perspective, Facilities Management could become a functional island.

The Strategic Integration initiative could necessitate some action or further recommendations beyond those contained in this report to ensure that Facilities Management remains integrated and effective in the structure of the University of Maine System. The team supports such further consideration if and when it becomes necessary or useful. In the meantime, the Administrative Review team considers further functional recommendations premature beyond those specific
areas in which it is making recommendations. Those areas are described below and include Capital Project Administration and Work Control.

1. Lease Administration

The currently employed method for processing a new lease agreement involves up to thirty three independent steps and can take longer than six months to complete. Much of this delay is time spent mailing or otherwise distributing paper documents to involved parties. Furthermore, the University of Maine System lacks a process for efficiently tracking the progress of a lease as it moves through the required channels for finalization.

A comprehensive evaluation of the current lease administration function occurred in summer 2014 under the supervision of Bill Kelley, the University of Maine System’s Risk Manager. A task force led by Kim Jenkins (LEAN Coordinator and Human Resources Partner) and comprised of representatives from several campuses and system office employees involved in the leasing process was established for this purpose.

The work group suggested and the Administrative Review team now is recommending several changes in lease administration policy and practice (Appendix B) that would result in leases being approved in days and weeks in as few as six to twelve administrative steps.

The work group determined that leasing contracts throughout the University of Maine System should be universally handled as electronic documents. The distribution and signing of lease documents in this way would effectively eliminate all postal delays that the System faces by relying on paper documents. Additionally, the transition to electronic documents would pave the way for easy execution of a tracking and database storage system. The group also recommended implementing standards and guidelines (up to and including the appropriate use of standardized leases) to ensure that each campus is processing leases in a streamlined and uniform manner. Moreover, the group is initiating further updates to common or standard short-term leases, as well as updates to UMS’s lease-related Administrative Practice Letters.

The Facilities Management Administrative Review team extends its full support for this transition from paper to electronic lease administration. This recommendation already is partially implemented and would be fully implemented in the current calendar year upon approval of the report.

2. Safety and Environmental Management

The University System’s Safety and Environmental Management (SEM) function is in a state of transition. Over recent decades, SEM was primarily a campus priority that was supplemented with some support from a position at the University of Maine System office.
When the aforementioned System office position became vacant, the Risk Management Office partnered with the Safety and Environmental Office with the support of the Shared Services Advisory Council to introduce a Systemwide Safety and Environmental Management pilot project. The project added incremental resources – 1.5 full-time equivalent positions - to the existing SEM resources at the University of Maine. This allowed the full resources of the existing SEM program to be leveraged to serve the enterprise.

The pilot project was funded by a combination of sources, including the continued vacancy in the former position associated with the System office and the allocation of funding from Risk Management’s Loss Prevention department. During the initial stages of the pilot project, it became apparent that the current Safety and Environmental standards employed across the System were lacking (Appendix B). The absence of enforced SEM standards were resulting in disjointed or inconsistent SEM practices across the seven UMS campuses. The leadership of the SEM program identified 20 key safety or compliance training programs that would address SEM operations System-wide. SEM visited each campus to understand specific challenges and recognize prospective opportunities at each institution. The SEM program presented the Administrative Review team with a summary of its findings, part of which may be found in the following graph.

**Figure 4I:**

*The University of Maine System, UMS Safety Support Summary, June 22 2014, p.4*
The information gathered during this phase of campus outreach indicated a fairly consistent and significant gap in Safety and Environmental training throughout the University of Maine System. These conditions are attributed to various factors, some common across campuses, and some that were unique and born from the obvious differences between each institution.

Prescribed improvements to the SEM status quo focus heavily on increased training and collaboration throughout the System. A new policy regarding UMS safety training requirements was drafted in June of 2014 (Appendix B). This document maintains that all employees of the University of Maine System are required to participate annually in both basic and departmental safety training, as well as any specialized safety training related to job tasks. Moreover, employees should monitor and track additional recommended training, primarily including programs for which there are no current specific requirements, but which may provide clarification or other aid during the performance of their regular duties.

To cultivate success and compliance for these new policies, the Safety and Environmental Management pilot project has introduced two new training programs. The new System-wide annual online safety training provides easy access to both introductory and refresher programs for all employees. To supplement this foundation, the first annual UMS Safety Support Retreat was held over three days in June of 2014. This seminar was intended as an opportunity for campus staff with safety responsibilities to be able to attend ‘train the trainer’ sessions, review compliance statistics for their campus, share safety-related concerns, and network with their peers.

During an in-person meeting, the Administrative Review team reviewed the current status of the Safety and Environmental Management pilot project. The team recognized that feedback from SEM employees and CFOs has been extremely positive, and that the program has been well received across the System so far. Also noted was the fact that financing for this project is scheduled to dry up at the end of Fiscal Year 16, and no current plan existed with regard to future funding.

The Administrative Review team finds that the new Safety and Environmental Management pilot program is preferable in principle, and advantageous compared with the former organization of this function. There are several possible ways to deal with the issue of the cost of continuing it. Currently, the most optimal is and existing plan is to take advantage of reduced insurance premiums being achieved in fiscal year 2015 and 2016 which off-set the cost of making this program permanent, allowing the pilot project to be made permanent at effectively no increase in Risk Management or campus costs starting in fiscal year 2016. With that and the potential of other funding options emerging, the Facilities Administrative Review team recommends the continuation of the new SEM pilot project or something analogous as the new permanent structure.
3. Risk Management

The current Risk Management role at the University of Maine is Systemwide and consists of two employees. The Facilities Management Review team received reports from Risk Management regarding cost-savings initiatives and Risk Management was a leader with regard to the lease administration improvement recommendations described elsewhere in this document.

Perhaps the most significant opportunity in the Risk Management arena which came to the team’s attention during the course of this review and which already has been implemented by management was to update the System’s position with regard to the Maine Tort Claims Act. This Act is a variation of a commonly used form of Sovereign Immunity used by Federal and State Governments in order to protect themselves from certain types of lawsuits and claims that may arise. UMS had been spending roughly $600,000 per year on commercial insurance with limits of $16 million in coverage and an aggregate retention of $400,000. As consequence of this commercially-obtained protection, the System waved its lawful immunities under the MTCA, as well as its liability cap up to the limits of purchased coverage.

The Risk Management office suggested that the University of Maine System negotiate a new insurance package for its general liability coverage while simultaneously utilizing the protections afforded by the Maine Tort Claims Act (Appendix B). Risk Management recommended a revision of the current claims practices to incorporate the protections of the Act. Adoption of these adjustments is estimated to yield a savings of up to $200,000 in the first year. Moreover, it stands to increase predictability and efficiency throughout the UMS community, which will also lower costs.

The Administrative Review team fully endorsed this change and management has been and continues to implement this recommendation. The team continues to support this recommendation.

4. Surplus equipment and non-real property

The surplus property function for equipment and materials other than real property is currently fully decentralized. While some sharing of goods and ideas does occur between individual campuses, it is seen as more of a series of one-time opportunities rather than an established System-wide process. During its first round of campus visits, the Facilities Management Administrative Review team received a handful of comments and other feedback regarding the matter of surplus property.
There was significant interest in streamlining the surplus property function across the System to maximize efficiency and benefits, particularly for smaller campuses.

The FM Administrative Review team recognizes the potential advantages of having an established surplus property protocol for campus management collectively to follow. There is also a strong desire for increased communication and coordination of this issue Systemwide in order to minimize waste and actively promote the successful allocation of surplus property amongst those in need.

To this end, the team recommends the implementation of a shared online database that would permit facilities personnel from all campuses and potentially public buyers as well to review available surplus items in an organized and meaningful way statewide. The team is not recommending whether the proposed database leverage existing databases or establish a new single database. The specifics should be developed by stakeholders and management during the implementation phase of this review process.

5. Grounds, Trades and Custodial Staffing

One of the Administrative Review team’s major undertakings involved the assessment and analysis of current facilities staffing ratios throughout the University of Maine System in the areas where the most staffing or personnel work: Trades; Custodial and Grounds.

As described in section III of this report, the first step was the systematic collection of relevant data from Facilities Directors on all seven campuses and the Bangor System’s office. After survey responses were received from all participants, the team engaged with the firm Hickling and Associates to assist with the assessment of the data and to provide a second opinion of sorts for the data already collected and analyzed annually by Sightlines. Hickling and Associates was identified and recommended by the widely known and respected APPA association of higher education facilities officers. The Principal of Hickling and Associates presented the firms findings to the team and provided a written report (Appendix B).

Importantly, both the Sightlines and Hickling assessment generally found that UMS staffing ratios were in the goldilocks zone of various comparison benchmarks identified by each of the assessments and by the Administrative Review team. The data did not always precisely agree due to different methodologies and results in specific areas and some individual campuses did not always land in the identified target benchmark zone.

The enterprise staffing ratio data consistently reached or exceeded that benchmark zone. This in turn led the Administrative Review team not to make any recommendations regarding broad-based reductions in staffing in these areas.
Isolated opportunities for such savings may exist and should be pursued when and if identified by management. At this time, the team is making no enterprise-wide recommendations. Graphs illustrating these staffing ratios are included in the benchmarking section of the report.

The Hickling report detailed staffing ratios by campus and department (custodial, grounds, maintenance, and administrative). It also offered comparison data from UMS peer institutions for further study. Again, the main conclusion evidenced by this analysis was that the University of Maine System appears adequately staffed across all facilities management departments to perform solidly at an APPA standard (Appendix B) level three, and in some instances, level two. APPA’s rating system generally runs on a scale of 1 to 5, with 5 being most deficient and 1 being best in class. The Administrative Review team was not surprised to see the University of Maine System assessment indicate that staffing levels were appropriate to expect UMS to achieve APPA level 3 or sometimes level 2 standards. The Hickling report indicated that the systematic adoption of best practices within the various work units might help the University of Maine System outperform in that it could reach level 2 standards in some areas notwithstanding a staffing ratio more indicative of reaching level 3 standards.

Beyond review of these two assessments – Sightlines and Hickling - the Administrative Review team requested and received presentations from firms that provide certain facilities management services on a third-party basis, particularly in the areas of custodial services. One of those presentations is included in Appendix B. Multiple conversations also occurred with the University of Maine System’s Human Resources office to understand what the opportunities, requirements and potential challenges might be with such an approach.

After months of research and deliberation regarding current UMS staffing levels, the Administrative Review team did not conclude there was any broad opportunity that merited pursuing or which would result in any substantial or short term savings. The considered outsourcing options would be a significant and complicated undertaking with very little apparent benefit to the System given the aggressive staffing posture already found in place in the enterprise. In order to promote cost savings and maximum performance from the existing facilities FTEs, the Administrative Review team formally recommends the sharing of staffing best practices and ongoing monitoring of staffing ratios throughout the University of Maine System.

6. **Work Control Center**

At the present time, the University of Maine System employs a work control center approach at the two largest campuses, The University of Maine and the University of Southern Maine.
One of the aims of the Facilities Management Administrative Review team was to explore the potential advantages to the utilization of a functionally aligned or consolidated services model of System-wide support from a centralized work control center. This idea, originally put forth in a 2013 report from Facilities Engineering Associates (FEA) around business process reengineering for UMS facilities management information (Appendix B), was a noteworthy topic of considerable importance to the team.

The initial recommendations from FEA predicted that a practicable work control center (WCC) may benefit University of Maine System by providing Systemwide consistency in the workflow process and in the resulting data about UMS facilities. The result would be higher levels of efficiency and optimization in daily facilities processes and greater confidence in the decision-making data that will be extracted from the System’s new integrated workplace management system.

The Administrative Review established an ad hoc work group to research the issue further and to provide additional feedback to team members. This work group was made up of seven members from various locations across the System. That group first meet in January 2014 and presented its initial conclusions to the Review team in early February (Appendix B). Early consensus indicated that the majority of campuses generally favored the WCC idea in principle, but had concerns about the real-world challenges that may come with its implementation, such as longer reaction time, decreased local attention, and increased windshield time. Based on these preliminary findings, the Administrative Review team discussed the proposed creation of a third UMS work control center to supplement the existing two. The new center would ideally support the smaller campuses, and may be used as an interim measure to eventual Systemwide consolidation and collaboration. The ad hoc group was asked to investigate the possible ramifications and provide the Review team with further details.

On May 23rd, Facilities Engineering Associates hosted a workshop designed to facilitate an informed dialog between University of Maine System participants around the idea of establishing an additional work control center to bolster the five smaller campuses. The overall goal chosen to guide the group’s dialog was to “maintain personal touch with professional distance” (Appendix B). Because UMS currently lacks a centralized process, it was difficult at first for the group to visualize how the proposed work control center would function. After some time spent visualizing and deliberating, they were able to identify several challenges and concerns that will need to be considered in implementing a new WCC for the University of Maine System. Included on this list are unclear funding sources, limited resources, lack of an existing Systemwide communication protocol, and concern over possible loss of customer intimacy and understanding (the WCC sub-team’s full report may be found in Appendix B of this document).

The group realized that several of these issues of concern should be addressed regardless of whether a new WCC is to be created, in an effort to improve existing overall operations.
The bottom line from the WCC sub-group report is that the University of Maine System should definitely move toward a consolidated work control operation in the long term, potentially starting with the consolidation of smaller campus operations into a single WCC unit.

It will be important in the meantime for personnel on all campuses to work toward consistency of policy and practice in preparation for this long-term goal. It is the opinion of the Facilities Management Administrative Review team that the implementation of a UMS work control center could lead to more relevant, accurate data, better practices and requiring fewer overall resources.

Review team members initially intended to recommend that the work control center issue be formally revisited twelve months following complete Integrated Workplace Management System (IWMS) integration throughout the University of Maine System. Updated insights from the implementation of the integrated workplace management system and requests from smaller campuses in particular to revisit this issue sooner rather than later led the Review team to strengthen its recommendation.

Ultimately, the Administrative Review team recommends that the University of Maine System implement a consolidated work control operations unit. It should start this work as soon as practicable, particularly working with those campuses that have self-identified for early adoption. If a consolidated work control unit has not been achieved by September, 2016, which will be one year following the full implementation of the integrated workplace management system, then the issue should be revisited at that time and a specific plan and timeline should be adopted for doing so.

7. Capital Project Procedures

At the present time, capital project procedures for the University of Maine System are established by system-wide policy and procedure documents. Implementation is largely a campus activity with limited support for some projects from a Systemwide position with part-time project management responsibilities. The team reviewed this functional area to determine whether UMS is currently achieving the highest possible level of service and most cost effective practices in order to maintain its aging capital facilities, utilities infrastructure, and property management. The collective goal is to streamline these functions as much as possible to be more efficient, transparent, and discover the best solutions to economize UMS processes.
The team established an ad hoc work group to examine the current state of construction management and capital project management under the direction of a smaller campus director of facilities management. In its report to the Review team (Appendix B), the members of the work group expressed their concerns that the current status quo for UMS capital construction and project management functions is not optimally effective, and should be updated. The ad-hoc group observed that limited staffing capacity Systemwide has historically impacted the ability to develop and implement the necessary improved business policies and procedures for increased consistency and accountability, both internally and in working with the external business community. Moreover, limited functional capability and workload fluctuations on the smaller campuses support the need for a centralized delivery of construction management and engineering services.

The work group collaborators recognized the importance of the campuses retaining final decision authority over the projects specific to that campus. The work group showed strong support for the establishment of consistent, well-documented capital construction practices throughout the System, and a comprehensive construction management database that is transparent to all campuses. In addition, regular communication and collaboration across the University of Maine System concerning capital project and construction management will enhance efficiency and success.

In response to these perceived needs, the Facilities Management Administrative Review team is recommending the University of Maine System functionally align this service area. As is recommended overall, the team recommends that the System Director of Facilities Management and General Services be assigned to lead and coordinate this implementation, including consulting with stakeholders and making the further recommendations and decisions that will be necessary to the task.

8. Energy Management Team

The tactical administration of energy and utility services are a critical factor in the fulfillment of the University of Maine System’s collective mission, both as an environmental influence and a cost driver to the institution. In 2010, UMS jointly agreed to the formation of a System-wide energy team to serve as a virtual energy manager for the entire enterprise through increased collaboration in campus communication and the sharing of respective information, available resources, expertise, and perspectives. The committee includes at least one representative from each of the seven universities and from the University of Maine System office.
The Administrative Review team wanted to determine whether the current energy team function should continue, or if the System should explore other alternatives such as a dedicated energy manager or energy office. Facilities Management Administrative Review team members requested a systematic update from the UMS energy committee, which was delivered in May of 2014 (Appendix B).

The work of the Systemwide energy committee is showcased in its annual comprehensive energy report, which identifies and implements campus projects which provide significant energy savings. All seven universities are utilizing renewable energy sources and striving to upgrade campus infrastructure in concordance with the plan’s directives.

Administrative Review team members support the existing governance structure in which energy decisions are ultimately made at the local level on each of the individual campuses. However, the team agrees that there are significant advantages to the collective guidance and assistance currently provided by the existing UMS energy team and by the increasingly collaborative approach that is enhanced by most campuses utilizing the services of a shared energy advising firm to monitor market and guide decision making.

The Facilities Management Administrative Review team recommends the continuation of the established Systemwide energy team. The results from such collaboration are having a positive impact throughout the University of Maine System.
IV. Findings and Recommendations:

D: Benchmark UMS operations and institutionalize selected benchmarks.

Background and Process

The benchmarking process involves identifying those best practices that will lead to the exceptional performance of an institution and establishing operating metrics based on said practices. Benchmarking is a proactive way to create Systemwide goals to ensure that the University of Maine Systems’ resources are managed efficiently and effectively so that its institutions can fulfill their missions of education, research, and public service.

The Administrative Review team for Facilities Management recommends the adoptions of a dozen key performance indicators for improved benchmarking throughout the University of Maine System. These benchmarks should be reported not less than annually and the content of the benchmarks should be revisited annually in the event that any benchmarks should be added, updated or retired.

In April of 2012, a Business Case Enhancement from the Barkley Advisory Group LLC (Appendix B) endorsed the University of Maine System’s utilization of existing third party performance data and benchmarking metrics. Further research by Larry Barkley (Appendix B) reinforces the notion that a core set of Key Performance Indicators (KPIs) would allow facility managers to capitalize on available data to drive performance improvements System wide.

The potential adoption of specific KPIs has been thoroughly deliberated by members of the Facilities Management Administrative Review team over many months. After careful consideration, the team formally recommends the implementation of twelve performance metrics throughout the University of Maine System. The selected Key Performance Indicators are laid out below, along with the Review team’s detailed suggestions.

The initial key performance indicators recommended by the Administrative Review team are described in the following pages.
### Key Performance Indicators:

_Raw data sources include Sightlines, APPA, the Barkley Advisory Group, and the University of Maine System._

<table>
<thead>
<tr>
<th>1. Density: Number of users</th>
<th>2. NAV: Net Asset Value</th>
<th>3. Capital Expenditures on Existing Space; %CRV</th>
</tr>
</thead>
<tbody>
<tr>
<td>◦ Current UMS measure: 297</td>
<td>◦ Current UMS measure: 59%</td>
<td>◦ Current UMS measure: 1.88-2.34%</td>
</tr>
<tr>
<td>◦ Interim Goal: 332</td>
<td>◦ Interim Goal: 63.5%</td>
<td>◦ Peer/Industry standard: ≤1.5%</td>
</tr>
<tr>
<td>◦ Long-term System goal: 415</td>
<td>◦ Long-term System goal: 70%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. Annual Facilities Operating Expenses; Maintenance, Custodial, Grounds, &amp; Paid Utilities % GIR</th>
<th>5. Total Cost of Ownership (TCO);</th>
<th>6. Energy Cost; per GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>◦ Current UMS measure: 9.67%</td>
<td>◦ UMS should formally consider lifetime cost of a facility and other KPIs in planning and decision making, not only one-time construction costs.</td>
<td>◦ Current UMS measure: $1.72</td>
</tr>
<tr>
<td>◦ At this time, there are no commonly accepted standards in this area. UMS will continue to track, report, &amp; internally benchmark their progress.</td>
<td></td>
<td>◦ Peer/Industry standard: $1.98</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Periodic reporting recommended.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>◦ Current UMS measure: 2.89 - 3.60%</td>
<td>◦ Current UMS measure: $6.70</td>
<td>◦ Current UMS measure: 3%</td>
</tr>
<tr>
<td>Periodic reporting recommended.</td>
<td>Establishment of specific goals to be revisited in FY17.</td>
<td>Establishment of specific goals to be revisited in FY17.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Coverage: FTE (Maintenance, Custodial, Grounds); per GSF</th>
<th>11. Energy Cost; per Million BTUs</th>
<th>12. Energy BTUs; per GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>◦ Continue to monitor GSF/FTE ratios.</td>
<td>◦ Current UMS measure: $17.73</td>
<td>◦ Current UMS measure: 97,015</td>
</tr>
<tr>
<td>◦ Strive to meet or exceed APPA/Sightlines benchmarks, i.e.: Custodial target zone: 29,213 – 37,000 GSF/FTE</td>
<td>◦ Peer/Industry standard: $19.00</td>
<td>◦ Peer/Industry standard: 121,131</td>
</tr>
<tr>
<td></td>
<td>Periodic reporting recommended.</td>
<td>Continue to meet/exceed peer/industry standards, strive to improve existing UMS performance, &amp; establish specific goal for FY16.</td>
</tr>
</tbody>
</table>
KPI #1: Density: Number or users (per) 100,000 square feet

Since density factor is a relatively new metric to the University of Maine System, it should be noted that the data collected around this measurement may be considered rough or imprecise in some places. It is the belief of the Administrative Review team that as this measure is implemented and utilized Systemwide, the data will continue to become more reliable and refined.

Figure 4m:

UMS Density by Campus

```
Distribution of Density (User per 100,000 GSF)

<table>
<thead>
<tr>
<th>Campus</th>
<th>Density Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: UM</td>
<td>254</td>
</tr>
<tr>
<td>B: UMA</td>
<td>840</td>
</tr>
<tr>
<td>C: UMF</td>
<td>281</td>
</tr>
<tr>
<td>D: UMFK</td>
<td>337</td>
</tr>
<tr>
<td>E: UMM</td>
<td>229</td>
</tr>
<tr>
<td>F: UMPI</td>
<td>277</td>
</tr>
<tr>
<td>G: USM</td>
<td>387</td>
</tr>
<tr>
<td>UMS</td>
<td>297</td>
</tr>
</tbody>
</table>
```

Density factor measures users per 100,000 gross square feet (GSF). Throughout this report, “users” are defined as full-time equivalent (FTE) of students (both Graduate and Undergraduate), faculty, and staff unless otherwise noted. The data for the above graph was compiled by Sightlines. Square footage figures for each campus come from building inventories by Sightlines annual ROPA+ analysis, and were vetted and verified by the individual institutions. The ROPA analysis encapsulates all campus space for the seven universities, but excludes outreach centers, offsite leased space, and farms.
After considerable discussion and deliberation, the team recommends continued transparency and reporting of density on a Systemwide and campus-by-campus basis. Furthermore, they have determined that two levels of density goals be set – one for the entire System, and a distinct goal for each of UMS’s seven campuses.

The Administrative Review team is recommending the long-term Systemwide density goal of 400 or more, and an interim goal of 340 by fiscal year 2022. Not only will this allow UMS to achieve the density-level average of its peer groups, it will place the System more in the mainstream when compared to other comprehensive universities. With respect to the noteworthy discrepancies, variances, and challenges experienced among the campuses, the team has determined that campus management will set their own individual goals once sufficient data has been collected.
KPI #2: Net Asset Value

The Facilities Management Administrative Review team recognizes that raising the Systemwide Net Asset Value by eleven percentage points is sure to be a huge challenge, even over the span of multiple years. The team nonetheless recommends establishing the long-term NAV goal of 70 percent, with an interim goal based more on trajectory and arresting the current decline. The suggested interim goal aims to return the University of Maine System’s NAV to 63 percent or more by Fiscal Year 2022. The System last achieved 63 percent NAV in 2006.

Figure 4n:
#3: Capital Expenditures on Existing Space: (%) CRV

Capital Expenditures are dollars spent to acquire or upgrade productive assets (such as buildings, machinery, and equipment) in order to increase an institution’s long-term capacity to carry out its mission. Expressed as a percentage of the Current Replacement Value (CRV), this metric can be a useful measure of how the University of Maine System is investing in its facilities. According to data collected by Sightlines, 51 percent of the System’s capital investments were expended on existing space over the past eight years (see chart below).

Figure 4:

Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.21

This Key Performance Indicator is similar to the Net Asset Value measurement, in that they both use CRV as a denominator. For this reason, the Facilities Administrative Review team suggests continued reporting on this metric, to be used in tandem with KPI #2: Net Asset Value.
While both values represent different things, they are expected to move in concert with one another. Significant differences or deviations between these two ratios would be a reliable indication of a problem within the System.

The team is not recommending any specific goal for KPI #3, because current transparency and reporting methods are nearly sufficient. The team does, however, recommend that this metric be used in two ways going forward – both as a budget and an actual item. This is a deviation from the current approach of simply reporting the annual statistics once at the end of each fiscal year.
#4: Annual Facilities Operating Expenses; Maintenance, Custodial, Grounds, & Paid Utilities: (% ) Gross Institutional Revenue (GIR)

It is relatively common for institutes of higher learning to report on annual facilities operation expenses in a gross square foot capacity (see KPI #8). While useful, this practice does not take System density into account. Annual facilities operating expenses as a percentage of gross institutional revenue will provide UMS with an additional broad metric of what facilities management is consuming versus what it has consumed in the past.

The continued reporting of annual facilities operating expenses as a function of gross institutional revenue will be best utilized as a measure of change over time, not as compared to other universities. Indeed, according to recent information from the Barkley Advisory Group, there are no commonly acknowledged industry benchmarks in this area. The Barkley recommendation is for the University of Maine System to continue to track and report on this metric, and use internal data to benchmark its progress over time. The Administrative Review team agrees and supports the continued reporting on this KPI, and urges management to also consider the collected data from a budgeting perspective.

Figure 4p:

Annual facilities operating expenses for the University of Maine System was taken from Sightlines LLC and expressed as a percentage of the reported gross institutional revenue for the given year. GIR data was obtained from the University of Maine System’s Annual Financial Reports; published in the UMS Data Book. The UMS Data Book maybe found online in its entirety at: http://www.maine.edu/about-the-system/ums-data-book/
#5: Total Cost of Ownership (TCO);

The idea of adopting Total Cost of Ownership not only as a principle but as a key performance indicator is the least well developed of the indicators at this point. The team has included it because the ability to associate a number or a series of fiscal estimates as described earlier in the report could be a powerful tool for identifying the gaps between the need for funding and the availability of funding not only in amount but by likely funding sources. Some initial information was gathered by team members, but more needs to be done.

Ultimately, this metric could help build understanding and support for funding where it is needed and can help make sure the funds being invested are appropriate in the amount and source. In the most recent Sightlines assessment, a projection was included to show the quality improvement that could be made in the System’s facilities if UMS could get on a sustainable, long-term, reliable path of investment. (Figure 4q)

Figure 4q: The improvement that could be possible in Net Asset Value with sustained resources of $34 million to $68 million annually

Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, March 204, p.31
6: Energy Cost: (per) GSF

In recent years, the University of Maine System has been working diligently to improve its energy performance, both cost and total consumption. Sightlines LLC states that this trend is evident on a national scale, as campuses across the country strive to reduce energy costs and consumption. Across the United States, these efforts have resulted in a reduction in utility costs from $2.54 per gross square foot in 2009 to $2.24 per gross square foot in 2012. The graph below illustrates these advances within the University of Maine System as recorded by Sightlines.

Figure 4:

Annual facilities energy expenses for the University of Maine System were obtained and expressed as a percentage of the gross square footage for the given year as reported by Sightlines LLC. Figures include fossil and electric costs.

The Facilities Administrative Review Functional team, at its July 2\textsuperscript{nd} meeting, recognized the strides that the University of Maine System has made in reducing energy costs. Team members maintained that the University of Maine System is doing well regarding energy consumption and costs when compared to its peers. Notwithstanding that success, the Team recommends this Key Performance Indicator be continued and that transparency and reporting is sufficient. The team does not recommend any particular goal beyond the monitoring and reporting of the KPI.
Key Performance Indicator #4 measures the University of Maine System’s annual operating expenses for facilities as a percentage of the Current Replacement Value. This metric is another way to monitor how the University of Maine System is utilizing its resources and to assess whether the System is on the right track. As a function of the CRV, it also can be used to compare and classify financial trends within the System to those of its peer institutions.

Figure 4s:

Annual facilities operating expenses for the University of Maine System were obtained from Sightlines LLC and expressed as a percentage of the current replacement value for the given year as reported by both Sightlines LLC and the University of Maine System. The delta in the graph is largely due to the discrepancy in calculated replacement values which is expected to be addressed by the implementation of the integrated workplace management system.

The Facilities Management Administrative Review team is recommending continued transparency and reporting on this metric, and notes that any movement in its reported values should be congruent with the other Key Performance Indicators described in this document. Ideally, this number should decrease as the University of Maine System drives down operating costs and allocates more funds for its capital investments.
#8: Annual Facilities Operating Expenses; Maintenance, Custodial, Grounds, & Paid Utilities: (per) GSF

As shown by Sightlines LLC in the graph below, in Fiscal Year 2014 the University of Maine System spent roughly 20 percent more on overall facilities operating expenses than its peers, with the difference driven largely by daily operating costs and energy costs. The notable daily service decline for Fiscal year 2012 in the graph below is a result of unfilled vacancies during that year. The increased utilities expenses for 2013 and 2014 are a reflection of harsher than usual conditions during the winter months.

Figure 4t:

![Facilities Operating Expenditures](image)

_Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, December 2014, p.45_

The Administrative Review team is recommending the continued monitoring of this metric and the potential of revisiting this metric to set a goal in the future if the System’s daily service costs increase or remain persistently higher than peers. The team recommends that these targets be set after several additional years of continued reporting on this metric. It should be known that these goals are not recommended as a measure of individual campus performance, but more as a potential data point to help inform future budgets and overall state-wide performance.
#9: Preventive Maintenance/Demand Maintenance: (%) Ratio of Hours Invested

Preventive maintenance is a structured program that employs formal procedures and tasks designed to maximize the reliability, life cycle, and overall performance of building systems and equipment. It is pro-active, not reactive. These tasks are based on factors such as industry standards, environmental conditions, guidebooks, location, and past experience. Regular inspection, adjustment, cleaning, performance analysis, and minor repair or replacement are common preventive maintenance procedures. In contrast, demand maintenance is a reactive strategy that entails acting in response to malfunctioning equipment to restore its intended function. This method has some advantages, like lower initial costs and a lower maintenance staffing requirement. However, demand maintenance can result in increased costs and unscheduled downtime of facility systems or equipment.

Over the past seven years, the University of Maine System has spent a significantly larger amount on daily services and demand maintenance than systematic planned maintenance processes (Figure 4u). The ratio has increased in recent years. Increased utilization of preventive maintenance best practices throughout UMS would promote Systemwide sustainability (Appendix B).

**Figure 4u:**

Annual facilities preventive maintenance and daily service expenses for the University of Maine System as reported by Sightlines LLC.
Preventive maintenance throughout UMS likely will strengthen and intensify as a result of the Systemwide implementation of the Integrated Workplace Management System (IWMS) project (Appendix B). The results observed in Fiscal Years 2013 and 2014 may be an indicator this transition already is occurring.

The Administrative Review team recommends continued transparency and reporting on this key performance indicator. The team also recommends that management set a more concrete goal for this metric after one or two years of successful data collection and analysis following integrated workplace management system implementation.
#10: Coverage: FTE (Maintenance/Custodial/Grounds): (per) GSF or Acre

One of the Administrative Review team’s major objectives involved the systematic analysis of facilities staffing ratios throughout the University of Maine System. This was a significant undertaking that was completed over many months of data collection, analysis, outreach, and collaboration. Staffing data from two sources was used by team members to explore potential relationships between the University of Maine System and various peer and industry benchmarks.

The first UMS staffing data set was systematically collected from each of the seven universities using the Review team’s Facilities Management Positions Survey (Appendix C). The collected information was subsequently analyzed by Hickling & Associates and presented to the team for its use (Appendix B). These figures were compared side-by-side with the most recent UMS staffing data presented from Sightlines LLC and considered against relevant peer and industry standards and benchmarks. Additionally, each campus and the University of Maine System average was examined in contrast to established target staffing ranges based on those standards and benchmarks (Figures v, w and x).

**Figure 4v:**

![UMS Custodial Staffing](image)
Figure 4w:

![UMS Maintenance & Trades Staffing](image)

Figure 4x:

![UMS Grounds Staffing](image)
The Administrative Review team’s analysis shows that, in general, the University of Maine System falls within the benchmark target zones for maintenance, custodial, and grounds staffing. It is important to recognize that this data does not, in and of itself, tell the entire story, and should be consulted with great care. Team members do not recommend any staffing changes based solely on these figures.

The team recommends continued monitoring and reporting on facilities staffing ratios. The team also recommends that management follow up in those isolated areas where the data indicates a particular work group may vary unexpectedly from the benchmark zone either due to local conditions or anomalous data so the data may be improved over time and so any opportunities which do exist can be identified and pursued.
#11: Energy Cost: (per) Million BTUs

The University of Maine System’s energy cost per million BTUs has been solidly declining since 2006 (Figure 4y). During Fiscal Year 2013, the University of Maine System’s average collective energy costs translated to roughly $17.73 per million British thermal units (BTUs).

Figure 4y:

![Energy Cost Graph](graph.png)

Annual energy expenses for the University of Maine System were obtained and expressed as dollars per million BTUs for the given year as reported by Sightlines LLC. Figures include fossil and electric costs.

Because energy is such a critical component of facility costs and, to a certain extent, is within the ability of the university to influence, the Administrative Review team is recommending this key performance indicator be included in the initial set of benchmarks to be monitored and reported upon. The team is not recommending any particular goal or benchmark at this time for this key performance measure.
#12: Energy BTUs: (per) GSF

Sightlines LLC has been tracking UMS energy consumption, both independently and as a function of the national average for higher education. In a 2014 assessment (Appendix B), Sightlines reports an overall national trend of declining energy consumption, despite the volatility in winter temperatures seen in recent years (Figure 4z).

Figure 4z:

![Normalized Energy Consumption](image)


The most recent analysis from Sightlines shows a similar decline at UMS from the 2006 through the 2012 period with an uptick in Fiscal Years 2013 and 2014. This uptick disappears when the analysis is normalized for degree days and the System shows a gentle decline for the 2006 through 2014 period.

The Facilities Management Administrative Review team recommends the implementation of System-wide reporting on this metric and that the System establish a goal on this metric.
Figure aa:

*Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, March 2015, pg. 33.*

Figure 4ab:

*Sightlines LLC, FY2014 ROPA Presentation; The University of Maine System, March 2015, pg. 34.*
V. Implementation

The team recommends that the Chancellor, Vice Chancellor for Finance and Administration and Presidents assign personnel as necessary to carry out these recommendations if adopted by the Board of Trustees. In particular, the team recommends that the System Director of Facilities Management and General Services be assigned to lead and coordinate the implementation, including making the further recommendations and decisions that will be necessary to the task.

The effort will continue to follow the four phase project methodology:

- I. Analyze and Evaluate
- II. Design and Develop
- III. Implement
- IV. Measure, Audit, and Repeat as Necessary

The Administrative Review team submits that it has accomplished an analysis and evaluation, it has accomplished some steps in the design and development phase – such as recommendations for selected functional alignment of certain services and the adoption of key performance indicators.

If approved by the Board of Trustees, it would next be the work of the University of Maine System to move forward in those areas where action is appropriate and to develop whatever additional plans may be necessary in other recommendation areas so that action can occur in those areas, too, ultimately across the full spectrum of the recommendations in this report.

The implementation plan should reflect:

- Continued participation and involvement from stakeholders
- Pilot projects and phased approaches to implementation where advantageous and practical.
- Training and support to those impacted by any changes
- Measurement, auditing and reporting, including reporting up to and including the Finance, Facilities and Technology Committee of the Board of Trustees.

The implementation also should reflect the major recommendations areas of this report:

- Right-size the facility portfolio to reduce costs and improve the quality of facilities.
- Identify and fund the long-term capital needs of the System.
- Review Current prioritized processes for best practices or improvements.
- Benchmark UMS operations and institutionalize selected benchmarks.

The University of Maine System is very encouraged by the actions of the campuses to begin implementation of these recommendations even prior to their consideration by the Board of Trustees. As this Review has approached its conclusion, several campuses have started their own pilot projects, in some cases with support from the Administrative Review team.
Perhaps most tangibly, a variety of real property is being identified for potential sale or other disposal, including 16 Central Street and other properties form the portfolios of no fewer than four other campuses already.

The first such pilot team was established at the University of Southern Maine in the fall of 2014. The work group was charged with identifying actions to achieve better building utilization on the Gorham and Portland campuses. The group began meeting in late October of 2014 and presented a report in early 2015. The Administrative Review team concluded that the approach employed by the USM Pilot Project group may serve as a model for other campuses as they attempt to carry out the recommendations put forth in this report. At least one other campus has done so.

While these initial efforts have been welcome, they have not been systematic. In addition to enterprise-wide initiated implementation, the Administrative Review team recommends that each campus administration also take up these recommendations to help determine what actions and progress might advance them on each campus. The team recommends that each campus with the support of its President make this attempt and that each make a report about that effort in coordination with the System Director of Facilities Management and General Services by October 31, 2015, for consideration by the Vice Chancellor, Chancellor and, as needed, the Board of Trustees or its Committees.

The Administrative Review team for Facilities Management does not anticipate that each campus will produce a report that is identical in scope and detail to that produced by others. The team does offer the other examples as samples which others can mimic and modify to meet their needs. The goal is to produce an actionable report of specific, pragmatic, tangible steps that are in keeping with the recommendations in this report. These reports should be actionable, and describe how each individual campus plans to support the FM Administrative Review team’s recommendations.
VI. Financial Impact

Financial Impact Executive Summary

The greatest economic impact is likely to come from inaction, and the impact of inaction will not be advantageous to the University System’s mission, including its talent recruitment and retention efforts or to its financial future.

With current systems and practices, the overall condition of the UMS’s facilities has declined since 2006; density has declined by nearly 20 percent, the deferred maintenance and lifecycle reinvestment need has increased to nearly $1 billion; the percentage of space with a renovation age of 50 years or greater has grown to 38 percent of all space; and the System’s daily service costs as measured by Sightlines LLC have remained higher than peer benchmarks. Those trends make facilities more costly to maintain and renovate, more likely to fail and more expensive to operate.

There will be implementation costs. Potential examples include the investments that will be needed in master planning, functional reorganization and space reductions or reorganization. It is important to note that some of the largest potential one-time costs that might have been associated with these recommendations already are in place with the funding for the Integrated Workplace Management System – a key technology project that has been the type of efficiency recommended by other reviews but which in this case already is in progress – and the facility and ongoing financial assessment services provided by Sightlines LLC.

There will also be long-term costs, notably in addressing the improvements needed in the existing facility portfolio. The University of Maine System will need a sustained annual capital investment in the range of up to $50 million annually to make progress against the major quality and cost recommendations in this report.

The team recommends the identification of up to $250,000 to support the initial implementation of its recommendations and suggests that strong consideration be given to off-setting that investment with the proceeds of the sale of UMS real property as such sales occur or as the implementation effort finds other ways to monetize the System’s facility assets. The team further suggests that the extent to which the Integrated Workplace Management System is completed below budget, that those resources may also be dedicated to the initial implementation, with the total initial implementation funds recommended by the team not to exceed $500,000.

The Administrative Review team suggests the work of financial impact and financial implementation should be done as a next step in this Administrative Review process and that it be undertaken as part of the next phase. The Administrative Review team itself is elsewhere making the underlying recommendations to update the System’s capital planning and capital budgeting procedures and requirements to make those next steps more feasible.
VII. Appendices

A. Administrative Review Team and Working Groups

1. Administrative Review Team Overview – Members; 07/30/2014

B. Core Resources

I) Internal University of Maine System (UMS) Documents

1. Board of Trustees Goals and Actions; 01/23/2012
3. Administrative Review Team Report on Facilities Management; 01/04/2013
4. Administrative Review Facilities Management Interim Deliverable; 01/03/2014
5. Delegation of Board of Trustees Authority to the Finance and Facilities Committee; update approved 03/24/2014
7. Facilities Management Administrative Review Team: Presentation to the Board of Trustees; 03/2014
8. Budget documents; 05/13/2014
9. IWMS Project Status Report; 05/30/2014
10. Key Performance Metrics; 05/27/2014
11. Lease Process Review; Summer 2014
12. Net Asset Value by Campus; 05/23/2014
13. Structural Gap FY14-FY19; 01/2014
14. UMS Safety Support Summary; 06/22/2014
15. UMS Training Requirements Policy; 06/16/2014
17. Key Considerations for Administrative Review of Energy Management in the University of Maine System; 05/19/2014
18. The Maine Tort Claims Act: Reducing our Exposure to Loss; 05/2014
19. University of Maine System Legal Protections Under the Maine Tort Claims Act; 05/06/2014

20. Work Control Center Ad-Hoc Team Meeting Notes; 01/17/2014

21. Documents to Support a Professional Prequalification List Discussion; 07/08/2014

22. UMS Budget and Funded Depreciation Overview Slides; 05/08/2014

23. FY15 Budgeted Depreciation Funding; 08/2014

24. UMS Enrollment Trends and Projections; 08/2014

25. Updated Business Case Analysis for the Integrated Workplace Management System Project; 08/2013

26. IWMS Project & AiM Overview; 2013

27. IWMS Update – KPIs; 02/2014

28. Budgeting for Depreciation; 01/2014

29. SSAC Safety Training Update Packet; 08/21/2014

30. The University of Maine System System-wide Energy & Environmental Sustainability Initiatives; 06/14/2013

31. University of Maine System FY 2013 Operating Budget & Student Charges; 2013

32. UMS Enrollment - Fall Headcount and Linear Regression Forecast; 09/2014

33. Comprehensive Financial Management Structure - Strategic Integration Target 2, Board of Trustees Strategic Outcomes; 07/2014

34. University of Maine System Board of Trustees meeting minutes; 05/2014

35. University of Maine System Board of Trustees meeting minutes; 07/2014

36. University of Maine System Board of Trustees Finance/Facilities/Technology Committee meeting minutes; 05/2014

37. University of Maine system Board of Trustees Finance/Facilities/Technology Committee meeting minutes; 06/2014


39. UMS Campus Facility List & Values; 2007

40. UMS Campus Facility List & Values; 2008

41. UMS Campus Facility List & Values; 2009

42. UMS Campus Facility List & Values; 2010
43. UMS Campus Facility List & Values; 2011
44. UMS Campus Facility List & Values; 2012
45. UMS Campus Facility List & Values; 2013
46. UMS Campus Facility List & Values; 2014
47. Construction and Capital Project Management discussion document; Summer 2014
48. UMS property list by geographic location; 10/2014
50. Preliminary communication with the City of Bangor regarding potential sale of 16 Central Street facility; 11/21/2014
51. University of Maine System Administrative Practice Letter IV-C: Signature Authority; 08/06/2010
53. CPI Process – Current state of UMS Facilities lease acquisition; 2014
54. CPI Process – Future state of UMS Facilities lease acquisition; 2014
55. University of Maine System Administrative Practice Letter II-G: Acquisition of Real Property Through Purchase, Gift, Lease, or License; 11/01/06
56. University of Maine System Policy Manual Section 803: Naming of Physical Facilities; 03/18/02
57. University of Maine System Policy Manual Section 802: Disposition or University as Lessor of Real Property; 01/22/07
58. University of Maine System Policy Manual Section 801: Acquisition of Real Property; 01/22/07
59. University of Maine System Policy Manual Section 701: Operating and Capital Budgets; 09/24/12
60. University of Maine System Board of Trustees Meeting Minutes; 11/05/1260. University of Maine System Board of Trustees Meeting Minutes; 09/21/14, 09/22/14
61. University of Maine System Board of Trustees Finance/Facilities/Technology Committee Meeting Minutes; 09/02/14
62. University of Maine System Board of Trustees 2014 Strategic Outcomes; 07/16/14
63. University of Maine System Board of Trustees Strategic Outcomes: Comprehensive Financial Management Structure, Strategic Integration Target 2; 07/14
64. Systemwide Energy Team Consumption and Carbon Slides; 2014
65. Updated Business Case Analysis for the Integrated Workplace Management System Project; 03/15

II) Source Material from Other Institutions

1. American Council on Education: How Much Campus Do You Need; 07/01/2013
2. Public Institutions and Education Solutions Group: Higher Education Services Overview; 2012
4. Sightlines: Benchmarking and Targeting: The Science of Comparison, the Art of Change; 2014
6. Inside Higher Ed: To Lure Research and Avoid Regulations, Some Universities Turn Away From Tax-Exempt Bonds; 07/21/2014
7. Construction Management Association of America: Make a Case for Sustainability Apply Total Cost of Ownership

III) Consultant Reports for the University of Maine System (UMS)

1. Sightlines: UMaine System Buildings Over 50 Cost Analysis; 05/14/2014
3. Sightlines: UMaine System Building Inventory FY13; 2014
5. Sightlines: FY2013 ROPA Presentation: The University of Maine System; 03/2013
7. Sightlines: Implementing Strategies to Mitigate Facility Risk (NASH); 05/01/2014
12. Sightlines: Density Explanation; 08/2014
13. GCA Services: GCA Education Services Overview, Presented to the University of Maine; 08/07/2014
14. Harriman: Planning for Adaptive Reuse of Student Housing; 09/09/2014
15. Scott Madden: Accounts Payable Function, Shared Services Analysis Summary; 02/2010
   a. University of Maine
   b. University of Maine at Augusta
   c. University of Maine at Farmington
   d. University of Maine at Fort Kent
   e. University of Maine at Machias
   f. University of Maine at Presque Isle
   g. University of Southern Maine
17. Sightlines: Over 50 and Density by Campus, the University of Maine System; 02/27/2014
### C. Facilities Management (FM) Outreach and Data Collection

1. Facilities Management Administrative Review Team Presentation to the Board of Trustees; 03/2014

2. Facilities Management Administrative Review Team Summer Update; 06/2014

3. FM Administrative Review Team Campus Visit Presentation (sample); 06/2014

   g. USM4. Campus Visit/Open Forum Feedback and Comments as recorded by UMS

   a. UM
   b. UMA
   c. UMF
   d. UMFK
   e. UMM
   f. UMPI
   g. USM

   h. November Campus Visits – Complete

   i. FM Administrative Review Campus Feedback Matrix; 2015

   j. FM Review Feedback Document – Summer Update; 06/2014

5. Functional Team Information Requests; 05/2014

   a. UM
   b. UMA
c. UMF
d. UMFK
e. UMM
f. UMPI
g. USM

6. Planning Team Surveys; 06/2014
a. UM
b. UMA
c. UMF
d. UMFK
e. UMM
f. UMPI
g. USM

7. Facilities Management Administrative Review Team Emerging Recommendations Presentation; 11/14