# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>i</td>
</tr>
<tr>
<td>Foreword</td>
<td>1</td>
</tr>
<tr>
<td>Enrollment</td>
<td>2</td>
</tr>
<tr>
<td>Mission Statement</td>
<td>3</td>
</tr>
<tr>
<td>Program Directions</td>
<td>5</td>
</tr>
<tr>
<td>Physical Facilities</td>
<td></td>
</tr>
<tr>
<td>Six Year Major Project List</td>
<td>7</td>
</tr>
<tr>
<td>Land Holdings</td>
<td>13</td>
</tr>
<tr>
<td>Building Space</td>
<td>16</td>
</tr>
<tr>
<td>Open Space &amp; Site Development</td>
<td>19</td>
</tr>
<tr>
<td>Transportation &amp; Circulation</td>
<td>20</td>
</tr>
<tr>
<td>Utilities &amp; Services</td>
<td>23</td>
</tr>
<tr>
<td>Maintenance Plan</td>
<td>25</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
</tr>
<tr>
<td>A. Campus Physical Planning Principles</td>
<td>A1</td>
</tr>
<tr>
<td>B. Campus Space Use Plan</td>
<td>B1</td>
</tr>
</tbody>
</table>
Executive Summary

Background

The Board of Regents approved the first University of Wisconsin-Milwaukee campus development plan on April 9, 1960 when UWM consisted of 7,000 students and six buildings. Major objectives included planning for an enrollment of 20,000 by 1975. This projection was surpassed five years early with 20,822 students enrolled in 1970.

The consulting firm of Caudill-Rowlett-Scott was contracted in 1970 by the State Bureau of Facilities Management to develop a master plan for the Milwaukee Campus resulting in a completed plan in 1972. The Plan has been periodically updated to reflect required changes of Enrollment Management and deferral of construction to address renovation of the Downer Buildings. The Board of Regents approved the 1992 Campus Development Plan for UW-Milwaukee reflecting updates to the 1979 Campus Plan and documenting physical facilities and campus boundaries.

This plan is based on the Regent approved mission statement. It is consistent with the university’s program needs and the Regent approved Enrollment Management 21 planning level of 18,633 FTE for fall 2006. This plan recognizes planning issues to be addressed over the next decade that relate to the physical facilities. The Board of Regents and State Building Commission make final decisions on project requests each biennium.

Land Holdings

The UW-Milwaukee main campus is confined to 92 contiguous acres, of which only 73 acres can be developed. Approximately 19 acres, known as the Downer Woods, are protected by law. The present “L” shaped campus evolved between 1956 and 1965 through a series of purchases of neighboring institutions. In 2000-2001, UW-Milwaukee acquired the Congregation Emanu-El B’ne Jeshurun on the south side of Kenwood Boulevard and renovated the facility to become the Zelazo Center for the Performing Arts. In 2005-2006 the Reindl property in Glendale was acquired to serve as the University Services Building and house the central maintenance, printing, and campus mail facilities for UWM.
Building Space

Building Space is a valuable resource on the Milwaukee campus and is managed as part of the campus planning process. UW-Milwaukee classrooms and labs have constantly met or surpassed the UW System standards for utilization. The management of existing space and future space needs are detailed within the framework of the Campus Space Use Plan through analysis of alternatives to obtain the most effective solutions.

Seven of the eleven Downer Buildings were remodeled during the 1980's. This improved space quality but did not add to the quantity of space. The new space that was constructed focused on the specific needs of the Library and the Student Union. The campus space shortage increased as no new facilities were constructed for instruction or research for almost a decade. During this period, research funding increased by 250%.

The construction of three new facilities during the 1990's provided additional space for specific disciplines. A Science Center was added to Lapham Hall and new facilities constructed for Business Administration and Architecture and Urban Planning. An addition to Sandburg Hall in 2001 expanded suite style housing in the new East Tower for 400 residents. The opening of the Pavilion in 2006 provided students additional recreation, academic, and athletic facilities. Future campus development places the emphasis on the remodeling and renewing of space as it is vacated by departments moving to other facilities and the potential acquisition of Columbia Hospital. This requires a specific sequence of space reassignments that dictate the funding priorities for projects.

The Campus Space Use Plan focuses on the planning issues that will be addressed during the next ten years. As new facilities are completed and occupied, the planned reprogramming of the released space will address additional space needs through renewal and remodeling. This "backfill approach" is critical to the sequential implementation of proposed projects.
Major Planning Issues

The following have emerged as the major issues that will affect the campus plan in the next ten years:

- Space reallocation through remodeling and reprogramming.
- Improvements to address multidisciplinary and research growth initiatives.
- Implementation of partnerships and collaborative investments.
- Addressing the special, support and study space requirements.
- Expansion of the campus's parking and transit programs.
- Responding to adult access issues and satellite campus facilities.
- Recruitment of additional faculty and improving student to teacher ratios.
# 2007-2013 Long-Range Capital Development
## Six-Year Major Project List

### 2007-2009 General Purpose Revenue

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Columbia/St. Mary's Hospital Campus - Planning *</td>
<td>$ 28,300,000</td>
</tr>
<tr>
<td>2. Physics Building North Wing Remodeling</td>
<td>3,800,000</td>
</tr>
<tr>
<td>3. Research Grant Initiative / Engineering &amp; Applied Science Research</td>
<td>to be determined</td>
</tr>
<tr>
<td>4. GLRF Aquatic Science &amp; Biotechnology Facilities Remodeling **</td>
<td>1,500,000</td>
</tr>
</tbody>
</table>

### 2009-2011 General Purpose Revenue

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Columbia/St. Mary's Hospital Campus - Construction *</td>
<td>28,300,000</td>
</tr>
<tr>
<td>6. Physics Building Research Addition</td>
<td>19,400,000</td>
</tr>
<tr>
<td>7. Golda Meir Library Remodeling Phase Two &amp; Technology Center Addition</td>
<td>30,300,000</td>
</tr>
<tr>
<td>8. Mitchell Hall North Wing Remodeling</td>
<td>8,800,000</td>
</tr>
<tr>
<td>9. Arts Center Remodeling, Lecture, Music &amp; Theatre Buildings</td>
<td>7,500,000</td>
</tr>
<tr>
<td>10. GLRF West Site Facilities Development</td>
<td>4,400,000</td>
</tr>
</tbody>
</table>

### 2011-2013 General Purpose Revenue

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Physics Building South Wing &amp; Plaza Remodeling</td>
<td>11,700,000</td>
</tr>
<tr>
<td>12. EMS Building Remodeling</td>
<td>15,000,000</td>
</tr>
<tr>
<td>13. Mitchell Hall South Wing Remodeling</td>
<td>8,200,000</td>
</tr>
<tr>
<td>14. Cunningham Hall Addition &amp; Remodeling</td>
<td>17,800,000</td>
</tr>
<tr>
<td>15. GLRF West End Facilities Remodeling **</td>
<td>14,100,000</td>
</tr>
<tr>
<td>16. GLRF Replacement of R/V Neeskay **</td>
<td>6,000,000</td>
</tr>
<tr>
<td>17. Mellencamp Hall ***</td>
<td>to be determined</td>
</tr>
</tbody>
</table>

### 2007-2009 Non-General Purpose Revenue

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Columbia/St. Mary's Hospital Campus - Planning *</td>
<td>27,800,000</td>
</tr>
<tr>
<td>(Housing, Food Service, and Parking Program Revenue)</td>
<td></td>
</tr>
<tr>
<td>2. Research Grant Initiative / Engineering &amp; Applied Science Research</td>
<td>to be determined</td>
</tr>
<tr>
<td>3. GLRF Aquatic Science &amp; Biotechnology Facilities Remodeling **</td>
<td>1,500,000</td>
</tr>
</tbody>
</table>

### 2009-2011 Non-General Purpose Revenue

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Columbia/St. Mary's Hospital Campus - Construction *</td>
<td>27,800,000</td>
</tr>
<tr>
<td>(Housing, Food Service, and Parking Program Revenue)</td>
<td></td>
</tr>
</tbody>
</table>

### 2011-2013 Non-General Purpose Revenue

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>(none)</td>
<td></td>
</tr>
</tbody>
</table>

* Columbia is the top opportunity for the future of the campus. Planning began in 03-05 with Program Revenue funds. When a Capital Budget project is authorized, early expenditures related to GPR space will be returned.

** A GLRF Major Project will advance in priority when matching funds are secured.

*** A Mellencamp Hall project will depend on the outcome of the Columbia/St. Mary's acquisition process.
The University of Wisconsin-Milwaukee is laying the groundwork to accelerate its value to the State of Wisconsin and its citizens. UWM’s focus is on growing its research and enhancing student access and success — actions that will lead to greater economic vitality for the Southeastern region as well as for the entire state of Wisconsin. With plans and programs in place, UWM will become:

- One of the top 100 research universities in the nation.
- A major driver of start-up companies and new/rejuvenated industries for the region and State.
- A leader of universities demonstrating access with success for students.
- An institution with national recognition for the diversity of its faculty, staff, and students.

Currently, we have maximized and outgrown the capacity of our 90-acre facility to meet our research and access goals. We require upgrades to our current facilities as well as additional growth beyond the current campus capacity. The blueprint to accomplish that task is provided in this Campus Development Plan that identifies the major planning issues and addresses the physical facilities space needs required to accommodate our strategic growth.
### Enrollment

#### University of Wisconsin - Milwaukee

<table>
<thead>
<tr>
<th>Year</th>
<th>Status</th>
<th>* FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>Actual</td>
<td>15,696</td>
</tr>
<tr>
<td>1975</td>
<td>Actual</td>
<td>18,556</td>
</tr>
<tr>
<td>1980</td>
<td>Actual</td>
<td>17,971</td>
</tr>
<tr>
<td>1985</td>
<td>Actual</td>
<td>18,615</td>
</tr>
<tr>
<td>1990</td>
<td>Actual</td>
<td>17,227</td>
</tr>
<tr>
<td>1995</td>
<td>Actual</td>
<td>15,038</td>
</tr>
<tr>
<td>2000</td>
<td>Actual</td>
<td>16,676</td>
</tr>
<tr>
<td>2004</td>
<td>Actual</td>
<td>18,687</td>
</tr>
<tr>
<td>2006</td>
<td>Target</td>
<td>19,091</td>
</tr>
</tbody>
</table>

* At UW-Milwaukee, significant portions of the students are part-time. The Fall 2004 headcount of 26,027 is 139% above the full time equivalent enrollment of 18,687.
Mission Statement

The University of Wisconsin System Mission

Each institution of the University of Wisconsin System shares in the mission of the system. The mission of this system is to develop human resources, to discover and disseminate knowledge, to extend knowledge and its application beyond the boundaries of its campuses, and to serve and stimulate society by developing in students heightened intellectual, cultural and humane sensitivities; scientific, professional and technological expertise; and a sense of value and purpose. Inherent in this mission are methods of instruction, research, extended education, and public service designed to educate people and improve the human condition. Basic to every purpose of the system is the search for truth.

The Core Mission of the Doctoral Cluster

As institutions in the doctoral cluster, the University of Wisconsin-Madison and the University of Wisconsin-Milwaukee share the following core mission. Within the approved differentiation stated in their select missions, each university shall:

- Offer degree programs at the baccalaureate, master’s, and doctoral levels.
- Offer programs leading to professional degrees at the baccalaureate and post-baccalaureate levels.
- Conduct organized programs of research.
- Promote the integration of the extension function, assist the University of Wisconsin-Extension in meeting its responsibility for statewide coordination, and encourage faculty and staff participation in outreach activity.
- Encourage others in the University of Wisconsin System and in other state and national agencies to seek the benefit of the unique educational and research resources of the doctoral institutions.
- Serve the needs of women, minority, disadvantaged, disabled and non-traditional students, and seek racial and ethnic diversification of the student body and the professional faculty and staff.
- Support activities designed to promote the economic development of the state.
Select Mission of the University of Wisconsin-Milwaukee

To fulfill its mission as a major urban doctoral university and to meet the diverse needs of Wisconsin's largest metropolitan area, the University of Wisconsin-Milwaukee must provide a wide array of degree programs, a balanced program of applied and basic research, and a faculty who are active in public service. Fulfilling this mission requires the pursuit of these mutually reinforcing academic goals:

- To develop and maintain high quality undergraduate, graduate, and continuing education programs appropriate to a major urban doctoral university.
- To engage in a sustained research effort that will enhance and fulfill the university’s role as a doctoral institution of academic and professional excellence.
- To continue development of a balanced array of high quality doctoral programs in basic disciplines and professional areas.
- To attract highly qualified students who demonstrate the potential for intellectual development, innovation, and leadership for their communities.
- To further academic and professional opportunities at all levels for women, minority, part-time, and financially or educationally disadvantaged students.
- To establish and maintain productive relationships with appropriate public and private organizations at the local, regional, state, national, and international levels.
- To promote public service and research efforts directed toward meeting the social, economic, and cultural needs of the state of Wisconsin and its metropolitan areas.
- To encourage others from institutions in the University of Wisconsin System and from other educational institutions and agencies to seek benefit from the university’s research and educational resources such as libraries, special collections, archives, museums, research facilities, and academic programs.
- To provide educational leadership in meeting future social, cultural, and technological challenges.
UWM is growing the quality and capacity of its programs and its economic impact through two primary goals: student access and success, and research excellence. Chancellor Santiago has proposed a $300 million investment to enable UWM to attain these goals – an investment that is built on three sources. The first $100 million will be raised in private gifts to UWM in a capital campaign launched in January 2006. The second $100 million will be awarded annually in extramural research grants, an increase over current extramural awards stimulated by the Research Growth Initiative that began in fall, 2005. The final $100 million will be a combination of public and private support in capital and program funds to build the quality and capacity of UWM’s personnel, infrastructure, and physical campus.

**Student Access and Success**

UWM is experiencing unprecedented student interest and enrollment. Over 28,000 students are currently enrolled with enrollment projected to go to over 30,000 in a few years. Because of the great need in the region and state for college-educated citizens, UWM seeks to sustain its enrollment growth. It is especially critical for UWM to continue and even enhance the access it provides to students from the Milwaukee metropolitan area to ensure that the college-prepared citizenry of Southeastern Wisconsin is diverse and competitive in today’s global economies. Along with access, UWM is committed to ensuring student success along with growth. To this end, UWM launched Access to Success in Fall 2005. Access to Success is a comprehensive blueprint to recruit an increasingly talented, diverse pool of students and to improve the success of enrolled students, especially in their freshman year. Faculty, staff and students are hard at work implementing mentoring programs, enhanced tutoring, first year transition courses, early warning systems, new course structures and a new Multicultural Student Center all to enhance freshman year success for all students with an added emphasis on success retention of students of color.

UWM offer 83 undergraduate degree, 48 masters, one specialist, and 19 PhD programs through eleven degree granting schools and colleges. In addition, several programs are in development, including:

- Bachelor of Arts, Mathematical Sciences, Business & Economics
- Bachelor of Science, Applied Mathematics and Computer Science
- Bachelor of Science, Computer Engineering
- Bachelor of Science, Microbiology
- Bachelor of Arts, Actuarial Science
- Master of Arts, Women’s Studies
- Master of Science, Instructional Technology
- Master of Science, Microbial Biotechnology
- Master of Science, Nonprofit Management and Leadership
- Doctor of Philosophy, Africology
- Doctor of Philosophy, Educational Psychology
- Doctor of Philosophy, Information and Library Science
• Doctor of Philosophy, Communication
• Doctor of Philosophy, Social Work
• Doctor of Physical Therapy
• Doctor of Philosophy, Medical Informatics

UWM’s physical facilities fall short of our needs to provide Access to Success for our students. We have a critical need for increased residence halls – currently only 2,600 students reside in university housing. Our goal is to house at least 4,500 of our freshman and sophomore students, enabling them to engage fully in their academic and social university experience which research demonstrates enhances student success and graduation. We also have critical programmatic needs, with many of our departments housed in insufficient space for classes, faculty scholarship, and student services.

UWM’s long-range capital plan is comprised of major projects to address renovations that have been long-needed to make the present physical plant useful for programs, to add to the quality and capacity of the classroom building and office and research space, and to plan for additional instructional, office and research spaces required to accommodate UWM’s projecting growth in faculty, academic programs and students.

**Research Excellence**

UWM has steadily enhanced its faculty and staff strength in key areas of scholarship, most notably in science and technology, information professions, and health professions. With the 2001-03 biennial budget infusion, UWM was able to hire 55 new faculty, many of whom build the scholarly and research capacity. In the 2003-05 biennium, UWM reinvested its own funds to enhance faculty hires in areas of scholarly prominence for the university. In the current 2005-07 biennium, UWM is launching a major reinvestment in research through the Research Growth Initiative. To do so, UWM is revamping its utilization of state research support to enable these dollars to seed proposal development. In 2005-06, faculty and staff prepared over 300 proposals for RGI funding across the university. Those awarded RGI funds will be supported while seeking extramural funding, thus growing the research productivity while also enhancing – substantially – the investment of extramural dollars into both infrastructure and research growth.

While productivity and quality of scholarship are essential in all academic disciplines, the sciences, health and engineering represent those areas that will both generate the greatest extramural investment and, at the same time, are often most closely aligned with industries and technologies that will build the economic health of the southeastern region of Wisconsin. As research capacity and productivity builds, the physical resources essential for this growth must also be available. UWM’s current facilities and science, health and – especially – engineering will require major revamping and enhancement. In fact, the demands in engineering necessitate a new state-of-the-art facility.

In many cases, UWM’s long range capital plan addresses building and renovating within the current campus footprint or in close proximity, such as the current Columbia hospital space. In other cases, the plan includes renovation and building of space not contiguous with the current physical plant. Such space is already utilized by UWM at the Great Lakes Research Facility, which is in need of renovation. Another such space is the Kenilworth building which, through a public/private partnership, is being transformed from an underutilized warehouse to a modern residence hall, fine arts building and retail area. In addition, other likely areas for UWM physical plant expansion include potential residential halls within a two-mile radius of the campus, and academic/research areas throughout the Milwaukee metropolitan area and Waukesha.
Physical Facilities

UW-Milwaukee Six Year Project List

2007-2009 Major Projects (General Purpose Revenue)

1. Project: Columbia/St. Mary's Hospital Campus - Planning *
   Estimated Cost: $56,100,000
   ($28,300,000 GPR, $27,800,000 Non-GPR)
   Columbia-St. Mary’s Hospital (CSM) is moving forward to build a new replacement facility for both hospitals on another site on the east side of Milwaukee with completion anticipated in 2008-09. Because Columbia Hospital immediately adjoins the UW-Milwaukee, the possible acquisition of the Columbia facilities by the University represents a landmark opportunity for a major expansion to address deficiencies in on-campus housing and parking as well as space needs for instruction, student services, and research activities. A Feasibility Study was conducted in 2003-2005 to study and evaluate the possible benefits and implications of such an acquisition, including determining the highest and best use of the Columbia facilities for UWM, providing appraisals for such uses, and planning level cost estimates and a schedule for a possible future construction and remodeling project. That study provides the foundation to proceed with the planning design phase in 2007-09 to be followed by acquisition and the construction-remodeling phase in 2009-11.
   * Columbia is the top opportunity for the future of the campus. Planning began in 03-05 with Program Revenue funds. When a Capital Budget project is authorized, early expenditures related to GPR space will be returned.

2. Project: Physics Building North Wing Renovation
   Estimated Cost: $3,800,000
   This project will renovate the 7,700 ASF / 16,400 GSF North Wing to provide a completely refurbished instructional facility. On the First Floor, the North Wing includes three existing general assignment tiered Lecture Halls seating 128, 130, and 252 persons along with the 65 seat Manfred Olson Planetarium. The Lecture Halls will have all new seating, lighting, audio-visual equipment, fixed equipment, ceiling, wall and floor finishes. The Lecture Halls presently have asbestos containing floor tile that will be abated. Depending on design studies, it will be desirable to convert one of the Lecture Halls to a shallower tiered flat table seating arrangement, potentially to include a 1,000 to 2,000 GSF expansion to the existing building to accommodate revised emergency exiting for one Lecture Hall and from the Basement and to provide ADA compliant restrooms. The Planetarium supplementary projection, sound equipment, and ambient lighting will be replaced and upgraded. All of the projection surfaces of the Planetarium dome will be cleaned, and the lower walls will be repainted to provide a totally refurbished facility. The vestibule entry to the Planetarium will have window treatment and display cases installed and the lighting and suspended acoustical ceiling will be replaced. In the central corridor between the Lecture Halls and Planetarium, the lighting and suspended acoustical ceiling will be replaced. The North Wing Basement level houses mechanical, electrical, telecommunications, shop storage and lecture prep space. The mechanical systems serving the North Wing will be partially refurbished to extend the useful life of the existing major equipment. Storage and prep areas will be refurbished and
may need to be partially reconfigured to accommodate emergency exiting and restroom requirements. This project will also relocate the Astronomy Observation Deck and telescope equipment from the four-story roof of the South Wing to the adjacent fourteen-story roof of the Engineering and Mathematical Sciences (EMS) Building. This project is the first in a series of three Major Projects being planned over three biennia to totally renew the Physics complex.

3. Project: Research Grant Initiative / Engineering & Applied Science Research

Estimated Cost: (to be determined)

The chancellor has outlined a series of collaborative investments for UWM to address scientific research and development. The $300 million investment strategy over the next six years is equally divided between three components: the comprehensive campaign, the research growth initiative, and government/private resources. As an institution of access and opportunity, UWM serves as a major catalyst to Southeast Wisconsin's economic development in this era of the knowledge based economy, an economy in which technological change and innovation are being produced in the research university. The current campus will need additional development to its infrastructure and buildings to achieve the goals of these collaborative investments. This collaboration may involve one or more sites adjacent to the campus, the downtown, and the greater metropolitan area. Such investments in scientific research and development will stimulate new partnerships and pay economic dividends for the institution, the region, and the state. The Research Growth Initiative aims to substantially expand UWM's research enterprise through investing university research dollars in select proposals of exceptional quality. The RGI has generated an unprecedented burst of entrepreneurial creativity on campus. Over 300 proposals have been developed since November 2005. These proposals will be evaluated in early 2006 and the first funds released in July. The quantity and quality of the space required to support this growth in research will be determined according to the needs of the initiatives. Improvements to existing space and expansion of facilities and infrastructure are anticipated both on campus and through partnerships at off-site locations. It is vital to the success of the Research Growth Initiative that the appropriate enhancements and additions occur to the campus physical plant. This includes a new engineering building and an applied science research location and a facility for business incubation. In order to address these needs and future innovations, UWM needs facilities that are commensurate with its Regent approved mission as a doctoral research institution.

4. Project: GLRF Aquatic Science & Biotechnology Facilities Remodeling **

Estimated Cost: $3,000,000

($1,500,000 GPR, $1,500,000 non-GPR)

This project will remodel 6,800 ASF / 6,800 GSF of storage space on the First Floor at the west end of the building to create a new 5,580 ASF / 7,800 GSF research and training laboratory complex for the expanding mission of the Wisconsin Aquatic Technology and Environmental Research (WATER) Institute under the Freshwater Initiative and the Environmental Health Initiative of the Milwaukee Idea. The design of this project will follow the space and utilities planning concepts that were developed in project #03d2o GLRF Master Plan Study. The new facilities will meet contemporary design standards for research laboratories and aquaria including tempered dechlorinated water supply.

** A GLRF Major Project will advance in priority when matching funds are secured.
2009-2011 Major Projects (General Purpose Revenue)

5. Project: Columbia/St. Mary's Hospital Campus - Construction
   Estimated Cost: $56,100,000
   ($28,300,000 GPR, $27,800,000 Non-GPR)
   The planning design phase noted in 2007-09 is to be followed by the acquisition and the
   construction-remodeling phase in 2009-11.

6. Project: Physics Building Research Addition
   Estimated cost: $19,400,000
   This project will construct a 33,000 ASF / 54,000 GSF Research Addition to provide needed
   space for research activities. The Physics Department in the College of Letters & Science
   conducts a full program of instruction and research in the facility, much of which is
   dependent on the operation of expensive and bulky equipment that is sensitive to variances
   in vibration, temperature, and humidity. Some of this equipment requires lengthy setup
   time, special accommodations, and utility services. Research projects require dependable
   operation of equipment often extending over long periods of time, even years.

7. Project: Golda Meir Library Remodeling Phase Two Remodeling & Technology Center Addition
   Estimated Cost: $30,300,000
   Planning for Phase One Remodeling for high priority areas in the West Wing was authorized
   to proceed in 2005-07. This project will construct a 69,000 ASF / 96,400 GSF Library and
   Technology Center Addition to the Golda Meir Library and remodel approximately 20,000
   ASF of space in the East Wing and remaining portions of the West Wing. New and
   remodeled space will provide space for book processing and collections, compact shelving,
   library service spaces, and student study areas. The Addition will also provide space for
   Technology Center laboratories, collaborative work/study rooms, an Information
   Commons, technology application support space and production application areas.
   Expansion and reconfiguration of space will also be provided for the Library and Map
   Collection of the American Geographical Society Library, the Center for Instructional and
   Professional Development, the Learning Technology Center, the Reserve Desk, and the
   merger of Archives and Special Collections, creation of new resources and preservation of
   fragile materials through digitizing.

8. Project: Mitchell Hall North Wing Remodeling
   Estimated cost: $8,800,000
   The first phase of remodeling was completed in 1977 but limited funding prevented
   renovating the North Wing. In addition to serious deficiencies, the 94 year -old building also
   includes inefficient and unusable space that prevents the occupants from meeting their
   instructional, research and student support. New and appropriate heating, ventilating and
   electrical systems, consistent with code criteria, energy systems mandates and removal of
   architectural barriers need to be funded. Building deficiencies that effect student services,
   instruction, academic support and office needs will be addressed as part of the remodeling.
Estimated cost: $7,500,000  
This project will renovate and remodel the areas within three buildings of the Art Center to accommodate programmatic changes in instruction and the application of technology in the School of the Arts curriculum. Expansion of the recital hall lobby and physical connection to the Theatre Building lobby is desired. Improvements will address electrical and HVAC needs, and remodeled spaces will include instructional facilities to meet the diverse requirements of various Art programs.

10. Project: GLRF West Site Facilities Development **  
Estimated Cost: $4,400,000  
This project will implement the next concept phase noted in the #03d2o Master Plan Study to reconfigure and develop the underutilized west end of the site to create:  
a) a new Small Boat Storage Building with lockable storage space including a heated workspace and covered outdoor storage area;  
b) a new Small Boat Launch area including parking for vehicles and boats;  
c) a new Aquaculture Research Park including outdoor ponds for fish research, a new greenhouse for aquaculture and a replacement greenhouse for Biological Sciences;  
d) new utilities to provide water, gas, electric, and a water connection from the main building to allow the discharge from the aquaculture laboratories in the existing main building to be used as supply water for the new ponds.  
Because this project involves development of an unused portion of the west site, minimal construction sequencing is required. Before new construction can begin, the existing site and gravel parking lot will be cleared of stored equipment, boats, and vehicles. When construction is completed, the existing Biological Sciences Greenhouse will be emptied and demolished including foundation removal. **  
** A GLRF Major Project will advance in priority when matching funds are secured.

2011 - 2013 Major Projects (General Purpose Revenue)

11. Project: Physics Building South Wing & Plaza Remodeling  
Estimated cost: $11,700,000  
This project will renovate the existing 40-year-old 58,360 ASF / 91,930 GSF Physics Building South Wing and adjacent exterior plaza to provide a completely refurbished teaching and research facility. This project will correct facility deficiencies and upgrade systems and finishes. Work on the existing building will include corrective measures that may involve either repair or complete removal and replacement of the South Wing’s exterior walls, windows, and roof to correct water penetration and condensation problems. The original mechanical system air handling equipment needs to be rebuilt or replaced and revisions to the ventilation ductwork are needed to provide up-to-date service and control of the research, office, and instruction environments. In instructional, research, and support laboratories, deteriorated casework, benchtops, cabinetry, shelving and sinks will be replaced and electrical power deficiencies and locations corrected. Graduate student open office partition systems will be replaced. The hydraulic elevator pump will be upgraded to increase the cab travel speed and additional sump pits and pumps may be required. The original asbestos-containing floor tile throughout the building will be removed and replaced. Floor,
wall and ceiling finishes and window treatment in offices, instructional areas, labs, and ADA code compliance issues will also be addressed throughout the building. The project will also remove and renovate the entire plaza area up to the adjacent Engineering & Mathematical Sciences Building to provide a safe, well-drained, low maintenance paved surface.

12. Project: EMS Building Remodeling
Estimated cost: $15,000,000
The Engineering and Mathematical Sciences (EMS) Building was designed in 1968 to serve a predominantly undergraduate program. Various minor remodeling projects, selective maintenance, and utility upgrades have not been able to keep pace with the growing needs of graduate enrollments, program expansion, and advancements in technology. A comprehensive approach is required to guide the transition of this 38 year-old teaching facility into a modern structure that also accommodates graduate instruction and research. This project will refurbish surfaces and finishes in public areas and offices, update classroom and laboratory environments, replace non-compliant fume hoods, and renovate HVAC, electrical and plumbing systems. As a result, instruction will be enhanced and the availability of new technologies will create a physical environment conducive for research.

13. Project: Mitchell Hall South Wing Renewal
Estimated cost: $8,200,000
This project will renovate and remodel the areas within the South Wing of Mitchell Hall, built in 1908. The Graduate School has plans for expanded services to students, programs, faculty, and staffs that are consistent with campus enrollment objectives and the future institutional directions. Remodeling will address the needs of Graduate Student Services, Graduate Information Technology and Analysis, the Graduate School Research Services and Administration, and the Peck School of the Arts Dance and Film Departments. This project will also correct acoustical noise from dance studios, accessibility issues, and instructional laboratory improvements. Surfaces and finishes in offices and public areas are in need of refurbishing and updating.

14. Project: Cunningham Hall Addition & Remodeling
Estimated cost: $17,800,000
This project will renovate and remodel the 65,100 ASF / 110,600 GSF Cunningham Hall, built in 1970. Cunningham Hall’s HVAC is outdated, inefficient and ineffective. The building systems lack state of the art technology and physical features for air handling control and distribution. Insufficient numbers of control mechanisms, illogically placed as well as the size of ductwork to carry the required volume of air throughout the building preclude adequate HVAC for both occupants and equipment. Classrooms, computer labs and offices are uncomfortable, resulting in a less than optimum learning environment. Building surfaces are worn and require renewal and updating along with the replacement of fixed equipment. The School of Allied Health Professions, the School of Nursing and the College of Letters and Science have embarked on several initiatives to enhance their research activity. The Addition and remodeled areas will provide the space required to foster and encourage interdisciplinary development, including wet labs, labs for physiology, and other rehabilitation therapies.
15. Project: GLRF West End Facilities Remodeling **
Estimated Cost: $14,100,000

This project will implement the next concept phase as noted in the Master Plan Study to complete the reconfiguration of the west end of the site to create a new major public entry and parking area on the west end of the building and conduct extensive remodeling inside the remaining portions of the west end of the building to create additional research laboratories, educational and display spaces, and office areas.

** A GLRF Major Project will advance in priority when matching funds are secured.

16. Project: Replacement of R/V Neeskay **
Estimated Cost: $6,000,000

The capability to conduct research on the lakes is essential to both the mission of the Great Lakes WATER Institute and the programs it supports. The Great Lakes WATER Institute has operated the research vessel R/V Neeskay for over 32 years. Built in the 1950’s as an Army Transport vessel (T-boat) the Neeskay has provided yeoman service on the Great Lakes for several generations of scientists. However, the Neeskay is an old vessel, was never designed for research, and has very limited deck, laboratory space, and berthing for science. The Neeskay is incurring increasing emergency repair, renovation and maintenance expenses for critical components and is experiencing major structural concerns. The Great Lakes WATER Institute is faced with the prospect of replacing her within the next two to four years. A new vessel will need to provide capabilities the current vessel cannot provide, such as fulfilling the increasing demands for larger scientific crews, extended operations, dynamic positioning, clean lab and radioactive material laboratory environments, ROV handling capabilities, large buoy and mooring service capabilities, and modest top speeds in fair weather. The new vessel should be a sea-worthy, stable research platform capable of being operated by a two or three man crew. The cost for the new vessel, including an account for maintenance, is projected to be about $6,000,000. The UW-Milwaukee Foundation has proposed raising an initial minimum of $2,000,000 from private donations. Once this initial investment has been obtained the University would borrow the remainder. This would allow construction to be undertaken and the launch of the new vessel to occur within about two years from that point in time. Support for repayment the vessel loan would continue to be solicited during construction and following launch until the full amount needed was obtained.

** A GLRF Major Project will advance in priority when matching funds are secured.

17. Project: Mellencamp Hall
Estimated Cost: (to be determined)

The Columbia/St. Mary's campus feasibility study in 2004 recommended the relocation and consolidation of the administrative and student services occupants currently in Mellencamp Hall. The future use of Mellencamp Hall depends on the outcome of the acquisition process for the Columbia/St. Mary's campus by the University.

*** Planning for a possible future project at the 27,249 ASF / 40,708 GSF Mellencamp Hall will depend on the outcome of the Columbia/St. Marys acquisition process.
Land Holdings

The 92-acre, L-shaped main campus is located in a prime residential neighborhood on Milwaukee's northeast side, centered between Lake Michigan and the Milwaukee River. Referred to as the Kenwood Campus, it is adjacent to the highest valued residential area in the city of Milwaukee known as the Lake Drive Estates Historic District. In 2000-2001, UW-Milwaukee acquired the Congregation Emanu-El B'nne Jeshurun on the south side of Kenwood Boulevard and renovated the facility to become the Zelazo Center for the Performing Arts. Two off-campus facilities are located within the District: the Alumni House and the Hefter Conference Center. The existing neighborhoods contain mostly single-family housing to the north and east of the campus, with medium density housing around the south periphery of the campus. On the west, high-density housing and Columbia Hospital border the campus. The compact nature of the campus in an urban setting has resulted in the intense utilization of the property. The only significant softening of the environment is the 18.8-acre Downer Woods on the north edge of the campus. This area is primarily important for its woodland and is legislatively protected. Downer Woods consists of three sections, an 11.1-acre permanent conservation area, and two park and woodland areas of 4.7 acres and 3.0 acres. The vegetation serves as an outdoor laboratory reflecting the transitional nature of the landscape during the last two hundred years.

The UWM Physical Environment Committee, a codified faculty committee, recommended the site location for the Sandburg Addition to be in the area between Sandburg Hall and the Klotsche Center. This recommendation was contingent upon legislative relief to Chapter 36.37. More specifically, the University sought legislative support to revise Chapter 36.37(4,B) to allow encroachment to this area for a fourth tower. Encroachment of this area was limited to the footprint of the fourth tower. In addition, the University worked with State elected officials to revise Chapter 36.37 to include the requirement of a management plan for the Downer Woods Conservancy and created a fourth area of 2.6287 acres that will be restricted for recreational purposes only. This area is located on the corner of Hartford and Maryland Avenues.

The following campus buildings are included in the National Register of Historic Places and the State Register of Historic Places: the Milwaukee-Downer Quad (Holton Hall, Merrill Hall, Johnston Hall, and Greene Hall) and the Greene Museum. Engelmann Hall has been evaluated and found to be eligible for inclusion in the National Register of Historic Places.

The Great Lakes Research Facility (GLRF) is located on approximately 10 acres of land on Milwaukee’s inner harbor. The facility houses the Wisconsin Aquatic Technology and Environmental Research (WATER) Institute. The building was constructed in 1965 by the Allen Bradley Company as a ceramic tile manufacturing plant. The University of Wisconsin System acquired it in 1973 to house the UW-Milwaukee Center for Great Lakes Studies and as a base for UW research vessels and scientists from other campuses. The facility was seen as a regional resource that could be used by all academic institutions in the upper Great Lakes region. The site has 1,300 feet of deep-water harbor frontage equipped to berth and service research vessels as large as 250 feet, providing a direct year-round link between the research laboratories and Lake Michigan.

Approximately eight additional acres of property in Milwaukee County, non-contiguous to the main campus, is contained at four locations. This includes the Chancellor's Residence, the Alumni House, the Hefter Conference Center, and the Kenilworth Building. UW-Milwaukee also has various land holdings totaling over 400 acres in five nearby counties. These holdings are utilized as Arboretums and Field Research Stations. They include the Saukville Field Station, Benedict Prairie, the Neda Mines, Reuss Property, the Prescott Property, and the Thiemann Property.
The planning boundaries for the Campus Physical Development Plan have increased to the west of Maryland Avenue to include Columbia Hospital. In late 2001, Columbia-St. Mary’s announced long range plans to build a new hospital facility at its St. Mary’s site on the east side of Milwaukee. Project enumeration to acquire and remodel Columbia Hospital has been recommended by the State Building Commission for future biennia if negotiations for purchase are successful.

The Hartford Avenue Elementary School is located in the center of the UWM Kenwood Campus. If and when Milwaukee Public Schools decides to vacate this elementary school, UW-Milwaukee is interested in acquiring it. The structure is 2 1/2 stories in height and of exterior masonry construction. It would provide approximately 90,000 GSF and approximately 60,000 ASF. This space would permit the phasing out of inappropriate and inefficient off-campus facilities by creating the potential for conveniently relocating them contiguous to the main campus.
Building Space

The development of space for the UW-Milwaukee campus has evolved over the last four decades through a series of purchases of institutional and residential properties adjacent to the former Wisconsin State Teachers College. The missions of these predecessor institutions were as diverse as their aging facilities. Because of the urgent need for land and space, these turn of the century buildings were acquired and immediately occupied during the 1960's without remodeling. This melting pot of older facilities served as incubation space for programs during the early 1970's while Capital Budget funds were secured and construction began on several new facilities needed to meet the demands of soaring enrollments. During the 1980's the primary focus turned to building renovation of the deteriorating Downer College Buildings. During this same period UWM was growing as an urban research institution. Extramural research funding increased by 250% within a decade to over $10 million annually, but available space for research increased by only 21%. This surge of research growth occurred during a period of space gridlock on the campus when no new construction occurred and buildings had to be vacated for remodeling.

Between 1980 and 1989, the main campus General Purpose Revenue (GPR) space actually decreased due to the demolition of several residences and Baker Fieldhouse. The only new GPR space constructed for over a decade at UWM included an expansion of the Library and a 14,000 ASF lab addition to Enderis Hall. UW-Milwaukee ended the 1980's with less than 1.7 million assignable square feet of GPR space contained in 31 major buildings on the main campus. The severe shortage of campus space was accurately documented in the first Space Management and Utilization Plan (SMUP) in 1985. The SMUP detailed that UW-Milwaukee would enter the 1990's with a minimum deficit of almost 390,000 ASF.

This prompted the approval of the Lapham Hall Science Center Addition to address physical and life science instructional needs as well as research requirements for a central analytical facility. The opening of the Lapham Addition in 1992 provided the first major increase of campus instructional and research space since the Chemistry Building opened in 1974. The approvals of this new facility and others at UWM were contingent upon space reallocation plans for the reuse of vacated space. Two other academic facilities were completed during the early 1990's. The Architecture and Urban Planning (AUP) Building opened in 1993 and addressed the specific programmatic needs for student studio space. The Business Administration Building was completed in 1995 and provided mediated classrooms and expanded computer based instructional labs. The occupancy of the AUP Building allowed the reassignment and remodeling of Engelmann Hall for Administrative Affairs in 1996. The completion of the Business Administration Building has resulted in the reassignment and remodeling of Bolton Hall in 1998 and Sabin Hall in 2000. This "backfill approach" has been the cornerstone for the sequential implementation of Milwaukee's Space Use Plan to achieve the maximum utilization of limited space resources.

Specific student needs for additional housing resulted in the construction of the Sandburg East Tower in 2001 for an additional 400 residents. The Zelazo Center for the Performing Arts opened in 2002. The former synagogue was purchased and remodeled through fund raising efforts of the UWM Foundation to provide the campus its largest performance venue for the Performing Arts. The restoration of the Kenilworth Building began in 2004 with the relocation of Physical Plant and Printing Services to the University Services Building. The remodeling of Kenilworth provides apartment style living for 370 students in 2006 and faculty and graduate studio facilities for the Peck School of the Arts. The opening of the Pavilion in 2006 doubles the amount of recreation and athletic space available to students. The Pavilion also provides academic facilities for the College of Health Science and the Sports Medicine program.
Presentation of Issues

Recent academic issues have focused on the remodeling of outdated science labs in the original Lapham Hall. A shortage of on-campus housing was partially addressed with the construction of the fourth tower at Sandburg Hall in 2001 and the re-development of underutilized off campus facility resources. The shortage of recreational space will be addressed with the occupancy of the Klotsche Center Addition in 2005.

Current space needs are driven by growth in research programs, record student enrollments, expansion of information technology, and implementation of collaborative initiatives. Associated planning issues are comprised of the following:

- Academic Space Issues
- General Instruction, Support, and Special Issues
- Research Centers
- Exterior Development
- Transportation and Circulation
- Utilities and Services

Each planning issue is individually described and detailed to provide a comprehensive insight into the complex nature of campus space planning. At UWM this process must address the space needs of over 200 academic departments and 40 administrative units that serve a population of over 28,000 students, faculty and staff. In the past the campus has been able to solve many space problems through internal reassignments without requesting state funds. Temporary and outdated facilities have been demolished to provide space for permanent improvements. Other permanent facilities will still require funds within the next decade for renewal, remodeling and reprogramming to maximize the potential use within the present campus facilities.

The demand for adequate and up-to-date facilities for expanding programs, activities and services continues to exceed the capacities of the current main campus. As a result, space use alternatives have been expanded to include additional areas adjacent to the main UWM campus. More than 30 units have been identified that would benefit from the space opportunities represented by the potential purchase of the Columbia Hospital site. This site immediately adjoins the northwest edge of UWM’s main campus and encompasses 10.9 acres with a total of 828,000 gross square feet. The potential acquisition of the Columbia site and facilities represents a one-time opportunity to address UWM’s current and future space needs on a scale analogous to the historic purchase of Downer College and Downer Seminary during the 1960’s. Without an infusion of additional facility resources, UWM will face a space gridlock that will inhibit its development as a major urban research institution.

The Space Use Plan discusses the key planning issues critical to UWM’s mission. In addition this summary report also identifies the root issues of implementation. Inherent in any plan are the assumptions and principles, which serve as the basis for making evaluations and decisions. Opinions concerning alternate solutions will differentiate if viewed from contrasting perspectives. The issues of implementation that are viewed as critical include the following:

A. Philosophy Regarding Space Assignments

In the past, necessity dictated that UWM immediately occupy any vacant available space in its existing condition. This pattern was established with the purchase of the Downer College buildings, the Downer Seminary, the University School, and the Kenilworth Building. These facilities were primarily occupied "as is" because the campus lacked space and alternatives were being considered for the permanent assignment of this space.
Departments were allowed to move into inadequate space without remodeling. This proved very costly in the long term as improvements had to be accomplished in phases, resulting in duplication of construction activity and delayed occupancies. Frequent relocations of departments had several negative impacts as instruction was disrupted, research curtailed and scarce resources spent on moving expenses.

Learning from past mistakes it is obvious to those involved that vacated space should be made fit for the new occupants, instead of the new occupants made to fit in the vacated space. This philosophy embraces the theory that it is more cost effective to remodel vacated space before new departments reoccupy it.

B. Obligation to Meet Programmatic Needs

As mentioned earlier, the three new facilities approved in the last decade have provided for the specific program needs for the departments involved. However, an obligation remains to address the needs of other programs that complement the academic mission. Student services and support activities are also identified in the space reallocation plans, which were developed and approved as an integral part of these major projects.

Priority space needs include Physics, Library support, and a technology center. Program needs change as instruction responds to new technologies in Information Studies, the Arts, Health Sciences, Engineering, and Mathematics. Therefore, some existing space must be remodeled and additional space constructed or purchased to meet the university’s mission to provide facilities for teaching and learning using state of the art methods and technology to prepare today’s students.

C. Commitment to Facility Quality

The third implementation issue assumes that a mutual commitment exists at all levels to construct, operate and maintain quality facilities similar to the tradition of the past. Recent history has many examples of improved quality for Anthropology, Biological Sciences and Information and Media Technology. Priorities now focus on the conditions in the Physics Building, Mellencamp Hall, and Mitchell Hall. A continued commitment to improve present facility quality at UWM should be viewed as an investment that will pay future dividends.
Open Space and Site Development

With an enrollment of 24,000, UW-Milwaukee is required to function within a 73-acre site. This is the result of the 92-acre main campus less the approximate 19 acres known as the Downer Woods. The Downer Woods is legislatively protected from development. Within the 73 acres there is a vast array of inherited facilities that were constructed by a women's college, a seminary, a private high school, a state teachers' college and its campus training school. In addition, several non-contiguous residential properties have been obtained along with an industrial building. These facilities served the university during a period of rapid growth and provided a temporary alternative to constructing new space. Now, as enrollments are managed and programs mature, permanent space solutions must be developed to provide appropriate instructional, research and support facilities.

University facilities must address the primary academic mission as well as seek to function as a major cultural, entertainment and recreational center to the community. As an urban campus located in the heart of a major metropolitan area, UW-Milwaukee has special needs and unique problems that must be addressed to serve the students and a surrounding population of over one million people. The campus benefits greatly from the excitement and diversity of urban life. Limited space and a large commuter population dictate that the university spend considerable effort during the planning process to establish priorities, explore alternatives and evaluate solutions.

The major implication of this pattern is documented in the space management projections. They indicate that selective shortages of space exist and there is also a need to provide quality facilities for graduate programs. These needs include specialized laboratories, research space, computer facilities and independent study space. Careful consideration of building sites, building efficiency, and aesthetics is imperative if any long range plan is to be respected, open space preserved and campus image enhanced.

Greater attention will be placed on achieving an integrated physical environment for the campus. During previous years it was either too difficult or of lesser priority to commit sufficient resources to complete appropriate exterior amenities and development. Now, with great difficulty, the campus must address the need to accommodate the pedestrians, bicycles, vehicles, landscaping, signage and activity areas which will not only make the campus grounds more functional but add character and integrity.

A project list for Exterior Development Needs has been detailed which addresses landscaping needs of specific buildings, site development between buildings and along circulation routes, and standardization of exterior elements campus-wide. The implementation of standardized campus signage is the single element that has brought the most continuity to the exterior. Renovations of open space courtyards are recommended at the Chemistry Building and the EMS Building. Plantings and streetscape development along Maryland and Hartford Avenues are suggested to create an extension of the landscape surrounding new construction at Lapham, Business, Architecture, Garland/Pearse and the Library. Exterior development is difficult to address unless additional funding is designated for this specific use by building project funds.
Transportation and Circulation

UWM is primarily a commuter university. Less than 10 percent of UWM's student population lives in residence halls on campus. UWM's students are also less traditional and made up more of part-time older adults with significant work, household, and family responsibilities competing for their time. For these people, travel time and convenience are very important in choosing their mode of travel for any trip, including trips to UW-Milwaukee.

Past studies conducted by the Southeastern Wisconsin Regional Planning Commission have determined that in the entire Southeastern Wisconsin Region, UWM is second only to the Milwaukee central business district in the number of daily trips it is responsible for generating.

People make their trips to campus by a variety of travel modes. The primary mode of travel has been and remains the automobile. However, UWM has developed and implemented major programs at considerable annual expense, which are intended to encourage and promote the use of mass transit as an alternative to the automobile. As a result, it is estimated that more than 30 percent of commuter trips to campus are now made by bus.

Considerable progress has been made as a result of: UPark, a program that offers free parking and free shuttlebus service from satellite lots located 3-5 miles off campus; a joint Milwaukee County Transit System (MCTS)/UWM UPass Program; and UWM's participation in the local transit system's deeply discounted "employee" commuter value pass program. The UPass Program was instituted in 1994-95 and provides every student taking a class for credit on the Kenwood Campus with a semester-long bus pass that they can use for unlimited travel on any MCTS bus route, anywhere, anytime. UWM began offering the employee commuter value pass program to its employees in July 1998 and now has well over 400 participants in the program.

Over the past 30 years, UWM has also worked in partnership with MCTS to expand and improve public transit service to the campus. There are now nine MCTS bus routes providing direct bus service to the campus from throughout Milwaukee County. In March 1997, a tenth bus route was established in cooperation with WisDOT, Waukesha County, and another transit service provider, Wisconsin Coach Lines. This new route extends into Waukesha County linking the City of Waukesha, Goerke's Corners Park and Ride lot, and the Brookfield Square Park and Ride lot via I-94 with direct service to UWM.

Prior to UPark, UPass, and UWM's efforts to improve bus service, 70% of students attending UWM commuted by automobile and 12% by bus. Campus surveys conducted in Fall 1996 indicate that only about 48% of students attending UWM commute to the campus by car while about 15% commute by UPark shuttlebus and 18% commute by MCTS bus.

Concurrently, the following measures are continuing to promote the use of alternative modes of transportation by faculty and staff:

- An employee "Commuter Value Pass" where each employee participant pays $16/month and the University pays $36/month (a subsidy) using parking program revenues. Like the student UPass, the Commuter Value Pass is valid for unlimited employee bus rides anywhere, any time, on any Milwaukee County Transit system bus route and also on Wisconsin Coach Lines Waukesha County to Milwaukee/UW-Milwaukee bus routes. Approximately 400 employees are currently participating in this program.

- Increased shuttlebus service so that buses now operate between satellite lots and the campus about every 5 to 10 minutes throughout most of the day.

- A guaranteed emergency ride back to the satellite lots as needed.
- The "In-Car Parking Meter" program promotes shorter-term on-campus parking and facilitates the use of alternative transportation modes. A total of 1510 employees are currently participating in this program.

- The ability for faculty and staff to earn free one-day on campus parking permits for participation in car-pooling (up to 15 permits/yr.), and the Employee Commuter Value Pass Program (up to 12 permits/yr.).

- Continued University funding for the extension of bus service from downtown Waukesha via Goerke's Corners, and Brookfield Square Park-and-Ride Lots direct to the campus offering free rides with the student UPass and the Employee Commuter Value Pass is now in its sixth year.

The campus goal in implementing the above listed program and policy initiatives is to reduce faculty, staff, and student resident long term parking demand.

Despite successes, a serious parking space deficit exists on the campus for: a) the 48% of students who have a need to commute by automobile. This campus parking space shortage creates significant parking problems and traffic congestion in the residential neighborhoods that surround the campus. It is also a major impediment to good campus-community relations; b) the large number of daily campus visitors, vendors, and service vehicles; and c) UWM's faculty and staff.

The 1972 Caudill, Rowlett Scott (CRS) Master Plan for the UWM campus called for a minimum of 2,500 on campus parking spaces. With the addition of the new Pavilion parking ramp (opened in January 2006) UWM will meet this minimum goal with a total of 2,551 spaces.

To further address critical parking shortages on campus and in the community around the campus, the University participated in a UWM-Eastside Transportation Management Association, which was formed in April, 1999. The purpose of the Association is "to stimulate and coordinate good neighborhood initiatives relating to all forms of transportation. This ETM has been combined into a Neighborhood Association. The goals of the Association were and continue to be:

- Provide a forum in which all neighborhood residents and Columbia Hospital, the University, schools and businesses can work cooperatively to resolve parking and traffic congestion issues.

- Encourage the use of transit, carpooling, bicycling and walking by all individuals who travel to and from the Eastside, and to cooperate to improve current conditions that may create impediments to these desirable transportation options.

- Provide a forum in which all neighborhood residents and Columbia Hospital, the University, schools and businesses can work cooperatively to resolve parking and traffic congestion issues.

- Encourage the use of transit, carpooling, bicycling and walking by all individuals who travel to and from the Eastside, and to cooperate to improve current conditions that may create impediments to these desirable transportation options.

- Enhance the livability and safety of the community by working together to address citizen related transportation issues.

- Identify funding sources for implementing actions to improve parking, traffic, community liability and safety.

The university's Parking and Transportation development plan is a multi-faceted approach toward the goal of minimizing parking and traffic congestion problems on and around the campus:
• The university plans to continue its commitment to the UPark Program. As part of its future campus development plans, UWM will strive to continue to provide more than 2,000 free off-campus parking spaces in four satellite parking locations within 3-5 miles of the campus and to operate free shuttlebus between the campus and these lots over two different routes at an annual operating cost of $1,065,540,000.

• UWM constructed the $20M, 660 space Pavilion parking garage and surface lot and it opened for operation in January of 2006.

• The university plans to continue its $2.3M commitment to the UPass Program (subject to continued availability of funding). This Program of unlimited free use of any bus operated by the MCTS to travel anywhere, anytime, is a powerful incentive that has worked to encourage much greater bus use and much less use of the automobile by students for trips to UWM. As a result of this Program, surveys have shown that MCTS bus ridership among UWM students has doubled. In 2004-5 there was a participation rate of 57%. In the 2005-6 year the participation rate increased to 64%.

• UWM plans to further its efforts to publicize and promote the UPass Program particularly to entering freshman and new students. UWM will also continue to cooperate with MCTS and Waukesha bus company in improving transit services and operating schedules.

• UWM plans to pursue measures intended to reduce student, faculty, and staff demand for all day parking on the campus. This will enable more campus parking space to be converted to short term parking for students, faculty, staff, and visitors. Future campus parking pricing may be proposed to discourage all-day parking and to promote more efficient use of the university’s very limited on-campus parking space. Total parking space dedicated to all-day parking will be reduced.
Utilities and Services

Utilities

The utilities at the UW-Milwaukee campus consist of a central steam heating and water chilling plant with an underground tunnel distribution system, a medium voltage (5KV) primary electrical distribution system fed from two service entrances, city water/sewer, low pressure natural gas, and a fiber optic communications network linking the campus buildings. Supervision of these utilities is accomplished in part by a campus wide facility management system (Metasys).

The four phases of the primary electrical distribution system upgrade are complete. Planning for replacement of switchgear and breakers in East Substation will need to proceed to provide the reliability and maintainability necessary for a modern research institution.

With the major central heating and cooling systems equipment and controls upgrades now essentially complete, major projects anticipated for the near future will focus on chiller backup capacity. With 100% reserve boiler capacity, there are sufficient resources existing for campus heating needs. Peak cooling loads can be met by the existing 3 chillers but there no longer is any reserve. Recent capital improvement projects have eliminated any excess capacity.

The current Heating Plant projects focus on reducing annual operating costs by adding parallel high efficiency variable speed electric drives to the existing steam driven chillers. These performance enhancements will lower costs sufficiently to pay for the expenditure in 5 to 6 years. Following that a planning project for a future large (3,000 to 4,000 ton) electric chiller should occur formally in the 2007-09 biennium along with planning for the East Electrical Substation upgrade to include capacity for this new large chiller.

In summary, the Utilities Capital Renewal projects for this biennium are:

- Companion electric drive compressors for the two turbine chillers for efficiency enhancements
- Preliminary planning for a future large electric chiller
- Preliminary planning for upgrading the East Electrical Substation

Telecommunications

Following the 1986 recommendations of the State's Local Area Networking Universal Cabling Task Force, UWM installed a campus fiber optic backbone and Universal Telecommunications cabling into all buildings on campus. Although the completion of the network infrastructure provides the basis for meeting the growing and evolving needs of the campus, the emergence of new technologies along with expanding lab and research growth will demand additional infrastructure on an on-going basis. The need to deploy additional fiber optic infrastructure will require significant design and cost analysis.

As the campus network requirements continue to evolve, the infrastructure requires a flexible and upgradeable design. This includes maintaining a regular replacement cycle for equipment. Current deployment suggests that a rolling four year upgrade path is feasible and already underway. As such, portions of the core of the campus network, consisting of three major node buildings feeding the rest of the campus, will require upgrades in the 2006-07 fiscal year. Additional demands on the network, such as Quality of Service (QOS), improved security and the consolidation of data, video and voice services, will require changes in design and increases in complexity.
Several important projects will increase the demand on the network infrastructure. The development of a Milwaukee regional network for education, city and county partners will increase the number of network connections to UWM’s off-campus sites, including the downtown University Center for Continuing Education and the WATER Institute at Great Lakes Research Facility, as well as to other educational institutions that are partnering in the Milwaukee Idea. Other network links will be upgraded or established to the Biomedical Technology Alliance (BTA) facilities, and satellite instructional sites.

In January of 1997, UWM joined 98 other American research universities in the founding of the Internet 2 project (I2), which is now in a quasi production state and being overtaken by new advanced research networking initiatives. In addition, UWM is committed to continuously investing in its own network capabilities in collaboration with other research institutions. Researchers on campus have the opportunity to collaborate with colleagues throughout the country without network bottlenecks. On campus, a commitment of resources to enhance the infrastructure and electronics will be needed as research and instructional applications are developed.

The evolution in computing devices from desktop computers to laptop computers and personal digital assistants (PDAs) has sparked a trend towards anytime/anywhere connectivity through wireless networks. The anticipated deployment is in selected public areas with complete campus wireless access expected to be available by the end of 2006.

Theft of computing and media equipment continues to be an issue on campus, particularly in classrooms equipped with electronic instructor podia. Recent anti-theft technology advancements look promising, and a pilot project using RFid security tags and a wireless monitoring system is underway in Bolton Hall. It is anticipated that this system will be deployed to additional buildings with the potential to provide increased theft control for other types of equipment as well.

The industry is on the verge of a major shift in telephone technology that could require a change in the wired telephony infrastructure and additional cabling. In addition, the consolidation of data, voice and video circuits onto a single cable could also drive the need for enhancements to the cable infrastructure.
Maintenance Plan

Summary

Note: This Maintenance Plan only addresses facilities that are typically funded with General Purpose Revenue (GPR), it does not include facilities that are funded with Program Revenue (PR).

An ongoing program of maintenance and repair is required to preserve the capital investment in UW-Milwaukee's facilities. To describe some terms used in this plan:

- The “useful life” of a building is the period of time the original investment is estimated to meet its original objective without extensive remodeling or replacement of the building’s major systems and components.

- “Cyclic maintenance” is the regular repair or replacement of systems or components that needs to be funded during the useful life of a building. This cyclic maintenance is a life cycle cost that occurs above and beyond standard operational maintenance costs.

- “Backlog maintenance” is the cost of overdue cyclic maintenance beyond the life cycle of systems or components.

The existing UW-Milwaukee physical plant consists of 35 major structures constructed over the past 107 years totaling over 4 million gross square feet (GSF). Buildings within the 30 to 50 year age range comprise almost 50% of the total GSF. Buildings that are older than 50 years make up almost 30% of the total GSF. Since all of the buildings in the oldest group have already undergone a Major Project capital renewal, the relative age in the useful life of both groups and the deferred building maintenance is about the same. By far, the type of deferred maintenance is concentrated in the utility services within these buildings. Based on the State of Wisconsin’s standards for cyclic / useful life expectancy and for unit costs, the current deferred maintenance total estimate is $77.5M million. A long-term consistent funding level is required to address the cyclic maintenance of the existing facilities. Over the next 30 years the average biennial need for cyclic maintenance will be $19 million.

With 50% of the UW-Milwaukee GPR gross square footage reaching the end of a first useful life and another 30% reaching the end of a second useful life, many deferred maintenance issues will need to be addressed in the near future. Although Major Projects to renew older buildings could alleviate many of these maintenance issues, in the current budget climate of limited GPR funds it is unlikely that major building renewal projects will receive the rapid approval that will be necessary to timely address the issues. Limited GPR funds will need to be targeted at the highest priority needs. This Maintenance Plan illustrates a process to identify UW-Milwaukee’s facilities maintenance issues and an evaluation of these issues through a filtering method to derive the highest priority needs for GPR funding in the upcoming biennium.
This graph illustrates the age of UW-Milwaukee’s GPR facilities in terms of gross square footage and in percentage of total GSF.

Many of the buildings that were constructed in the era prior to 1951 have benefited from one major remodeling and capital renewal project, however some of these buildings’ systems and components are approaching the end of a second useful life cycle.

Many of the buildings that were constructed during the 1952 to 1971 era are approaching the need for a first major capital renewal either of the entire building or of most of the building’s major systems and components.
This chart demonstrates that utility services within buildings comprise the majority of the deferred maintenance backlog in UW-Milwaukee’s GPR facilities. Although the level of funding that has been authorized to address maintenance needs has grown over the past decade, it has been inadequate to meet annual maintenance requirements, resulting in an increasing backlog of maintenance needs. At present, UW-Milwaukee’s cumulative GPR backlog maintenance exceeds $77 million.
Maintenance Planning Process

Planning to address Cyclic and Backlog Maintenance issues is considered concurrently with all other facilities planning issues. The process begins with identifying and collecting maintenance problems, which in the planning process are commonly referred to as planning issues. These issues are sorted and then evaluated for their relative significance and urgency of need, followed by determining the most prudent and cost effective means to resolve those issues that require immediate attention. There are many factors that effect the evaluation of these maintenance issues and the decisions that must be made on how to deal with each issue. Considerations include functionality and performance, maintenance history, building codes, health and safety concerns, the environment, coordination with other activities or projects, administrative procedures, and funding resources.

This evaluation process results in the definition of capital maintenance and improvement projects to address the most critical needs. This evaluation is especially important in times of scarce resources for maintaining the university’s physical plant. This planning process results in applying available resources in a manner that promotes continuing operations while minimizing unexpected equipment and facility failures.

Maintenance Issues Identification

The planning process begins with the identification of planning issues. Maintenance issues are identified through a variety of methods and sources. The information is gathered primarily through physical plant operations. Interviewing physical plant staff about their daily experiences and historic knowledge of campus infrastructure provides a reality based assessment and a broad context for analyzing information from database management systems. Depending on the database management system and the types of information collected, each system can provide unique insights into trends and past practices that may not be readily apparent through staff interviews. Additionally, the campus community provides unsolicited feedback on the condition of the physical plant throughout the year, and may also be selectively interviewed for additional detail and understanding of maintenance issues and the effect on program operations. Maintenance planning issues identified through this process are organized into logical groupings of various building systems and components.

Maintenance Issues Filtering

After the maintenance issues have been organized in a logical manner, filtering occurs to screen out issues that do not require immediate or near-term resolution for a variety of reasons, or have solutions that have been defined but have not yet been implemented, or are in the process of being resolved. The Campus Physical Development Plan plays a significant role in this process, since it provides the comprehensive context for all decisions relative to the planned changes to the physical plant. This filtering process reduces the number of issues that require further evaluation and planned project solutions.

- Filter One: Acceptable Maintenance Issues - Filter One removes issues that are considered acceptable at the present time because of various factors, such as issues in buildings that are planned to be razed, or in buildings considered not worth a relatively high investment of limited maintenance funds, or issues involving building assemblies or components that are traditionally funded by operational maintenance. These issues will require re-evaluation during future planning cycles.

- Filter Two: Funded Maintenance Issues - Filter Two removes those issues for which funding has already been secured to resolve the issues, but until the projects are completed are still considered current maintenance issues. Examples of funded projects include enumerated Major Projects and All Agency projects that have been approved by
the State Building Commission, and Small Projects that have been approved by the Division of State Facilities of the Department of Administration.

- Filter Three: Unfunded Maintenance Issues with Planned Project Solutions - Filter Three removes issues that have planned and preferred project solutions that are identified in the Campus Physical Development Plan or that are planned to be addressed by projects that were identified in a past biennium but have not yet received funding approval.

- Filter Four: Unfunded Maintenance Issues without Planned Project Solutions - Filter Four removes issues that have been evaluated as not requiring an immediate resolution in the next biennium. During the next biennium, these unsolved maintenance issues can be further researched to develop appropriate project solutions and timelines.

Issues Resolution and Project Development
The planning process reduces the maintenance issues from the complete list to only the highest priority issues that require immediate resolution. Biennial capital improvement projects are usually the method used to resolve high priority maintenance issues. Project scopes and budget estimates are developed collaboratively by the campus physical plant and facilities planning staff in cooperation with UW System Administration and Division of State Facilities staff. Since maintenance conditions are continually evaluated throughout each biennium, project definitions, budgets, and priorities may require periodic modification to ensure that the most critical maintenance concerns are addressed in a timely and cost effective fashion.
Maintenance Planning Process

Planning Resources

| Faculty/Staff | Students | Visitors | Physical Plant Staff | Databases | Project Histories |

Issue Identification and Organization

| Structure/Envelope | Building Interiors | Building Systems | Equipment/Furnishings | Site Utilities | Site Improvements |

Filter One - Acceptable Issues

- Buildings planned to be razed or replaced
- Buildings with an unknown future or not worth a long term investment
- Components traditionally funded by operations

Filter Two - Funded Issues

- Major Projects enumerated in the Capital Budget
- All Agency Projects approved by State Building Commission
- Small Projects approved by Division of State Facilities

Filter Three - Unfunded Issues with Planned Solutions

- Major Projects enumerated in the Capital Budget
- All Agency Projects approved by State Building Commission
- Small Projects approved by Division of State Facilities

Filter Four - Unfunded Issues without Planned Solutions

Considerations and Influencing Factors

| Administrative Process | Code Health Safety | Coordination | Function Performance | Resources | History |

Issue Resolution and Project Development

2007-09 All Agency Project Requests
Maintenance Issues

This section describes UW-Milwaukee’s current maintenance issues within categories of building systems and components as well as campus-wide exterior environment and utilities services.

Maintenance issues arise from a variety of sources such as routine inspections, historical knowledge, trouble reports, and problem solving, and sometimes from commissioned surveys. Maintenance issues often occur simply due to age and from normal usage, but sometimes problems may be due to inappropriate design, improper materials, poor installation, or unusually high wear and tear.

The following issues are organized by building systems or components and are followed with some explanatory examples (in parentheses). After maintenance issues are gathered, the issues may then be evaluated. Later sections of this Maintenance Plan will demonstrate an evaluation process by a four-step filtering method to derive the highest priority issues that need to be addressed by new capital projects in the upcoming biennium.

**Foundations** -

- **Garland / Pearse** The Basement level floor is very damp in rainy weather.
- **Greene Museum** The southeast corner of the foundation is severely deteriorated.
- **Holton/Merrill/Johnston/Greene** The Basement level floor is very damp in rainy weather.
- **Mitchell Hall** The Basement level floor is very damp in rainy weather.
- **Physics Building** Water may seep up through construction joints at the Basement level floor during rainy weather.

Foundation issues usually occur in older buildings and generally result from failed drain tile systems (the older Downer buildings) or occasionally are due to questionable drainage design (Physics). In some cases a foundation problem may be so severe that a major investment will be required to complete full repairs not only to the foundation but also to other building components that may have been damaged because of a foundation failure (Greene Museum).

**Exterior Walls** -

- **Greene Museum** The building exterior is deteriorated.
- **Mitchell Hall** The exterior sandstone trim is delaminating.
- **Physics Building** The South Wing walls leak during driving rain.
- **Student Union** The stairwells have water infiltration problems and safety concerns.

Exterior wall issues often result with age (the older Downer buildings) but also may be due to questionable design (Physics). Potential safety problems need to be addressed as expeditiously as possible (Greene Museum). When a significant effort will be required to correct an issue, in some cases it may be best to fold the repair work into a Major Project (Physics).

**Exterior Windows** -

- **Alumni House** The windows require frequent maintenance and are difficult to operate.
- **Greene Museum** The windows are deteriorated.
• Hefter Center  The windows leak and no longer operate.
• Mitchell Hall  The North Wing windows leak and no longer function.
• Physics Building The South Wing windows leak during driving rain.
• Sandburg Hall The North, West, and South Tower student room windows need replacing.
• Student Union Recaulking of the Concourse skylights is needed to address water infiltration.

Exterior window issues are often due to age (Alumni) or in some cases are due to questionable design (Physics). Some issues may be addressed as operational maintenance but often the scale of the work will require a capital maintenance project (storm window projects). In order to correct design issues, if the problems are fairly isolated they might be able to be corrected through a capital maintenance project (Mitchell), but if the nature of the problem is complicated by other issues, it may be best addressed in a Major Project to renovate the building (Physics).

Exterior Doors and Entrances
• Curtin Hall The entrance doors are high maintenance.
• Greene Museum The exterior doors are deteriorated.
• Kunkle Center The entrance doors are high maintenance.
• Mitchell Hall The entrance doors are high maintenance.
• Sandburg Hall A revolving entrance door is needed for the Commons.
• Student Union The doors and aluminum frame work at building entrances are deteriorated and need replacement to improve accessibility and address safety issues.
• Theatre Building The entrance doors are high maintenance.

Exterior door issues are most often age related (Mitchell and Greene Museum).

Roofs
• Alumni House The roof is leaking and at the end of the expected life cycle.
• Bolton Hall The roof is at the end of its useful life and leaks are beginning to appear.
• Chemistry Building The low-rise area roof is at the end of its useful life and beginning to have leaks.
• Curtin Hall The roof is leaking and at the end of the expected life cycle.
• Enderis Hall The shingle roof on the low-rise area is at the end of its useful life and beginning to leak.
• Holton & Johnston Halls The shingle roof is at the end of the useful life and beginning to leak.
• Klotsche Center The original roof is deteriorated and leaking.
- Physics Building  The roof is deteriorated and leaking.
- Sabin Hall  The slate portion of the roof is at the end of its useful life and beginning to leak.
- Sandburg Hall  The Commons and the West Tower roofs are in need of replacement.
- Student Union  The eastern roof is at the end of its useful life.
- Zelazo Center  The tile portion of the roof is at the end of its useful life and beginning to leak.

Roofs have the most predictable useful life cycles of all external building systems and are usually renovated independently of other maintenance issues.

**Structural -**
- Business Administration  A structural engineering evaluation of the condition of the parking facility is needed.
- EMS Building  A structural engineering evaluation of the condition of the parking facility is needed.
- Purin Hall  The parking facility floor needs upgrading.
- Sandburg Hall  The North, West, and South Towers need expansion joint repairs. A structural engineering evaluation of the condition of the parking facility is needed.
- Student Union  The overhang canopy at the main Kenwood Boulevard entrance/circle drive needs concrete rehabilitation work and to be modified for improved signage and esthetics. The 2nd floor patio at the 2nd floor lounge needs replacement to improve drainage, address spalling, and correct leaking into the building. The southeast exterior stair has deteriorated and has unsafe conditions. There is leaking from the parking facility lower level ceilings and the upper level exterior walls. A structural engineering evaluation of the condition of the parking facility is needed.

**Interiors -**
- Art Building  The interior finishes on the 3rd floor are wearing out.
- Arts Center Lecture Hall  The interior finishes and seating are wearing out.
- Chancellor's Residence  The 2nd floor common bathroom finishes are wearing out.
- Chemistry Building  The lecture halls seating is old. Floor tile is old and deteriorating.
- Cunningham Hall  The lecture hall finishes and seating are old and worn and has dated media capabilities. The restrooms have a dingy appearance, are not sufficient for each gender, and lack ADA accessibility.
- Curtin Hall  The classroom finishes and furniture are wearing out.
<table>
<thead>
<tr>
<th>Building</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cunningham Hall</td>
<td>The restroom finishes are showing wear and do not meet the most current gender needs and accessibility requirements.</td>
</tr>
<tr>
<td>EMS Building</td>
<td>The classrooms and labs have aging finishes. The restrooms have a dingy appearance, are not sufficient for each gender, and lack ADA accessibility. Fire safety egress routes are being compromised by night-time building security issues. The parking facility needs new painting.</td>
</tr>
<tr>
<td>Golda Meir Library</td>
<td>The interiors are showing wear.</td>
</tr>
<tr>
<td>Greene Museum</td>
<td>The interiors are deteriorated.</td>
</tr>
<tr>
<td>Hefter Center</td>
<td>Third floor fire egress is inadequate.</td>
</tr>
<tr>
<td>Kunkle Center</td>
<td>The interior finishes are showing wear. The restrooms are showing wear and do not meet the most current ADA accessibility requirements.</td>
</tr>
<tr>
<td>Mitchell Hall</td>
<td>The North Wing interior finishes are aging.</td>
</tr>
<tr>
<td>Music Building</td>
<td>The classrooms and practice room finishes are showing wear. Restrooms have a dingy appearance and repairs are frequent.</td>
</tr>
<tr>
<td>Physics Building</td>
<td>Lecture halls, classrooms, and lab finishes are showing wear and do not meet current instructional technology standards.</td>
</tr>
<tr>
<td>Sandburg Hall</td>
<td>The North, West, and South Tower student room doors and closets need replacement. The Commons needs expansion to create more student/resident programming space. A renovation and upgrades for the Commons recreational room is needed.</td>
</tr>
<tr>
<td>Student Union</td>
<td>A renovation of the Wisconsin Room and adjoining areas is needed to address deteriorated operable partitions, finishes, accessibility issues, changing functional needs, along with improvements to electrical, lighting, and HVAC services. The food court needs renovation to reconfigure and refurbish tenant food preparation and serving areas, customer flow and seating areas, along with electrical, HVAC and plumbing services. Carpeting on the entire 1st floor and 2nd floor hallway and lounge is showing wear patterns and needs replacing. The terrazzo on the ground and 1st levels has deteriorated and is difficult to clean. New doors are needed at all stairwells to address safety issues and remove asbestos containing materials. The restrooms at basement, 2nd, and 3rd floors are in poor condition, upgrades are needed for flooring, fixtures, plumbing, and ADA accommodations. A renovation of the Theatre is needed to replace and upgrade lighting, seating, stage curtain system and electrical systems. A renovation of the Bookstore is needed to improve merchandising, lighting, HVAC and flooring. A renovation of the Ballroom entrance is needed to improve functionality and accessibility. A leasehold copy center may need to move or combine with another building function, the present space may need to be renovated or remodeled. The 3rd floor student organization office spaces may need to be expanded, reconfigured, and remodeled. The ground level Terrace dining</td>
</tr>
</tbody>
</table>
seating needs to be reconfigured for improved arrangements, traffic flow; replacement of worn flooring is needed along with improved lighting and HVAC service. The Art Gallery needs an updated façade, the wood floor has deteriorated. The Rec Center needs renovation to address deteriorating scoring systems, bowling lanes, electrical and HVAC issues. Storage rooms 177/179 may be renovated for a multipurpose meeting space. The Bursars Office needs remodeling and renovation for an alternative use. Ceiling tile is selected areas needs replacing to improve maintenance access and esthetics. Stairwell treads and flooring need replacement to address safety and maintenance concerns and improve esthetics.

- **Theatre Building**
  The interior finishes are showing wear.
  If interior issues are fairly limited, they may be resolved as operational maintenance but often the needed improvements are extensive and are best achieved along with other building system improvements or remodeling to meet changing programmatic needs (instructional space improvements). In some cases the most efficient approach is to defer some maintenance until a Major Project may correct all building issues (Library, Physics). Some issues may need to be deferred until such time as the long-term future of a facility is determined (Greene Museum).

**Interior Doors: Keying**
- **Student Union**
  The keying system needs to be updated to adapt to new systems for the campus and to meet the needs of student organizations. Keying issues arise due to age and use and are often resolved as operational maintenance. However with increasing security concerns different types of entry systems need to be considered (card, proximity, biometrics).

**Plumbing**
- **Chancellor's Residence**
  The 2nd floor common bathrooms are wearing out.
- **Chemistry Building**
  The plumbing systems are old and frequently breaking, replacement parts are becoming obsolete.
- **Cunningham Hall**
  The restroom finishes are showing wear and do not meet the most current gender needs and accessibility requirements.
- **EMS Building**
  The lab fixtures are deteriorating. The restrooms have a dingy appearance, are not sufficient for each gender, and lack ADA accessibility.
- **Greene Museum**
  The piping and restrooms are deteriorated and do not meet accessibility requirements.
- **Kunkle Center**
  The restrooms are showing wear and do not meet the most current ADA accessibility requirements.
- Mellencamp Hall  The restrooms are showing wear and do not meet the most current ADA accessibility requirements.
- Mitchell Hall  The restrooms in the North wing are barely serviceable and the south wing restroom floors are difficult to clean.
- Music Building  Restrooms have a dingy appearance and repairs are frequent.
- Physics Building  The lecture halls, classrooms and lab finishes are showing wear and all do not meet current instructional technology standards. The restroom finishes are showing wear and do not meet the most current gender needs.
- Sandburg Hall  The domestic water heaters for the North, South, and West Towers need replacement.
- Student Union  The food court needs renovation to reconfigure and refurbish tenant food preparation and serving areas, customer flow and seating areas, along with electrical, HVAC and plumbing services. The restrooms at basement, 2nd, and 3rd floors are in poor condition, upgrades are needed for flooring, fixtures, plumbing, and ADA accommodations.
- Theatre Building  The piping is deteriorating.

  Plumbing issues are frequently due to age and often are best addressed in a Major Project renovation unless the scale of the problems is relatively small (restrooms). Some issues may need to be deferred until such time as the long-term future of a facility is determined (Mellencamp) or a cost effective means is determined to renovate an entire building (Greene Museum).

Heating, Ventilation, Air Conditioning -
- Alumni House  The heating system requires frequent repairs.
- Arts Center Lecture Hall  The mechanical system requires frequent maintenance.
- Bolton Hall  The upper tower floors do not have air-conditioning.
- Chapman Hall  The building system does not have fresh/make-up air capability.
- Cunningham Hall  The ductwork insulation is breaking apart and plugging up turning vanes.
- EMS Building  The cooling units and dry coolers for the Data Center are deteriorated, unreliable, and require excessive maintenance. The lab hoods are old and broken.
- Garland/Pearse  The perimeter heating system does not provide adequate heat in the coldest months.
- GLRF  The western half of the building does not have HVAC service.
- Golda Meir Library  The AGS Collection mechanical system is deteriorated.
- Greene Museum  The building systems are deteriorated.
<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hefter Center</td>
<td>The third floor mechanical system is deficient and non-functional.</td>
</tr>
<tr>
<td>Holton/Merrill/Johnston/Greene</td>
<td>Many areas lack air conditioning and have increased heat loads.</td>
</tr>
<tr>
<td>Kunkle Center</td>
<td>There is no central air conditioning and the heating system is high maintenance.</td>
</tr>
<tr>
<td>Mellencamp Hall</td>
<td>The building systems are deteriorating with age.</td>
</tr>
<tr>
<td>Mitchell Hall</td>
<td>The North Wing has no central air conditioning and the heating system is high maintenance.</td>
</tr>
<tr>
<td>Physics Building</td>
<td>The lecture halls, classrooms, and labs systems are deteriorating with age.</td>
</tr>
<tr>
<td>Sandburg Hall</td>
<td>The Cafeteria/Kitchen needs an upgrade to the grill and replacement of the ventilation hood.</td>
</tr>
<tr>
<td>Student Union</td>
<td>A renovation of the Wisconsin Room and adjoining areas is needed to address deteriorated operable partitions, finishes, accessibility issues, changing functional needs, along with improvements to electrical, lighting, and HVAC services. The food court needs renovation to reconfigure and refurbish tenant food preparation and serving areas, customer flow and seating areas, along with electrical, HVAC and plumbing services. A renovation of the Bookstore is needed to improve merchandising, lighting, HVAC and flooring. The ground level Terrace dining seating needs to be reconfigured for improved arrangements, traffic flow; replacement of worn flooring is needed along with improved lighting and HVAC service. The Rec Center needs renovation to address deteriorating scoring systems, bowling lanes, electrical and HVAC issues. Storage rooms 177/179 may be renovated for a multipurpose meeting space. Renovation of all the building's air handling units is needed to improve efficiency and controlability.</td>
</tr>
<tr>
<td>Theatre Building</td>
<td>The building systems are deteriorating with age.</td>
</tr>
<tr>
<td>University Services Bldg</td>
<td>The air conditioning system condensor water floods the property when it is heavily loaded.</td>
</tr>
</tbody>
</table>

HVAC issues are frequently due to age and often are best addressed in a Major Project renovation, however in some cases it may be expedient and cost effective to timely address an isolated HVAC issue (Cunningham). Some issues may not need to be folded into a major renovation but can be addressed in a capital maintenance project (Chapman, EMS Data Center). Some issues may be deferred until the long-term future of a facility is determined (Mellencamp) or a cost effective means is determined to renovate an entire building (Greene Museum).

**Electrical -**

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumni House</td>
<td>The building systems are deteriorating with age.</td>
</tr>
<tr>
<td>Arts Center Lecture Hall</td>
<td>The building systems are deteriorating with age.</td>
</tr>
<tr>
<td>Bolton Hall</td>
<td>The emergency generator requires frequent maintenance and is overloaded.</td>
</tr>
</tbody>
</table>
- **Campus**
  Campus clocks are wearing out and replacement parts are becoming very expensive.

- **Chemistry Building**
  The labs services are insufficient and do not meet current research standards.

- **EMS Building**
  The lab services are insufficient and do not meet current instructional and research needs.

- **GLRF**
  The emergency power generator does not have adequate capacity and has deteriorated with age.

- **Golda Meir Library**
  The building systems are deteriorating with age. The facility does not meet current information technology standards. The east wing needs more emergency generator power. Stage One electrical panels are becoming overloaded and tripping out.

- **Greene Museum**
  The building systems are not fully functional.

- **Holton/Merrill/Johnston/Greene**
  The emergency generator requires frequent maintenance and is overloaded.

- **Kunkle Center**
  The building systems are deteriorating with age.

- **Mellencamp Hall**
  The building systems are deteriorating with age.

- **Mitchell Hall**
  The building systems are deteriorating with age.

- **Music Building**
  The building systems are deteriorating with age.

- **Physics Building**
  The lecture halls, classrooms and labs need better lighting to meet current instructional standards. There is inadequate service for research and computer equipment.

- **Sandburg Hall**
  The cable television wiring in the North, South, and West Towers needs replacing.

- **Student Union**
  A renovation of the Wisconsin Room and adjoining areas is needed to address deteriorated operable partitions, finishes, accessibility issues, changing functional needs, along with improvements to electrical, lighting, and HVAC services. The food court needs renovation to reconfigure and refurbish tenant food preparation and serving areas, customer flow and seating areas, along with electrical, HVAC and plumbing services. The atrium light fixtures need to be replaced for improved coverage and quality. A renovation of the Theatre is needed to replace and upgrade lighting, seating, stage curtain system and electrical systems. The 3rd floor student organization office spaces need improved telecommunications services. A renovation of the Bookstore is needed to improve merchandising, lighting, HVAC and flooring. The ground level Terrace dining seating needs to be reconfigured for improved arrangements, traffic flow; replacement of worn flooring is needed along with improved lighting and HVAC service. The Rec Center needs renovation to address deteriorating scoring systems, bowling lanes, electrical and HVAC issues. Storage rooms 177/179 may be renovated for a multipurpose meeting space.
Theatre Building  
The building systems are deteriorating with age.

Electrical issues are frequently due to age and often are best addressed in a Major Project renovation, however in some cases it may be expedient and cost effective to timely address an isolated issue such as emergency power deficiencies (GLRF). Some issues may be deferred until the long-term future of a facility is determined (Mellencamp) or a cost effective means is determined to renovate an entire building (Greene Museum).

Elevators/Lifts -

- Alumni House  
The upper floors are not accessible.

- Art Building  
The traction elevators are deteriorating with age and need code compliance upgrades.

- Chemistry Building  
The traction elevators are deteriorating with age and need code compliance upgrades.

- Enderis Hall  
The traction elevators are deteriorating with age and need code compliance upgrades.

- Engelmann Hall  
The hydraulic elevator cylinder is beginning to leak below grade.

- GLRF  
The freight elevator requires frequent maintenance.

- Music Building  
The traction elevators are deteriorating with age and need code compliance upgrades.

- Purin Hall  
The elevator needs a controls upgrade.

- Student Union  
The two passenger and three service elevators will soon need repair of electrical grounding and upgrades to roller tracks and the passenger cabs.

Elevator issues are frequently due to age but also because of new code compliance reasons. Issues that occur in several buildings may be best addressed as a single capital maintenance project (Chemistry, Art, Music). Elevator issues may be deferred when a Major Project to renovate an entire building is planned.

Fire Protection -

- EMS  
The Data Center fire suppression system is outdated and non-functional. Fire safety egress routes are being compromised by night-time building security issues.

- Hefter Center  
The third floor fire protection system is inadequate.

Fire Protection issues are often resolved collectively in All Agency projects unless a specific major capital remodeling project occurs which will typically includes this system.

Central Utilities -

- Edgewood Avenue  
The municipal combined sewer system cannot handle heavy rains.

- Electrical Substation East  
The primary electrical gear is aging and switching is problematic.

- Heating Plant  
The steam chillers operational efficiency is poor and there is no backup chiller capacity left in the system.
• Utility tunnels The chilled water mains contain old rust buildup in many areas. Utilities issues arise with age and in many cases the scale of the problems will require a capital maintenance project to resolve the issues. Since multiple facilities may be affected by operating problems or disruptions, utilities issues are often given high priority for capital improvements.

Equipment & Furnishings -
• Bolton Hall The classrooms are showing wear and do not meet current instructional technology standards.
• Business Administration Replacement of the parking facility revenue control equipment is needed. Improved signage and graphics for the parking facility are needed.
• Campus Electronic transportation information kiosks are needed. Replacement of the parking meters is needed. A software update for managing parking permits and citations is needed.
• EMS Building Improved signage and graphics for the parking facility are needed.
• Enderis Hall The classrooms are showing wear and do not meet current instructional technology standards.
• GLRF The unused clay storage silos are taking up otherwise usable space in the western end of the building.
• Purin Hall The apartment kitchens need an upgrade of appliances.
• Sandburg Hall The Cafeteria/Kitchen needs an upgrade to the grill and replacement of the ventilation hood. Improved signage and graphics for the parking facility are needed.
• Student Union An upgrade of building signage and kiosks is needed for expanded informational and promotional uses. Replacement of the parking facility revenue control equipment is needed.

Large-scale equipment and furnishings issues may be deferred if a Major Project to renovate a building is planned. Issues in classrooms and lecture halls are often planned to be addressed with funds that have been channeled for classroom upgrades and instructional technology improvements.

Site Improvements -
• Campus A security and bus waiting shelter is needed at the off-campus UPark parking lot at Capitol/Humboldt. A potential new off-campus UPark parking lot is needed to offset the loss of some lakefront UPark areas. A potential expansion of the main campus may include the purchase and renovation of the Columbia/St. Mary's Hospital parking garage and surface lots.
• EMS Building The concrete entrance driveway to the parking facility is deteriorating.
• Enderis Hall Renovation of the small surface parking lot behind the building is being planned along with a storm water improvements project.
• Engelmann Field  The sidewalks surrounding the field are tilting and retaining walls are moving.

• Hartford Avenue  The municipal thoroughfare is not well defined as a university campus environment.

• Heat Plant  Renovation of the surface parking lot is being planned along with a storm water improvements project.

• Kunkle Center  The sidewalk and driveway at the small surface parking lot is deteriorating.

• Lapham Hall  The east plaza has deteriorated and has unsafe conditions.

• Maryland Avenue Bridge  The municipal thoroughfare is not well defined as a university campus environment. Exterior lighting wiring and fixtures are problematic.

• Sabin Hall  Renovation of the small surface parking lot behind the building is being planned along with a storm water improvements project.

• Sandburg Hall  The dock area driveway approach needs improvements for delivery access.

• Student Union  The overhang canopy at the main Kenwood Boulevard entrance/circle drive needs concrete rehabilitation work and to be modified for improved signage and esthetics. The exterior lighting around the building is poor and needs to be assessed for potential improvements. Landscape design and planting improvements are needed at the west, north, and south sides of the building.

• University Services Bldg  Trucks have difficulty accessing the fleet mechanics shop.

Site improvement issues may be deferred if a Major Project to renovate a building is planned. Municipal thoroughfare issues often depend on coordination with concerns of the municipalities.
Maintenance Issues Evaluation Process

The previous section listed UW-Milwaukee’s current maintenance issues. This section describes an evaluation process to determine how best to resolve these various issues.

Filter One - Acceptable Maintenance Issues

Some issues may not require a special capital maintenance project; instead they are traditionally funded as operational maintenance. Examples of operational maintenance issues are the gutter systems or the skylights at a building. Several significant issues within one building might require a major building renewal project to resolve, but due to limited funding opportunities it may be necessary to keep such a building underutilized or evacuated until such time as funds may be secured. In some cases, a building might not receive a substantial investment of maintenance funds because the long-term campus facilities plan anticipates that the building will be removed. When the long-term future of a building is not certain, maintenance issues may be deferred. These then define acceptable maintenance issues.

- Kunkle Center
  The entrance doors are high maintenance. The interior finishes are showing wear. There is no central air conditioning and the heating system is high maintenance.

- Purin Hall
  The apartment kitchens need an upgrade of appliances. The parking facility floor needs upgrading.

- Sandburg Hall
  The North, West, and South Towers need expansion joint repairs. The Cafeteria/Kitchen needs an upgrade to the grill and replacement of the ventilation hood. The North, West, and South Tower student room doors and closets need replacement. The domestic water heaters for the North, South, and West Towers need replacement. A renovation and upgrades for the Commons recreational room is needed. The cable television wiring in the North, South, and West Towers needs replacing.

- Student Union
  The 2nd floor patio at the 2nd floor lounge needs replacement to improve drainage, address spalling, and correct leaking into the building. Recaulking of the Concourse skylights is needed to address water infiltration.

Filter Two - Funded Maintenance Issues

These are current maintenance issues that are anticipated to be resolved in the near future through a project that has had funding secured but that has not yet been implemented. These may be funded through a state project or a campus funded project.

- Campus
  Replacement of the parking meters is needed. A software update for managing parking permits and citations is needed.

- Cunningham Hall
  The traction elevators have high maintenance and at end of life cycle. The lecture halls have old finishes, seating and dated media capabilities.

- EMS Building
  The parking facility needs new painting, signage, and graphics.
<table>
<thead>
<tr>
<th>Location</th>
<th>Condition Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enderis Hall</td>
<td>The traction elevators have high maintenance and at end of life cycle.</td>
</tr>
<tr>
<td>Engelmann Hall</td>
<td>The hydraulic elevator cylinder is beginning to leak below grade.</td>
</tr>
<tr>
<td>Garland/Pearse</td>
<td>The basement floor is very damp in rainy weather.</td>
</tr>
<tr>
<td>GLRF</td>
<td>The western half of the building does not have HVAC service. The freight elevator has frequent maintenance.</td>
</tr>
<tr>
<td>Golda Meir Library</td>
<td>The AGS collection special air conditioning system is high maintenance and at the end of expected life.</td>
</tr>
<tr>
<td>Heat Plant</td>
<td>The steam chillers efficiency is poor and costly fuelwise to run.</td>
</tr>
<tr>
<td>Mitchell Hall</td>
<td>The basement floor is very damp in rainy weather.</td>
</tr>
<tr>
<td>Student Union</td>
<td>Carpets on the entire 1st floor and 2nd floor hallway and lounge is showing wear patterns and needs replacing. New doors are needed at all stairwells to address safety issues and remove asbestos containing materials. The restrooms at basement, 2nd, and 3rd floors are in poor condition, upgrades are needed for flooring, fixtures, plumbing, and ADA accommodations. A renovation of the Theatre is needed to replace and upgrade lighting, seating, stage curtain system and electrical systems. A renovation of the Ballroom entrance is needed to improve functionality and accessibility. A leasehold copy center may need to move or combine with another building function, the present space may need to be renovated or remodeled. The Art Gallery needs an updated façade, the wood floor has deteriorated. Storage rooms 177/179 may be renovated for a multipurpose meeting space. The Bursars Office needs remodeling and renovation for an alternative use. Ceiling tile is selected areas needs replacing to improve maintenance access and esthetics. Stairwell treads and flooring need replacement to address safety and maintenance concerns and improve esthetics. The atrium light fixtures need to be replaced for improved coverage and quality. The two passenger and three service elevators will soon need repair of electrical grounding and upgrades to roller tracks and the passenger cabs. The doors and aluminum frame work at building entrances are deteriorated and need replacement to improve accessibility and address safety issues. An upgrade of building signage and kiosks is needed for expanded informational and promotional uses. The 3rd floor student organization office spaces need improved telecommunications services. The 3rd floor student organization office spaces may need to be expanded, reconfigured, and remodeled. The keying system needs to be updated to adapt to new systems for the campus and to meet the needs of student organizations. The exterior lighting around the building is poor and needs to be assessed for potential improvements. Landscape design and planting improvements are needed at the west, north, and south sides of the building. The southeast exterior stair has deteriorated and has unsafe...</td>
</tr>
</tbody>
</table>
conditions. Renovation of all the building's air handling units is needed to improve efficiency and controlability.

Filter Three - Unfunded Maintenance Issues with Planned Project Solutions

These issues are anticipated to be addressed in the future through a planned project or preferred solution that is listed in the Campus Physical Development Plan, or that were previously identified in a past biennium but are awaiting funding approval. The solutions have well defined project that await the proper funding avenue.

- **Alumni House**
  The roof is leaking and at expected life cycle.

- **Arts Building**
  The traction elevators have high maintenance and end of life cycle.

- **Bolton Hall**
  The roof is at the end of its useful life and leaks are beginning to appear. The emergency generator requires frequent maintenance and is overloaded.

- **Business Administration**
  A structural engineering evaluation of the condition of the parking facility is needed. Improved signage and graphics for the parking facility are needed.

- **Campus**
  A potential expansion of the main campus may include the purchase and renovation of the Columbia/St. Mary's Hospital parking garage and surface lots.

- **Campus**
  Campus clocks are wearing out and replacement parts are becoming very expensive.

- **Chapman Hall**
  The building lacks outside air in ventilation system.

- **Chemistry Building**
  The traction elevators have high maintenance and are at the end of their life cycle. The low-rise area roof is at the end of its useful life and beginning to have leaks. The teaching labs island casework with utilities is failing with replacement parts obsolete. The asbestos floor tile is old and deteriorating. The specialty plumbing systems with age are hardening and frequently breaking with parts obsolete. The research lab electric wiring is inadequate. The lecture halls have old seating.

- **Cunningham Hall**
  The restrooms have dingy appearance, are not gender sufficient, and lack ADA capacity.

- **Curtin**
  The entrance doors are high maintenance. The roof is leaking and at end of life cycle.

- **EMS**
  The data center has cooling units that are old and require excessive maintenance. The data center fire suppression is outdated and non-functional. The restrooms have dingy appearance, are not gender sufficient, and lack ADA capacity. Fire safety egress routes are being compromised by night-time building security issues. A structural engineering evaluation of the condition of the parking facility is needed.
• Enderis Hall  The shingle roof on the low-rise area is at the end of its useful life and beginning to leak.

• Engelmann Field  The sidewalks surrounding the field are tilting and retaining walls are moving.

• Englemann Hall  The emergency generator requires frequent maintenance and is overloaded.

• Garland/Pearse  The entire building lacks sufficient insulation in coldest of weather.

• GLRF  The emergency generation requires frequent maintenance and is overloaded. The unused clay storage silos are taking up otherwise usable space in the western end of the building.

• Golda Meir Library  The interior finishes are wearing out and electronic accessibility is limited. The east wing needs more emergency generator power. Stage One electrical panels are becoming overloaded and tripping out.

• Hefter Center  The windows leak and no longer operate. The third floor mechanical system is deficient and non-functional. The third floor fire egress and fire protection system is inadequate.

• Holton/Merrill/Johnston/Greene  The basement floor is very damp in rainy weather. The shingle roof is at the end of the useful life and beginning to leak. The emergency generator requires frequent maintenance and is overloaded. Many areas lack air conditioning and have increased heat loads.

• Kunkle Center  The sidewalk and driveway at the small surface parking lot is deteriorating.

• Mitchell Hall  The exterior sandstone de-laminating. The North Wing windows leak and no longer function. The entrance doors are high maintenance. The North Wing has no central air conditioning and the heating system is high maintenance.

• Music Building  The traction elevators have high maintenance and end of life cycle. Restrooms have a dingy appearance and repairs are frequent.

• Physics Building  The building roof is leaking and at end of expected life cycle. The envelope leaks during driving rain. The classrooms and labs surfaces and equipment are worn out. The lecture halls have old finishes, seating, and dated media capabilities.

• Sabin Hall  The slate portion of the roof is at the end of its useful life and beginning to leak.

• Sandburg Hall  A structural engineering evaluation of the condition of the parking facility is needed. Improved signage and graphics for the parking facility are needed. The West Tower roof is in need of replacement. A revolving entrance door is needed for the Commons. The North, West, and South Tower student room windows need replacing. The dock area driveway approach needs improvements for delivery access.
• Student Union  A structural engineering evaluation of the condition of the parking facility is needed. The food court needs renovation to reconfigure and refurbish tenant food preparation and serving areas, customer flow and seating areas, along with electrical, HVAC and plumbing services.

• Theatre Building  The entrance doors are high maintenance.

• University Services Bldg  The air conditioning system condensor water floods the property when it is heavily loaded. Trucks have difficulty accessing the fleet mechanics shop.

• Utility tunnels  The chilled water mains contain old rust buildup in many areas.

• Zelazo Center  The tile portion of the roof is at the end of its useful life and beginning to leak.

**Filter Four - Unfunded Maintenance Issues without Planned Project Solutions**

Some maintenance issues may not require an urgent solution because they have a relatively minor impact on building usage or the invested value in the building. Some issues may be planned as an upcoming routine maintenance project that may be deferred for several years without seriously effecting building use or value. The following issues have been evaluated as not immediately critical and therefore do not require resolution with the limited maintenance improvement funds that will be available in the next biennium.

• Alumni House  The windows leak and no longer operate. The heating system requires frequent repairs. The upper floors are not accessible for the disabled.

• Art Building  The interior finishes on the 3rd floor wearing out.

• Arts Lecture Building  The interior finishes and seating wearing out, and the HVAC requires frequent maintenance.

• Bolton Hall  The high-rise lacks air-conditioning.

• Business Administration  Replacement of the parking facility revenue control equipment is needed.

• Campus  Electronic transportation information kiosks are needed. A security and bus waiting shelter is needed at the off-campus UPark parking lot at Capitol/Humboldt. A potential new off-campus UPark parking lot is needed to offset the loss of some lakefront UPark areas.

• Chancellor’s Residence  The 2nd floor common bathroom finishes wearing out.

• Cunningham Hall  The main ductwork internal insulation is breaking apart and blocking the airflow.

• Curtin Hall  The classrooms finishes and furnishings are wearing out.

• Electrical Substation East  The substation electrical breaker problematic and high maintenance.
- EMS Building  
  The classrooms and labs have aging finishes and lighting needs. The labs have insufficient electrical capacity and the hoods are old and broken. The concrete entrance driveway to the parking facility is deteriorating.

- Greene Museum  
  The building exterior is degrading and interior finishes in poor condition.

- Maryland Avenue Bridge  
  Exterior lighting, wiring, and fixtures are problematic.

- Mitchell Hall  
  The North Wing has no a/c and the heating system requires frequent maintenance. The North Wing interior finishes aging. The restrooms have a dingy appearance and repairs are frequent.

- Music Building  
  The interior finishes wearing out.

- Purin Hall  
  The elevator needs a controls upgrade.

- Student Union  
  There is leaking from the parking facility lower level ceilings and the upper level exterior walls. Replacement of the parking facility revenue control equipment is needed. The overhang canopy at the main Kenwood Boulevard entrance/circle drive needs concrete rehabilitation work and to be modified for improved signage and esthetics. The ground level Terrace dining seating needs to be reconfigured for improved arrangements, traffic flow; replacement of worn flooring is needed along with improved lighting and HVAC service. The terrazzo on the ground and 1st levels has deteriorated and is difficult to clean. A renovation of the Bookstore is needed to improve merchandising, lighting, HVAC and flooring. The doors and aluminum frame work at building entrances are deteriorated and need replacement to improve accessibility and address safety issues. The 3rd floor student organization office spaces may need to be expanded, reconfigured, and remodeled. The stairwells have water infiltration problems and safety concerns. The Rec Center needs renovation to address deteriorating scoring systems, bowling lanes, electrical and HVAC issues. The eastern roof is at the end of its useful life.
2007-09 All Agency Project Requests

The preceding sections described an evaluation process to determine the highest priority near-term maintenance issues. This section describes All Agency and Program Revenue maintenance project requests that need to be addressed in the upcoming biennium. Project requests that were submitted in previous biennia but are pending funding approval are followed by an asterisk (*).

In a few cases, a project may be related to future planned Major Projects to renovate existing buildings. In all cases, there is a high need to address the maintenance work described in the near term rather than deferring these issues until such time as a major renovation project may occur. Each maintenance project may proceed independently of a future major renovation project without significant modifications to the future projects.

**General Purpose Revenue**

1. Project: Chemistry, Art & Music Buildings Elevator Upgrade *
   Estimated cost: $800,000
   This project will replace all the operating mechanisms, controls, doors, and motive systems to current standards and address ADA accessibility requirements in the Chemistry Building, the Art Building, and the Music Building. The Chemistry Building has two (2) elevators serving nine (9) floor stops, the Art Building and the Music Building each have one (1) elevator serving five (5) floor stops.

2. Project: Alumni House Roof Replacement *
   Estimated cost: $318,000
   This project will completely replace the existing Cotsworth type slate roof with new slate. The nailable concrete roof deck will have new 3/4" plywood overlay for the new slate to sit on. Copper sheet metal flashings and new copper gutters with enlarged scuppers and downspouts will be incorporated along the northern porches. The roof work will include both the north porch upper and lower roof sections. The lower porch existing door will be blocked in to create a window. Roof area is 8,200 square feet.

3. Project: Physics Building South Wing Roof Replacement *
   Estimated cost: $210,000
   This project will remove the existing roof and install a new roof on the south wing of the building.

4. Bolton Hall Roof Replacement *
   Estimated cost: $468,000
   This project will replace the entire roof system with a new 60 mil EPDM roof system. The existing roof is 24 years old and has experienced excessive damage in the last 5 years with the cell tower equipment being located on this roof.

5. Golda Meir Library Roof Replacement *
   Estimated cost: $371,500
   This project will replace the entire roof system with a new 90 mil EPDM roof system. The existing roof is 20 years old and has shrunken considerably with frequent failures occurring.
6. Sabin Hall Roof Replacement *
   Estimated cost: $400,000
   This project will replace the existing slate roof area with new slate. The nailable concrete roof deck will have a new 3/4" plywood overlay for the new slate to sit on. Copper sheet metal flashings and new copper gutters are to be included identical to the original installation. The roof area is 7,700 square feet.

7. Project: EMS East Restrooms Renovation *
   Estimated cost: $400,000
   This project will remodel the four main public restrooms for the first and second floor of the east wing of the EMS Building. The men’s restroom E156 will retain the current number of fixtures and with a small wall modification and entry changes create a fully ADA accessible area. The women’s restroom E136 will expand into E134 increasing the number of fixtures from 4 to 8 and include ADA accessibility. The men’s restroom E217 will leave the walls in place but lose one fixture to gain ADA accessibility. The women’s restroom E207 will expand into E205 to increase the fixture count from 2 to 8 and create ADA accessibility. All four restrooms will receive new finishes, sinks, and new partitions.

8. Project: Cunningham Hall Restrooms Upgrade *
   Estimated cost: $500,000
   This project will update and expand restroom facilities all levels of Cunningham Hall. On the ground and first floor, the men’s rooms will expand G25 into G29 and 143 into 139 for additional fixture counts. The women’s rooms will relocate from G30 to G85 and from 130 to 185 & 189 for expanded fixture counts. Existing rooms G30 and 130 will become gender-neutral facilities. Existing restrooms in B130, B30, 330, 430, 530, 630 and 730 are to be renovated into ADA compliant gender-neutral facilities since there is only one restroom on each of these upper floors. All restrooms will receive new finishes, partitions, and fixtures.

9. EMS Data Center Cooling & Fire Protection Renewal *
   Estimated cost: $425,000
   This project will renovate the cooling and fire protection systems serving the Data Center located in the east basement of the EMS Building. The project will replace the three oldest Liebert unit computer room air conditioners and the dry coolers and pumps for the glycol coolant system. The project will also upgrade the fire protection system, including improving the sealing of walls, openings and ductwork, providing a new clean agent extinguishing system, a new fire detection system, and a new control panel to monitor the detection and suppression systems.

10. Garland/Pearse Perimeter Heating System Installation *
    Estimated cost: $200,000
    This project will add a preheat coil to the large air handler AC-1 supplying Garland / Pearse Halls, add preheat coils to the smaller air handlers AC-2 and AC-4 that supply the east wing of Pearse hall and install a new heat exchanger-pump set to feed hot water to these new coils.

11. Chapman Hall Ventilation Improvements *
Estimated cost:  $150,000
This project will correct outdoor makeup air deficiencies in Chapman Hall. Outdoors makeup air service will be restored by re-using an existing abandoned air handling unit and upgrading the heating coil; adding a cooling coil; reactivating existing ductwork, diffusers, and grilles; and minor cleaning and repairs as needed.

12. Mitchell Hall North Wing Storm Window Installation *

Estimated cost:  $275,000
This project will install operable aluminum storm windows on all the existing single pane double-hung windows on the North Wing of the building.

13. Hefter Center Storm Window Installation *

Estimated cost:  $305,000
This project will install exterior storm windows on the existing single pane windows on the building.

14. GLRF Emergency Generator Replacement *

Estimated cost:  $350,000
This project will provide and install a new ground-mounted self-contained 500 KW diesel generator in an outdoor enclosure to provide emergency power. A new emergency electrical room will be constructed within the existing main electrical room to contain new automatic transfer switches, distribution panels, step-down transformers and related equipment.

15. Chemistry North Wing Laboratory Services Renovation

Estimated cost:  $2,790,000
This is the first of a two-phase project series, this project will conduct the following work in the North Wing only unless otherwise noted:

a) Remove and replace laboratory plumbing branch distribution piping and valves including services for domestic water, treated water, acid waste, acid vent, and vacuum. Acid waste risers within the North Wing chase will be replaced. Gas distribution piping and valves may be replaced if it is determined to be cost effective.

b) Remove and replace integral benchtop sinks and casework supporting such sinks. Existing casework without integral plumbing services will remain.

c) Remove and replace emergency showers and eyewash units.

d) Upgrade electrical power distribution capacity.

e) Replace motor control centers for HVAC and plumbing equipment in the entire Chemistry Building.

f) Relocate an existing autoclave from North Wing mechanical room B4 to a laboratory location in the building to be determined.

g) Conduct asbestos floor tile and mastic abatement in major corridors where construction activity is likely to occur, corridors will receive new vinyl resilient tile and base.

Existing fume hood equipment will remain, it may be necessary to remove/store/reinstall some this equipment and associated branch ductwork to conduct other construction work. In areas in which it may prove cost effective to demolish laboratory demising walls to replace plumbing systems distribution, the walls will either be replaced in kind, or, to suit
new larger laboratory room configurations, some walls might not be replaced, with minor adjustments to adjoining finishes and casework or electrical and telecommunications services.

16. Chemistry Low Rise Roof Replacement

Estimated cost: $214,900

17. University Services Building Chiller Installation

Estimated cost: $317,500

This project will purchase and install a new 220-ton air-cooled water chiller to provide chilled water to the existing building air handlers. Piping will be routed from the outside parking lot location to Second Floor location of the existing building header lines.

18. Merrill Hall Journalism Laboratory Relocation

Estimated cost: to be determined

This project will relocate six journalism teaching labs from the basement of Johnston Hall to 3,800 asf in adjoining Merrill Hall. Humidity and HVAC conditions in the current basement labs are not conducive to computing and electronic journalism equipment. The narrow room widths and low ceiling heights do not facilitate journalism instruction and growing enrollments. Relocation to Merrill Hall will provide appropriate room configuration with the capacity to address the necessary HVAC and electrical improvements required.

19. Hefter Center 3rd Floor Code Compliance & HVAC Addition

Estimated cost: $1,222,000

This project will replace an area of 11,000 square feet of outdated heating system service and provide for the increase of 4,000 square feet of service area to allow usable office space including changes along the secondary egress path from the presently unused third floor. The project will replace the steam heating system serving the first floor atrium and the second and third floors with a 4-pipe fan coil heating and cooling system. The new installation will include a new water chiller and hot water exchanger and circulating pump unit in the basement to supply the new system. Repairs will be made to the third floor rooms from damage that was caused due to abandoned heating and cooling systems as well as electrical upgrades throughout the third floor and restoration of the restrooms. A proper fire safety egress corridor will be created on the second floor to connect the southern stairwells for the second exit from third floor. Along with the new HVAC service for the atrium and the second floor, this project will replace the deteriorating atrium windows with energy efficient and historically appropriate new windows, and the second floor will receive electrical capacity upgrades.

20. Alumni House Window Replacement, HVAC and ADA Improvements

Estimated cost: $2,095,000

This project will replace all of the building's exterior windows and repair the existing wood window trim. The existing steam heating system will be replaced with a 4-pipe fan coil system. The boiler will be replaced, a hot water pumping system and a water chiller system will be added. ADA compliant ramps and a three-floor elevator will be added, and ADA compliant restrooms will be created. The existing kitchen fixtures will either be repaired or
replaced. Electrical power distribution will be increased on all floors to meet current needs. Interior finishes will be refurbished on the Second and Third Floors.

21. EMS Building Fire Egress & Security Improvements

Estimated cost: tbd

22. Curtin Hall & Golda Meir Library Electrical Panel Replacement

Estimated cost: $229,000

This project will provide and install new electrical distribution panels, motor control centers, and one new transformer complete with small electrical closets to conceal the new panels and match existing walls.

23. Utilities Tunnels Chilled Water Piping Insulation

Estimated cost: $1,850,000

This project will reinsulate the chilled water piping in the utility tunnel system with 2” thick fiberglass for approximately 75% of the tunnel length and ½” thick armaflex for the remaining 25% in excessively wet zones. All insulation will receive .030 white PVC vapor jacketing. Inspection of the existing piping will allow a few areas of accelerated pipe corrosion to be corrected before new insulation and vapor barrier is installed.

24. Utilities Tunnels Piping Support & Envelope Leak Repairs

Estimated cost: $315,000

This project will replace the piping support columns for steam and condensate piping throughout the utility tunnel system. Stainless steel will be provided for mounting plates, ceiling anchors, and square tubing for vertical members. Welded construction will be required. Water entry into tunnels will be addressed at points of tunnel penetrations to minimize intrusion. Repairs will be made to horizontal supports with stainless components at a few locations, at one of these locations 25 feet of 30” diameter chilled water return pipe will be replaced.

25. Heat Plant Chilled Water Distribution Pump Installation

Estimated cost: $249,000

This project will purchase and install a 300 horsepower chilled water distribution pump and install piping in parallel with the two existing pumps of similar size in the basement of the Heat Plant.

26. Fleet Service Facility Relocation to University Services Building

Estimated cost: $508,000

This project will construct a new fleet services garage building at the USB site and move the equipment from a temporary location at the Grounds Building on campus.

27. EMS Building Research Laboratories Renovation

Estimated cost: tbd
28. Merrill, Holton, Johnston, Greene, Pearse, Garland & Vogel Sandstone Renovation

   Estimated cost:  $1,905,000

   The project will replace deteriorated and delaminating sandstone decorative facing around the base, windows, and doorways of the Downer buildings.

29. Campus Clock System GPS Upgrade

   Estimated cost:  $475,000

   This project will replace the hard-wired campus clock system with a wireless GPS based system.

30. Engelmann, Bolton & Holton Emergency Generators Replacement

   Estimated cost:  $295,000

   This project will replace the existing natural gas generators at Engelmann Hall and Bolton Hall with new natural gas generators and replace the existing diesel generator at Holton Hall with a new natural gas generator.

31. Engelmann Field Sidewalks & Retaining Wall Replacement

   Estimated cost:  $320,000

   This project will re-build approximately 600 lineal feet of retaining walls on the north and south sides of Engelmann Field. The existing walls will be replaced with a reinforced cantilever design. Walkways will be replaced on both sides, landscaping will be replaced on the south side, and seating replaced on the north side.

32. Holton, Merrill, Johnston & Greene HVAC Improvements

   Estimated cost:  $3,480,000

   This project will install new chilled water lines from the central plant distribution system to this complex of buildings and replace the heating-only system with a 4-pipe fan coil system.

33. Bolton Hall HVAC Addition to Tower Perimeter Rooms

   Estimated cost:  $1,017,000

   This project will add a 4-pipe fan coil air conditioning system to the north, south, and west perimeter rooms of the building's Fourth through Eighth Floors.

34. Chemistry South Wing Laboratory Services Renovation

   Estimated cost:  $2,940,000

   This is the second of a two-phase series project, this project will conduct the following work in the South Wing only:

   a) Remove and replace laboratory plumbing branch distribution piping and valves including services for domestic water, treated water, acid waste, acid vent, and vacuum. Gas distribution piping and valves may be replaced if it is determined to be cost effective.
b) Remove and replace integral benchtop sinks and casework supporting such sinks. Existing casework without integral plumbing services will remain.

c) Remove and replace emergency showers and eyewash units.

d) Upgrade electrical power distribution capacity.

e) Replace existing fixed seating in three lecture halls.

f) Conduct asbestos floor tile and mastic abatement in major corridors where construction activity is likely to occur, corridors will receive new vinyl resilient tile and base.

Existing fume hood equipment will remain, it may be necessary to remove/store/reinstall some this equipment and associated branch ductwork to conduct other construction work.

35. GLRF Hazardous Waste Relocation, Clay Disposal & Silo Demolition *

Estimated cost: $701,700

This project will relocate the existing 621 ASF Hazardous Waste Facility presently located in rooms 192-195A from beneath seven large elevated storage silos. Silica-containing clay will be removed from the silos followed by the demolition and removal of the silos, associated equipment, and the platform and the support columns on which the silos stand.

36. Norris Health Center Elevator ADA Accessibility to Second Floor

Estimated cost: $381,000

This project will extend the existing two-stop elevator to a third stop on the upper floor and modify the roof to accommodate the shaft extension.

37. Greene Museum Renovation

Estimated cost: $1,500,000

This project will completely renovate an existing building which is on the National Register of Historic Places and State Register of Historic Places. Included will be: the addition of an ADA compliant exterior ramp for direct access to the main/upper display level; complete replacement of all windows, doors and skylight; foundation repairs as needed; complete interior renovation of all spaces and utility services upgrades including new plumbing, HVAC and electrical services; addition of an elevator and ADA compliant restrooms; paving, sitework, and landscape plantings renewal. All work will comply with Wisconsin Historical Society guidelines for the renovation of historic buildings.

38. Saukville Field Station Conference Center Building *

Estimated cost: $ 500,000  (dependent on $250,000 matching Gifts/Grants)

This project will construct the next component of the Field Station master plan to create a new 2,000 ASF / 2,500 GSF single story multipurpose building for meetings, workshops, presentations, and dining. The building will include a 1,000 ASF Meeting Hall that will accommodate a variety of furniture and equipment settings. A 250 ASF Kitchen will be provided with pass-through counter access to the Meeting Hall. Both the Meeting Hall and the Kitchen will have adjacent Dry Storage rooms of about 75 ASF each. Also included in the building will be 300 ASF each Men’s and Women’s Restrooms with Showers and changing space. Adjacent to the Central Hall will be a Screened-in Porch of about 300 SF on one side of the building and an exterior Covered Porch of about 360 SF along the entire
opposite side of the building. The Restroom/Shower rooms will be accessed from doorways from the exterior Covered Porch to accommodate field groups. The construction of the building is anticipated to be single story slab-on-grade; the building will include about 100 to 150 GSF for utilities equipment. The design of the new building will be consistent with the concepts that have been established in the master plan for the site. Site work will include accommodations for pedestrian movement between the other buildings and vehicle delivery access to the Conference Center Building. Final landscape planting will be provided by the Field Station faculty and staff.

39. Campus Chilled Water Winterizing *
   Estimated cost: $400,000
   This project involves modifications to campus air handlers that do not presently have preheated coils. In most of these units, project work will involve improving air mixing in the mixed air plenum with the addition of air blenders plus the addition of proper freeze stats. Where this would prove impractical, isolation valves and coil water side by-pass loops will be installed. At the central Heating Plant some additional piping by-passes will be required to allow chiller maintenance in the winter season to occur. In this way, water will remain in the pumped loop year round with minimal water flow maintained, increasing as coil temperatures dropped.

40. Maryland Avenue Development *
   Estimated cost: $175,000
   This project will address landscape elements and streetscape features that promote pedestrian circulation along Maryland Avenue and provide unifying design elements to enhance campus aesthetics and safety. Pedestrian safety concerns will be addressed through coordinated placement of mid-block crossing plazas or distinct crossing zones at intersections. Pedestrian paths will be sufficiently sized and framed with appropriate plantings or accent materials to enhance their separation from vehicles.

41. Hartford Avenue Development *
   Estimated cost: $210,000
   This project will provide landscaping, create small exterior seating areas, and paving improvements to enhance the exterior spaces and streetscape for pedestrians along Hartford Avenue.

42. Edgewood Avenue Sewer Improvement Assessment *
   Estimated cost: $1,000,000
   The City of Milwaukee is planning to upgrade their 56" combined sewer along East Edgewood Avenue, which borders the northern edge of campus. Portions of the campus sewer system drain into this municipal sewer system. The City of Milwaukee will design, bid, and construct the sewer improvement project. This request will address the University’s assessment for the municipal sewer improvements.

Non-General Purpose Revenue

1. Sandburg Hall Commons Roof Replacement
   Estimated cost: $450,000
This project will replace the roof on the Commons area which connects the four high-rise residence halls and serves as the dining, central office, and recreational space for the students. The existing 35,000 sq. ft. roof was replaced in 1982 with a standard built-up system. The roof is now showing signs of general failure.

2. Student Union Wisconsin Room Renovation
Estimated cost: $1,750,000
This project will remodel and refurbish the venue and adjoining service areas to serve the changing needs of the facility, increase the efficiency of electrical, HVAC and mechanicals and to resolve safety concerns, update finishes and fixtures and correct accessibility issues. The rooms and spaces that are anticipated to be included in the scope of this project are (but not limited to) E229, E229A&B, E235, E245, E245A, E200A, E, Q & F, E255, E259, E261, E263, W200A, W209, W289, E361 and E450.

3. Student Union Food Court Remodeling *
Estimated cost: $975,000
This project will reconfigure the food service spaces in the Student Union food court area to improve efficiency. Equipment will be relocated and finishes will be refurbished. Plumbing, HVAC, and electrical systems will be reconfigured as necessary to serve the revised plan and to comply with applicable codes.

4. Sandburg Hall Kitchen Remodeling *
Estimated cost: $850,000
This project will reconfigure the central kitchen spaces to improve the efficiency of food service operations. Equipment will be relocated and finishes will be refurbished. Plumbing, HVAC, and electrical systems will be reconfigured as necessary to serve the revised kitchen plan and to comply with applicable codes.

5. Sandburg Hall Commons Expansion
Estimated cost: $450,000
This project will expand the existing building onto a section of patio space that is underutilized. This 2,500 square foot expansion will provide additional recreational space on both the first and second floors of the Commons.

Estimated cost: $280,000
This project will reconfigure and resurface four existing asphalt surface parking lots with approximately 6,800 square feet of new paving and new paint striping layouts. A pervious paving material will be used where feasible. The new configuration of vehicle pathways and parking spaces will improve access for students to the Norris Health Center. The majority of the existing parking meters will be replaced with new sign posts and space designated signs to serve two new parking revenue control electronic paystation locations including three-sided lighted glass shelters. Existing perimeter concrete curb and gutter, catch basins, lighting and landscape materials will be reused or restored in kind if disrupted by construction. Below grade utilities are not anticipated to be effected. The new configuration is anticipated to provide approximately the same total number of parking spaces as presently exist (86).
Appendices
Appendix A: Campus Physical Planning Principles

Introduction

The purpose of this document is to define the basic principles for planning the physical development and maintenance of the University of Wisconsin System campuses. The Board of Regents expects each institution to apply these principles in capital planning. It is important that, before engaging in the planning or design of new buildings, major renovations, campus exterior developments, or other changes in the physical makeup of a campus, that these principles be effectively communicated to all people involved in planning. Planners, faculty, staff, students, and consulting architects and engineers should be challenged to demonstrate how their plans and designs accomplish the goals of these principles. As design continues, plans should be continually reevaluated by appropriate levels within the institution and System Administration to ensure that the goals of these principles are accomplished to the maximum extent possible.

The buildings and other physical facilities that comprise a campus play a vital role in carrying out the missions of the UW System and its institutions. While the people of the State of Wisconsin spend large sums of money supporting year-by-year operating costs for instruction, research, and public service, the investment in the physical plant is also substantial. The quality of the physical facilities contributes immeasurably to the offering of quality educational and research programs and the overall image of the universities. Planning succeeds when those who use the campus and those who participate in its creation learn to appreciate its value, understand its power to enhance the educational process and human life, and become active advocates for excellence in the built environment.

Sound physical planning must take into account long-range program directions and the facilities needed to support those directions. Good planning means thinking beyond what may be newly required; it means planning the wise stewardship of existing physical facilities. This stewardship role involves making the best possible use of existing facilities, seeking capital funding for major maintenance and renovation, and maintaining adequate operating budgets to ensure appropriate ongoing routine and preventive maintenance. Judicious planning will result in cost-effective measures to assure the highest and best use of available resources.

Sustainability should be an element of all physical planning. Sustainability is defined as the ability to meet our needs today without compromising the ability of future generations to meet their needs. Planning efforts should maximize desirable features of the natural environment, minimize damage to that environment, and minimize depletion of resources in the construction and operation of facilities.

These planning principles are intended to guide the UW System campuses in a continuing evaluation of the facilities needed to support university programs. The planning and implementation process for projects often spans a number of years, and planning decisions made in one year must consider the physical accommodation of university programs several years beyond that time frame. Accordingly, these planning principles are set forth in the context of projected university missions and programs.
Principles for Campus Physical Planning

These principles will be applied during the planning process to provide direction for planning decisions and to help insure the resultant plans include necessary considerations.

- To plan physical development within the context of planning guidelines specific to each institution.

  Each university must formally maintain and apply policies and guidelines that are responsive to these planning principles, unique to the university, and provide a framework for campus improvements. Each University has a distinctive "character" reflecting the unique programs and environment relating to its location and history. Campus development plans should capitalize on available programs and themes, enhance them, and introduce complementing themes that together establish a feeling of harmony while reflecting the multi-disciplinary nature of the campus with its surroundings. Guidelines should address both facility interiors and exteriors. Materials and finishes, lighting, pedestrian, bicycle and vehicular circulation, landscaping, open spaces and activity areas, all add distinctive character and integrity to a campus. All capital maintenance and improvements planned and implemented at each university must be within the framework provided by these principles and the guidelines unique to the university.

- To create a physical environment that contributes aesthetically and physically to the overall educational experience.

  Physical facilities are an integral part of the educational experience and, by their makeup and appearance must enhance the quality of the university and its programs and the areas around the campus while strengthening the identity of the university. The physical appearance, character, and integrity of a campus stand as indelible statements of the nature and values of the institution, the community, and of those who work at and visit the campus. The physical attributes can add a rich dimension to the experience each person derives from association with a university. Students and employees appreciate the value of pleasant, useful surroundings that promote successful endeavors upon which a university thrives. Campus open spaces should create a strong positive identity and project a sense of place that reinforces a people-oriented environment, encouraging social interaction and educational discourse. Interior environments should be people-oriented, should enhance formal and informal social interaction, and should provide connections to the exterior environment through daylight and views. The total development should enrich all those who experience the working and learning environment of a campus.

- To plan facilities on the basis of student enrollment and other population levels and distributions which may reasonably be projected.

  Enrollments are being managed through Regent enrollment planning. The physical environment must be correlated to proper populations of students, faculty, staff and other members of the university community. This concept is relevant to all interior and exterior developments.
• To plan facilities that are responsive to programs and the way they are delivered. Modern methods of teaching and learning require various types of spaces.

Planning must go beyond traditional thinking in terms of classrooms, laboratories, libraries, etc. to create a contemporary environment that will enable students to succeed. For example: research is increasingly conducted collaboratively by faculty and undergraduate students; students need space to work together in small groups both in the classroom or lab and in other campus facilities; the roles of the student union and library are evolving to encourage more interaction between students and faculty; etc. A variety of contemporary technologies are available to support these efforts. Planners must be aware of these trends and tools and integrate them into campus plans. Changing programs and methods of teaching and research, and the expansion of knowledge will continue to generate changing facility needs. New programs will continue to be added; others may be discontinued. As some programs increase in size, others will decline. Facilities planning must include a vision for the future and incorporate flexibility and adaptability in the design and use of facilities to the greatest extent possible to address ever-changing programmatic needs.

• To recognize the increasingly diverse student population, and to provide for the needs of these students.

Awareness should be heightened to understand and address the needs of diverse student populations. Among these are students of various age groups, ethnicity, and special needs. The number of non-traditional students is increasing as individuals, businesses, and communities recognize changing needs in the work place, communities, and personal lives. These students are typically from outside the traditional eighteen to early twenty year-old population and include both younger and older age groups. There is a growing focus on higher and continuing education, and lifelong learning. Efforts to increase multi-cultural student enrollments and accommodate students with special needs should be accompanied by providing appropriate environments. Learning tools and methods for delivering instruction are evolving to meet the educational needs of all students, and new and innovative technologies are being utilized to support varying methods of instructional delivery. Distance learning capabilities, housing, day care, and other special facilities which improve access to university programs, must be considered as part of the contribution facilities will make toward enabling quality programs to be delivered to the greatest number of people and providing special amenities to promote student success for all.

• To maintain an ongoing comprehensive building space management function and a comprehensive space use plan specific to the university.

Each university must formally maintain and apply policies and guidelines that provide a framework for managing building space. The ongoing space management program of each university must consider foreseeable program changes, maximizing effective and efficient use of existing space. Building space is a major university resource making it essential to manage all existing building space, to continually assess whether changes are needed to more effectively meet program needs. Reviewing alternatives such as the reassignment of spaces, changes in scheduling, remodeling to enable more effective sizing of classes must be a continuing effort to meet program needs, maximize the efficient utilization of space, and minimize the impact on the operating budget. Proposals for new construction must demonstrate all feasible alternatives for the use of existing space have been thoroughly explored. An effective space management function
is essential to managing university space and preparing comprehensive justification for capital expenditures.

• To make optimal use of all existing UW System facilities through renovation, conversion, and remodeling wherever possible.

It is recognized that optimal use may require substantial dollar investments to upgrade and remodel and, where appropriate, convert existing facilities to new uses. When considering facility requirements, universities should first examine the potential use of available existing space as an alternative to new construction. Given the heavy investment in physical plant, the UW System must continually pursue modernization, modification, renovation, and remodeling of these facilities in order to protect that investment, and to extend the useful life to the maximum. Because of changing program needs and the requirements of modern teaching and research practices, a number of the older facilities will require functional changes and updating to properly accommodate programs whose character has changed.

• To protect the large investments already made by students and the state in the physical plant and equipment.

With a significant investment in facilities located throughout the state, it is clear the UW System must protect, maintain, and enhance the investments for future generations. Four areas of focus relate to this principle:

Health and Safety - To assure that proper consideration is given to the health and safety of all who use university facilities. Correction of health and safety code violations cited by either state or federal regulatory agencies must be given priority consideration. The state's moral obligation to provide a safe environment may result in corrective actions, whether or not a violation exists. Facilities should be planned with the use of systems and materials that will maintain a healthy and safe environment throughout the life of those facilities.

Maintenance - To properly maintain all existing facilities, promoting maximum usefulness for program objectives, and to extend the useful life of facilities as long as economically feasible. High priority must be given to repair work on facility structural systems, the exterior building envelope, building systems (such as mechanical, electrical and plumbing) utility services, telecommunications and other support systems necessary for a building to function.

Accessibility - To develop an overall environment that is accessible to people with disabilities and to remove existing barriers that obstruct access to university buildings and facilities. Institutions must evaluate facilities to determine if they adequately accommodate persons with physical disabilities. Providing a barrier-free environment must be an inherent part of the planning process.

Resource Conservation - To achieve maximum efficiency in the consumption of resources. Planning must include efforts to minimize electrical energy and heating fuel consumption. All facilities should be evaluated for energy efficiencies, and construction projects should be initiated to promote energy savings. Alternative energy sources should be explored to reduce energy consumption, while maintaining an adequate environment for the conduct of instruction, research, and related programs. Facilities should be planned to accommodate the use of sustainable and recycled materials and to encourage recycling.
• To encourage collaboration, partnerships and innovation in planning.

Collaborative partnerships can foster economic revitalization, cultural enrichment, and community service. Physical planning should explore joint public-private ventures, multi-use facilities, interdisciplinary functions, and other collaborative innovations. Such options should be promoted to heighten public awareness, lead to funding opportunities, and to develop vital and sustaining partnerships. Jointly planned facilities should respond to missions and programs, improve community relations, promote the university's image, and take advantage of economies of scale. Collaborative use of federal, state and local grant funding programs should be encouraged to leverage state dollars for facilities development.

• To ensure facility development is compatible with the existing positive features of campus and neighborhood environs through joint university/community planning, addressing economic and environmental impact.

All University of Wisconsin campuses are located within a municipality, frequently adjacent to residential areas. The large size of university facilities and numbers of people using them greatly affect the areas surrounding the campuses and the lives of many people. All campus development should be considerate of the natural environment and the architectural integrity of its surroundings and should compliment and enhance existing positive features. A broad array of environmental concerns including clean air and water, aesthetics, traffic, parking and economics should be considered. Early involvement of the municipalities and the community is encouraged. Cooperative, compatible, sustainable development is an essential goal of campus planning, and the university has a responsibility to provide leadership to achieve this goal.

• To include students in the planning process whenever feasible, but always in the case of planning for student fee-supported projects.

State law and Regent policy require participation of students and users where appropriate in the formulation of plan elements supported by such fees. Self-amortizing projects may include residence halls, dining facilities, vehicular parking areas, student centers and unions, childcare facilities and, in some instances, recreational or athletic facilities. Regent policy seeks to assure student participation in planning decisions affecting segregated fees.

• To provide for the transportation system needs of the university community.

Attention must be given to pedestrian, bicycle, and motorized vehicular circulation to ensure that university needs are met within context of the transportation systems of the surrounding community. Appropriate signage and wayfinding systems should be encouraged. Vehicular circulation should be accommodated gracefully, respecting and not dominating the pedestrian-oriented campus. Parking design should be responsive to the distinctive elements of each campus master plan. Parking should be encouraged at the perimeter of the campus, and multi-modal transportation systems (walking, biking, riding buses/trains, etc.) should be encouraged to reduce the dependence on the automobile thus enhancing the central pedestrian core.
• To plan development at the UW Colleges in concert with the county and/or city in which the UW College is located.

State law provides that the construction cost of buildings at UW Colleges be financed by the counties and/or cities in which the campus is located. Local governments own the facilities that are leased to and operated by the UW System. The law enables the State Building Commission to authorize state funding for required special and movable equipment. While facility construction and renovation decisions are the prerogative of the respective local municipal bodies, the UW Colleges are responsible for effective space management and long-range facilities planning. The Board of Regents must be made aware of the operating budget implications and equipment needs as a result of College/Municipal planning. All facility improvements should respond to the mission of the UW Colleges.

• To join in Wisconsin's commitment to the recognition of the state's heritage through historic preservation of buildings and other facilities.

The university supports compliance with the policies adopted by the State Building Commission related to Sections 44.40, Wis. Stats., stating that each state agency shall consider the effects of proposed actions on historic properties. The State Building Commission has adopted explicit policies and procedures governing the planning and consideration of projects in order to preserve buildings and other facilities of historic value. The essence of these policies must be considered when making building program decisions.
Appendix B: Campus Space Use Plan

Introduction

The development of a Space Management plan on the Milwaukee campus has continuously evolved since the adoption of the Lapham Hall Addition Space Management and Utilization Plan (SMUP) in 1985. Although methods and formats have been modified since that study, it still serves as an important reference to provide a framework for future space use decisions. The numerous studies, reviews and data comparisons dealing with various space use issues have been molded into a comprehensive report that provides simultaneous consideration for a complex set of requirements.

Many of the existing UW-Milwaukee buildings were constructed by predecessor institutions, which did not include graduate instruction and research as a major priority. This patchwork has left the campus with facilities originally built with different intentions for other institutions and has often required creative assignment of the limited space available and has necessitated a great deal of compromise with respect to space quality.

The goals of Space Management are to make the best possible use of existing space and to plan for future space needs. Improvements to existing space and expansion of facilities and infrastructure are vital to address UWM’s Regent approved mission as a doctoral research institution. In order to evaluate the various space issues and address these long-range goals, the space management process seeks to determine the following:

- What space currently exists through accurate space inventory techniques,
- How space is being used through utilization reports and surveys,
- How space should be used according to acknowledged benchmarks and guidelines,
- Where additional space may be needed or reallocated between departments, and
- The most economical alternate to provide adequate space.

It should be recognized that the formulation of campus building space use and priorities is a continuous process due to the dynamic nature of University programs. Revisions will inevitably be required during the course of any plan or process. As a result the management of campus space and the reallocation of facilities must respond to new requirements and issues but at the same time maintain the vision of its long-term objectives.
Planning Issues

The planning issues have multiple implications in a Campus Space Use Plan, as objectives tend to overlap due to similar origins and related needs. The numerous programs at UW-Milwaukee and their diverse nature generate a vast amount of data and detailed information that has been condensed for this plan. The reference materials from which these summaries were developed are available from the campus upon request. In order to effectively present the space management objectives for the UW-Milwaukee campus, the planning issues have been organized in the following format:

- Section A: General Purpose Revenue (GPR) Supported Functions/Facilities
  - Part 1 - Program Related Issues
  - Part 2 - Infrastructure Related Issues
- Section B: Program Revenue (PR) Supported Functions/Facilities
  - Part 1 - Program Related Issues
  - Part 2 - Infrastructure Related Issues

Format

The following format was developed to present information in a consistent manner and to provide future flexibility so that issues may be easily updated, revised, or added without reprinting the entire document.

- **Category** -
  
  Each of the numbered categories represents an area of funding for either program related issues or infrastructure related issues. The two major funding sources are the General Purpose Revenue supported functions/facilities and Program Revenue supported functions/facilities.

- **Issue** -
  
  Within each funding category an issue is labeled along with a brief summary statement identifying the issue.

- **Description** -
  
  The elemental parts or problems of each issue are described to provide a background of conditions, constraints, and significant factors.

- **Alternatives** -
  
  Each alternative is listed in non-priority order and labeled with a small letter a), b), c). The listing of alternatives is recorded to give evidence of the search for effective and efficient solutions and the related pros and cons of each alternative.

- **Recommendation** -
  
  The chosen solution is identified with the supportive justification and the reasoning, which discounted the other alternatives.
A. General Purpose Revenue (GPR) Supported Functions / Facilities

Part 1: Program Related Issues

Providing space for the basic needs of specific programs has been a primary issue and catalyst of campus space use planning at UW-Milwaukee. Space shortages develop on specific disciplines due to various factors. These include enrollment changes, specialized instruction, program diversification, technology updates, curriculum requirements, and research needs to name a few.

A1-1: The Physics Department has experienced exceptional growth at all academic levels and cannot continue to accommodate their instructional and research programs within its existing limited space.

A1-2: The Golda Meir Library is experiencing compaction of space as it strives to meet its traditional learning functions and interdisciplinary research needs in information resources, media and emerging electronic technologies.

A1-3: The College of Health Sciences lacks sufficient space to address the current growth of enrollments in new academic programs and has a significant research space shortage as a result of rapidly growing extramural funding in health related fields.

A1-4: With the growth in the Great Lakes WATER Institute scientific program and centers over the past decades and with more growth planned for the future, existing laboratory and office space can no longer accommodate the expanding research and training programs at the harbor campus.

A1-5: Present facilities are not adequate to address the current growth of instruction, clinical learning within the College of Nursing and limits its ability to offer an adequate academic environment.

A1-6: The academic programs within the Helen Bader School of Social Welfare and the School of Education are overcrowded in Enderis Hall space that was not designed to address the full range of programs and activities currently offered.

A1-7: Several administrative units of the Graduate School have inadequate and unsuitable space for serving students, faculty, and staff.

A1-8: Units within Student Affairs have expanded their student service functions and outgrown present space assignments.

A1-9: Student academic service space is decentralized and insufficient to address growing program needs and in substandard facilities.

A1-10: The College of Engineering and Applied Science has a severe shortage of office space and lacks adequate instructional labs and dedicated research facilities compared to peer program.

A1-11: Present facilities are not adequate to address the expanding partnerships and community connections initiated by the Milwaukee Idea.

A1-12: The Arts Center lacks a multi-use, multi-media classroom for lectures, rehearsals, and student performances; physical facilities have deteriorated and are inadequate to deliver the curricular requirements of their programs.

A1-13: A shortage of instructional and training space exists for University Outreach programs.
A1-14: The academic programs of Communication, Journalism and Mass Communication are overcrowded in Johnston Hall space that was not designed to address the full range of programs and activities currently offered.

A1-15: Space is not available in Garland and Pearse Halls to accommodate recent growth within the Department of Psychology.

A1-16: The Health Center is crowded in a facility that does not provide enough dedicated space.

A1-17: The decentralization of Information and Media Technology (I&MT) staff and resources restricts collaboration and limits the interaction required for problem solving.

A1-18: Adequate space does not exist for temporary relocations caused by remodeling and maintenance.
A1-1:  The Physics Department has experienced exceptional growth at all academic levels and cannot continue to accommodate their instructional and research programs within its inadequate space.

Description:
During the last six years since 1999, grant proposals for physics grant and contract awards have increased by 138% and research expenditures grew by 136% to over $2.9 million. Productive research programs have emerged in gravitational physics, surface studies, particle physics, laser optics and condensed matter physics. Most researchers occupy sub-quality space supported by a 1960's building infrastructure. Outdated and overextended building systems can no longer provide adequate levels of electrical power and conditioned air, free from high levels of airborne dust and vibration.

71% of all physics faculty are currently performing funded research, one of the highest rates nationally. Annual research expenditures have grown from $70,682 per faculty FTE in 1999 to $208,344 per researcher in 2004, an increase of 195%. Additional grants are being submitted but all appropriate research space is currently assigned. Instructional labs cannot be converted into research space because physics’s enrollments have also increased. Student credit hours taught in physics have increased 32% in the last six years, while the number of majors rose 22%. New interdisciplinary efforts and graduate education growth has resulted in overcrowded teaching labs in experimental and theoretical surface physics and condensed matter physics; quantum gravity, quantum field theory, cosmology and relativistic astrophysics.

The Physics Building exterior permits water to frequently penetrate through to the interior through walls, windows, and floor expansion joints, resulting in deterioration of surfaces and damage to equipment and projects. These conditions are not acceptable for conducting reliable instruction and research in physics, a discipline that continuously moves toward more precise measurements, higher energies, and smaller length scales in order to take advantage of the most recent technologies. Physics experiments may run for years and the existing facility does not have sufficient space or the ability to adapt to these evolving needs. Without additional adequate space, physics will be unable to realize its potential in instruction and in funded research.

Alternatives:

a) Relocate offices and classrooms out of the Physics Building; convert vacated space into research and instructional labs; remodel the rest of the building while occupied.

b) Construct a research addition to the existing Physics Building; relocate researchers and offices to addition and completely remodel vacated Physics Building.

c) Build an entire new facility for the physics department and evaluate reuse or demolition of existing Physics Building.

Recommendation:
Alternative b) is recommended to provide a building addition that would permit all researchers to relocate before the rest of the Physics Building is completely remodeled. A single move of the experimentalists would be acceptable compared to multiple relocations or extensive downtime of more than one summer that would result in loss of research funds and projects being terminated.
A1-2: The Golda Meir Library is experiencing compaction of space as it strives to meet its traditional learning functions and interdisciplinary research needs in information resources, media and emerging electronic technologies.

Description:

The quality of academic information for the support of instruction and research requires a library to continually adopt new technologies in addition to acquiring traditional resources. Studies indicate that the evolving electronic environment will not replace the printed page as a means of communication among researchers and scholars. The main collection in the Golda Meir Library is expected to expand by an additional 40,000 to 60,000 volumes each year. The collection already has exceeded the planned capacity for the present facility.

Plans are underway for a multidisciplinary approach to programs and research in Information Technology and Science that will lead to graduate level programs in a range of Information Sciences (Medical Informatics, Telecommunications, Electronic Publishing, Journalism, Business, Information Resource Management, and others). These types of programs will need office and support space and technologically state-of-the-art laboratories and classrooms for teaching and research purposes.

The existing space is not sufficient to provide for the expansion of electronic instructional and digitizing facilities. Current facilities also lack a digital spatial data clearinghouse, an archival resource center designed to accommodate records in electronic form as well as traditional formats, and additional multimedia student workstations.

Alternatives:

a) Incorporate a new addition to the Golda Meir Library.

b) Convert Greene Hall and remodel classrooms in Merrill Hall.

c) Remodel and convert existing Golda Meir Library space.

Recommendation:

Alternative a) is recommended in order to take advantage of concentrating the technological resources needed for these programs and the Library support functions within one complex.
The College of Health Sciences lacks sufficient space to address the current growth of enrollments in new academic programs and has a significant research space shortage as a result of rapidly growing extramural funding in health related fields.

**Description:**

Enderis Hall was designed in 1971 to house two programs, the School of Education and the School of Social Welfare. Enderis now houses three of UWM's twelve Schools and Colleges, as the College of Health Sciences consolidated within Enderis Hall in 1983. The current building space and infrastructure cannot support the continued development of these programs and this has caused a recent space gridlock in Enderis as each School has experienced a lack of office, classroom and laboratory space for the expanding curriculum and research in Health Sciences, Social Welfare, and Education.

The College of Health Sciences is in the midst of planned and approved program expansion. During the last six years since 1999, grant and contract awards for health sciences research have increased by 154% and research expenditures grew by 377% to over $1.5 million. Annual research expenditures have grown from $9,577 per faculty FTE in 1999 to $45,120 per researcher in 2004, an increase of 371%. Additional grants are being submitted but all appropriate research space is currently assigned.

Instructional labs cannot be converted into research space because health sciences enrollments have also increased. Student credit hours taught in health sciences have increased 31% in the last six years. There is limited space available to address the office, lab, and research needs of the additional faculty being hired for the newly implemented academic programs or the interdisciplinary initiatives being planned. The College of Health Sciences is housed in approximately 40,000 ASF that includes office and labs for over 100 faculty and staff and 1200 students. A review of 10 peer programs ranked the College of Health Science 9th with only 694 square feet per faculty while other Health Science programs at nine other institutions occupied up to 1341 square feet per faculty.

**Alternatives:**

a) Relocate functions from facilities adjacent to Enderis to leased or purchased space. The vacated space could then be assigned to meet the needs of the College of Health Sciences, the School of Education, and the School of Social Welfare.

b) Relocate Health Sciences from Enderis Hall if Columbia Hospital is acquired and backfill the vacated space in Enderis to meet the needs of the School of Social Welfare and the School of Education.

c) Lease or purchase space to address the program expansion and special space needs that can be relocated out of Enderis Hall.

**Recommendation:**

The relocation of Health Sciences out of Enderis Hall as recommended in alternative b) is preferred if the opportunity materializes to acquire and renovate additional facilities adjacent to the campus.
With the growth in the Great Lakes WATER Institute scientific program and centers over the past decades and with more growth planned for the future, existing laboratory and office space can no longer accommodate the expanding research and training programs at the harbor campus.

**Description:**

Several proposed campus-wide and UW System initiatives would require remodeling and development of additional research, office and laboratory space. Additional scientists have been recruited as a result of the Milwaukee Idea Freshwater Initiative, realignment of UW-Milwaukee campus laboratories, and the addition of new and enhanced research initiatives. Both this Issue and associated sub-issues involve pressing laboratory space needs in the immediate to near future. The space needs include the following:

The addition within the next nine to fifteen months of two to three new zebrafish scientists and zebrafish research laboratories and culture facilities for an anticipated three to four zebrafish scientists under the combined Environmental Health Initiative and Freshwater Initiative of the Milwaukee Idea.

The realignment of academic programs under the Freshwater Initiative to create a graduate Freshwater studies program plus the relocation of several scientists’ laboratories from campus to the WATER Institute, both to consolidate Freshwater research programs and to relieve laboratory space demands on campus.

The Freshwater Initiative priority investment plan calls for the addition of nine to twelve new scientists over the next few years, the majority of which would be located within the WATER Institute.

The recently created national Center for Water Security, focusing on bioterrorism and the security of water supplies and freshwater systems and funded through DOD-DARPA, will spur the addition of two to three new scientists and a number postdoctoral fellows, graduate students and support staff. This program is currently being supported at about $920,000 per year, but these funds may not be used for construction.

Formation of the Advanced Laboratory for Exploration, RoboTics, and Surveillance (ALERTS), the Instrumented Ecosystem Initiative, and the WATER Institute WATERbase program. Expansion of the Great Lakes Aquaculture Center through support from the U.S. Department of Agriculture with the addition of two USDA aquaculture scientists in 2004 and the potential to add several more scientist positions in subsequent years.

Continued support for the regional office of the NOAA National Undersea Research Center. A proposed NSF and UWM supported Center for Bioanalysis and Environmental Genomics. General instructional facilities to support both expanding research outreach programs and the planned graduate program in Freshwater Sciences at the WATER Institute do not exist. Research on coupled aquaculture-aquaponics systems and pond aquaculture systems in conjunction with an expanding research program and demand for freshwater food production lacks appropriate facilities and space. Development of an expanding program in Environmental Genomics, Biotechnology and Environmental Health lacks sufficient modern laboratories and aquatic species rearing facilities for environmental genomics and molecular biology.

**Alternatives:**

a) Initiate phased major remodeling of the existing facilities

b) Delay recruitment and program development until space is available elsewhere.
c) Remodel and construct laboratories one or two at a time over a period of several years, drawing out recruitment, delaying implementation of the Freshwater Initiative, and exacerbating space concerns on campus.

**Recommendation:**

Alternative a) is recommended to initiate phased major remodeling of the existing facilities to provide new laboratory and office complexes consistent with the space use Master Plan Study that was completed in June 2003. The Master Plan Study was a thorough conceptual planning process managed by the State of Wisconsin’s Division of State Facilities under project #03D2O. It was conducted by a team of professional architects and engineers along with representatives from DSF, UW System Administration, UW-Milwaukee and the WATER Institute. The primary purpose of the Study was to develop and refine long-range physical improvements and facilities planning directions as originally outlined in the previous biennial update.

Major features of the study included an analysis of the existing conditions of the facilities, a determination of the physical needs for existing and new programs, proposed physical solutions, and cost estimates and phasing schedules of solutions. The study serves as the foundation for future facilities planning for the Great Lakes Research Facility. The Master Plan Study was developed as a flexible and adaptable plan that could be used to respond to changing institutional needs; it is intended to guide physical and facilities development for the next fifteen years. The Master Plan Study calls for a series of four construction phases during this period. Incorporated into this plan are provisions for the needed research space for the Milwaukee Idea initiatives, new recruitments, and expansion of academic and research programs under the Freshwater Initiative’s Action Plan and the WATER Institute research initiatives. Future remodeling and construction of new facilities will be guided by the long-range space and land use principles of the Master Plan Study.
A1-5: Present facilities are not adequate to address the current growth of instruction, clinical learning within the College of Nursing and limits its ability to offer an adequate academic environment.

Description:

Since 1999 the number of undergraduate students has increased by 93% and the number of graduate students has increased by 34%. Faculty and clinical faculty (teaching academic staff) have increased to meet this increased student need. There are currently 35 tenured track faculty positions, 40 FT clinical faculty, and 35 part time clinical faculty members in the college. The lack of space in Cunningham Hall threatens the ability of the College of Nursing to maintain its excellent national ranking (29th of 300 schools ranked) and move into the top 25 schools of nursing in the country.

Specific concerns include faculty offices, research space, instructional and clinical labs.

Recruitment and retention of tenure track faculty in the face of the dramatic shortage of nursing faculty nationally is dependent upon a number of factors – not the least of which is work environment and adequate faculty space. Most faculty offices are quite small, 89 ASF. The few larger offices (130 sq ft) are allocated to Full Professors and currently there are not enough of these larger offices to accommodate all full professors. Clinical faculty (teaching academic staff) are allocated space in larger rooms on the 5th floor of Cunningham. As many as 7 IAS share these open rooms equipped with smaller desks, one shared computer, and no workstation partitions. Privacy for student evaluations and counseling is compromised in this situation and the efficiency of work in this environment greatly reduced.

Additional space is allocated for extramural research funding and the required staffing. Currently there are 6 major research proposals either submitted or under development for extramural funding for which no allocated space is currently available in the building. Anticipated growth in the research portfolio will increase this shortage during the next biennium and beyond.

Instructional space and clinical learning laboratories for nursing are outdated and lack audiovisual facilities. Sight lines are not appropriate for adequate supervision of student groups by the clinical faculty in these large labs.

Alternatives:

a) Relocate non-nursing functions from Cunningham to leased or purchased space. The vacated space could then be assigned to meet the needs of the College of Nursing.

b) Construct a modest addition to Cunningham and meet shared space needs if Columbia Hospital is acquired. If Columbia Hospital acquisition does not occur, the Cunningham addition would be enlarged accordingly.

c) Lease or purchase additional space to address program expansion and special space needs that can be relocated out of Cunningham Hall.

Recommendation:

Alternative b) is recommended to build an addition to Cunningham to address dedicated nursing space needs with supplemental shared space provided in Columbia Hospital if acquired.
A1-6: The academic programs within the Helen Bader School of Social Welfare and the School of Education are overcrowded in Enderis Hall space that was not designed to address the full range of programs and activities currently offered.

Description:
Enderis Hall was designed in 1971 to house two programs, the School of Education and the School of Social Welfare. Enderis now houses three of UWM's twelve Schools and Colleges, as the College of Health Sciences consolidated within Enderis Hall in 1983. The current building space and infrastructure cannot support the continued development of these programs and this has caused a recent space gridlock in Enderis as each School has experienced a lack of office, classroom and laboratory space for the expanding curriculum and research in Health Sciences, Social Welfare, and Education.

The School of Social Welfare has been unable to meet pressing space requirements to fulfill it growing research and grant commitments. For the past five years the space situation has been more challenging as continued success has occurred in external funding and training activities. The space needs can be summarized into federally funded earmark projects, additional research project space, doctoral student space, faculty offices, training space, and advising space.

The School has been successful in receiving a federal earmark to develop a training/research institute addressing the needs of persons with advanced dementia as part of a collaboration between the Endowed Chair in Applied Gerontology and the Center on Age and Community. Another earmark project examining substance abusing female prisoners in the county jail is highly probable. Additional growth in behavioral health research and child welfare research is expected to increase the need for both on and off campus space.

Social Welfare will require additional space to accommodate the growth in both the criminal justice department and the social work department. Expected approval of the doctoral program in social work will increase the need for additional space, as subsequent students are enrolled additional faculty hired. With the creation of a doctoral program in social work, advising needs will also have critical space needs. Training space is required to address the $1.5 million received each year for training. The single largest training initiative is the Child Welfare Partnership for Professional Development with the Milwaukee County Child Welfare Bureau. Additional courses are being planned to enable child welfare workers to receive their degrees.

Alternatives:

a) Relocate functions from facilities adjacent to Enderis to leased or purchased space. The vacated space could then be assigned to meet the needs of the College of Health Sciences, the School of Education, and the School of Social Welfare.

b) Relocate Health Sciences from Enderis Hall if Columbia Hospital is acquired and backfill the vacated space in Enderis to meet the needs of the School of Social Welfare.

c) Lease or purchase space to address the program expansion and special space needs that can be relocated out of Enderis Hall.

Recommendation:

The expansion of Social Welfare within Enderis Hall, as recommended in alternative b) is preferred. The backfilling of space vacated by other academic functions relocating out of Enderis Hall will allow Social Welfare additional space assignments.
Several administrative units of the Graduate School have inadequate and unsuitable space for serving students, faculty, and staff.

Description:

The Graduate School has plans for expanded services to students, programs, faculty, and staffs that are consistent with campus enrollment objectives and the future institutional directions. Additional quality space is essential and critical for a realization of these plans. A Graduate Student Center is desirable to house a number of the programs as noted below as well as providing space for seminar and group meetings, presentations and a place for graduate students to gather socially.

Graduate School Research Services and Administration offices are severely cramped. New initiatives and activities in the technology transfer area have created a need for additional space in the immediate future. The Research Growth Initiative (RGI) awards in various disciplines will generate additional space needs as research activities expand. Such an expansion will require an enhancement of infrastructure services to research faculty and staff on campus.

While existing space for the Office of the Dean and Associate Provost for Research is adequate, its location lacks visibility and accessibility. A more central and recognizable location in a reconfigured floor plan would provide an improved campus and public profile for the Graduate School, as well as greater accessibility.

Alternatives:

a) Acquire additional office facilities adjacent to campus to consolidate all Graduate School activity.

b) Relocate Student Academic Services out of Mitchell Hall and reassign office space to the Graduate School.

c) Relocate new initiatives and activities to nearby facilities while maintaining basic Graduate School Services in Mitchell Hall.

Recommendation:

The campus is reviewing the various benefits, costs, and timing of each alternative and will make a recommendation when this process is completed.
A1-8: Units within the Division of Student Affairs have expanded their functions and outgrown present space assignments.

Description:
Insufficient number of private offices for financial aid advising and insufficient workspace for support staff and student employees in the Financial Aid Office results in staff being displaced from their existing offices to accommodate private advising sessions which is disruptive to both employees and students. Student workers do not have dedicated workstations to perform various functions. The lack of space in the Financial Aid Office to accommodate loan-counseling sessions, application workshops and staff meetings results in these activities being curtailed or eliminated if other space cannot be secured. The fact that financial aid application materials and supplies are not readily available due to the lack of storage space is problematic during peak processing times.

The Career Development Center cannot continue to effectively offer services in its existing space. The area is severely overcrowded with professional staff being displaced, as intern counselors need private office space for individual counseling sessions. Classified employees must share desks while student employees have to find vacant work areas throughout the office to perform their tasks. The space available in the Center does not adequately accommodate information dissemination functions, which limits the ability to provide resources to students through computer access, video, or reference materials. The employer interview area in the basement does not allow for confidential interviewing and discourages employers from participating in the campus interview process.

The testing center in Enrollment Services is poorly configured. While staff endeavor to work around existing space constraints, they cannot always do so. A more attractive, accessible, and flexible space is needed that provides the ability to offer on-demand computerized testing. Enrollment Services also needs an accessible, easy to find location where new freshman may come to get help with registration, testing, or other pertinent issues. Access to the elevator for the disabled is particularly problematic, and the location of the elevator hampers the ability to make efficient use of existing space.

Alternatives:

a) Reconfigure and remodel existing space in Mellencamp Hall.

b) Acquire office facilities that may be adjacent to the campus to consolidate Student Affairs.

c) Construct an addition to relocate all Mellencamp occupants and remodel/reassign vacated space.

Recommendation:
A centralized and consolidated location as proposed in alternative b) is recommended to relocate the occupants of Mellencamp Hall if the opportunity materializes to acquire Columbia Hospital or additional space adjacent to the campus.
A1-9: Student Academic Services space is decentralized, insufficient to address program needs, and in substandard space.

Description:
As student enrollment increases and the demand for student academic support services intensifies, SAS requires additional space for classroom instruction and support staff. To more efficiently and effectively serve the increase in student numbers, SAS units (i.e. offices and programs) should be physically consolidated and housed in one campus location. Satellite tutoring facilities on the West and North sections of campus are desirable. Programs such as the Milwaukee Commitment and UW System Plan 2008 and expanded programs such as the Educational Opportunity Center, Upward Bound, and GEER-UP have created the need for more academic support space.

Alternatives:

a) Reassign and convert offices and classrooms in Mitchell Hall to allow expansion of existing SAS activities and consolidate other SAS staff from Bolton Hall.

b) Relocate the entire Tutoring and Academic Resource Center (TARC) out of Mitchell Hall and backfill their 4,200 ASF with would allow the remaining SAS units to expand within Mitchell and relocate from Bolton Hall.

c) Relocate all SAS units to a centralized facility through acquisition of additional office and tutoring space that may be available in nearby facilities.

Recommendation:
A centralized and consolidated location as proposed in alternative b) is recommended to relocate the Student Academic Services if the opportunity materializes to acquire Columbia Hospital or additional space adjacent to the campus.
A1-10: The College of Engineering and Applied Science lacks adequate instructional labs and dedicated research facilities compared to peer programs.

**Description:**

Since the planning of the EMS Building in 1968, the College of Engineering and Applied Science (CEAS) has experienced a doubling of its graduate enrollment and the creation of three masters’ degrees and a Ph.D. degree with five majors. The corresponding expansion of the CEAS curriculum during the last 36 years requires additional space for special activities that were not designed into the original facility. The expansion of the graduate programs and specialized research has resulted in these activities sharing space that was originally designed for undergraduate instruction and equipped with late 1960's technology.

A utilization study confirmed that almost 30% of all scheduled engineering lab courses are forced to meet in inappropriate classrooms and in overcrowded research space. This translates into a space shortage in instructional and research space. Investment in the infrastructure to support these programs is necessary.

Modern engineering labs and classrooms are essential to address the Technology Center Initiative of the Milwaukee Idea. The Technology Center's focus is to make it easy for industries and business to connect with the university by having interdisciplinary teams of faculty, staff and students work in partnership with industry to transfer new technology from theory to application. The activities included in this Milwaukee Idea initiative and the changes in instructional methods require remodeling and upgrading of existing facilities and services to address the specialized needs of the various engineering disciplines.

**Alternatives:**

a) Relocate the entire Mathematical Science Department, followed by a remodeling of the vacated space in EMS for Engineering’s Computer Science Department. This would be followed by an EMS addition and remodeling for Engineering. The Math space currently on the fourth floor of EMS consists entirely of 100-carpeted offices and computer labs. CEAS does not require a major increase in office space, but this space was studied for conversion to dry labs for Computer Science.

b) Construct additional lab and support space in a north wing addition to the EMS Building. Modern engineering labs require special design considerations such as increased floor load limits, three phase electrical service, and dedicated circuitry, regulation of temperature and humidity, and special ventilation and exhaust systems. These requirements are best met through new construction. To incorporate these features through remodeling of existing space is not always possible at any cost. Any addition to EMS should also incorporate expansion of the existing underground parking levels if at all possible to maximize the utilization of the site.

c) Construct a new comprehensive facility to house the College of Engineering and Applied Science for instruction and research.

**Recommendation:**

Alternative c) is recommended to address the comprehensive space needs of CEAS through new construction.
A1-11: Present facilities are not adequate to address the expanding partnerships and connections to realize the university research and student success initiatives.

**Description:**

The chancellor has outlined a series of collaborative investments for UWM to address education and scientific research and development. The $300 million investment over the next six years is equally divided between three components; the comprehensive campaign, the research growth initiative and government/private resources. These investments apply not only to UWM’s research mission but also to UWM’s student access mission. As an institution of access and opportunity, UWM serves as a major catalyst to Southeast Wisconsin’s economic development in this era of the knowledge based economy, an economy in which technological change and innovation are being produced in the research university.

Projected enrollment growth from Access to Success will result in expansion of academic programs, increases in student services and greater demands for student housing. The current campus will need additional development to its infrastructure and buildings to achieve the goals of these collaborative investments. This collaboration may involve one or more sites adjacent to the campus, the downtown, and the greater metropolitan area. Such investments in student access, education and scientific research and development will stimulate new partnerships and pays economic dividends for the institution, the region, and the state. While an isolated workstation or office may be available for reassignment in a building, this does not provide the type of contiguous space needed for collaboration and exchange of ideas and initiatives.

**Alternatives:**

a) Require each school and college to contribute a portion of their existing space into a mandatory space pool for reallocation and room reassignment.

b) Have each school, college or division develop action plans identifying their space needs and potential solutions before positions are allowed to be recruited.

c) Acquire additional space near campus and/or lease space in community facilities.

**Recommendation:**

While many initiatives benefit from a community presence in leased facilities, the scope of the space needs is too great to economically support more than a minimum number of off campus leases. Alternative c) is preferred if the opportunity materializes to occupy additional facilities near to the campus.
A1-12: The Arts Center lacks a multi-use, multi-media classroom for lectures, rehearsals, and student performances; physical facilities have deteriorated and are inadequate to deliver the curricular requirements of their programs.

Description:

Additional activities and students have created a need for flexible, multi-use space for lectures, theatre and dance rehearsals, and film shoots. Increased enrollment in the Professional Theatre Training program and the use of new video technologies have resulted in increased demands for special equipment and multi-use space to complete course work. The Department of Theatre and Dance and the Department of Film are also in a position to take advantage of increased audience interest in their activities but lack adequate performance spaces.

The Arts Center Lecture Hall, Music Recital Hall, and the lobby of the Main Stage Theatre are separated into three, small, separate exterior entrances, making these facilities disconnected even though they are adjacent to each other. Because the three spaces are separated externally, there is no way to move equipment between them without going outdoors and up steps. This also results in a lack of connected public spaces for patrons and adequate accessibility to these venues.

The music studios lack adequate sound isolation to buffer the white noise sound screen that is very detrimental to listening in a music created the old heating/air conditioning fans in the building. In addition, the current classrooms and practice rooms do not have adequate electrical and network capacity for current technology.

Alternatives:

a) Relocate and remodel student academic service space in Mitchell Hall and renovate Theatre and Music Buildings.

b) Remodel the Arts Center Lecture Hall and renew the Theatre and Music Buildings.

c) Construct addition to the Arts Center and remodel Theatre and Music Buildings.

Recommendation:

Alternative a) is recommended to convert additional space in Mitchell Hall and renovate existing.
A1-13: A shortage of instructional and training space exists for University Outreach programs.

**Description:**

During the last seven years, programming activities for University Outreach have expanded significantly in response to the needs of the Milwaukee business community and educational service organizations. Current classroom facilities at the University Center for Continuing Education are scheduled to capacity for most of the programming year and outside facilities must be leased to accommodate overflow requests. Additional strong demand for training in the information systems computing area has resulted in waiting lists for the two existing computing labs which are scheduled daily from 8:00 a.m. to 9:30 p.m. As a result, there is an insufficient number of staff workstations and support space to meet the needs of the additional program activity.

**Alternatives:**

a) Increase the amount of instruction and training scheduled away from the University Center for Continuing Education to remote leased facilities.

b) Remodel 10,000 existing square feet of storage space on the fifth floor of the University Center for Continuing Education. This area was not remodeled in 1995 when the sixth and seventh floors were renovated for University Outreach.

**Recommendation:**

Completing the build-out of the fifth floor in b) would provide the additional downtown space needed for outreach programs. Revenue generated by the additional programming activities plus the cost savings and increased productivity from not using outside facilities would support this recommendation.
A1-14: Communication, Journalism and Mass Communication are overcrowded in outdated facilities.

**Description:**

During the last six years the Department of Communication has experienced a 49% growth in student credit hours and a 59% increase of instructional faculty and staff. Also during the last six years the Department of Journalism and Mass Communication has experienced a 147% growth in student credit hours and an 88% increase of instructional faculty and staff. As a result of this growth, both programs have experienced a shortage of office and instructional space in their current space in Johnston Hall. The quality of broadcast and editing labs in the basement of Johnston Hall is affected by dampness, high humidity, and poor air circulation. The addition of computer instruction labs has been further affected by the lack of power and the absence of central air conditioning.

**Alternatives:**

a) Construct an addition to Johnston Hall to provide additional offices and modern labs.

b) Take additional classrooms and surge space off line in adjacent Merrill Hall and remodel to provide additional instructional and office space.

c) Relocate both programs to remodeled space in a more appropriate campus facility or in space that may be acquired adjacent to the campus.

**Recommendation:**

Provide additional space through relocation of expansion and remodeling as recommended in alternative b).
A1-15: Space is not available in Garland and Pearse Halls to accommodate recent growth within the Department of Psychology.

Description:
Garland and Pearse halls were renovated in 1985 to house the Department of Psychology. Garland and Pearse now house three additional programs including the Honors Program, Latin American Studies and Overseas Programs. The current building space and infrastructure cannot support the continued development of these programs. As a result Psychology and has experienced recent space shortages for new faculty and expanding curriculum and research.

During the last six years since 1999, grant and contract awards for psychology research have increased by 181% and research expenditures grew by 89% to over $700,000. Annual research expenditures have grown from $22,572 per faculty FTE in 1999 to $51,354 per researcher in 2004, an increase of 128%. Additional grants are being submitted but all appropriate research space is currently assigned.

Instructional labs cannot be converted into research space because health sciences enrollments have also increased. Student credit hours taught in health sciences have increased 23% in the last six years. There is limited space available to address the office, lab, and research needs of the additional faculty being hired and the research growth initiatives being planned.

Alternatives:

a) Relocate non-nursing functions from Garland and Pearse to other campus facilities or adjacent properties. The vacated space could then be assigned to meet the needs of the Psychology.

b) Construct an addition to Pearse Hall and to the dedicated space needs for Psychology.

c) Lease or purchase additional space to address program expansion and special space needs that can be relocated out of Garland and Pearse Halls.

Recommendation:
Alternative a) is recommended to relocate non-psychology functions out of Garland and Pearse and allow Psychology to backfill the vacated space to address instruction and research expansion.
A1-16: The Health Center is crowded in a facility that does not provide enough dedicated space.

Description:

The Health Center is the primary campus health resource that provides information and treatment to students. Expansion of services has resulted in additional staff and counselors to support the Medical Clinic, Health Education and Mental Health services. Specialty Care in orthopedics, dermatology, gynecology, pulmonary medicine and diet requires dedicated space for evaluations, examination, treatment areas and laboratories. The pharmacy area lacks properly configured storage with adequate environmental controls.

Additional demands from a growing student population cannot be addressed within the current facility. The Norris Health Center was originally constructed in 1961 to serve Downer College’s enrollment, which was only a fraction of the size of the current UWM headcount of nearly 25,000. The Heath Center reached its maximum capacity in 1991 when the second floor attic was remodeled for occupancy. This only provided a modest expansion and today the entire facility contains less than 7,000 assignable square feet. In 2001 the sports medicine clinic was forced to relocate out of the Norris Health Center because of competing space needs to maintain other services. The ability to address related issues concerning preventative medicine, women’s health, allergies, drug abuse and weight management to name a few, requires additional dedicated space to facilitate the healthy choices facing today’s student population.

Alternatives:

a) Add an addition to the existing Norris Health Center.

b) Relocate health services into another facility such as Columbia Hospital if it is acquired and renovated.

c) Construct a new student health center.

Recommendation:

The land surrounding the existing facility is very limited because of nearby buildings, utilities and service areas. Alternative b) is recommended since expansion at the current site would be difficult, costly, and disruptive.
A1-17: The decentralization of Information and Media Technology (I&MT) staff and resources restricts collaboration and limits the interaction required for problem solving.

**Description:**

I&MT employs a staff that averages 130 FTEs spread across 15 floors of nine buildings, as well as nearly 300 student employees that work in both these same facilities as well as different buildings that house Campus Computer Labs. While some aspects of this distribution are effective, others are not. Enterprise computer systems require that all technologists and partners from other campus units, be able to work together collaboratively on projects and problem solving. It is important that Application Development, portions of Network and Operations Support, and Creative Services be able to work in shared space. Shared space facilitates relationship building and problem solving and encourages, rather than discourages, interaction.

A particular inefficiency is the current divide between the majority of technical staff in Cunningham Hall and the I&MT administration in Sabin Hall necessitating many trips between the two buildings each day. Two exceptions to the general need for divisional consolidation include maintaining Client Services and Student Technology Services in a highly visible area like Bolton Hall and retaining the Data Center(s) in a dedicated and secure environment.

**Alternatives:**

a) Construct replacement space for a large percentage of I&MT staff in a future building project.

b) Consolidate I&MT staff into fewer buildings as space becomes available through relocations of other campus units.

c) Relocate I&MT staff into space vacated by units relocating to Columbia Hospital if it is acquired and renovated.

**Recommendation:**

Alternative c) the relocation of I&MT staff into space vacated as other units occupy Columbia Hospital if it is acquired and renovated, is preferred as the least disruptive.
A1-18: Adequate space does not exist for temporary relocations caused by remodeling and maintenance work.

Description:

The University of Wisconsin - Milwaukee consists of over fifty major structures totaling over 5.6 million gross square feet. These facilities support the full range of academic disciplines for teaching and research, student services, administration, conferencing, study, dining and residence halls. Campus structures range in architectural style and age from the state of the art to turn of the century, 1899. During any year it is not uncommon for at least one major building to be closed for renovation and remodeling while parts of other facilities are vacated for maintenance and improvements.

In order to implement these facility renovations and improvements it is most economical to totally relocate the occupants for their own benefit and safety and allow contractors to have uninterrupted access. Occasionally the proper sequencing of projects can create a domino effect of moves that require occupants to move only once. But frequently when new space is not involved, the university is forced to provide temporary space relocations that scatter departments to various locations for various time frames because of the lack of dedicated surge space. A campus the size of UWM would benefit by having flexible surge space that can be assigned as needed to expedite construction and minimize interruptions to departments and programs. The university could easily occupy up to 1% of its gross square footage in surge space on an annual basis. Such space would not only prove to be cost effective in bidding construction projects but also save operational dollars to the institution by having the proper infrastructure that permits a short turn around time between occupants.

Alternatives:

a) Convert 50,000 square feet of lease space at the University Services Building to flexible surge space for temporary space reassignments.

b) Relocate student services out of Mellencamp Hall and minimally adapt this space for temporary occupants.

c) Utilize a portion of Columbia Hospital for short-term occupancy if this facility is vacated.

d) Lease office and commercial space adjacent or near to the campus.

Recommendation:

Alternatives b) would provide the most accessible surge space for on campus departments relocations for limited timeframes.
A. General Purpose Revenue (GPR) Supported Functions / Facilities

Part 2: Infrastructure Related Issues

A2-1: Expansion opportunities for academic program innovations and development on the main campus are limited due to restricted land availability, access and services.

A2-2: Nearly one-half of the classrooms on campus were built before 1975 and lack the ability to serve the multi-media needs of today’s curriculum according to current classroom planning guidelines.

A2-3: The exterior envelope and the mechanical systems of the Physics Building have deteriorated resulting in numerous interior deficiencies that have a negative impact on the instruction and research being conducted.

A2-4: Originally designed as a tile factory, the Great Lakes Research Facility’s infrastructure and building systems and dock limit the expansion of research and teaching activities.

A2-5: The environmental infrastructure of the existing campus Data Center is antiquated and lacks business continuity.

A2-6: Serious deficiencies in almost all of the original building systems in the 1912 North Wing addition of Mitchell Hall prevents student support and academic units from efficiently delivering their instruction and services.

A2-7: The capacity of the campus network technology infrastructure continues to be outpaced by the growing demands placed by online courses, hybrid courses, new research networks and increased web based student and administrative transactions.

A2-8: Security of laboratories within research facilities is a campus-wide infrastructure concern.

A2-9: The offices, research centers, and general-purpose space in Holton, Merrill, Johnston and Greene Halls have inadequate building systems and have not been upgraded to the same level as other Downer buildings.

A2-10: The campus is completely dependent on Wisconsin Electric Power Company for a continuous and reliable supply of power. Power outages are unique problems, especially for ongoing research activities, which may be compromised or lost, when unexpected power outages occur. Although several buildings have emergency power generators that help to alleviate loss and damage, the campus does not have a central independent power source to deal with these continuing outages.

A2-11: The offices, research centers and general purpose space in the tower portion of Bolton Hall have inadequate building systems and have not been upgraded to allow the same level of utilization as the lower floors.

A2-12: Architectural barriers limit access to the Alumni house, constructed in 1923, and contains out dated building systems, which are costly to maintain.

A2-13: A significant conflict exists between pedestrians and vehicles on Maryland and Hartford Avenues as thousands of students encounter this corridor during class changes each hour. Accessibility of Maryland Avenue pedestrian bridge is inadequate and the landscaping along Maryland Avenue is inconsistent between facilities.

A2-14: The campus entrances at Hartford Avenue and Kenwood Boulevard are understated. Landscaping themes and streetscape materials lack consistency of design and circulation patterns are not conducive for a transportation hub.

A2-15: Campus construction projects impact the sewer systems of local municipalities.
A2-1: Expansion opportunities for academic program innovations and development on the main campus are limited due to restricted land availability, access and services.

Description:

With a campus population of over 31,000 students, faculty and staff, UW-Milwaukee is required to function within slightly more than seventy acres. This is the result of the 93-acre main campus, less the approximate 19 acres known as the Downer Woods, which is legislatively protected from development. As an urban campus in a metropolitan area, UWM is surrounded by a variety of outstanding neighborhoods that border Lake Michigan and the Milwaukee River, a commercial district, several religious properties, and a hospital. Almost all major building sites on the main campus have been utilized or designated for development. Facilities to address enrollment growth, expansion of existing programs and research, development of new initiatives and adequate service and support space are increasingly difficult because of the limited campus acreage and lack of expansion options adjacent to the campus planning boundary.

Alternatives:

a) Develop a significant satellite campus where sufficient land and property exists near accessible transportation and support facilities.

b) Purchase existing facilities at independent locations to address specific academic, instructional, or research needs.

c) Expand the current campus as adjacent properties, facilities, or right of way become available.

d) Demolish outdated university facilities that have a low ratio of usable square footage to land area covered for new building sites.

Recommendation:

The campus is reviewing the various benefits, costs, and timing opportunities of each alternative and will make a recommendation after sufficient analysis and consultation is completed.
A2-2: General assignment classrooms averaged 42 room periods of scheduled use per week during the Fall of 2005. Nearly one-half of the classrooms on campus were built before 1975 and many are not adequately updated or equipped to serve the multimedia needs of today's curriculum.

Description:

The delivery of instruction requires the incorporation of modern multi-media presentations and delivery methods. Classroom furnishings, lighting controls and acoustics are not always adequate to provide an environment for modern collegiate media needs. Internet access, video projection, and improved acoustics are critical amenities that have become basic tools in classroom instruction. As a result of the classroom demand analysis, UWM could justify an additional 32 classrooms based on the UW System standard of 35 room periods of scheduled use per week. (See table below.)

<table>
<thead>
<tr>
<th>UW-MILWAUKEE</th>
<th>CLASSROOM DEMAND ANALYSIS</th>
<th>FALL 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>35 Periods Per Week Standard</td>
</tr>
<tr>
<td>SECTION SIZE</td>
<td>TOTAL SECTIONS</td>
<td>REQUIRED ROOM PERIODS</td>
</tr>
<tr>
<td>001 - 013</td>
<td>347</td>
<td>966</td>
</tr>
<tr>
<td>014 - 027</td>
<td>1,254</td>
<td>2,859</td>
</tr>
<tr>
<td>028 - 040</td>
<td>492</td>
<td>1,256</td>
</tr>
<tr>
<td>041 - 053</td>
<td>166</td>
<td>460</td>
</tr>
<tr>
<td>054 - 068</td>
<td>69</td>
<td>191</td>
</tr>
<tr>
<td>069 - 088</td>
<td>52</td>
<td>144</td>
</tr>
<tr>
<td>089 - 131</td>
<td>72</td>
<td>182</td>
</tr>
<tr>
<td>132 - 174</td>
<td>52</td>
<td>129</td>
</tr>
<tr>
<td>175 - 196</td>
<td>21</td>
<td>48</td>
</tr>
<tr>
<td>197+</td>
<td>45</td>
<td>102</td>
</tr>
<tr>
<td>TOTALS</td>
<td>2,570</td>
<td>6,337</td>
</tr>
</tbody>
</table>

NOTES:
SECTION SIZE = range for number of students enrolled in a scheduled class section
REQUIRED ROOM PERIODS = total room periods scheduled for a particular size range (1 credit = 1 room period)
ROOM CAPACITY = fixed field, maximum room capacity...calculated based on SECTION SIZE and planned occupancy %
TOTAL REQUIRED ROOMS = Based on 35 Room Periods per week
BALANCE = NO. OF AVAILABLE ROOMS - TOTAL REQUIRED ROOMS

Alternatives:

a) Upgrade current classrooms that fail to provide the minimum facility requirements for instruction by using shared or portable media equipment.

b) Replacement or installation of new permanent media equipment in classrooms that currently provide an adequate environment for specific media and which could provide an immediate benefit for instruction.
c) Remodeling of classrooms that currently lack the physical attributes to support various media and require renovation to support the purchase and installation of modern media equipment.

Recommendation:

Alternative c) remodeling and equipping classrooms to provide the proper physical conditions for media would provide the most comprehensive approach to improving the technology in classrooms compared to the rather limited alternatives of purchasing portable equipment or replacement of existing equipment.
A2-3: The exterior envelope and the mechanical systems of the Physics Building have deteriorated resulting in numerous interior deficiencies that have a negative impact on the instruction and research being conducted.

**Description:**

The exterior masonry wall and window system of the five-story main Physics Building has failed in numerous places resulting in continuing problems of water penetration and condensation damage to the building interior and equipment. Previous repair attempts have proven ineffective. Expansion joints in the basement floor are also a source of water infiltration resulting in deteriorated floor surfaces and moisture exposure to floor mounted equipment. The Physics Department in the College of Letters & Science conducts a full program of instruction and research in the facility, much of which is dependent on the operation of sensitive electronic equipment. Water penetration and moisture condensation on these costly electronics are a source of constant safety concern, project delays and repairs. This condition limits the amount of space that can be used for reliable research and compounds an already significant space shortage for a growing Physics program.

**Alternatives:**

a) Relocate offices and classrooms out of the Physics Building; convert vacated space into research and instructional labs; remodel the rest of the building while occupied.

b) Construct a research addition to the existing Physics Building; relocate researchers and offices to an addition and completely remodel vacated Physics Building.

c) Build an entire new facility for the physics department and evaluate reuse or demolition of existing Physics Building.

**Recommendation:**

Alternative b) is recommended to provide a building addition that would permit all researchers to relocate before the rest of the Physics Building is completely remodeled. A single move of the experimentalists would be acceptable compared to multiple relocations or extensive downtime of more than one summer that would result in loss of research funds and projects being terminated.
A2-4: Originally designed as a tile factory, the Great Lakes Research Facility’s infrastructure and building systems and dock limit the expansion of research and teaching activities.

**Description:**

The West End of the building contains seven original silos ranging from 14 to 18 feet in diameter and 36 feet high. The silos and support equipment occupy a significant area that limits the utilization of this space. Four of the silos still have approximately 460 cubic yards of clay that served as the raw material for the former ceramic tile plant. Residual clay also creates a major dust problem in the West End of the building and the health concern of silica dust inhalation.

Expansion of research and teaching space within a major portion of the facility and a majority of West End of the building is limited by the lack of functional mechanical ventilation service. The capacity of the existing emergency generator will soon be exceeded with the expansion of critical life support systems requiring uninterrupted electrical service and minimal service interruption.

Security systems for the grounds and the building are either antiquated or nonexistent leaving major portions of the facility unsecured. Aged fencing exists along the south and west sides of the grounds which is easily climable and has numerous openings at the bottom. No fencing exists on the north and east sides, providing access from the water. Outdated stationary security cameras lack zoom controls or tracking capability, nor are there any recording mechanisms.

The building does not have a recognizable, functioning public entry, confounding public access and security issues. Many existing laboratories were initially outfitted with used and surplused casework and equipment now at the end of their useful life. Storage and warehousing in the main building of ship’s gear and supplies, boats, field equipment, nets, and vehicles occupies potential research and education space, poses a safety concern, and is not optimized for efficient use and adjacencies. The western end of the slip wall and the eastern dock wall must be monitored for structural integrity. The Institute’s research vessel, the R/V Neeskay, is fifty years old, is too small to support modern Great Lakes research, and is experiencing increasing repair and maintenance problems.

**Alternatives:**

a) Accommodate infrastructure issues with individual project requests in a phased long-range plan that is consistent with the Master Plan Study goals in addressing the buildings mechanical systems, emergency power, exterior and interior security, work environment issues in a coordinated manner. Address minimum lab needs to attract grant funding and conduct research on a limited basis.

b) Minimize development of the West End of the building by maintaining the silos, limiting utilization of the area, and continuing to cope with dust problems. Continue to do minimum infrastructure repairs on an as needed basis, regardless of the negative impact on research programs, grant compliance and employee recruitment and retention issues. Ignore deteriorated lab conditions and wait until grant funding and ability to conduct research projects are severely jeopardized.

c) Address infrastructure issues with an integrated project according to the Master Plan Study, which calls for the removal of the silos to create a new public entrance to the building in this location with a public viewing area of the aquaculture facilities. The mechanical system replacement work consists of a new centralized water chiller system to replace the existing air cooled system for the entire building and the development of three HVAC units to serve the West End First, Second and Third Floors with ductwork to be
routed in new east-west corridors that will avoid crossing existing deep structural beams. Complete the laboratory improvements in existing facilities and fully renovate the central block of first floor laboratories to the perimeter walls.

Recommendation:

Address infrastructure issues with an integrated project according to alternative c). The Master Plan Study calls for the removal of the silos to create a new public entrance to the building in this location with a public viewing area of the aquaculture facilities. The mechanical system replacement work consists of a new centralized water chiller system to replace the existing air cooled system for the entire building and the development of three HVAC units to serve the West End First, Second and Third Floors with ductwork to be routed in new east-west corridors that will avoid crossing existing deep structural beams. Complete the laboratory improvements in existing facilities and fully renovate the central block of first floor laboratories to the perimeter walls.

Inventory current and future emergency power needs and expand or replace the current emergency power system to provide adequate service. Upgrade the security cameras and provide complete exterior coverage. Repair the fencing, upgrade and motorize the two vehicle gates with card readers. Upgrade the exterior door perimeter alarm system. Replace the various local alarms, internal alarm panel, fire alarm panel, and exterior door perimeter alarm panel. Have a structural engineering consultant determine how best to install windows in the exterior walls where precast concrete panels exist.

Develop a Marine Operations Facility (MOF) integrated with the Aquaculture and research greenhouses and including a centrally secure area for boat storage, ship’s gear, sampling equipment, expeditionary staging area, buoy and mooring maintenance, small boat and trailer maintenance, laundry, mud room, flammable storage locker and adjacent boat launch. Plan for eventual dock wall rehabilitation or repair, taking planned boat launch and aquaculture research park plans into account in design and engineering. Develop specifications, requirements, and capabilities for a new vessel, hire a naval architect(s) to develop a design(s) and detailed cost estimates. The cost for the new vessel, including an account for maintenance, is projected to be about $6,000,000. The UW-Milwaukee Foundation has proposed raising an initial minimum of $2,000,000 from private donations.
A2-5: The environmental infrastructure for the campus Data Center is antiquated and lacks business continuity.

Description:

The Data Center was designed in the late 1960’s and constructed in the lower level of the Engineering and Mathematical Sciences (EMS) Building to house the campus mainframe computer systems and staff. Forty years later, the large mainframe cabinets have been replaced by numerous smaller computer servers. At the end of 2005 there were over 250 computer servers in the Data Center with plans to add 50 to 60 additional servers per year into the foreseeable future for such projects as a new campus email/collaboration system and campus-wide file sharing.

In addition, to increase uptime, improve security, recapture space and reduce electrical and cooling loads in academic buildings, I&MT is enticing campus units to consolidate their servers from ad hoc offices and storage rooms to the Data Center. These trends will ultimately result in the existing Data Center being too small for the volume of equipment. These transformations are occurring in a space that already lacks adequate fire suppression, air-conditioning and electrical service.

The Halon fire suppression system that was installed many years ago is obsolete and only one half is currently charged. Although no longer being produced, Halon is still available. However, as the supply dwindles the price increases. The Data Center’s air conditioning system was initially designed to cool a small number of mainframe systems. As a result, the heat loads generated by the current plethora of small servers frequently exceeds the cooling capacity of the 20 year-old equipment.

Although an 80KVA uninterruptible power supply (UPS) was added to the Data Center in 2004, it will need backup in the form of a standalone generator for critical systems. In addition, the pre-existing UPS units are nearing the end of their useful life and will need to be upgraded. In 2002-2003, major efforts were expended to consolidate the equipment in the Data Center, and as a result there is not an immediate space crisis. However, it is a significant risk to have all of the campus network connections and central computing infrastructure in a single location.

Evolution of technology has made it possible to relocate a portion of the existing computer servers to a second location, thus providing a fallback for running major functions, such as registration and enrollment at reduced performance if EMS should be compromised or inaccessible. I&MT has begun business continuity planning with University Safety and Assurances and Internal Audit. As secondary campus Data Center with separate power source would allow the reallocation of a portion of the computer servers.

Alternatives:

a) Update the existing electrical, HVAC and fire suppression systems in the EMS Data Center and develop a secondary Data Center in a new location on the Kenwood campus at a significant distance from EMS and relocate a subset of the current computer servers.

b) Develop a new Data Center in a new location to meet current physical requirements and utilize the existing EMS Data Center as a secondary location.

Recommendation:

Alternative a) upgrades to the EMS Data Center should be implemented and a secondary location needs to go forward expeditiously to meet the need for business continuity.
A2-6: Serious deficiencies in almost all of the original building systems in the 1912 North Wing addition of Mitchell Hall prevents student support and academic units from efficiently delivering their instruction and services.

**Description:**

The north wing of Mitchell Hall has an outdated heating system, no mechanical ventilation, and inadequate plumbing, electrical and telecommunications systems. Lack of air conditioning, single glazed windows, outdated restroom fixtures and ADA compliance issues result in uncomfortable and accessibility challenges for the occupants and users of Mitchell's North Wing. Building surfaces are worn and require renewal and updating along with the replacement of fixed equipment.

**Alternatives:**

a) Address mechanical, equipment, and surface improvements as a comprehensive project in a uniform time frame.

b) Implement improvements in separate phases and separate mechanical, equipment, and surface projects.

**Recommendation:**

To minimize cost and interruption to occupants, alternative a) is recommended.
A2-7: The capacity of the campus network technology infrastructure continues to be outpaced by the growing demands placed on it by online courses, hybrid courses, new research networks and increased web based student and administrative transactions.

**Description:**
To maintain an acceptable level of service through the campus network, the campus technology infrastructure is in need of continuous upgrade, including annual upgrading of the capacity of the connections to the Internet, the replacement of network components and computing servers on a four-year life cycle, and improvement of connectivity to off-campus locations including University Center for Continuing Education, the WATER Institute, the Kenilworth Building, potential satellite instructional sites and facilities for the Biomedical Technology Alliance initiative. There will be future costs and efforts expended to participate in the advanced research networks that are taking over the role of Internet 2 namely, the Northern Tier network, the National Lambda Rail and the Tera Scale Computing Grid.

**Alternatives:**

a) Hold networking harmless from campus budget reallocations.

b) Assess appropriate user fee charges to campus departments.

c) If necessary, budget reallocations to support research initiatives.

d) Earmarking of funds received in research grant overhead charges

c) A combination of a), c) and d).

**Recommendation:**

d) Current investments in networking must be preserved in tight budget times. If necessary, additional funds will need to be generated through reallocation and/or redistribution of research grant overhead. Campus governance committees have consistently recommended that budget reallocations be used for network and infrastructure funding rather than user fees.
A2-8: Security of laboratories within research facilities is a campus-wide infrastructure concern.

Description:

As a result of the events of 9/11, the Department of Homeland Security is increasing its oversight of access to controlled substances and agents used in campus research activities. The physical key infrastructure is inherently insecure due to the decentralized distribution and loss of keys. In some buildings the available key codes are already exhausted. In some areas, incompatible keyless access systems have been or are being installed. The Campus Security Committee, University Safety and Assurances and the University Police are developing a proposal for an integrated physical and electronic access control system that would serve all campus units.

Recommendation:

Keyless access controls are necessary to comply with directives from the United States Department of Homeland Security.
A2-9: The offices, research centers, and general purpose space in Holton, Merrill, Johnston and Greene Halls have inadequate building systems and have not been upgraded to the same level as other Downer buildings.

**Description:**
Holton, Merrill, Johnston and Greene Hall are the oldest of the Downer College buildings dating back to 1899. Although renovated during the 1970’s several infrastructure issues were not completely addressed or reduced in scope to accommodate limited budgets. Inadequate mechanical ventilation, lack of air conditioning and limited electrical and telecommunications systems limit space assignments and the type of academic activities that can be housed in the Holton, Merrill, Johnston and Green Hall quadrangle. Building surfaces are also worn and require renewal and updating along with the replacement of fixed equipment to improve space utilization.

**Alternatives:**

a) Address mechanical, equipment, and surface improvements as a comprehensive project in a uniform time frame.

b) Implement improvements in separate phases and separate mechanical, equipment, and surface projects.

**Recommendation:**
To minimize cost and interruption to occupants, alternative a) is recommended.
A2-10: The campus is completely dependent on Wisconsin Electric Power Company for a continuous and reliable supply of power. Power outages are becoming an increasing problem, especially for ongoing research activities that may be compromised or lost when unexpected power outages occur. Although several buildings have emergency power generators that help to alleviate loss and damage, the campus does not have a central independent power source to deal with these continuing outages.

**Description:**

The campus uses approximately 60 million KWH of power annually with summer peak demands of 10 MW. It is completely dependent on a continuous and reliable supply of power in order to fulfill its educational and research missions. In the last several years, the campus has experienced several lengthy power outages due to problems with WEPCO incoming lines. The proposed system would provide for 100% of the campus electrical requirement during summer peak months or a WEPCO electrical curtailment.

**Recommendation:**

Install a 7.5 MW gas turbine peaking facility producing continuous electric power. This system would be installed either adjacent to the existing Heating Plant or adjacent to the west campus sub-station.
A2-11: The offices, research centers, and general purpose space in the tower portion of Bolton Hall have inadequate building systems and have not been upgraded to the same level as the lower floors.

Description:
The upper floors of Bolton Hall have outdated heating, ventilation, and lighting systems, and lack a complete air conditioning system. Insufficient controls and air volumes contribute to the uncomfortable conditions. Building surfaces are worn and require renewal and updating along with the replacement of fixed equipment.

Alternatives:
a) Address mechanical, equipment, and surface improvements as a comprehensive project in a uniform time frame.

b) Implement improvements in separate phases and separate mechanical, equipment, and surface projects.

Recommendation:
To minimize cost and interruption to occupants, alternative a) is recommended.
A2-12: Architectural barriers limit access to the Alumni house, constructed in 1923, and contains outdated building systems, which are costly to maintain.

**Description:**

The Alumni house is over 80 years old and in great need of remodeling and upgrading. Much of the facility (both internal and external) requires improvements in order to preserve the historical beauty of the building, comply with the North Lake Drive historical district and maintain a unique environment for Alumni and prospective donors to visit.

Though the Alumni House has a great deal of square footage, the current infrastructure, configuration and lack of accessibility, does not provide functional workspace for its occupants. Building surfaces are worn and require renewal and updating, along with the addition of an elevator, central air condition and ADA compliant entry and restroom.

**Alternatives:**

a) Remodel and renovate the Alumni House.

b) Acquire office facilities that may be adjacent to the campus.

c) Remodel additional space at the Hefter Center.

**Recommendation:**

The residential design of the Alumni House limits its ability to function as an effective office facility. If renovation of the facility under alternate a) is not economically feasible, then alternative b) is recommended.
A2-13: A significant conflict exists between pedestrians and vehicles on Maryland Avenue as thousands of students encounter this corridor as classes change each hour. In addition the landscaping is inconsistent between new and existing facilities.

**Description:**

Maryland Avenue serves as the major north-south thoroughfare through the 93-acre UWM campus. Pedestrians compete with bicycles for access to the narrow walkways and ramps that exist on the west side of Maryland Avenue and connect to the pedestrian bridge. Pedestrian safety is a concern on the Maryland Avenue bridge, which is open to the elements resulting in icy, wet and slippery conditions during winter and windy inclement weather. Handicapped access to the western approach of the bridge is inconvenient and causes users to deviate from the most direct route. Existing raised planters and retaining walls around Lapham Hall have deteriorated and are not consistent in design, color or material construction with adjacent facilities.

**Recommendation:**

Enclosure of the Maryland Avenue bridge will convert it into a skywalk that will encourage its use during all seasons and increase safety through expanded utilization. Construction of wider or separate walkways will provide improved separation between pedestrians and bicycles. Design of additional accessible ramps will provide convenient approaches for all users. Redesign of planters and retaining walls should compliment designs of adjacent facilities. New landscaping materials and accents to campus entrances will provide a cohesive appearance to this entire corridor.
A2-14: The campus entrances at Hartford Avenue are understated and landscaping themes and streetscape materials lack consistency of design.

**Description:**
As a transportation hub, Hartford Avenue lacks adequate turnout lanes for bus loading and pedestrian pick-up, which results in traffic back-ups, and poorly defined pedestrian crossings, which promote irregular traffic patterns and frequent conflicts with vehicles.

**Recommendation:**
The development of a transit hub in front of the Golda Meir Library and Enderis Hall should include turnout lanes for new bus waiting areas and shelters. Creation of pocket parks at major pedestrian crossings would utilize mini-plazas to funnel walkways to designated crosswalks. If emergency vehicle destinations are eliminated from Hartford Avenue, consideration should be given to creating a pedestrian / transit mall. Establishing a landscaping theme between walkways should mirror the university environment and soften the transition between the street edge and campus setting. Highlighting campus entrances and standardization of signage and streetscape elements should provide a cohesive appearance that promotes a positive campus image.
A2-15: Coordinate the impact of planned campus construction projects on sewer systems with local municipalities.

**Description:**

Despite recent improvements to their sewer system, the campus's neighboring Village of Shorewood continues to experience flooding back-ups during peak storms. The UWM campus, the City of Milwaukee, and the Milwaukee Metropolitan Sewerage District (MMSD) are investigating the storm water management of the Edgewood Avenue corridor.

Drainage from the north quadrant of the UWM campus collects into the City of Milwaukee sewer in Edgewood Avenue. The City sewer drains into the Shorewood sewer system to the west. The Shorewood system then drains west into the MMSD system before terminating at the Milwaukee River.

For the construction of the Sandburg dormitory addition, design engineers determined that the inclusion of an underground storm water storage tank would improve the existing drainage from the Sandburg site. A similar approach was included in the construction of the Klotsche Addition.

**Recommendation:**

Continue to work with municipalities to responsibly manage the sewer system infrastructure. Pending design studies, which includes the installation of rain gardens, UWM has sought to share in an inter-governmental agreement or assessment to improve the situation.
B. Program Revenue (PR) Supported Functions / Facilities

Part 1: Program Related Issues

Providing space for the program revenue supported functions is a key element to address essential services and infrastructure to students, faculty, and staff, consistent with the university’s mission. Space shortages develop on specific programs due to various factors. These include enrollment changes, program diversification, technology updates, administrative priorities, and strategic planning to name a few.

B1-1: University Housing receives more requests for on campus student housing than it can accommodate at Sandburg Hall.

B1-2: The Children’s Center has been at capacity since 1997 and is unable to accommodate all the requests received for childcare services.

B1-3: The Alumni Association and part of the UWM Foundation are located in inadequate facilities given their expanding functions.

B1-4: The decreasing amount of open space on the campus has resulted in a limited number of outdoor recreational spaces.
B1-1: The campus has a shortage of student housing even with the completed Sandburg Addition.

Description:
Sandburg Residence Halls has been filled to capacity in each of the last seventeen years. A four hundred bed addition was completed and opened in the fall of 2001. Currently applications exceed rooms available by more than 1,500. Even with the expansion, current trends indicate that student applications will continue to exceed room availability.

Alternatives:
a) Purchase or lease additional dormitory facilities that may be available near the main campus on properties adjacent to campus, the eastside or downtown.
b) Construct additional student housing on campus.
c) Establish partnerships with outside developers to construct additional student housing similar to the Kenilworth Square development.

Recommendation:
Due to the limited land and site restrictions that surround Sandburg Residence Halls, alternative c) is recommended.
The Children’s Center has been at capacity since 1997 and is unable to accommodate all the requests received for childcare services.

Description:
The Children’s Center is the sole provider of childcare services on campus for Students, Faculty/Staff, Alumni Association Members, and Hartford University School Families. At least fifty percent of the children in the center are from students. This critical service grants access to an important group of students who without this service could not attend UWM. Additionally, future attempts to diversify the campus population and increase graduate enrollment will likely increase the need for childcare services. Faculty and Staff also are eligible to place their children at the center. This is an important recruitment and retention tool for the University. Alumni Association Members are also eligible to enroll their children at the center. Enrolling their children at the center is likely one of the best ways of helping them to establish a long-term relationship with UWM.

The facility, as currently configured, is at capacity and has been so since 1997. The facility is not adequate to support all of the childcare needs of the campus. Faculty/Staff and Alumni are now frequently unable to get their children into the center. Additionally, many of the wait-listed families do not stay on the wait-list due to a perception that it is impossible to get in.

Alternatives:
a) Reconfigure current spaces to add additional childcare slots.
b) Construct an addition to the existing facility.
c) Construct a new facility on campus.
d) Create an off site facility.

Recommendation:
Reconfiguration of current spaces (alternative A) would yield a limited number of additional childcare slots (approx. 16) at a relatively high cost. Adding on to the current facility (alternative B) would relieve much of the waiting list for students, faculty, and staff. However, this would not have a significant impact on alumni. Additionally, the facility is fifty years old and requires HVAC modifications as well. If space cannot be found on campus, then alternative B is the required option. Due to the nature of childcare services, an offsite facility (alternative D) is not a preferred option. Due to the cost of childcare, many students will drop off and pick up children only during class times. An offsite location would make this process more difficult and would not serve the needs of faculty/staff. Additionally, this would stretch the supervisory, administrative, technological, and custodial capabilities of the center. This would likely increase the cost of childcare services. Alternative C requires additional study. The Children’s Center could be relocated to a more appropriate location, thus freeing up the current space. A new center could be constructed that maximizes the use of space and creates efficiencies through design. The new, larger facility, would address all of the above issues.
B1-3: The Alumni Association and the UWM Foundation are located in inaccessible and inadequate facilities given their expanding functions.

Description:

The Alumni house is over 74 years old and in great need of remodeling and upgrading. Much of the facility (both internal and external) requires improvements in order to preserve the historical beauty of the building, comply with the North Lake Drive historical district and maintain a unique environment for Alumni and prospective donors to visit.

With the new initiatives that UWM has entered into, the Foundation has expanded its primary staff to the Hefter Center. The Alumni Association and the UWM Foundation have added additional staff and would benefit from a consolidated location. Though the Alumni House has a great deal of square footage, the current configuration does not provide functional workspace for staff. In addition, providing a secure and safe work environment for after hours and weekends is a concern.

Alternatives:

a) Remodel and renovate the Alumni House to consolidate activities.

b) Acquire office facilities that may be adjacent to the campus.

c) Remodel additional space at the Hefter Center.

Recommendation:

The residential design of the Alumni House limits its ability to function as an effective office facility. Renovation of the facility to improve utilization and consolidate activities is preferred under alternative a).
B1-4: The decreasing amount of open space on the campus has resulted in a limited number of outdoor recreational spaces.

**Description:**

The UWM campus is confined to 93 contiguous acres of which only 72 acres can be developed. As a result there is a limited number of building sites competing for exterior space with parking facilities, open areas, and outdoor recreation space. Construction of new facilities over the years have reduced the inventory of outdoors recreational space.

**Recommendation:**

A location should be identified for the construction of additional outdoor tennis courts in the general proximity of the current recreational facilities.
B. Program Revenue (PR) Supported Functions / Facilities

Part 2: Infrastructure Related Issues

Providing the infrastructure program revenue supported functions is a key element to address essential programs and services to students, faculty and staff, consistent with the university’s mission. Space shortages for specific infrastructure issues occur due to various factors. These include enrollment changes, program diversification, technology updates, administrative priorities, and strategic planning to name a few.

B2-1: UWM has a severe shortage of on-campus parking. Minimum recommended parking standards of 15 parking spaces for every 100 FTE for urban universities are not met.

B2-2: Present transit access to the campus does not fully utilize all alternative forms of transportation.

B2-3: Structural issues and serious deficiencies in all of the original building systems in the 1913 Greene Museum prevents occupancy or utilization of this facility for any university function except storage.

B2-4: The lack of exterior landscape enhancements minimizes the ability to present a cohesive image of the campus and its physical environment.
B2-1: UWM has a shortage of on-campus parking. Minimum recommended parking standards of 15 parking spaces for every 100 FTE students for urban universities are not met.

Description:
This standard would translate into a minimum 2,600 parking spaces. The CRS campus master plan in 1972 recommended a minimum of 2,500 campus parking spaces. The recently opened parking associated with the Pavilion increased on campus parking by an additional 365 parking spaces. This is consistent with current campus policy that proposed building projects should provide additional parking whenever feasible. The need for both replacement and additional on campus parking will only increase as additional surface lots become potential building sites and as UWM students commute to campus from areas not well served by transit and from places that are greater distances from campus.

Alternatives:
a) Improve current parking efficiency by constructing parking structures on existing surface parking lots and future building sites. Primary sites include the Kunkle Child Care Center Lots #5 & #6, the Klotsche North Lot #10, Lot #8 between Chapman and Enderis Halls, Lot #20 adjacent to Cunningham Hall, and as part of the Library Building Addition.

b) Improve current parking efficiency by reducing demand for all day (long-term) campus parking. Explore user fee price increases as disincentives to discourage long-term parking. Provide incentives to encourage use of public transit, off campus satellite parking, and carpooling. Convert long-term parking space to short term (hourly pay) parking space to serve more users.

Recommendations:
To reduce all day parking demand, UWM will pursue efforts to:

• Acquire the 788 space five-level parking garage plus 174 space surface parking capacity at Columbia Hospital if recommended by the Feasibility Study.

• Participate in a UWM funded $100,000 City of Milwaukee Department of City Development consultant study entitled UWM Neighborhood Strategy and Vision. This study will among other things explore solutions to critical issues in the areas of parking and transit.

• Assess the feasibility (financial, political, etc.) of constructing additional parking capacity in new parking garages located in the Chapman / Enderis Lot #8, the Kunkle Child Care Center Lots #5 & #6, and in the Cunningham Lot #20.

• Continue to implement and maintain a level of parking user fees and a set of campus parking policies that minimizes the demand for long term parking and low turn over and encourages short term parking.

• Continue to offer innovative and attractive alternatives to commuting to campus by drive-alone auto such as: the Milwaukee County Transit System's deeply discounted employee commuter value pass program; satellite parking / shuttlebusing; car pooling; employee use of in-car parking meters; and free campus parking incentives to those who participate in some of these programs.
B2-2: Transit access to the campus requires regular monitoring and improvement and further consideration of alternative forms of transportation.

Description:

Improving the transit access to campus and opening additional satellite park and ride lots should be explored to ease the main campus-parking problem. UWM is deeply interested and involved in the issue of developing mass transit alternatives in the Milwaukee metropolitan area with service to the UWM campus.

Alternatives:

a) The campus will continue to monitor and evaluate the general campus parking and transit situation to determine what additional improvements need to be made to encourage the further use of existing transit and satellite locations.

b) Further high quality transit service to UWM would reduce parking demand and traffic congestion on the east side of Milwaukee and provide a highly desirable large ridership resource base for any chosen transit system improvement over the entire day, not just during peak rush hour periods.

Recommendations:

Both alternatives need to be pursued. Additional use of satellite parking lots and UBUS pass programs will help reduce the pressure on the neighborhood streets and campus lots. To improve campus mass transit services, UWM will pursue efforts to:

- Expand parking capacity by 290 spaces along the Veterans/McKinley UPark shuttle route by adding shuttle stops at two existing County parking lots (Bradford and North Point).

- Continue to offer and fund from parking program revenue a deeply discounted and UWM subsidized Employee Commuter Value Pass Program through the Milwaukee County Transit System.

- Continue to offer and fund from student segregated fees revenue a semester long free UPass for all students to use to travel by bus anywhere, anytime within the service areas of the Milwaukee County Transit System and Wisconsin Coach Lines commuter routes to Milwaukee/UWM.

- Work jointly with Milwaukee County and the Milwaukee County Transit System to implement and test new transit service enhancements serving UWM using a CMAQ grant in the amount of $300,000 per year in federal/state funds for three years with UWM providing 50% of the required $60,000 per year local match.

Continue its membership in the Eastside Area Transportation Management Association and do its part to implement further policy and program initiatives that may be recommended by this Association.
B2-3: Structural issues and serious deficiencies in all of the original building systems within the 93 year old Greene Museum prevents occupancy or utilization of this facility for any university function except storage.

**Description:**
Greene Museum was constructed in 1913 and served for almost eighty-one years as a museum for a fossil and mineral museum. Greene Museum was not occupied after 1994 because of its deteriorated condition. Conditions were documented for the State of Wisconsin, in 1993 by the Department of Facilities Development. The primary concern was the settlement of the southwest corner of the interior slab on grade and subsequent movement and cracking of the associated interior stairs and walls. The cause of this settlement was attributed to soil loss through an interior basin/sump of inconclusive origins. All major building systems are in need of total replacement including, heating, electrical, mechanical, plumbing and telecommunication. The facility is not ADA compliant, contains outdated restrooms, all surface finishes require replacement along with the major components of the building envelope.

**Recommendation:**
Less than 3,400 square feet are available in Greene Museum. As a result, restoration costs per square foot are beyond the acceptable funding levels for state projects. Future utilization and renovation of this facility will be contingent upon the ability to raise outside funds.
B2-4: The lack of exterior landscape enhancements minimizes the ability to present a cohesive image of the campus and its physical environment.

**Description:**

As a campus located in a major metropolitan area, UWM has a responsibility to maintain and enhance its environmental setting. Exterior development of the landscape has been limited in previous years due to limited resources and a backlog of academic priorities. Now with great difficulty the campus is seeking to readdress these significant exterior amenities that will enhance the campus image and provide functional elements. The physical environment is the first impression of the campus received by a student, parent, or visitor. Buildings landscape and general appearance all serve as clues to indicate the character of an institution.

**Recommendation:**

The exterior enhancements should include the promotion of the campus’ physical environment through 1) implement a primary landscaping theme; 2) expand the use of perennial and annual plantings; 3) develop landscape maintenance priorities; 3) observe solid ecological and environmental principles; standardize streetscape elements such as seating, waste recepticals, signage, railings and retaining walls. Aesthetic development should also include such amenities as outdoor sculpture, art work, lighting, green roofs, rain gardens, plazas and courtyard plantings.