

II. E. Physical Heritage and Integrity

University Integrity and Heritage

The University seeks to promote a sense of integrity including a physical integrity in the campus environment that builds upon and preserves the University's traditions and heritage, where buildings and landscapes are accessible, functional, and beautiful; an aesthetic integrity among our structures, based on shared values and shared deliberations; and a social integrity, reflecting a spirit of community, tolerance, and mutual respect.

Well designed, constructed, maintained, and operated buildings are an essential tool for accomplishing the University's teaching, research and outreach mission. They help the University recruit the most talented students, faculty, and staff. We pursue these goals across more than 1,000 buildings spread over its five campuses, six research and outreach centers, and three field stations. These physical resources comprise more than 25 million square feet of space within the system, one of the country's largest university libraries, and some of the world's most sophisticated research laboratories.

The 1998 bonding package was the first installment in President Yudof's "Capital Plan for the Support of Academic Programs in the 21st Century." This plan called for investing nearly \$760 million over four years to preserve historic areas of the University's campuses and to modernize classroom and lab space in support of academic initiatives. The University is now three years into this four-year capital plan. Biology and the life sciences, undergraduates, and the University community remain the key programmatic elements of this plan, along with the infrastructure required for safe and efficient operation of a major, urban research institution.

The goal established to help measure progress is:

Improving the quality, functionality, and safety of the University's physical infrastructure and assets, especially those central to classroom instruction.

This section focuses on the Twin Cities. See the Appendix for an overview of investments and examples of their impact on the University's physical heritage and integrity. See Section III for additional information on the coordinate campuses' physical heritage and investments.

Improve the quality, functionality, and safety of the University's physical infrastructure and assets, especially those central to classroom instruction.

Indicators: Classrooms meeting quality/utilization standards; technology upgrades in classrooms; student satisfaction; energy consumption; renewal/new facility ratio

Classrooms

Classroom Quality Standards.

- The Twin Cities campus has a total of 298 centrally managed, general purpose classrooms, with nearly 23,000 seats, comprising approximately 300,000 square feet.
- Another 225 classrooms and 360 labs and studios are under college/departmental management.
- The teaching environment for 167 heavily utilized classrooms, containing nearly 12,000 seats, has been improved with 11,000 new pieces of classroom furniture, paint, and carpet.
- 81 classrooms received miscellaneous construction repairs or upgrades.
- 65 classrooms have been fully upgraded to "projection capable" status.
- The overall quality of Twin Cities classroom custodial service is at 3.5+ on the Association of Physical Plant Administrators (APPA) scale of 1 (best) to 5 (weakest).
- Our aim is to attain the national standard of APPA 2; this would require an investment of \$2 million/year.
- There is \$20 million of deferred maintenance and upgrade costs in Twin Cities classrooms, according to the 1995 Classroom Study.
- 73 percent of central classrooms are not accessible by ADA standards.

Technology Upgrades.

- Under the direction of a new Office of Classroom Management, a seven-year classroom technology upgrade plan has been developed for the Twin Cities Campus.
- Upgrading classrooms is a priority for all campuses.
- Through the Compact Process, \$2.7 million has been invested between 1999 and 2001 in classroom technology upgrades.
- Three phase plan:

Classroom Technology Upgrade Plan

Initiative	Status
1. Raise baseline technology in all central classrooms to "projection-capable" rooms (includes data projector, Internet, laptop plug-in, smart interface/control, hotline, VCR, and other I/O capability).	<ul style="list-style-type: none"> ▪ Started 2001; completion targeted for 2004. ▪ Installations behind schedule due to funding ▪ 65 central classrooms – 30% – fully upgraded to "projection capable" standard by fall 2001. ▪ Another 52 central classrooms contain some, but not all, projection capabilities.
2. Student connectivity in 60 percent of central rooms	<ul style="list-style-type: none"> ▪ Planned start in FY 2005. ▪ Wireless classroom pilot fall 2001.
3. Provide "low-end" asynchronous video streaming in a number of central classrooms	<ul style="list-style-type: none"> ▪ In development. ▪ Estimated start FY 2006. ▪ Pilot room in spring 2002.

Trends.

Student Satisfaction.

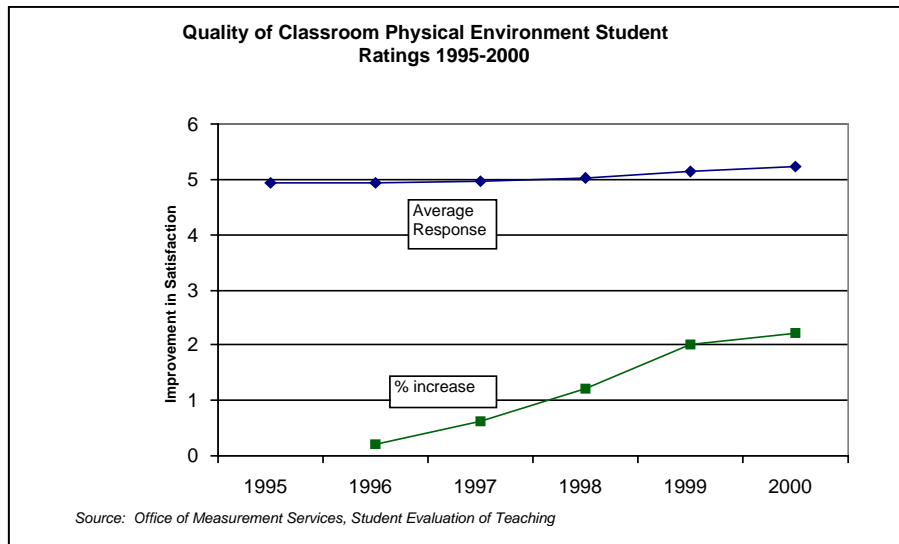
- In the 2001 Student Experiences survey, the evaluation of the quality of Twin Cities classrooms showed a slight increase from 1999, from 3.6 to 3.77.
- Satisfaction with Crookston's classrooms was highest, at 4.35.

**Student Satisfaction with Classrooms
1997-2001**

(6-point scale)	Crookston	Duluth	Morris	Twin Cities
2001	4.35	3.90	3.46	3.77
1999	3.60	4.80	3.35	3.66
1997	4.15	4.40	3.50	3.98

Source: Institutional Research and Reporting

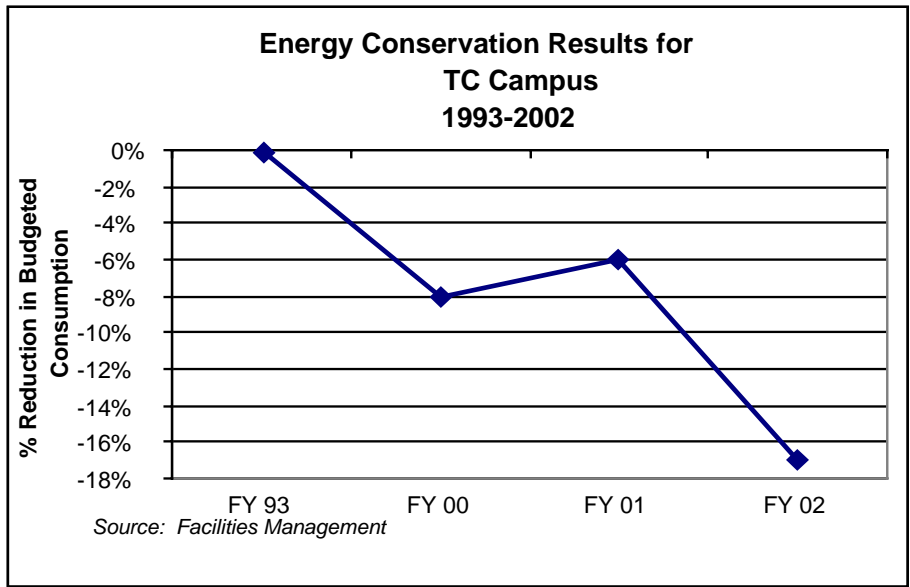
- Student satisfaction with the classroom physical environment has increased modestly each year over the past years. The highest rate of increase (2.02 and 2.23 percent) occurred between 1998 and 1999, and 1999 and 2000.



Trends.

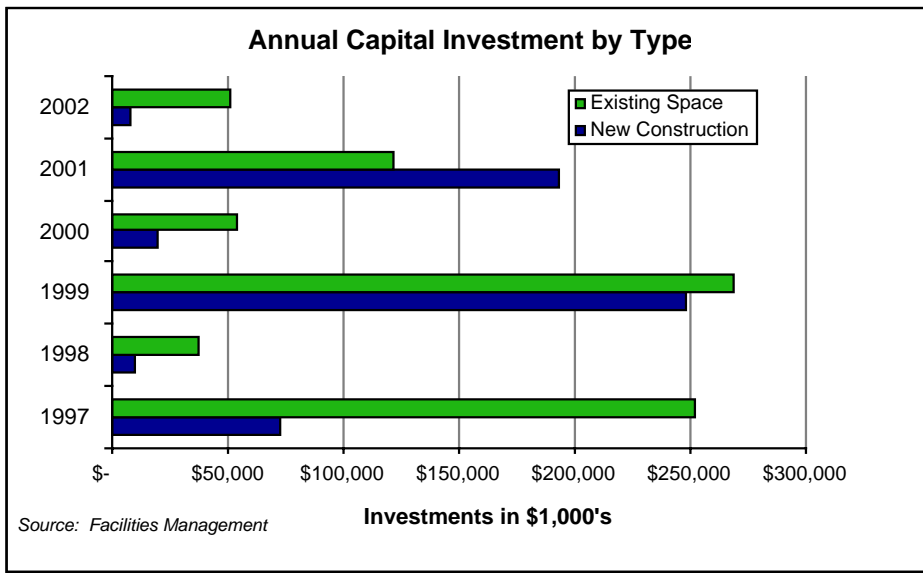
Energy Consumption.

- Starting from 1993 as a baseline year, the University's energy consumption has decreased by nearly 20 percent.
- The greatest rate of decrease is projected to occur between 2001 and 2002.



Renewal/New Facility Ratio

- Since 1997, in every year except 2001, capital budget funds for renovation of existing space have exceeded funds for new construction.
- 963 projects over this period have provided 1.9 million square feet of new space and 1.6 million square feet of renovated space.
- On average, between 1997 and 2002, investment in new construction has been one-third the investment in existing space.



Implications for Planning and Initiatives for 2002-2003

The past five years have been a period of unprecedented investment in the University's physical environment. In FY 2001 alone, there were 376 approved projects valued at \$962 million. The number of projects completed over the past three years has increased significantly: 131 in 1999; 115 in 2000, and 181 in 2001. 190 projects remain in process, with a value of \$730 million.

The University is responsible for operating and maintaining more than 350 major buildings (among 1,000 total buildings and other structures across all of its campuses). The University will need continued investments to pay utility inflation costs, operate and maintain new buildings, renew aging building systems, and meet the increased costs of University debt payments.

There is a growing realization that a classroom is a teaching and learning system. It is technology-intensive and requires planning, management attention, and recurring funding for life-cycle maintenance, equipment replacement costs, and faculty support staffing. The University will need to consider the kind of infrastructure it needs to build today to meet the teaching and learning needs of the future.

Appendix: Investments in Physical Heritage and Integrity (See Section III for Coordinate Campuses)

Renewing the campus	<ul style="list-style-type: none">▪ Northrop Mall has been designated as a University Historic District. Capital investments in Mall facilities since 1998 have strategically been targeted to preserve and enhance programmatic effectiveness in five major buildings on Northrop Mall.▪ Three historic Knoll buildings, the basis for the new Humanities District, are in the pre-design or design planning stage.▪ Criteria established for investments in extraordinary maintenance include safety/liability/risk, programmatic needs of building occupants, human comfort, building use and intensity, and long-range plans for buildings. Using this criterion, the extraordinary maintenance program targets roof replacement, interior cooling systems, interior painting, water infiltration, and emergency repairs and system replacement.▪ The University is near completion of a \$35 million "Roof, Windows, and Walls" initiative. The program goal is to replace or restore the windows in 11 buildings, the masonry on 12 buildings, and the roofs on 26 buildings. The majority of the work, representing \$26 million, was completed in the first 30 months of the comprehensive program.▪ The University has undertaken a comprehensive public art development strategy for the 34 pieces of public art on Twin Cities campus. Significant new, exterior sculptures include: the Platonic Figure outside the Mechanical Engineering building; the Wolves and Moose outside the Bell Museum; Stepped Tower outside the Anderson Library; and Bulls, installed outside Haeker Hall on the St. Paul campus.
----------------------------	---

<p>Investing for the future</p>	<ul style="list-style-type: none"> ▪ Molecular and Cellular Biology: The \$21 million renovation of Jackson Hall has been completed. This renovation project paved the way for the demolition of OML complex (fall, 1999) and the construction of the Molecular and Cellular Biology Building (spring, 2002). ▪ Digital Technology: Renovation of Walter Digital Technology Center is in final stages ▪ New Media Initiative: Using a design/build approach, the renovation of Ford Hall and Murphy Hall was completed in January of 2000, and available for use by students one semester earlier than anticipated. ▪ Agricultural Research: The Research and Outreach centers have numerous innovative projects underway. The Plant Growth Facilities (St. Paul) is currently in the design stage. ▪ Arts on the River: A replacement facility for the Art program is currently being built in the Arts Quarter on the West Bank. ▪ Other major renovations include Mondale Hall and the Architecture building. ▪ Morris Science and Mathematics: An addition to accommodate chemistry and biology laboratories and classrooms has recently been completed. ▪ Duluth Initiatives: A new library for the Duluth Campus was completed in time for the start of fall semester 2001.
--	---

<p>Enhancing the undergraduate experience and building community</p>	<p>Students, as consumers of an increasingly expensive product, demand smaller classes, state of the art teaching laboratories, and access to cutting-edge computer technology. High quality facilities play a major role in the University's attempts to recruit the highest possible caliber of undergraduate students. Yet, the facilities currently being used by undergraduate programs are some of the University's oldest buildings. On the Twin Cities campus:</p> <ul style="list-style-type: none"> ▪ Physical improvements: Classroom improvements are being addressed in several major capital projects. A special fund to improve the teaching environment for heavily utilized classrooms has been used to paint, carpet, and improve furnishings in 161 classrooms containing nearly 12,000 classroom seats. ▪ Classroom technology: Numerous studies and reports document that general-purpose classroom technology does not adequately support teaching and learning. Current supply does not meet today's demand. The University has developed a long-range plan to make significant classroom physical improvements and has undertaken implementation of this plan. (See Section II.F., Institutional Efficiency and Effectiveness.) ▪ Riverbend Commons development: This multifaceted development project is designed to reconnect the University to the Mississippi River and to improve the quality of the student experience. The development encompasses the 1) renovation of Coffman, 2) construction of additional student housing, 3) replacement of parking along East River Road with a below-grade parking garage, 4) creation of a landscaped "mall" from Coffman to the East River Road over the parking garage, and 5) improvement of vehicular and pedestrian circulation along Washington Avenue and East River Road. ▪ New and updated residence halls: The University continues to add housing capacity for its students. In the fall of 1999, an addition to Territorial Hall became home to 140 new students and a leasing arrangement with University Village provided apartment style housing for an additional 410 students. When Riverbend Commons is completed, 425 additional students will reside in its new housing units. Additions to Frontier Hall and Middlebrook Hall, currently under construction, will add 150 beds and 200 beds, respectively. Total residential hall spaces available in 1999-2000 was 5,459 (capacity), plus 276 in expanded housing; 5,627 (capacity) plus 242 in expanded housing in 2000-01; projected for 2001-02 – 5,913 (capacity) plus approximately 487 in expanded housing. ▪ Renovation of Coffman Union to better serve students and faculty.
---	--

<p>Academic Health Center</p>	<ul style="list-style-type: none"> ▪ Investing in new facilities and remodeling of existing space, including completing the BSBE building, renovation of 10 classrooms, constructing a new Molecular and Cellular Biology building, renovating Jackson Hall, working with Fairview to upgrade clinical spaces, building a new Magnetic Resonance Imaging building to support research, remodeling student study space, and remodeling numerous research laboratories to recruit and retain faculty to remain competitive internationally. ▪ Completing a strategic facilities plan for the AHC in 1998 that identifies facilities needs for five to seven years. The plan defines programmatic needs, marries it to space requirements, and prioritizes the various projects in the AHC. AHC facilities staff and faculty/staff committees prepared the plan (rather than engaging outside consultants). Estimated cost of using outside consultants would have been \$500,000 to \$750,000. The plan includes over 100 projects with an estimated cost of at least \$250 million. The plan is updated annually and used as the basis for capital budget planning. ▪ Developing a district facilities plan for the AHC campus based on the 1998 strategic facilities plan. The district plan was developed jointly by the AHC Facilities Office, the central planning office, and an outside consultant. The plan provides the framework, schedule, and locations for facilities projects for the next 20 years. It proposes replacing one million square feet of obsolete and inefficient structures with 1.3 million square feet of new construction.
--------------------------------------	--

<p>Managing our physical assets efficiently</p>	<ul style="list-style-type: none"> ▪ Conform to regulatory requirements and well-accepted industry standards for preventative maintenance and productivity. ▪ Energy conservation – Conservation has limited the increase in total energy production (MMBTU's per square foot) to roughly 5 percent from a FY 91 baseline despite: overall net increase in space; new space being more sophisticated and having higher energy consumption than decommissioned space; significant growth in computers and associated equipment. ▪ Capital project delivery – initiatives to improve outcomes on capital project delivery: <ul style="list-style-type: none"> ▪ Where non-state monies are involved, the design/build delivery process is being used as a means of mitigating the over-budget bidding outcomes that have occurred in the current market. ▪ Facilities has influenced legislative action to allow more University participation in the selections of design professionals. The University now selects the design professional of record from semi-finalists identified by the State Designer Selection Board. ▪ Design and public art standards have been established for external spaces with the intent of creating a more uniform-appearing campus. ▪ Emphasis in the management of projects is placed on managing the fundamentals of risk allocation between the owner, design professional, and contractor.
--	--