



March 2009



Second Report on the Condition of Higher Education in Ohio:

Meeting the State's Future Needs through a Competitive Higher Education Facility and Technology Infrastructure



Ohio's higher education system needs a competitive facility and technology infrastructure to educate Ohioans for the workforce needs of a thriving 21st century economy.



Ohio

Board of Regents

Ted Strickland, Governor
Eric D. Fingerhut, Chancellor

University System of Ohio

Ohio Board of Regents

James M. Tuschman, Esq., Of Counsel, Barkan and Robon, Ltd, Chair, Ohio Board of Regents, Chair, Ohio Board of Regents First Condition Report Committee, Former member of Governor’s Commission on Higher Education and the Economy and Vice Chairman of its Committee on Governance Structure and Finance, former Trustee and Chair of the Board of the University of Toledo, Member, National Alumni Council, Moritz College of Law, The Ohio State University

James F. Patterson, Owner, Patterson Fruit Farm, Vice Chair, Ohio Board of Regents, Former member and Chair of The Ohio State University Board of Trustees, former Chair of The Ohio State University Alumni Advisory Committee, member of the Ohio Agricultural Research and Development Center and The Ohio State University Extension Support Councils

Dr. Walter A. Reiling, Jr., Surgeon, Gem City Surgical Associates, Inc., Secretary, Ohio Board of Regents, voluntary faculty member of the Wright State University Boonshoft School of Medicine since its inception, Charter member of Wright State’s Academy of Medicine, member and former chair of the Academy Board of Trustees, former Wright State University Foundation Trustee and member of the Finance and Audit Committee

Donna Alvarado, President, Aguila International, former Chair, Ohio Board of Regents, former Chair, Governor’s Workforce Policy Board, former member of the Board of Trustees of Central Ohio Technical College and executive committee the Ohio Association of Community College, Governor’s Commission on Higher Education and the Economy, member of Ohio Board of Regents Funding Commission

Bruce R. Beeghly, President, Altronic, Inc., former Trustee and Chair of the Board of Trustees, Youngstown State University, Member, Northeast Ohio Universities Collaboration & Innovation Study Commission, Member of Ohio Board of Regents Funding Commission, Chair, Ohio Board of Regents Second Condition Report Committee

Tim Burke, Esq., President of Manley Burke LPA, former President of Xavier University Alumni Board of Governors, former adjunct faculty member at Xavier University and the University of Cincinnati

Dan Hurwitz, President and Chief Operating Officer of Developers Diversified Realty, a member of The Samuel Zell and Robert Lurie Real Estate Center at The Wharton School, University of Pennsylvania, Board of Directors of the Colgate University Alumni Corporation, Colgate University Maroon Council

Lana Z. Moresky, former member of the Board of Lake Erie College, Director of Community Services in Cuyahoga County, Acting Executive Director of the Women’s Law Fund, Vice President of Heights Fund Inc., and elementary school educator

Ex-officio members:

Senator Gary Cates, Ohio Senate

Representative Brian G. Williams, Ohio House of Representatives

Eric D. Fingerhut, Chancellor, Ohio Board of Regents

Former Ohio State Senator, former member of the U. S. House of Representatives, Director of Economic Development Education and Entrepreneurship as a member of the Business Administration faculty at Baldwin-Wallace College and as an adjunct faculty member in the Case Western Reserve University Department of Political Science, School of Law, and Weatherhead School of Management

Brenda Norman Albright served as the consultant to the Board of Regents in the development of the Condition Report.

The Ohio Board of Regents presents its March 2009 *Report on the Condition of Higher Education in Ohio: Meeting the State's Future Needs Through a Competitive Higher Education Facility and Technology Infrastructure*. The *Condition Report* is issued annually and is a statutory responsibility. The *First Condition Report* provided policymakers and the general public a snapshot of where Ohio stands in providing the higher education services Ohio needs to be competitive in today's world. The *Second Report* focuses on facilities and technology.

The Regents recognize that Ohio has never before faced the economic challenges that it faces today. We express our gratitude to the Governor and the General Assembly for recognizing higher education's importance in Ohio's future and placing a priority on its financial support. We pledge our support to move forward, rather than retreat, from new directions outlined in the *Strategic Plan for Higher Education, 2008-2017*. Now is a time for creativity, collaboration and bold ideas. We believe that it is important to accelerate the actions contained within the Plan to assure that higher education develops economic solutions needed by Ohioans.

What can higher education do? We believe that higher education must focus on two key areas: economic development and productivity. First, higher education must step forward and redouble its efforts as the growth engine for research and workforce development through expanded educational services for its citizens and redevelopment of its communities. Partnerships among institutions can result in expanded access and success, as well as the creation of new jobs through business development, incubators, and technology initiatives. Second, higher education must intensify its efforts on collaboration and productivity in administrative and academic services to effect system wide savings and efficiencies. These collaborations must include two- and four-year higher education institutions, business and industry, and P-12 education.

The Regents believe that Ohio needs college graduates in the numbers and disciplines required to meet the workforce demands of a thriving 21st century economy and to ensure a higher quality of life for its citizens. The Regents also believe that continuous innovation through expanded workforce development, research and technology transfer are vitally important for Ohio. "Meeting the state's future needs" is the context for the *Condition Report*. A competitive higher education facility and technology infrastructure is critical to the success of Ohio's students, communities, and future economic competitiveness.

To make the report easily accessible to readers, we present a limited set of questions and facts focused on higher education's facility and technology infrastructure, and then make conclusions and portray the condition of higher education's facility and technology infrastructure with a dashboard. We identify crucial facilities and technology challenges that must be addressed to assure that Ohio's citizens have the educational and workforce training that they need to be competitive in the 21st Century.

When we assess the current condition of higher education's facility and technology infrastructure, we conclude that:

- Ohio's substantial facility and technological assets must be utilized to a greater extent and in different ways than in the past.
- Trustee stewardship of facility assets are applauded, but larger investments are needed to address deferred maintenance, technology upgrades, building retrofits, and new facilities needed to accommodate program expansions for science, technology, engineering, math and health professions.
- Debt levels are a concern for some institutions, and current trends cannot continue. Ohio must explore new funding streams and strategies to support its debt issuance.
- Greater collaboration among institutions, business and industry, and other state services can result in greater cost effectiveness among institutions.
- State regulations, particularly in construction, can be modified in ways that result in high quality facilities at a lower cost.
- A statewide common IT infrastructure that focuses on shared services is an opportunity to deliver new programs in more locations and effect efficiencies.
- Ohio must expand its online learning.

We strongly support higher education as a gateway to success for Ohio's citizens and as the state's economic engine. Moving forward with the new directions outlined in the *Strategic Plan for Higher Education, 2008-2017* is essential for a thriving future for all Ohioans.

Sincerely,

James M. Tuschman, Chair
James F. Patterson, Vice Chair
Dr. Walter A. Reiling, Jr., Secretary

Acknowledgments

The Regents benefited greatly from the insights and comments of numerous people, Chancellor Eric Fingerhut and members of his staff including David Barber, Mike Chaney, Dora Dean, Paolo DeMaria, Barbara Gellman-Danley, Lori McCarthy, Jim Nargang, Rich Petrick, and Charles See were enormously helpful. Trustees, college leadership and the various statewide stakeholder organizations including the Inter-University Council, the Ohio Association of Community Colleges, the Association of Independent College and Universities of Ohio, the Ohio Faculty Council, the Ohio Faculty Council of Community and Technical Colleges, and the Ohio Student Government Association provided excellent feedback that shaped the Report. Brenda Albright served as consultant.

Table of Contents

Executive Summary

Ohio's future is linked to a competitive higher education facility and technology infrastructure	7
--	---

Condition Report

Meeting the state's future needs through a competitive higher education facility and technology infrastructure	15
--	----

Section 1: Ohio's Public Higher Education Facilities	17
---	----

Section 2: Financing of Higher Education Facilities	21
--	----

Section 3: Technology	27
--	----

Section 4: Summary	29
-------------------------------------	----

Appendix	31
---------------------------	----



Ohio's future is linked to a competitive higher education facility and technology infrastructure

Ohio has a strong higher education system that serves Ohio's many citizens and communities. Almost 500,000 students enroll in Ohio's public colleges and universities each fall, and an additional 170,000 enroll at Ohio's private, not-for-profit and private for-profit institutions. Ohio's higher education participation by 18-24 year-olds parallels the nation, but for adults 25-49 year-olds, participation is far below national averages, and participation by all ages is much lower than Midwest states. "Participation as usual" is not adequate for a 21st century economy. Improving college-going rates directly from high school and participation from underserved populations could result in greater economic prosperity for Ohio.

Because of the projected declining youth population, educating more adults is particularly important for Ohio. The traditional pipeline of high school students will not address Ohio's educational needs. To reach international competitiveness, Ohio cannot close the gap with traditional college students. Ohio must rely on the re-entry pipeline—getting older adults back into the education system and on track to earn college degrees. All citizens live within 30 miles of a college or university campus; however, only about four percent of the adult population (ages 25 and older) takes advantage of the availability of higher education and enrolls in college.

The *First Condition Report* provided policymakers and the general public a snapshot of where Ohio stands in providing the higher education services Ohio needs to be competitive in today's world. This Second Report focuses on facilities and technology.

Colleges and universities' facility and technology infrastructure creates a sense of place for the institution, its students and alumni. It is a physical representation of an institution's identity and reinforces a sense of community. Facilities go far beyond meeting basic user needs of keeping lights on and the air comfortable – they contribute in key ways to the educational mission of the institution. Facilities support learning. The amount of daylight or fresh air in a classroom can have a measurable effect on learning outcomes. Architectural space design can create an environment that encourages small group interaction.

Ohio's facility and technology infrastructure is a substantial asset. However, the infrastructure has weaknesses. The infrastructure is expensive – to operate, maintain and repair. Considerable amounts of money are necessary just for those basic user needs of keeping the lights and computers powered. Changing the ways facilities operate, renovating or updating existing classrooms and labs, building new buildings, and updating the technology infrastructure requires large, ongoing investments.

In preparing the *Second Report on the Condition of Higher Education in Ohio*, the Regents ask: *How well is higher education's facility and technology infrastructure positioned to provide essential educational, research and public services for a thriving 21st century economy?* We answer this question by assessing Ohio's:

- Adequacy of Facilities
- Condition of Facilities
- Financing of Facilities, Including Institutional Debt
- Rules and Regulations
- Technology

Five questions form the core of *The Condition Report*.

1 Are Ohio's higher education facilities adequate to address the needs of and attract students for the 21st century?

2 What is the condition of facilities, and are adequate investments being made to protect the state's assets and benefit students?

3 Can recent trends in funding higher education capital projects, including institutional debt, continue?

4 Do current rules, regulations and practices inhibit the cost effectiveness of facilities construction?

5 How is technology being used to serve current and prospective students?



Are Ohio's higher education facilities adequate to address the needs of and attract students for the 21st century?

What we know:

- To be economically competitive, Ohio is faced with a significant challenge to increase enrollment educating 230,000 more students annually. It is anticipated that much of this growth will be adults and other students at the two-year campuses.
- The 2008 *Strategic Plan for Higher Education* details strategies to meet the goal of enrolling more students, keeping more graduates in Ohio, and attracting more talent to the state. A primary strategy is to create a marketplace for educational programs that makes available low-cost associate and bachelor's degrees to students at community colleges and regional campus locations. A second strategy creates Centers of Excellence at university main campuses, and a third strategy increases the use of technology for student services and online learning. These three strategies will impact the capital needs of campuses.
- The need to educate many more Ohioans underscores the need to be productive and maximize the use of facilities.
- The traditional classroom setting is a productive learning environment for many students.
- Trustees of most public main and regional campuses say that space is adequate to accommodate many more students while trustees of some community colleges see a need to expand space, particularly in the high demand areas of science, technology, engineering, math, and health professions.
- Increased reliance on *OhioLink* and the regional library consortia have dampened the need for significant additional library space. Campuses are leasing space to manage surges in classroom demand.
- Many state facilities, including public schools, are of high quality, fully "wired," and not in use for certain periods, such as after 3:30 p.m. Legislation which transferred adult, post high-school programs to the Board of Regents on January 1, 2009, is designed to maximize the strength and flexibility of Ohio's adult workforce education assets and to improve the overall quality of adult education and training programs. The change offers opportunities for greater utilization of facilities.
- Many facilities are designed for traditional courses, rather than the learning processes that businesses expect so that many classrooms need to be retrofitted to new learning environments and technology, including SMART classrooms, equipped with a projector, screen, computer and internet access to encourage interactive teaching and learning.

We conclude:

Colleges and universities:

- **Can better utilize space, particularly in the evening and summer to serve more students more productively;**
- **Should explore new strategies to serve additional students, including using available community, workplace and public school space.**

2

What is the condition of facilities, and are adequate investments being made to protect the state's assets and benefit students?

What we know:

- Most buildings that reach the age of 40 years are physically and functionally obsolete.
- Like many other states, Ohio's facilities are aging. A large number of higher education facilities were constructed in the 1960s and 1970s, and many of these buildings require substantial investments for renovation, or in some cases replacement. Ohio faces "block obsolescence" – the simultaneous aging of a large portion of campus facilities, which will challenge campus and state budgets in the future.
- Some of the older buildings are of historic significance and are community landmarks. Investments should be made to protect these notable facilities.
- Ohio is lagging in renovations of academic buildings. National standards for building renovations suggest an annual shortfall of about \$170 million in capital appropriations. Taking into account the backlog from years of not meeting this standard increases the total annual need by another \$100 million. Ohio should be expending about \$270 million more annually in renovating its facilities. A 2006 study showed an overall \$5 billion need for capital renewal. (*Board of Regents' Staff Analysis*)

We conclude:

Ohio must invest additional resources to renew its aging higher education facilities:

- Institutions must address high priority facility and technology needs to serve more students consistent with the *Strategic Plan*.
- Institutions should explore new strategies to support renewal of facilities, including establishing endowments for this purpose.

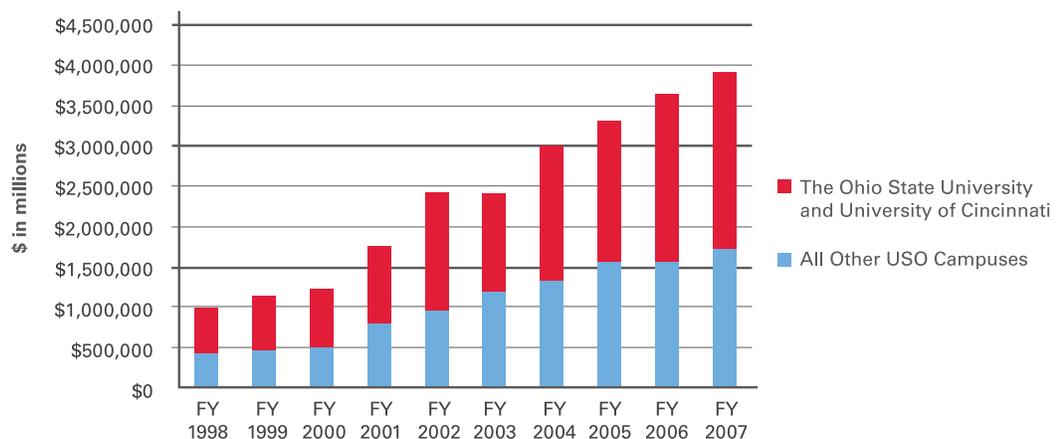
3

Can recent trends in funding higher education capital projects, including institutional debt, continue?

What we know:

- Excluding community projects and *Third Frontier* funding, capital appropriations average about \$400-450 million per biennium.
- In the past decade, Ohio has placed a heavy emphasis on addressing facilities needs for primary and secondary education. To maintain the state's debt capacity limits, less state bond resources have been available for higher education. State support in real dollars for higher education's capital projects has been declining since the mid 1990s.
- Some campuses, particularly 4-year institutions, have assumed substantial responsibility, and liability, for the rehabilitation and construction of educational space. Local capital debt has risen rapidly to \$4 billion with almost half, or \$2 billion, attributable to financing for renovations and construction of educational space. Debt has increased by over \$300 million per year since FY 1998. (see chart below)
- Ohio calculates financial ratios required by legislation enacted in 1997. Viability ratios are declining for about one-fourth of the institutions.
- Campus energy conservation should be greatly enhanced over the next six years as a result of legislation, which requires public campuses to adopt energy conservation measures aimed at reducing energy consumption by 20% by 2014.
- The *Strategic Plan* calls for The University System of Ohio to consider ways to incorporate LEED (*Leadership in Energy and Environmental Design*) certified construction methods into future campus construction projects. Although LEED-designed buildings may have higher initial costs, they have lower lifetime operating costs through reduced energy and water consumption, the use of recyclable construction materials, longer useful facility lives, and improved productivity.
- The Chancellor has established *The Advisory Committee on Efficiency in the University System of Ohio* to continuously monitor spending practices and identify successful productivity strategies with the goal of disseminating best practices.

University System of Ohio Local Plant Debt
FY 1998 - FY 2007



Source: Analyses by Board of Regents' staff
Note: About half of the debt is for educational space.

We conclude:

For some campuses, current trends of increasing debt cannot continue and higher education must develop bold new strategies to address efficiencies, financing strategies, and capital renewal.



Do current rules, regulations and practices inhibit the cost effectiveness of facilities construction?

What we know:

- The Governor has appointed a *Construction Reform Panel*.
- The Board of Regents plans to undertake a policy audit of all rules and regulations that affect institutional efficiencies.
- Institutional leadership and trustees have identified problems associated with:
 - the lengthy design and construction process
 - the multi-prime construction process.
- Many other states and the private sector utilize alternative construction delivery methods that allow construction projects to proceed more quickly, reduce costs due to lack of coordination and claims disputes, and allow project owners to manage projects more effectively with less risk and less administrative burden. These methods can be designed to benefit and preserve the fundamental interest of all parties in transparency, fairness, and accountability. Some institutions estimate that changes to construction laws could result in 10 to 20 percent in cost savings.
- Current guidelines for space utilization and justification of new space follow national standards; however, they do not provide incentives for greater utilization of space.

We conclude:

Current rules and regulations must be assessed and modified to promote greater utilization of space and cost savings in construction.

5

How is technology being used to serve current and prospective students?

What we know:

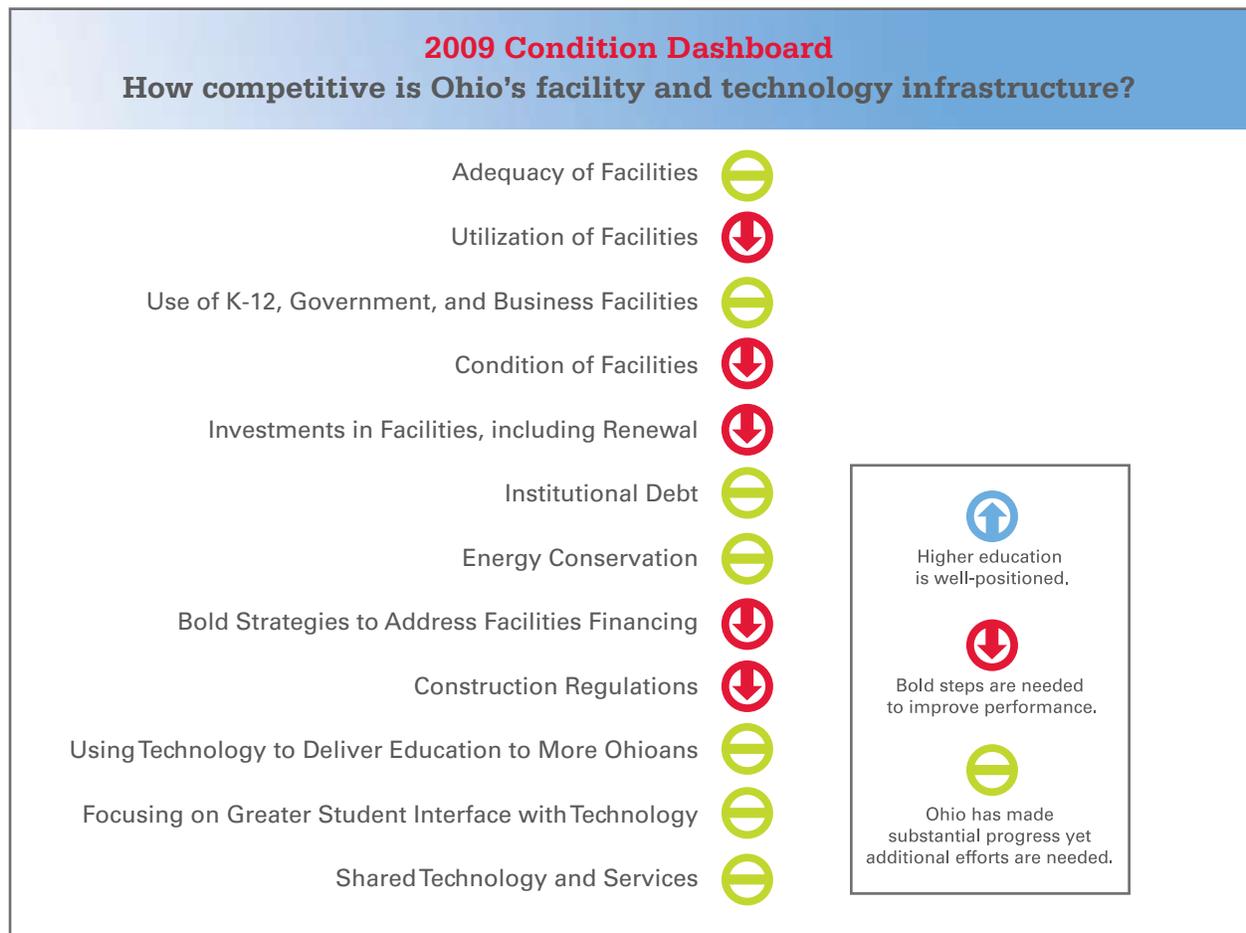
- While the traditional classroom setting is important for productive learning for many students, technology can be used to expand educational opportunity and accommodate different learning styles.
- Students have high expectations for technology; and preparing students and faculty to use technology for education is a challenge.
- *E-Learning* can solve two fundamental problems: time and place. Ohio has expanded educational opportunities through *E-Learning*; however, some Ohio students say that they enroll in *E-Learning* provided by out-of-state institutions. In 2006, Ohio public and independent colleges and universities enrolled nearly 100,000 people in *E-Learning* courses, a 55% increase from 2005:
 - Adults (25 and older) make up half of the enrollments.
 - Ohio's community and technical colleges enroll 63% of all the public undergraduate *E-Learning* students.
 - Ohio's growth rate for online enrollment appears to be exceeding the national growth rate.
 - Just 11% of Ohio public undergraduate students took at least one online course in the fall of 2006 compared with 20% nationally.
- Technology has become more integrated with changes to *OhioLink*, the *Ohio Learning Network*, the *Ohio Academic Resources Network*, *Supercomputer Center*, and *E-Learning*
- Higher education is using technology to serve many state needs:
 - The University of Akron's distance learning network allows high school students to enroll in college classes in their own high school buildings.
 - Ohio has online professional development for K-3 literacy teachers (*e-Read Ohio*).
 - Technologies are expanding access to critical services such as telemedicine throughout Ohio.
- Technology barriers and opportunities are numerous:
 - Firewalls exist in K-12 and higher education data systems and structures that impede serving students better in areas such as college readiness.
 - Costs are increasing rapidly (Some institutions have estimated that technology costs are increasing at a rate three times that of other instructional costs).
 - Limited high-speed internet access exists in some rural areas of Ohio, and many Ohioans cannot afford to pay for access.
 - Some older adults are unfamiliar with technology.
 - Data systems could relate K-12 experiences to higher education outcomes and promote student success.
 - A common application form and high school transcript exchange can make it easier for students to apply for college.
 - An intercampus registration and advising system could provide greater access and promote student success.
 - A *Distance Learning Clearinghouse* could be a common platform for on-line high school courses.

We conclude:

Ohio must increase its use of technology, aggressively grow *E-Learning*, and promote greater student interface with technology as strategies to increase success and effect greater efficiencies in administrative and academic functions.

Summary

If Ohio is to have college graduates in the numbers and disciplines that it needs for a thriving 21st century economy, how competitive is higher education's facility and technology infrastructure? The Regents assess higher education's condition in the following dashboard:



When we assess the current condition of higher education's facility and technology infrastructure, we conclude that:

- Ohio's substantial facility and technological assets must be utilized to a greater extent and in different ways than in the past.
- Trustee stewardship of facility assets are applauded, but larger investments are needed to address deferred maintenance, technology upgrades, building retrofits, and new facilities needed to accommodate program expansions for science, technology, engineering, math and health professions.
- Debt levels for some institutions are a concern, and current trends for some institutions cannot continue. Ohio must explore new funding streams and strategies to support its debt issuance.
- Greater collaboration among institutions, business and industry, and other state services can result in greater cost effectiveness among institutions.
- State regulations, particularly in construction, can be modified in ways that result in high quality facilities at a lower cost.
- A statewide common IT infrastructure that focuses on shared services is an opportunity to deliver new programs in more locations and to be more cost-effective.
- Ohio must expand its online learning.

We strongly support higher education as a gateway to success for Ohio's citizens and as the state's economic engine. Moving forward with the new directions outlined in the *Strategic Plan for Higher Education, 2008-2017* is essential for a thriving future for all Ohioans.



Meeting the state’s future needs through a competitive higher education facility and technology infrastructure

Ohio has a strong higher education system that serves Ohio’s many citizens and communities. Almost 500,000 students enroll in Ohio’s public colleges and universities each fall, and an additional 170,000 enroll at Ohio’s private, not-for-profit and private for-profit institutions. Ohio’s higher education participation by 18-24 year-olds parallels the nation, but for adults 25-49 year-olds, participation is far below national averages, and participation by all ages is much lower than Midwest states. “Participation as usual” is not adequate for a 21st century economy. Improving college-going rates directly from high school and participation from underserved populations could result in greater economic prosperity for Ohio.

Because of the projected declining youth population, educating more adults is particularly important for Ohio. The traditional pipeline of high school students will not address Ohio’s educational needs. To reach international competitiveness, Ohio cannot close the gap with traditional college students. Ohio must rely on the re-entry pipeline—getting older adults back into the education system and on track to earn college degrees. All citizens live within 30 miles of a college or university campus; however, only about four percent of the adult population (ages 25 and older)

takes advantage of the availability of higher education and enrolls in college.

Colleges and universities’ facility and technology infrastructure creates a sense of place for the institution and its students and alumni. It is a physical representation of an institution’s identity and reinforces a sense of community. Facilities go far beyond meeting basic user needs of keeping lights on and the air comfortable – they contribute in key ways to the educational mission of the institution. Facilities support learning. The amount of daylight or fresh air in a classroom can have a measurable effect on learning outcomes. Architectural space design can create an environment that encourages small group interaction.

Ohio’s facility and technology infrastructure is a substantial asset. However, the infrastructure has weaknesses. The infrastructure is expensive – to operate, maintain and repair. Considerable amounts of money are necessary just for those basic user needs of keeping the lights and computers powered. Changing the way facilities operate, renovating or updating existing classrooms and labs, building new buildings, and updating the technology infrastructure require large, ongoing investments.

The following four sections of the *Condition Report* highlight the Regents conclusions about the condition of higher education’s facility and technology infrastructure:

- Section 1:**
Ohio’s Public Higher Education Facilities
 A. Scope and Usage
 B. Condition

- Section 3:**
Technology
 A. Changing Delivery
 B. Barriers to Serving Students and the State Better

- Section 2:**
Financing of Higher Education Facilities
 A. Financial Support
 B. State and Institutional Policies
 C. Campus Debt
 D. Energy
 E. Alternative Strategies
 F. Regulations

Section 4: Summary
 The Regents sought feedback from several organizations as noted in the *Acknowledgements* and held a videoconference and webcast with college and university trustees. The feedback was most helpful in shaping the *Second Condition Report*.



Section 1:

Ohio's Public Higher Education Facilities

Ohio's public higher education institutions have many human and physical assets. The many facilities – classroom, work-force, and research buildings, student centers, libraries, dormitories - are some of the most visible assets. They create a sense of place for the institution, physically represent an institution's identity, and reinforce a sense of community.



Are Ohio's higher education facilities adequate to address the needs of and attract students for the 21st century?

What we know:

- To be economically competitive, Ohio is faced with a significant challenge to increase enrollment educating 230,000 more students annually. It is anticipated that much of this growth will be adults and other students at the two-year campuses.
- The 2008 *Strategic Plan for Higher Education* details strategies to meet the goal of enrolling more students, keeping more graduates in Ohio, and attracting more talent to the state. A primary strategy is to create a marketplace for educational programs that makes available low-cost associate and bachelor's degrees to students at community colleges and regional campus locations. A second strategy creates Centers of Excellence at university main campuses, and a third strategy increases the use of technology for student services and online learning. These three strategies will impact the capital needs of campuses.
- The need to educate many more Ohioans underscores the need to be productive and maximize the use of facilities.
- Trustees of most public main and regional campuses say that space is adequate to accommodate many more students while trustees of some community colleges see a need to expand space, particularly in the high demand areas of science, technology, engineering, math, and health professions.
- Ohio owns more than 2,400 facilities on its public university and regional campuses, community colleges and co-located campuses. About 50% are devoted to education and general purposes – classrooms, libraries, student services, and administrative space, and 50% are dedicated to auxiliary purposes – residence halls, bookstores, parking facilities, athletic facilities. (See table on page 18)
- The facilities consist of almost 113 million gross square feet.
- The facilities are valued at more than \$22 billion.¹
- More than 80% of the facilities are at the university, main and regional, campuses.
- Operating facilities is expensive on both a short and long-term basis.
 - Each year campuses spend about \$500 million to maintain, heat and cool higher education facilities
 - Energy costs have been skyrocketing, exceeding the rate of inflation
 - Specialized high tech equipment and facilities are expensive to maintain
 - Higher education must address environmental issues, including costly government regulations, energy conservation, and reductions of greenhouse gases
 - Institutions must plan for capital renewal to renovate, rehabilitate and replace aging facilities
 - All building systems are typically replaced over 40 years.

¹ Estimates are based on FY 2006 facility reports from campuses.

Physical Structures, Buildings Owned

	University Main and Regional Campuses	Community Colleges	Co-located Campuses	Total
Number of Buildings	2,055	300	104	2,459
Gross Square Feet	97,514,290	12,237,604	3,174,904	112,926,798
Replacement Value (in thousands \$)	\$19,470,180	\$1,699,112	\$541,013	\$21,710,305

Source: Ohio Board of Regents, *Higher Education Information Facilities Reports*

We conclude:

Ohio's substantial investment in higher education facilities must be effectively used to expand needed services to Ohioans.



How extensively are higher education facilities used in Ohio?
What is the capacity of existing facilities?

What we know:

- National higher education professional space planning organizations have established utilization standards of classroom space at 70% and laboratory space at 50%. These standards take into account time needed to move among classrooms and the time needed for set-up for labs. Facilities are also used for non-credit activities, including continuing education classes and workforce development. Some laboratories contain equipment that is specific to a particular discipline, and therefore the laboratory is available only for certain types of classes. In other cases, laboratories are physically arranged in a manner that makes them undesirable for use for lecture-type instruction.
- Ohio's average statewide peak level for scheduled classroom utilization is 75% for classroom day use, 63% for classroom evening use, 44% for laboratory day use and 36% for laboratory evening use.
- Increased reliance on *OhioLink* and the regional library consortia have dampened the need for significant additional library space. Campuses are leasing space to manage surges in classroom demand.
- Many state facilities, including public schools, are of high quality, fully "wired" and not in use for certain periods, such as after 3:30 p.m. In addition, legislation that transferred adult, post high-school programs to the Board of Regents on January 1, 2009, is designed to maximize the strength and flexibility of Ohio's adult workforce education assets and to improve the overall quality of adult education and training programs. The change offers opportunities for greater utilization of facilities.
- Many facilities are designed for traditional courses, rather than the learning processes that businesses expect so that many classrooms need to be retrofitted to new learning environments and technology, including SMART classrooms, equipped with a projector, screen, computer and internet access to encourage interactive teaching and learning.

We conclude:

Colleges and Universities:

- Can better utilize space, particularly in the evening and summer, to serve more students more productively.
- Should explore new strategies to serve more students, including using available community, workplace and public school space.



What is the condition of higher education facilities?
 What is the status of deferred maintenance?
 Are adequate investments being made to protect the state's assets and benefit students?

What we know:

- Most buildings that reach the age of 40 years are physically and functionally obsolete.
- Like many other states, Ohio's facilities are aging. A large number of its higher education facilities were constructed in the 1960s and 1970s, and many of these building require substantial investments for renovation, or in some cases replacement. Ohio faces "block obsolescence" – the simultaneous aging of a large portion of campus facilities. Block obsolescence will challenge campus and state budgets in the future.
- Almost 27% of all instructional and general space is 40 years old or older. For regional campuses, approximately 37% of all space is more than 40 years old, while for community college campuses, only 15% is more than 40 years old. Campuses with high percentages of older space:

Universities	
Bowling Green State University	40%
Miami University	42%
Community Colleges	
Cuyahoga – Metro	81%
Jefferson Community College	57%
Cincinnati Community College	65%
Regional Campuses	
Firelands	53%
Ashtabula	72%
Tuscarawas	70%
Middletown	58%
Lima	48%
Mansfield	45%
Chillicothe	56%
Eastern	67%
Zanesville	68%

Source:
 Analysis by Board of Regents' staff

- Ohio also has a number of older buildings that are of historic significance and are often local landmarks. Investments should be made to protect these important facilities.
- National studies cite 25-40 years as the time when a facility needs major renewal. Almost 20 million square feet of space were added in the ten year period, 1960-70, and the cost of renovating the space 40 years later, 2000 - 2010 is estimated at around \$500 million per year.
- Colleges can manage renovations of dormitories, stadiums, and hospitals without help from the state.
- Ohio is lagging in its renovations of academic buildings. National standards for building renovations suggest an annual shortfall of about \$170 million in Ohio's capital appropriations. Taking into account the backlog from years of not meeting this national standard would increase the total annual need by another \$100 million: Ohio should be expending about \$270 million more annually in renovating its facilities. A 2006 Study showed an overall \$5 billion need for capital renewal. (Board of Regents' staff analysis)
- Some institutions in Ohio and nationally have established policies whereby operating funds are set aside each year establishing restricted endowments to assure that facilities are adequately renewed.

- Ohio’s institutions have identified substantial renovation needs. Some states conduct periodic facility audits or condition studies that identify needed capital renewal projects. Ohio should consider conducting a statewide study in the future to obtain comparable information for all public institutions. The facility audit could also serve as a basis for a comprehensive plan to address renovations.

We conclude:

Ohio must invest additional resources to renew its aging higher education facilities:

- **Institutions must address high priority facility and technology needs to serve more students consistent with the *Strategic Plan*.**
- **Institutions should explore new strategies to support renewal of facilities, including establishing endowments.**

Summary

Section 1: Ohio’s Public Higher Education Facilities

Ohio must enroll and graduate more students from college and increase workforce training, research and technology transfer to be more economically competitive. Ohio has substantial facilities throughout the state and these facilities can be better utilized to deliver needed educational services to all Ohioans. Colleges and universities should explore new strategies to accommodate more students, including using community space, public school space, and space available in government and business facilities. Ohio is not investing enough resources to renew its aging higher education facilities, and, new long-term opportunities to finance these investments must be explored.



Financing of Higher Education Facilities



What are the trends in investments for higher education facilities?

What we know:

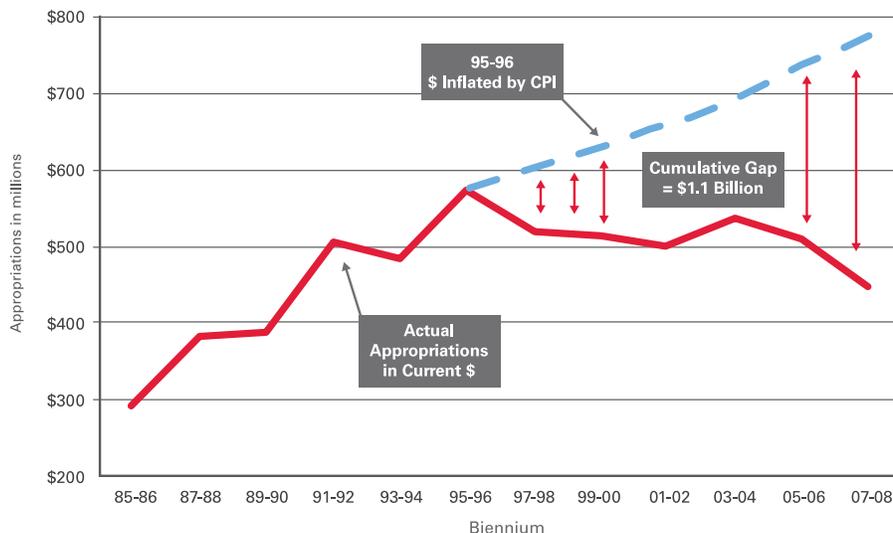
- Excluding community projects and *Third Frontier* funding, capital appropriations have averaged about \$400-450 million per biennium.
- These funds are used for renovations, new facilities and equipment, and infrastructure, such as roads and utilities. For 2009-10, the control totals represent a reduction of 17% from the previous allocations (2007-8). The proposed allocations are:

Campus Capital Allocation	\$288,000,000
Basic Renovations	\$ 77,000,000
Statewide Line Items*	\$ 50,000,000

* Includes \$20.8 million for *Instructional and Data Processing* equipment, the *Research Facility Action and Investment Fund* and other statewide items.

- Ohio is fiscally conservative in issuing debt for capital spending. A constitutional requirement limits debt to five percent or less of the state's annual revenue. The state can borrow at lower rates and with smaller debt issuance costs than the campuses.
- In the past decade, Ohio has placed a heavy emphasis on addressing facilities needs for primary and secondary education. In order to maintain the state's debt capacity limits, less state bond resources have been available for higher education.
- State support for higher education's capital projects has been declining since the mid 1990s in real dollars. (see chart below)

History of Higher Education Capital Appropriations



Source: Analyses by Board of Regents' staff



How have Ohio's capital policies for higher education facilities changed?

What we know:

- Prior to 1995, higher education capital investments were a centralized state function. The Ohio Board of Regents, like coordinating boards in most other states, received requests for new academic facilities and renovations, prioritized these requests, and submitted an approved list to the Governor and the state legislature. The Governor and legislature often rejected about half of the projects requested by campuses. Following action by the Governor and legislature, the state issued state bonds for the approved capital projects. Institutions also received adjustments to the *Instructional Subsidy* for maintenance and operations and utility costs associated with additional space. These funding incentives encouraged institutions to construct new buildings, rather than rehabilitate existing facilities.
- Based on recommendations by the Board of Regents to make capital funding more efficient and accountable, Ohio changed its method of funding capital projects with the 1996 capital bill to give greater flexibility to higher education institutions and their Boards of Trustees in making capital investments and to hold them financially accountable for their decisions. The new policy was designed to make funding more predictable so that campuses could plan on a long-term basis, to reduce conflict in the legislature over capital funding decisions, and to increase incentives for campuses to use their funds as efficiently as possible.
- As a result of the new policies, campuses began to invest a higher proportion of their state capital resources in existing facilities. In the 1997 – 1999 biennium, 60% of capital funds were invested in rehabilitation and 40% in new construction while in 2005-07 more than 80% was invested in rehabilitation and less than 20% in new construction.
- With the current funding approach, each year campuses receive capital funds for debt service as a part of the general operating subsidy. The funds are distributed based on a formula, based 50% on credit hours of instruction, weighted by sponsored research and non-credit job related revenues, and 50% determined by weighted age of space.
- Based on their capital formula allocation, campuses are:
 - a) free to spend all (or more or some) of the allocation by requesting a capital appropriation in an upcoming capital bill, or
 - b) forego spending and “bank” funds to be used in the capital component of future operating budget bills.
- When an institution proposes more than its debt service allocation, these funds are either allocated from the *Basic Renovations* or *Instructional and Data Processing Equipment* funding allocations or the difference is deducted from the campus’ *State Share of Instruction* allocation. When an institution spends less, the difference is appropriated to the campus in the Capital Component line item of the subsequent operating budget. Accountability is achieved by charging campuses for debt service attributable to capital appropriations each year.
- The Office of Budget and Management notifies the Chancellor of the Board of Regents of the total amount of state capital funds available for higher education funds along with general guidance for allocation of capital funds for statewide projects, institutional allocations, and basic renovations. The Chancellor, in consultation with representatives of campuses, then determines the allocation to each campus, based on a formula, and communicates these funds in terms of state appropriations and debt service.
- Capital projects that are not funded using this approach are:
 - a) projects that are deemed to be community projects, e.g., the Cleveland Rock and Roll Music Hall of Fame;
 - b) projects to address space shortage conditions as determined by the Board of Regents, with the cost to the campus based on a space shortage threshold, e.g., if a campus has 70% or less of needed space, then the state share of new construction is 100% while if a campus has 90% or more of needed space, then the campus share of cost is 100%; and
 - c) Basic Renovations and Instructional and Data Processing Equipment are funded as *Special Purpose Funding*.
- Basic Renovations provide funding that address replacement of building systems, such as roof, or underground utilities or refurbishment of roadways, walkways, and building envelopes. Moveable equipment and furnishings may be included as a part of a larger project. These funds may be used for mandated environmental abatement projects, e.g., asbestos abatement or to address disability access.

- Institutions are able to construct buildings that they have identified as high priority. There are three categories of capital spending: *Debt Service Equivalent Allocation*, *Basic Renovations*, and *Instructional Equipment*. The capital process involves: the Chancellor’s recommendations to the Governor and General Assembly, enactment of capital bills with specific projects listed for each campus, state bonds sold to finance those projects, and a debt service appropriation to retire the bonds. Campuses also submit supporting information that justifies new construction and identifies plans to maintain and preserve the physical plant and information technology investments. The plans include both state and institutionally funded projects.
- A second major policy change is the new direction established by the 2008 *Strategic Plan for Higher Education* that details strategies to meet the goal of enrolling 230,000 more students while keeping more graduates in Ohio and attracting more talent to the state.

We conclude:

Policy changes have resulted in a greater emphasis on needed renovations yet a significant funding gap remains, and capital funding should be linked more closely with the *Strategic Plan for Higher Education, 2008-2017*.

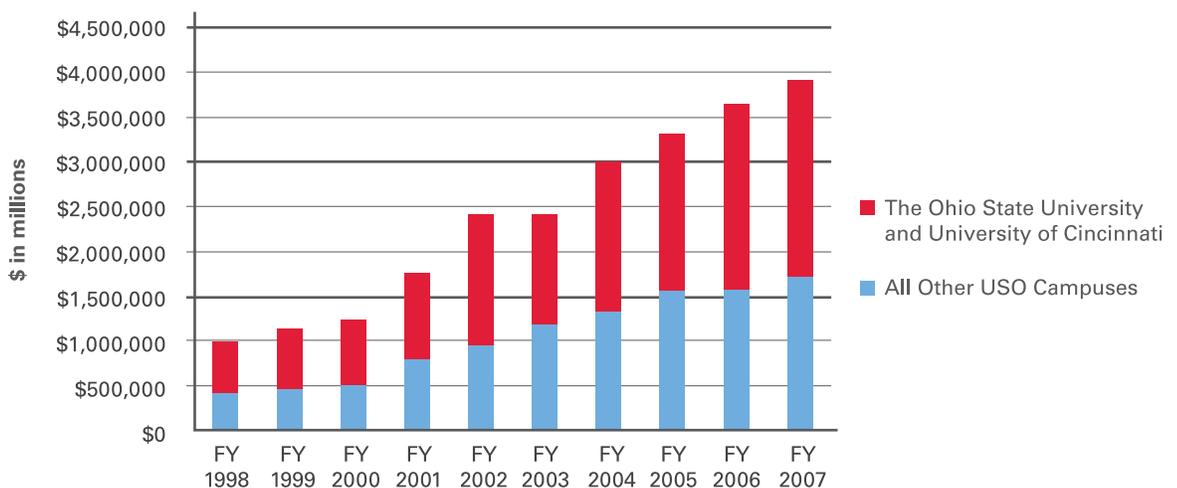


What is the financial strength of higher education? How have institutional debt levels changed? Can recent trends continue?

What we know:

- Ohio calculates financial ratios required by legislation enacted in 1997. The financial ratios and other financial data are posted on the web. The latest data are contained in Appendix A. Viability ratios are declining for about one-fourth of the institutions.
- About half of all higher education debt is at The Ohio State University and the University of Cincinnati. Many of the community colleges have no debt.
- Bond rating agencies provide public ratings for several institutions; The Ohio State University, Miami University, and Ohio University have particularly high ratings while ratings for other institutions parallel those of institutions with similar missions in other states.
- Campuses have assumed substantial responsibility, and liability, for the rehabilitation and construction of educational space. Local capital debt has risen rapidly to \$4 billion with almost half, or \$2 billion, attributable to financing for renovations and construction of educational space. Debt has increased by over \$300 million per year since FY 1998. (See Chart below)

University System of Ohio Local Plant Debt
FY 1998 - FY 2007



Source: Analyses by Board of Regents’ staff
Note: About half of the debt is for educational space.

We conclude:

For some institutions, current trends in increasing debt cannot continue.



How are institutions addressing energy costs?

What we know:

- Campus energy conservation should be greatly enhanced over the next six years as a result of legislation, which requires public campuses to adopt energy conservation measures that are aimed at reducing energy consumption by 20% by 2014.
- The *Strategic Plan* calls for The University System of Ohio to consider ways to incorporate LEED (*Leadership in Energy and Environmental Design*) certified construction methods into future campus construction projects. Although LEED-designed building may have higher initial costs, they have lower lifetime operating costs through reduced energy and water consumption, the use of recyclable construction materials, longer useful facility lives, and improved productivity.
- Individual campuses such as Lakeland Community College have undertaken efforts to benchmark energy usage with other systems.

We conclude:

Current trends of increasing energy usage cannot continue, and higher education must increase its efforts to conserve. Information from campuses with leading programs in this area should be disseminated to all Ohio campuses.



Are institutions using bold strategies to develop a competitive facility infrastructure?

What we know:

- The Ohio State University has developed a *University Endowment for Scheduled Maintenance and Renewal* policy which charges educational units an amount per year per square foot of space. The proceeds from this charge are deposited into endowment funds that are reserved for future renewal and replacement expenditures.
- The Chancellor has established *The Advisory Committee on Efficiency in the University System of Ohio* to continuously monitor spending practices and successful productivity strategies with the goal of disseminating best practices.
- A number of other states have found that programs that provide state matching funds for private dollars raised for renovations and new facilities have been extraordinarily successful.

We conclude:

Higher education must develop bold new strategies to address efficiencies, financing strategies, and capital renewal.



Do current rules, regulations and practices inhibit effective use of space and the cost effectiveness of facilities construction?

What we know:

- The Governor has appointed a *Construction Reform Panel*.
- The Board of Regents plans to undertake a policy audit of all rules and regulations that affect institutional efficiencies.
- Institutional leadership and trustees have identified problems associated with:
 - the lengthy design and construction process and
 - the multi-prime construction process.
- Many other states and the private sector utilize alternative construction delivery methods that allow construction projects to proceed more quickly, reduce costs due to lack of coordination and claims disputes, and allow project owners to manage projects more effectively with less risk and less administrative burden. These methods can be designed to benefit and preserve the fundamental interest of all parties in transparency, fairness, and accountability. Some institutions estimate that changes to construction laws could result in 10 to 20 percent in cost savings.
- Current guidelines for space utilization and justification of new space follow national standards; however, they do not provide incentives for greater utilization of space.

We conclude:

Current rules and regulations must be assessed and modified to promote greater utilization of space and cost savings in construction.

Summary

Section 2: Financing of Higher Education Facilities

While Ohio's colleges and universities are allocating more of their capital funds to needed renovations, a significant funding gap remains. For Ohio to be successful in educating many more Ohioans, it is essential that capital funding be more closely linked with the *Strategic Plan for Higher Education, 2008-2017*. Some institutions have increased capital debt dramatically and this trend cannot continue. Institutions must increase their efforts to conserve energy. Higher education must develop bold new strategies to address space efficiencies and capital renewal. Current rules and regulations must be assessed and modified to promote greater utilization of space and cost savings in construction.



How is technology being used to serve current and prospective students?

What we know:

- While the traditional classroom setting is important for productive learning for many students, technology can be used to expand educational opportunity.
- *E-Learning* can solve two fundamental problems: time and place.
- Ohio has expanded educational opportunities through *E-Learning*. In 2006, Ohio public and independent colleges and universities enrolled nearly 100,000 people in *E-Learning* courses, a 55% increase from 2005:
 - Adults (25 and older) make up half of the enrollments
 - Ohio's community and technical colleges enroll 63% of all the public undergraduate *E-Learning* students.
- Ohio's growth rate for online enrollment appears to be exceeding the national growth rate; however, some Ohio students say that they enroll in *E-Learning* provided by out-of-state institutions. Just 11% of Ohio public students took at least one online course in the fall of 2006 compared to 20% nationally.
- 21st Century learning is driven by technology literacy:
 - Technology-enabled spaces support social learning
 - Requires greater investment in infrastructure and user support
- Students expect:
 - Internet availability
 - Computing labs
 - Wireless environment
 - Web access (administrative and classroom)
 - E-mail
 - Emergency Messaging
 - Social Networking
- Technology has become more integrated with changes to *OhioLink*, the *Ohio Learning Network*, the *Ohio Academic Resources Network*, the *Supercomputer Center*, and *E-Learning*.
- Desktop and server applications can increasingly be centrally managed and shared over a network.
- Technology partnerships can accelerate efficiency, knowledge creation, and economic development.
- Portable technologies such as iPods and podcasting can be used to reach students everywhere and enable students to take their classes with them.
- Technology can accommodate different learning styles.
- Much of Ohio's future growth in higher education is projected to be in the adult population who are 25 or older and need education and training to be competitive in the workplace.
- Early-in programs, e.g., seniors to sophomores programs are expanding. The University of Akron's distance learning network allows high school students to enroll in college classes in their own high school buildings.



What are the barriers to serving students better?

What we know:

- Firewalls exist in K-12 and higher education data systems and structures that impede serving students better in areas such as college readiness.
- Data systems do not relate K-12 experiences to higher education outcomes.
- High-speed internet access is limited in some rural areas of Ohio, and many Ohioans cannot afford to pay for access.
- Some older adults are unfamiliar with technology.
- Preparing students and faculty to use technology for education is a challenge.
- Costs are increasing rapidly (Some institutions have estimated that technology costs are increasing at a rate three times as great as other instructional costs).



How can technology be used to promote access and meet other state needs?

What we know:

- A common application form and high school transcript exchange can make it easier for students to apply for college.
- An intercampus registration and advising system could improve student transfer and access.
- A *Distance Learning Clearinghouse* could be a common platform for on-line high school courses.
- Ohio has online professional development for K-3 literacy teachers (*e-Read Ohio*).
- Communication technologies can expand access to critical services such as telemedicine throughout Ohio.

We conclude:

Ohio must increase its use of technology, aggressively grow *E-Learning*, and promote greater student interface with technology as strategies to increase student success and effect greater efficiencies in administrative and academic functions.

Summary

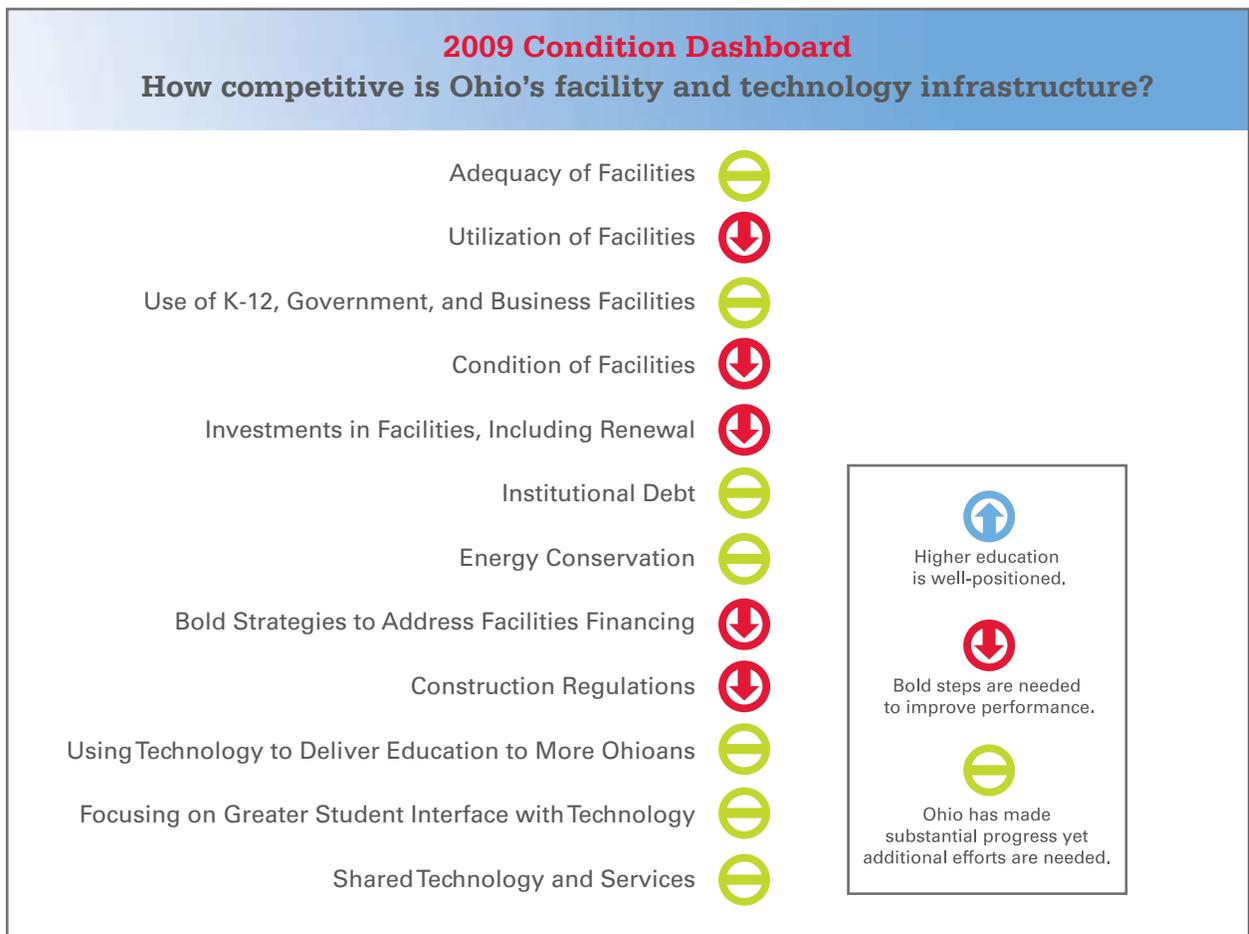
Section 3: Technology

Ohio has used technology to expand educational opportunity and must substantially increase its pace in doing so as well as achieve efficiencies in administrative and academic functions. Ohio must reduce barriers to serving students and promote greater access, and meet other state needs in areas such as teacher training and medical services.



Section 4:
Summary

If Ohio is to have college graduates in the numbers and disciplines that it needs for a thriving 21st century economy, how competitive is higher education’s facility and technology infrastructure? The Regents assess higher education’s condition in the following dashboard:



When we assess the current condition of higher education’s facility and technology infrastructure, we conclude that:

- Ohio’s substantial facility and technological assets must be utilized to a greater extent and in different ways than in the past.
- Trustee stewardship of facility assets are applauded, but larger investments are needed to address deferred maintenance, technology upgrades, building retrofits, and new facilities needed to accommodate program expansions for science, technology, engineering, math and health professions.
- Debt levels for some institutions are a concern and current trends for some institutions cannot continue. Ohio must explore new funding streams and strategies to support its debt issuance.

- Greater collaboration among institutions, business and industry, and other state services can result in greater cost effectiveness among institutions.
- State regulations, particularly in construction, can be modified in ways that result in high quality facilities at a lower cost.
- A statewide common IT infrastructure that focuses on shared services is an opportunity to deliver new programs in more locations and effect academic and administrative efficiencies.
- Ohio must expand its online learning.

We strongly support higher education as a gateway to success for Ohio's citizens and as the state's economic engine. Moving forward with the new directions outlined in the *Strategic Plan for Higher Education, 2008-2017* is essential for a thriving future for all Ohioans.

FY 2007 Financial Ratio Analysis: Institutional Ratios and Scores

Institution	Composite Score	Viability		Net Income		Primary Reserve	
		Ratio*	Score	Ratio	Score	Ratio	Score
UNIVERSITIES							
BOWLING GREEN	4.20	175.0%	4.00	7.6%	5.00	43.7%	4.00
CENTRAL STATE	2.40	243.7%	4.00	0.0%	1.00	9.6%	2.00
CLEVELAND STATE	3.40	48.8%	2.00	4.4%	4.00	31.7%	4.00
KENT STATE	4.70	121.8%	4.00	14.4%	5.00	70.6%	5.00
MIAMI UNIV.	4.70	104.2%	4.00	13.3%	5.00	51.0%	5.00
NEOUCOM	5.00	2946.6%	5.00	15.0%	5.00	58.6%	5.00
OHIO STATE	4.20	133.8%	4.00	12.1%	5.00	40.8%	4.00
OHIO UNIVERSITY	3.20	69.1%	3.00	4.2%	4.00	23.9%	3.00
SHAWNEE STATE	3.80	102.7%	4.00	2.8%	3.00	40.5%	4.00
UNIV. AKRON	3.60	49.5%	2.00	9.1%	5.00	33.4%	4.00
UNIV. CINCINNATI	2.80	21.1%	1.00	9.7%	5.00	23.1%	3.00
UNIV. TOLEDO/MUO**	3.70	74.2%	3.00	4.2%	4.00	29.3%	4.00
WRIGHT STATE	4.30	313.3%	5.00	4.0%	4.00	34.6%	4.00
YOUNGSTOWN ST.	3.70	205.7%	4.00	6.5%	5.00	23.9%	3.00
COMMUNITY COLLEGES							
CINCINNATI ST.	2.60	25.0%	1.00	4.6%	4.00	18.0%	3.00
CLARK STATE	3.90	90.5%	3.00	9.1%	5.00	31.1%	4.00
COLUMBUS ST.	5.00	470.0%	5.00	9.8%	5.00	66.9%	5.00
CUYAHOGA	4.20	200.8%	4.00	8.0%	5.00	47.6%	4.00
EDISON STATE	3.10	56.5%	2.00	16.1%	5.00	16.3%	3.00
JEFFERSON	4.10	276.6%	5.00	1.2%	3.00	35.1%	4.00
LAKELAND	3.20	317.7%	5.00	-0.6%	1.00	21.0%	3.00
LORAIN	5.00	684.5%	5.00	13.1%	5.00	61.1%	5.00
NORTHWEST ST.	3.90	25528.1%	5.00	0.7%	2.00	30.0%	4.00
OWENS STATE	3.60	5616.7%	5.00	2.6%	3.00	23.5%	3.00
RIO GRANDE	3.00	N/A	5.00	-6.5%	0.00	15.6%	3.00
SINCLAIR	4.20	N/A	5.00	-3.01%	1.00	74.2%	5.00
SOUTHERN ST.	3.10	169.1%	4.00	0.2%	2.00	21.0%	3.00
TERRA STATE	3.70	2509.6%	5.00	-1.0%	1.00	42.1%	4.00
WASHINGTON ST.	3.20	N/A	5.00	-3.6%	1.00	16.6%	3.00
TECHNICAL COLLEGES							
BELMONTTECH	5.00	N/A	5.00	6.0%	5.00	63.6%	5.00
COTC	4.50	263.6%	5.00	15.7%	5.00	45.5%	4.00
HOCKING	3.30	132.8%	4.00	2.0%	3.00	14.0%	3.00
JAMES RHODES ST	4.30	264.3%	5.00	3.5%	4.00	33.0%	4.00
MARION TECH	4.30	N/A	5.00	3.2%	4.00	26.9%	4.00
ZANE STATE (MATC)	4.10	4237.8%	5.00	2.9%	3.00	35.4%	4.00
NORTH CENTRAL	3.20	538.4%	5.00	-0.8%	1.00	18.2%	3.00
STARK STATE	4.00	N/A	5.00	6.6%	5.00	19.4%	3.00

Notes:

Pursuant to the administrative rule (126:3-1-01) established by Senate Bill 6, a composite score of or below 1.75 for two consecutive years would result in a campus being placed on fiscal watch.

* The viability ratio is not calculated for campuses that do not have long-term plant debt. In such instances, a viability score of 5.0 is automatically assigned.

** In FY 2007, the University of Toledo and the Medical University of Ohio merged to become one institution.

Background for Financial Ratios: In 1997, the 122nd General Assembly enacted legislation designed to increase financial accountability at state colleges and universities by using a standard set of measures to monitor the fiscal health of campuses. Three ratios are calculated. The Viability ratio is expendable net assets divided by plant debt. The Primary Reserve ratio is expendable net assets divided by total operating expenses. The Net Income ratio is total net assets divided by total revenues.

**Second Report on the Condition
of Higher Education in Ohio**

March 2009



Board of Regents

Ted Strickland, Governor
Eric D. Fingerhut, Chancellor

University System of Ohio