

Report on the Condition of Higher Education in Ohio:
Meeting the State's Future Needs

March 31, 2008



Ohio needs educated college graduates in the numbers and disciplines required to meet the workforce needs of a thriving 21st century economy.

Ohio Board of Regents

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



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The Ohio Board of Regents presents its March 31, 2008 Report on the *Condition of Higher Education in Ohio*. The report will be issued annually and is a statutory responsibility under House Bill 2 of the 127th General Assembly. Its purpose is to provide 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 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*.

To make the report easily accessible to readers:

- We present a limited set of questions and facts focused on higher education's readiness to produce college graduates, workforce development, research and technology transfer needed for a thriving 21st century. We then make conclusions and portray higher education's readiness with a dashboard.
- Most of the information presents higher education as a whole – public and private – and when appropriate, public institutions only.
- We identify 10 crucial challenges in educating, graduating and retaining more citizens and expanding workforce development, research and technology transfer.

We believe that Ohio's higher education system is an extraordinary asset. Ohio's colleges and universities educate future leaders who will provide the talent, energy and innovation to keep Ohio competitive in a knowledge-based economy. Many of our academic, research and public service programs are nationally and internationally recognized for their high quality. Students, faculty and institutional leaders are enormously capable, talented and committed.

When we assess the current condition of higher education, Ohio's performance parallels other states in many areas. However, when we assess "How well is higher education positioned to provide the needed educational services for a thriving 21st century economy?" we conclude that current levels and trends in educational and degree attainment, participation, preparation, affordability, productivity and finance are insufficient and must change.

We are optimistic and strongly support higher education. Reports from the Federal Reserve Bank of Cleveland and other state and national organizations underscore the pivotal role of higher education for Ohio. Increasing degree attainment and workforce training, research and technology transfer activities can result in greater economic prosperity and a higher quality of life for all Ohioans. These actions require greater institutional productivity and additional state, federal and private investments. In the long-term, Ohio will reap tremendous benefits.

Sincerely,

Donna M. Alvarado, Chair
Bruce R. Beeghly, Vice Chair
James M. Tuschman, Secretary

ACKNOWLEDGEMENTS

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Executive Summary

Ohio's future is linked to **education** and **innovation**

What can Ohio do to ensure a better quality of life for its citizens and greater economic prosperity in the future? Ohio must produce and retain more college graduates, attract more college graduates from other states and countries and increase workforce development, research and technology transfer activities in a context of ever-growing global economic competition. The bottom line is that more Ohioans than ever before in our history must obtain college degrees that prepare them to operate on the outer edge of knowledge and to innovate.

If Ohio is successful in producing more degrees, what will it mean for the state? Producing up to 30% more bachelor's or higher degrees and increasing the number of associate's degrees will give Ohio an additional \$1.4 billion of annual expected earned income in 10 years and \$5.6 billion more by 2030 (*estimates are in constant dollars and were calculated by Cleveland State University's Urban University Program, see Appendix B*). Attracting and retaining more college graduates will further increase the estimated dollar impact. More income will mean greater consumer spending, a more robust economy and a better quality of life for Ohioans.

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

- Educational and degree attainment and participation
- Preparation
- Affordability
- Financial condition and productivity
- Workforce development, research and technology transfer
- Capabilities and strengths of Ohio's higher education system

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

Question #1

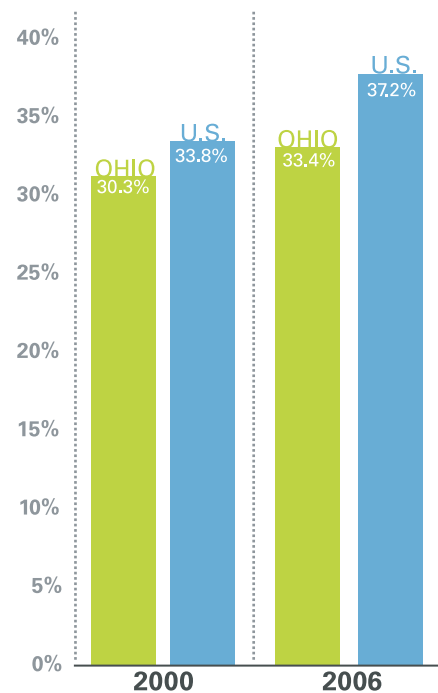
Are current levels of educational and degree attainment and participation in higher education adequate for the 21st century economy?

What we know:

- Ohio produces more bachelor's degrees per capita than the national average, but, like several other states, many college graduates leave Ohio. However, fewer college graduates relocate to Ohio than other states. The result is that the net percentage of Ohioans with associate's or higher degrees is lower than most other states. (*U. S. Census, American Community Survey, 2006*)
- The educational attainment for Ohio's black and Hispanic citizens is far below its white population. Associate's degree and higher attainment for black males is about 61%, black females is about 71%, Hispanic males is about 68% and Hispanic females is about 84% of the white population. (*Appendix D, Chart 2*)
- Ohio's public and private institutions are awarding more degrees than in past years. In 2000, about 90,000 degrees were awarded, and in 2006, about 118,000 degrees were awarded. (*Board of Regents' Data System and NCES, Integrated Postsecondary Data System*)
- Ohio is so far behind other states in educational attainment that it will take extraordinary measures for Ohio to catch up. (*U. S. Census, American Community Survey, 2006*)
- Ohio's enrollment of 18-24 year-olds in college or graduate school closely parallels the nation, but enrollment of 25-49 year-olds is almost 20% below the national average. Ohio is below Midwest averages for participation in all age groups. (*Appendix C, Table 3*)

The chart below shows Ohio's current associate or higher degree attainment. What does it take for Ohio to be average? Nearly 230,000 additional Ohioans with associate's, bachelor's or higher degrees. What does it take to be a top-performing Midwest state like Minnesota? More than 600,000 additional Ohioans with associate's, bachelor's or higher degrees.

Percent of Adults Age 25-64 with an Associate Degree or Higher
Ohio compared to the Nation



Source: U.S. Census, Surveys of Educational Attainment, 2000 and 2006

We conclude:

Ohio's participation, educational and degree attainment are not competitive with other states and must improve.

Are Ohio's citizens adequately prepared for college?

What we know:

- More than one-third of recent high school graduates must enroll in remedial math and/or English in college. (*Board of Regents' Performance Report, 2006*)
- In 2007, Ohio enacted legislation for a more rigorous core curriculum. While this legislation is a positive step forward, the core curriculum does not mandate four years of increasingly more rigorous math courses or any foreign language requirements. Recent research indicates that the most effective preparation exceeds the traditional core curriculum across most subject areas. Trustees have emphasized the importance of a strong P-16 continuum that includes effective student counseling.
- Ohio is close to the bottom of Midwest states in 9th to 12th graders taking at least one upper level science course. (*Appendix C, Table 2*) Note: The effects of recent changes in the high school graduation requirements regarding science may not be fully reflected in these statistics.
- High school students take fewer Advanced Placement (AP) courses than students in other states. (*The 4th Annual AP Report to the Nation, 2008, The College Board*)
- Students can dramatically improve their preparation by taking more highly-rigorous high school courses, particularly APⁱⁱ

When Ohioans are not academically prepared, they are less likely to enroll or graduate from college. Lack of preparation also has a negative effect on higher education's efficiency and productivity because colleges must invest more resources to help students become college-ready. In addition, college is more expensive for students who lack preparation because it takes longer for students to graduate so they pay more in tuition.

We conclude:

Too many Ohio citizens are not adequately prepared for college and preparation must improve.

Question #3

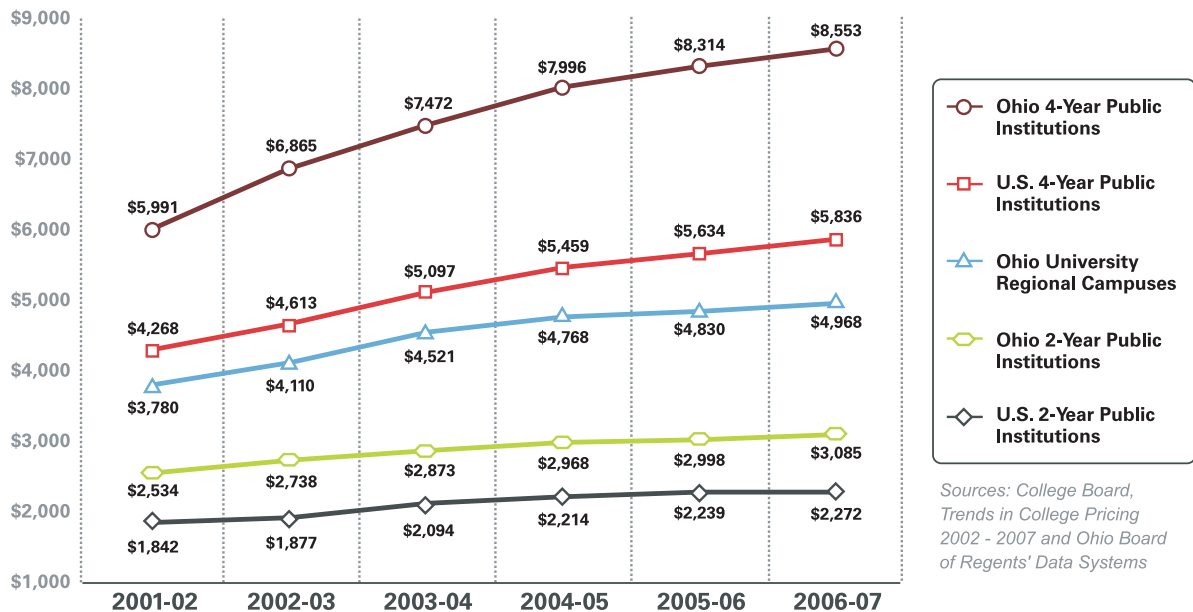
Are Ohio's public higher education institutions affordable?

What we know:

- As the chart below shows, tuition and fees for Ohio's public four-year and two-year institutions are almost 50% above national averages and, until the current tuition freeze, rose rapidly. Ohio ranks among the 10 most expensive states in tuition and fee charges.
- Ohioans pay different tuitions for a two-year college education based on where they live because university branches and technical colleges charge significantly more than community colleges.
- When combined with federal Pell grants, the new *College Opportunity* grants are designed to fully-fund tuition at public two-year institutions for Ohio's neediest citizens (typically students from families with annual incomes of \$25,000 or less).ⁱⁱⁱ Some students, in both urban and rural areas, still may have as much as \$2,000 in unmet financial need, which is a significant barrier to access and success.
- Students pay high tuition and fees in Ohio because state and local tax support for higher education is low. In 2006 Ohio's tax support was more than \$1600 less than the national average.

In-State, Undergraduate Weighted Tuition & Fees

Ohio compared to the Nation
(Expressed in constant 2007 dollars)



We conclude:

Ohio's public institutions are among the least affordable in the nation and this situation must change.

Are Ohio's public institutions currently able to financially support substantial increases in enrollments and degrees?

What we know:

- While Ohio's current state appropriations plus tuition and other revenues dedicated to educate students are about average when compared with other states, unlike most states, Ohio relies heavily on student tuition to fund higher education. This has the consequence that Ohio families must shoulder 30% of family income to pay for public two-year colleges' expenses and 42% for public four-year institutions' expenses. Moreover, Ohio relies on institutions to pay for substantial capital renewal with local facilities debt, which means that Ohio's colleges and universities have less flexibility in using tuition revenues than institutions in many other states. (Appendix C, Table 4)
- Ohio's as well as other state's higher education institutions have a number of financial pressures including:
 - Skyrocketing **energy** and **health care** costs
 - High costs for **capital renewal** to renovate, rehabilitate or replace aging facilities
 - Substantial costs of specialized **high tech equipment** and **facilities**
 - **Environmental issues** including costly government regulations, energy conservation and reductions of greenhouse gases
- Ohio's colleges and universities have documented a number of academic and administrative productivity improvements, and Ohio has a strong fiscal health reporting system.
- Degree completion rates are a proxy for the relative efficiency of the state's postsecondary system. Ohio's two-year college completion rate is near the average for the midwest region and the nation. Ohio's six-year bachelor's degree completion rate is near the national average but is behind all but two other states in the midwest region.
- Enrolling many more students and expanding research will require renovation to current campus infrastructure and possibly some new buildings.

We conclude:

Ohio's institutions need to improve productivity and additional state, federal, and private investments are necessary to support additional students

Question #5

Are higher education's current contributions to workforce development, research and technology transfer adequate to support a thriving 21st century economy?

What we know about workforce:

- All campuses are extensively involved in workforce development activities. Enterprise Ohio has been created as a network of focused activity for workforce development.
- Ohio is launching the Ohio Skills Bank to support regional partnerships in twelve designated economic regions. The purpose of the Bank is to address critical occupational and skill shortages within the regions and create convenient, customized learning pathways that prepare adult learners to fill available jobs.
- Ohio's Workforce Investment Act program is successfully meeting the needs of many participants through increased employment and employment retention rates. However, for July 1, 2005 through June 30, 2006, Ohio under spent its available Workforce Investment Act monies by nearly \$42.5 million, more than 20% of available funds for workforce development for dislocated workers, adults and youth.^{iv}

We conclude:

Innovative changes are needed to expand employability skills programs to develop a high-talent, flexible workforce and a new cadre of entrepreneurs who can compete in a rapidly changing global economy.

What we know about research:

- Research funding has almost doubled in the past 10 years, but is still below national benchmarks.
- Applications for patents, invention disclosures submitted, licenses, options executed and gross license income have increased dramatically.
- Ohio jumpstarted the expansion of its research and technology transfer activities in 2002 by creating the *Third Frontier Project*, a 10-year, \$1.6 billion initiative.
- Ohio's has made substantial investments in major higher education research programs, including its *Research and Eminent Scholars* programs and medical education.

We conclude:

While Ohio has made progress, additional investments in research and technology transfer are critical to future success.

Is Ohio's higher education system capable of providing educational, research and public services needed to support a thriving 21st century economy?

What we know:

- Ohio's higher education system is an extraordinary asset:
 - 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) are taking advantage of the availability of higher education by enrolling in college.
 - Ohio's high quality academic, research and public service programs are nationally and internationally recognized.
 - Students who graduate from Ohio's colleges and universities succeed in passing licensure exams, have higher incomes and contribute to their communities and the state. (*Board of Regents' Performance Report, 2006*)
 - Ohio has the infrastructure and many collaborative partnerships needed to support expanded education, research and public service activities.
- The high quality and capabilities of Ohio's higher education system are exceptional resources that can provide the educational, research and public services needed to support a thriving 21st century economy.

We conclude:

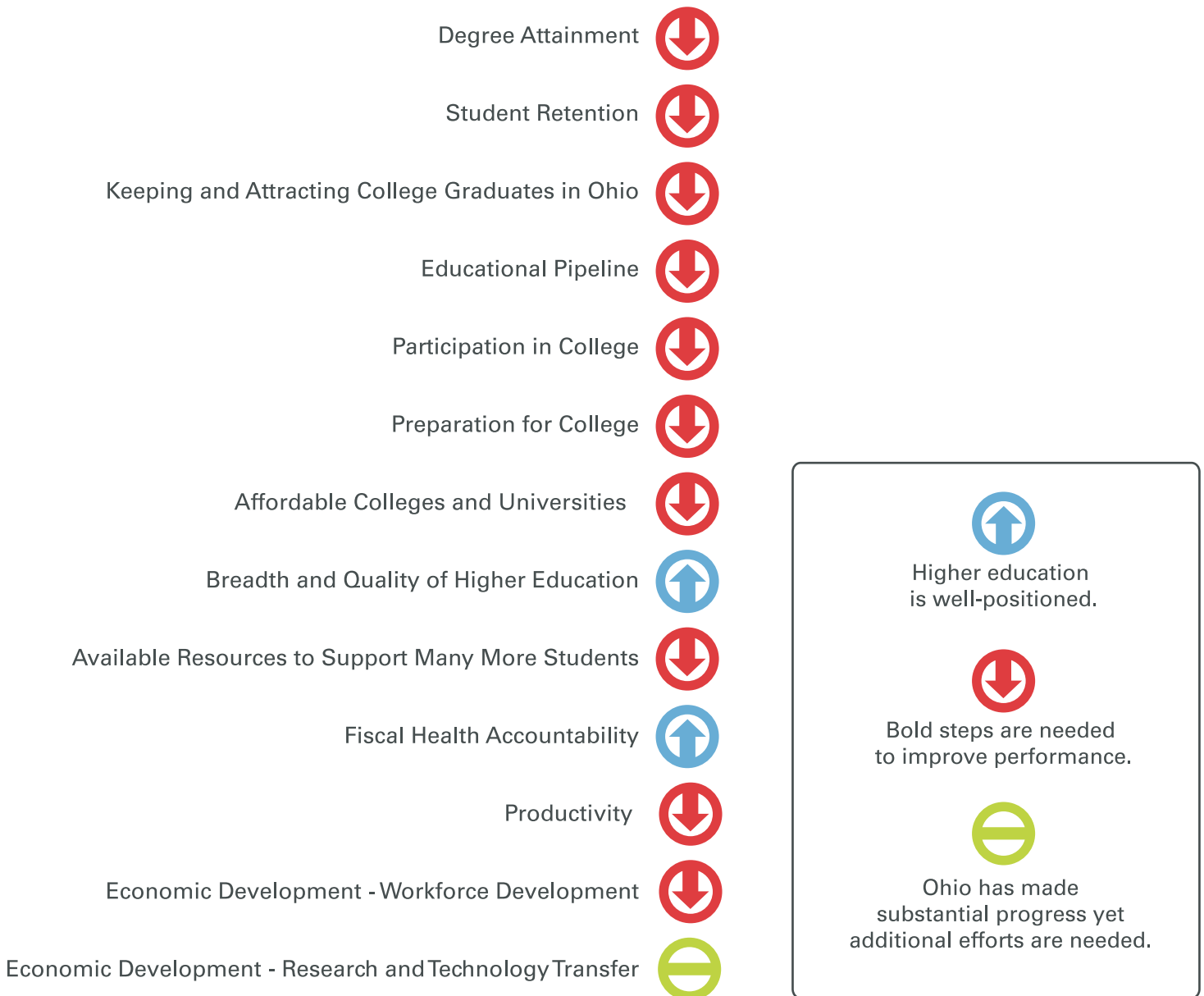
Ohio's higher education system is well-positioned for the 21st century, but institutions need to improve focus on their core strengths, reposition themselves to serve additional and more diverse students and increase collaboration to benefit all Ohioans.

Summary and Next Steps

As other state and national reports have concluded, Ohio's is losing ground in its economic prosperity, which is directly related to educational attainment, workforce training, research and technology transfer. If Ohio is to have college graduates in the numbers and disciplines that it needs for a thriving 21st century economy, how ready is higher education to help Ohio achieve this goal? The Regents assess higher education's condition in the following dashboard:

Higher Education in Ohio – 2008 Condition Dashboard

How ready is higher education to meet the needs of a thriving 21st century economy?

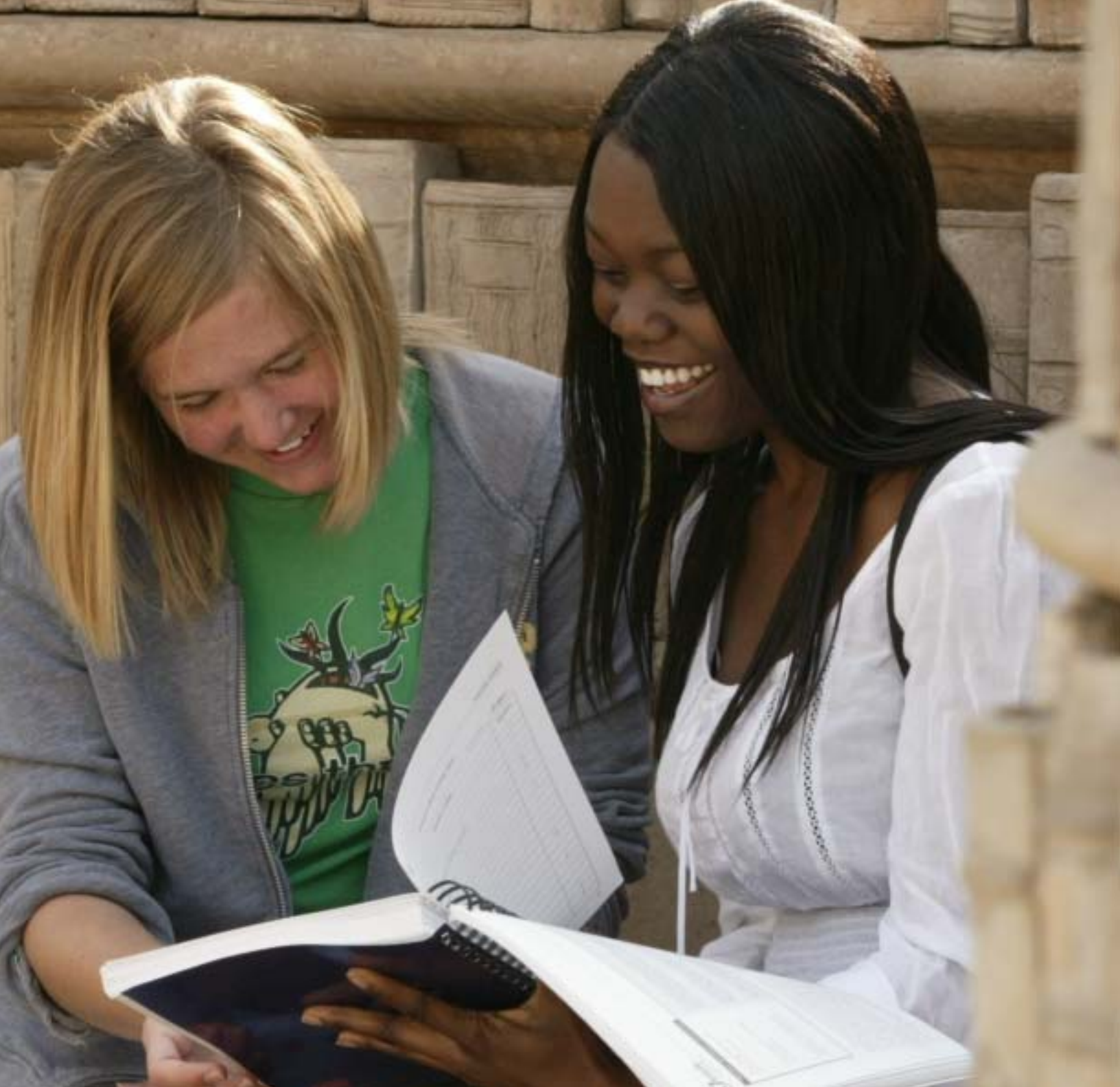


How well is higher education positioned to provide the needed educational services for a thriving 21st century economy? Current trends in educational and degree attainment, participation, preparation, affordability, productivity and finance, and workforce development, research and technology transfer are insufficient and must change.

Within the overall context of producing more college graduates and increasing workforce development, research and technology transfer, Ohio faces 10 significant challenges:

1. Projected declines in the State's youth and working age population.
2. Enrolling and graduating more adults (over 25 year olds).
3. Improving college-going rates directly from high school.
4. Improving participation and degrees awarded in educationally underserved counties.
5. Improving college and university retention, graduation, two-year to four-year transfer rates and P-12 linkages.
6. Increasing the number of students taking more rigorous high school courses, including *Advanced Placement* and *Postsecondary Education Opportunity* courses.
7. Making higher education more affordable.
8. Achieving equitable financial access to 2-year colleges in all geographic regions.
9. Increasing state, federal and private investments for education and research.
10. Increasing degree attainment while maintaining high quality.

Future *Annual Condition Reports* will closely monitor each of these areas and address underlying causes that explain Ohio's performance as well as additional topics. **Because of the strength of Ohio's higher education system, we are optimistic and confident that Ohio will successfully confront these challenges. Increasing the number of college graduates and workforce development, research and technology transfer activities will lead to better economic prosperity and a higher quality of life for Ohioans. To achieve these results, institutions must be more productive, and additional state, federal and private investments are required. In the long-term, Ohio will reap tremendous benefits.**



“- the task of building a knowledge driven economy by maximizing higher education’s potential for generating new ideas, innovative products and better trained workers cannot be left to chance.”

Governor’s Commission on Higher Education and the Economy, 2004

Report on the Condition of Higher Education in Ohio

Report on the Condition of Higher Education in Ohio

Meeting the state's **future needs**

For “states that do not perform well in increasing the educational level of their population, the results will cost them dearly.”^v What can Ohio do to ensure that it has educated college graduates in the numbers and disciplines required to meet the workforce needs of a thriving 21st century economy and to ensure a higher quality of life for its citizens? Ohio can graduate more students from college, retain more graduates and attract more well-educated individuals to the state. Increasing workforce development, research and technology transfer activities will also result in a stronger economy.

This task is not easy. In assessing the current condition of higher education, Ohio is average in many areas. *How well is higher education positioned to provide the needed educational services for a thriving 21st century economy? Current trends in educational attainment, degrees, participation, preparation, affordability, productivity and finance, and workforce development, research and technology transfer are insufficient and must change.* The following nine sections of the Condition Report highlight the Regents conclusions about the condition of higher education in Ohio.

The Regents sought feedback from several organizations as noted in Appendix A and held a videoconference and web cast with college and university trustees. The feedback was most helpful in shaping *The Condition Report*.

- **Section 1: Ohio's Economy and Its Relationship to Education**
- **Section 2: Educational and Degree Attainment**
- **Section 3: Participation**
- **Section 4: Preparation**
- **Section 5: Affordability**
- **Section 6: Institutional Context: Breadth and Quality**
- **Section 7: Financial Condition and Productivity**
- **Section 8: Economic Development**
Workforce Development, Research and Technology Transfer
- **Section 9: Summary and Next Steps**

“Why do residents of some states have higher incomes than residents of other states? Why have these income differences persisted for the past 75 years?”

Over the long run, factors like innovation and a skilled labor force appear to make a big difference in explaining why some states have grown more than others.”

– Federal Reserve Bank of Cleveland, 2005

Ohio's Economy and Its Relationship to Education



Summary: Ohio is falling behind other states in economic prosperity. This trend will likely continue unless Ohio graduates more students from college, retains more graduates in the state and attracts more well-educated individuals to Ohio. Increasing workforce development, research and technology transfer could also improve the economy.

Ohio's Economy and Its Relationship to Education

Ohio has many strong attributes. It ranks seventh in the country in economic output and fifth in Fortune 500 companies (*Department of Development Website, 2008*). Historically, economic prosperity has been linked to education, and the link is expected to be stronger in the future with estimates that nearly 80% of all new jobs during the next 20 years will require some education beyond high school.

How does Ohio's economic prosperity compare with other states?

What we know:

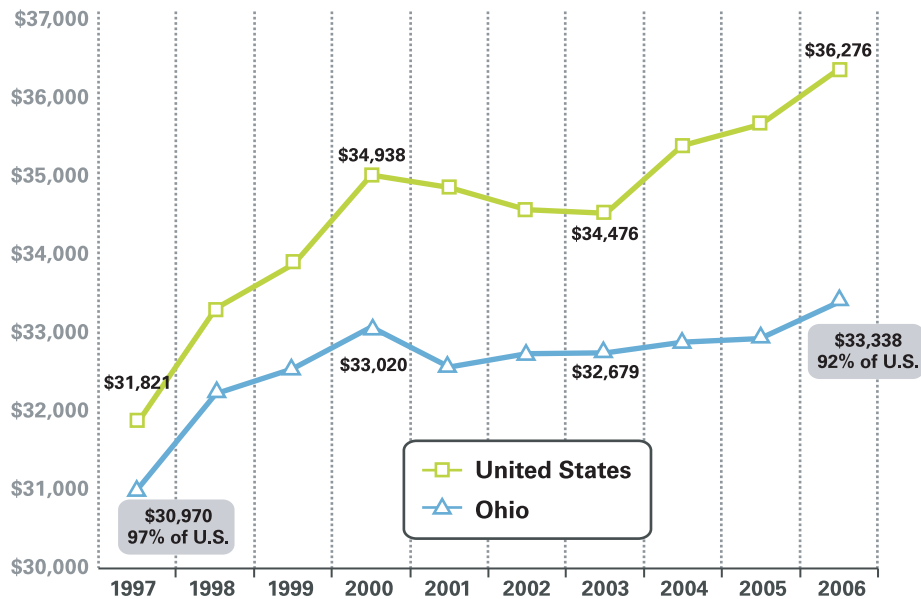
- Ohioans' income, once above the national average, has declined steadily relative to other states for several decades. As the following chart shows, in the past 10 years, Ohio's per capita income has fallen from 97% of the national average to 92%.
- A recent national study showed that:
 - "Across every income group, Americans are more likely to surpass their parents' income in absolute terms if they earn a college degree, reinforcing the conventional wisdom that higher education provides a means for opportunity."^{vi} **You are four times more likely to move from poverty to wealth if you earn a college degree than if you do not.**
 - "Family background plays an equally, if not more important, role than education." If you are born into wealth, you have a 23% chance of remaining wealthy if you don't obtain an education. Yet if you're born into poverty, you only have a 19% chance of moving to the top, and that's if you earn a college degree. There's only a 5% chance if you don't get an education."^{vii}

"... higher education provides a means for opportunity."

Per Capita Personal Income

Ohio compared to the Nation

(1997 to 2006 in constant 2006 dollars)



Source: US Bureau of Economic Analysis, 1997-2006

How can Ohio change its future economic prosperity?

What we know:

- Ohio can graduate more citizens from college, take actions to increase the likelihood that people with degrees will stay and attract more well-educated people to Ohio.
- What does producing more degrees mean for Ohio?
 - Producing up to 30% more bachelor's or higher degrees and increasing the number of associate's degrees means an additional \$1.4 billion annual expected earned income in 10 years and \$5.6 billion by 2030. (Estimates are in constant dollars and were calculated by Cleveland State University's Urban University Program, see Appendix B) Attracting and retaining more college graduates would increase the estimated dollar impact.
- Demographics are a challenge for educating more citizens:
 - Ohio's population is expected to remain essentially unchanged by 2030. Only North Dakota, Iowa and West Virginia are expected to experience slower population growth than Ohio, and the U. S. population is projected to increase by 23%. (Appendix C, Table 1)
 - Ohio will have actual declines in the state's youth (under age 18) and individuals in their prime working years of 18-64 while the number of individuals age 65 and over is expected to increase by nearly 55%. (Appendix C, Table 1)

How does Ohio's economic prosperity compare with other states?

We conclude:

Ohio is falling behind other states and must increase degree attainment, workforce development, research and technology transfer.

“The knowledge economy is unforgiving for individuals who do not have education or training beyond high school – and for communities, states, and nations that do not have high percentages of their populations with some education or training beyond high school.”

- The National Center for Public Policy and Higher Education and the National Center for Higher Education Management Systems, 2007

Educational and Degree Attainment



Summary: Ohio produces more bachelor’s degrees per capita than the national average, but, like several other states, many of Ohio’s college graduates leave the state. When the number of college graduates with a bachelor’s degree or higher who left Ohio is combined with the number who moved in, Ohio loses graduates. This trend has a significant impact on the state’s educational attainment. Ohio is so far behind other states in educational attainment of adults that it will take extraordinary measures for Ohio to catch up. Producing more graduates, keeping graduates in Ohio and importing more degree holders are critical for Ohio’s future prosperity. Ohio cannot close the gap by enrolling and graduating more traditional college students. Ohio must enroll and graduate more working adults from its colleges and universities. Improving retention rates, particularly at four-year campuses, could also increase degree attainment.

Educational and Degree Attainment

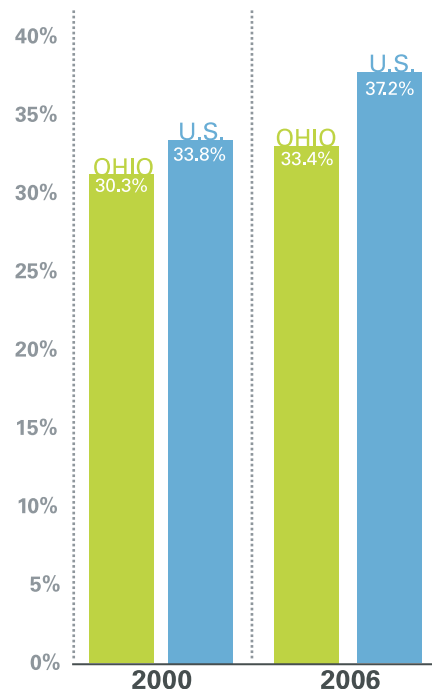
Reviewing trends in degree attainment, student persistence, college graduates leaving the State and college graduates moving into the state are helpful in identifying the underlying causes for Ohio's educational attainment.

How does Ohio's educational attainment compare with other states?

What we know:

- The chart on the right shows that Ohio is substantially below the national average in adults with associate's, bachelor's or higher degrees, and Ohio has made no progress in changing its relative position in the past 16 years.
- Ohio is slightly below the national average of adults with two-year (associate) degrees. (*U. S. Census, American Community Survey, 2006*)
- In the Midwest, Ohio is ahead of only Indiana in percentage of adults with a four-year (bachelor's) or higher degree. (*Appendix C, Table 1*)
- The educational attainment for Ohio's black and Hispanic citizens is far below its white population. Associate's degree and higher attainment for black males is about 61%, black females is about 71%, Hispanic males is about 68% and Hispanic females is about 84% of the white population. (*Appendix D, Chart 2*)
- What does it take for Ohio to be average? Nearly 230,000 additional Ohioans with associate's, bachelor's or higher degrees. What does it take to be a top-performing Midwest state like Minnesota? More than 600,000 additional Ohioans with associate's, bachelor's or higher degrees. ^{viii}

Percent of Adults Age 25-64 with an Associate Degree or Higher
Ohio compared to the Nation



Source: U.S. Census, Surveys of Educational Attainment, 2000 and 2006

How competitive is Ohio's degree attainment?

What we know:

- Ohio produces more four-year (bachelor's) degrees, slightly fewer graduate and professional degrees, and fewer two-year (associate's) degrees per capita than the national average. (*Appendix D, Chart 1*)
- Ohio's associate degree attainment per capita was 92% of the U.S. level in 1995, but dropped to 84% in 2005. (*Ohio Board of Regents' Performance Report, 2006*)
- Ohio's public and private institutions are awarding more degrees than in past years. In 2000, about 90,000 degrees were awarded, and in 2006, about 118,000 degrees were awarded. (*Board of Regents' Data System and NCES, Integrated Postsecondary Data System*) Associate degrees awarded, particularly in science, technology, engineering, math, and health fields are growing at a fast pace. (*Appendix D, Chart 3*)
- Nationally, about 16% of community college students earn an associate's degree and about 53% of four-year college students earn a bachelor's degree within five years. Graduation rates for low-income and minority students at two- and four-year colleges lag substantially behind those for middle- and high-income students, as well as for white students.^{ix}
- The barriers to postsecondary success for low-income adults are especially high. Nationally, a sizeable portion of college students are low-income adults, who are much less likely to succeed than their traditional-aged, more affluent peers. Nationally, two-thirds of low-income adults who entered college in 1995-1996 reported that they were seeking a bachelor's or associate's degree. However, of those adults, only 7% earned a bachelor's degree and only 8% earned an associate's degree within six years.^x

How is degree attainment affected by student persistence and transfer?

What we know:

- Ohio's two-year colleges' persistence rate from the first to second year is near the average for the Midwest and slightly below the nation. (*Appendix C, Table 3*)
- The four-year college persistence rate is below the national average and behind all but two other Midwest states. (*Appendix C, Table 3*)
- Only 7% of bachelor's degree graduates in 2005 transferred at least 30 semester hours from community colleges and 11% transferred credits from regional campuses. (*Board of Regents' Performance Report, 2006*)
- The transfer process from two-year to four-year institutions must go smoothly if non-traditional students are to succeed in attaining bachelor's degrees.
- A user-friendly statewide transfer system has been implemented to enable students to transfer easily among public institutions. However, some two-year college faculty have said that the current system is not nearly "user-friendly" enough nor does it enable students to transfer easily among institutions. Faculty observed that although credits may transfer, they sometimes do not apply to the student's degree.

Do college graduates stay or move out of Ohio?

What we know:

- Like several other states, many of Ohio's college graduates leave the state. However, fewer college graduates relocate to Ohio than other states. For example, Ohio and Illinois are similar in terms of college graduates leaving the state. However, more college graduates move into Illinois than leave. For Ohio, more graduates leave than move in. For the one year period of 2004 to 2005, when the number of college graduates with a bachelor's degree or higher who left Ohio is combined with the number who moved in, Ohio lost 9,000 graduates. In contrast, Illinois gained 9,000 graduates.^{xi}
- Community college faculty have emphasized that cooperative education, internships, clinical experiences and service learning are effective ways to keep graduates from leaving the state. These programs can also help students pay for college and improve graduation rates.
- Within one-half year of graduation,

41% of **medical school graduates** leave Ohio

37% of the **doctoral graduates** leave Ohio

34% of the **law graduates** leave Ohio

27% of the **bachelor's graduates** leave Ohio

24% of the **master's graduates** leave Ohio

13% of the **associate graduates** leave Ohio

(Appendix D, Chart 4)

Is Ohio's educational and degree attainment competitive for the future?

We conclude:

Ohio's educational and degree attainment is not competitive with other states and must improve.

“... increasing Ohioans’ participation and success in postsecondary education will improve the state’s economic vitality and competitiveness.”

- Governor’s Commission on Higher Education
and the Economy, 2004

Participation



Summary: 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.

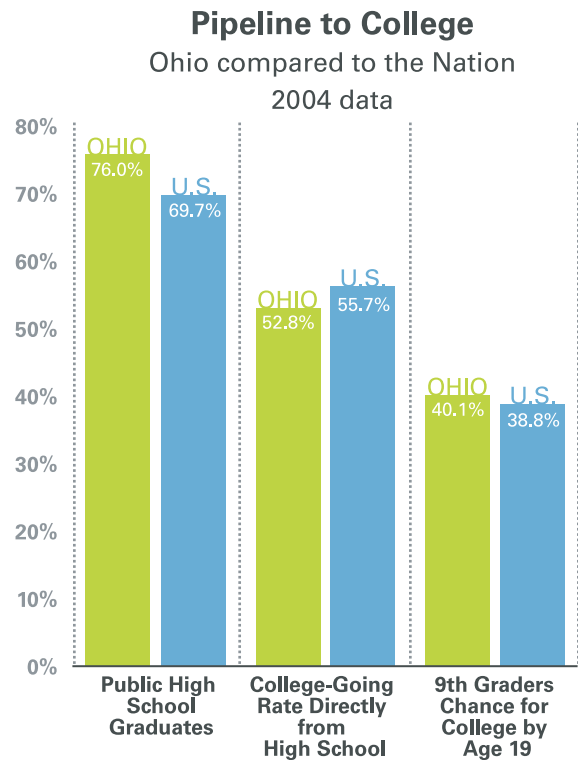
Participation

In assessing Ohio's participation in higher education, it is important to examine the pipeline. How many students are in the traditional high school pipeline? Do students graduate from high school? Do students go to college directly from high school? What about adults? What is Ohio's participation from all age groups? Is it adequate?

Is Ohio's educational pipeline adequate to meet the needs of a 21st century economy?

What we know:

- Ohio will see a modest increase (1%) in public high school graduates from 2003 through 2018. (*Knocking At The College Door, Western Interstate Commission on Higher Education, 2003*)
- The chart on the right and information in Appendix D show:
 - Ohio's high school graduation rates are considerably above the averages of other states and have improved since 1996. (*Appendix D, Chart 5*)
 - Ohio's college-going rate directly following high school graduation is below the national average, and it has dropped since 2002. (*Appendix D, Chart 5*)
- High school graduation rates vary significantly among counties. Athens County, Wood County and Portage County lead the state in this measure (for 18-24 year olds) while Geauga, Vinton and Holmes counties have the lowest percentages. (*U. S. Census, American Community Survey, 2006*)



Source: *Postsecondary Education Opportunity, 2006, Thomas Mortenson*

- The traditional pipeline of high school students will not address Ohio's educational needs. To reach international competitiveness by 2025, 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 attaining college degrees.^{xii}
- Ohio has expanded educational opportunities through *E-Learning* (online, interactive video, television, CD, DVD and correspondence courses).
- *The Ohio Learning Network* is a consortium of 81 of Ohio's public and private colleges and universities. More than 85% of *E-Learning* courses are offered via the Web.
- 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.^{xiii}

Is participation in higher education adequate?

What we know:

- Ohio's enrollment of 18-24 year-olds in college or graduate school closely parallels the nation, but 25-49 year-olds participation is almost 20% below the national average and Ohio is below Midwest averages for participation in all age groups. (*Appendix C, Table 3*)
- Enrollment has increased significantly since 2001. (*Board of Regents' Performance Report, 2006*)
- The 127th General Assembly recognized the need to educate more Ohioans and enacted legislation calling for increasing the number of Ohioans enrolled by 230,000 by 2017 and increasing graduation rates.
- The Ohio College Access Network (OCAN) was founded in 1999 as the first statewide coordinating body for college access programs in the nation. OCAN helps Ohio residents pursue post-secondary education. Currently, 35 college access programs serve nearly 205 of Ohio's 612 school districts, touching 173,000 students annually.
- Participation of adults is particularly important for Ohio. A recent national study concluded that despite the many programs and services that institutions provide for low-income adults, without financial support and affordable childcare, many adults still struggle to succeed in higher education.^{xiv}

Is Ohio's participation in higher education adequate for the future?

We conclude:

Ohio's participation for 18-24 year-olds parallels the nation, but participation by 25-49 year-olds is far below national averages and these trends must improve.

“College readiness skills are indistinguishable from those needed for success in modern jobs.”

– Achieve, Inc., 2008

Preparation



Summary: Research shows that students who take multiple remedial courses in college are less likely to graduate. When citizens are not academically prepared for higher education, they are less likely to enroll or graduate from college. In addition, lack of preparation has a negative effect on higher education's efficiency and productivity. Colleges must invest more resources to help students be college-ready. In addition, college is more expensive for students who lack adequate preparation because it takes longer for students to graduate so they pay more tuition. Students can dramatically improve their preparation by taking more highly-rigorous high school courses, including AP courses and Postsecondary Education Opportunity courses. Students who succeed on two or more AP Exams are much more likely than their peers to complete a bachelor's degree in four years or less.^{xx}

Preparation

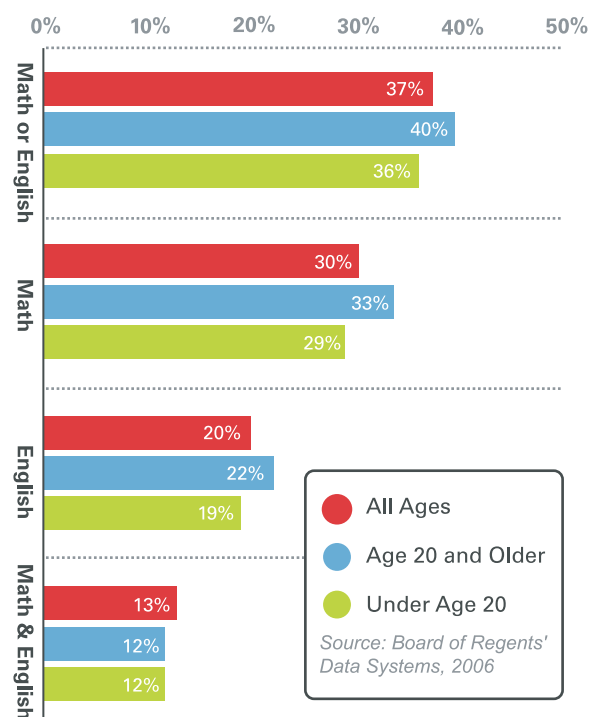
In assessing the condition of Ohioans' college readiness, enrollments in high school courses and college remedial courses were examined. In addition, national research was reviewed to identify underlying causes that explain Ohio's performance.

Are Ohioans adequately prepared for college?

What we know:

- As the chart shows, more than one-third of recent high school graduates must enroll in remedial math or English.
- For students over the age of 20, 40% must enroll in remedial math or English.
- Students who successfully complete all remedial courses (54% of all remedial course-takers) at Ohio's public colleges and universities do almost as well in the second year as students who did not take any remedial courses. They return to college in the second year at about the same rate, the pass rates for credits taken are about the same and the average grade point average is about the same. (*Board of Regents' Performance Report, 2006*)
- Ohio's math teachers are among the most highly qualified in the Midwest region as measured by the percentage of high school students whose teachers majored in math in college. More Ohio high school students take one upper level math course than students in other states. (*Appendix C, Table 2*)

Percent of First Year Students Taking Remedial Coursework
FY 2005-2006 - by Subject and Age Group



- Ohio's 2006 graduating class scored slightly above the national average on the ACT tests. (*Appendix D, Chart 6*)
- In January 2007, Ohio enacted legislation for a more rigorous core curriculum. While this legislation is a positive step forward, the core curriculum does not mandate four years of increasingly more rigorous math courses or any foreign language requirements. Recent research indicates that the most effective preparation is a curriculum that exceeds the traditional core curriculum across most subject areas. Trustees have emphasized the importance of a strong P-16 continuum with effective student counseling.
- Ohio's 8th grade test takers scored at or above "proficient" on the National Assessment of Educational Progress (NAEP) tests in math, science, reading and writing. (*Measuring Up, 2007*)

What we know about the underlying causes for Ohio's academic preparation:

- Not enough high school students are taking a highly rigorous curriculum. Feedback from faculty underscores the need for students to take *Trigonometry* in high school. They observed that a generation ago, *Trigonometry* was taught with Algebra 2, and now it is typically taught in *Pre-Calculus*, which is taken by considerably fewer students.
- Ohio has low-participation in Advanced Placement (AP) course-taking. (*Note: The Advanced Placement program was established by the College Board in 1955 and is designed to provide rigorous, college-level courses and assessments for high school students*). Ohio's Advanced Placement (AP) course-taking is growing, but Ohio is below the national average. If AP courses were taken at the national rate, an additional 8,000 Ohio students would enroll each year. National studies show a strong relationship with the AP program and successful postsecondary performance and persistence. Students who take two or more AP exams are more likely to attain a bachelor's degree.^{xv}

- Only about 4% of 11th and 12th graders take Postsecondary Education Opportunity courses. (*Board of Regents' Performance Report, 2006*)
- Only two-thirds of Ohio's science teachers majored in science in college – the lowest rate in the Midwest region. Ohio is near the bottom of Midwest states in 9th to 12th graders taking at least one upper level science course. (*Appendix C, Table 2*)
Note: recent changes in the high school graduation requirements regarding science may not be fully reflected in the available statistics.
- Only 61% of Ohio's 7th to 12th graders are enrolled in academic core courses (math, science, English, and social studies) which are taught by individuals with a college major directly related to their teaching subject. Ohio is below the national average of 70%, and at the bottom in the Midwest. (*Appendix C, Table 2*)

What we know from national research:

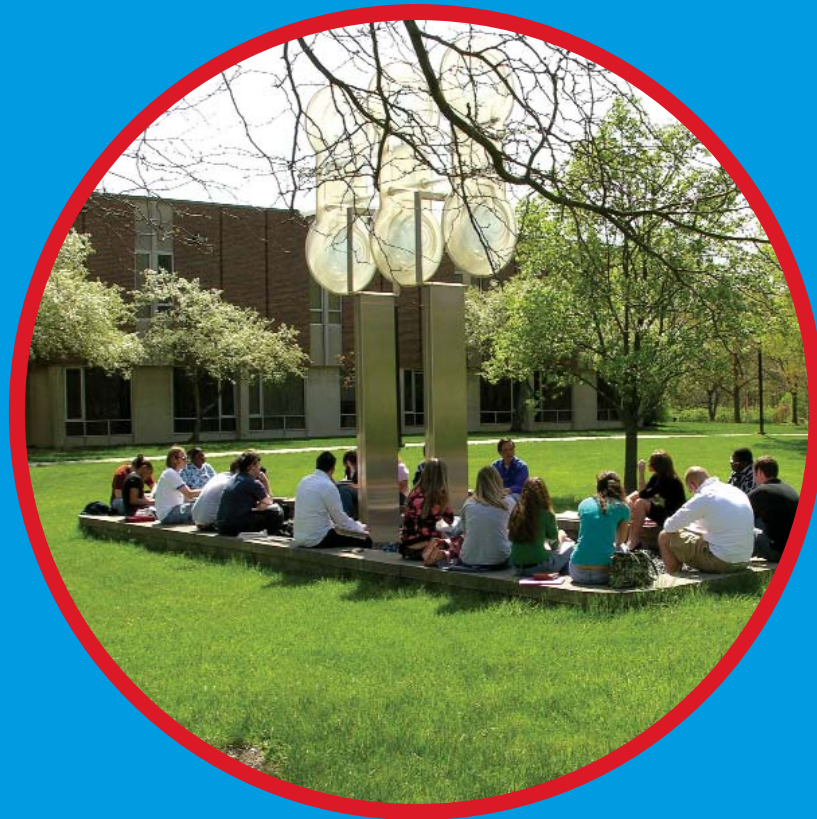
- Students who take two or more remedial education courses are less likely to complete a postsecondary certificate or degree (41% compared with 69% of those who do not take remediation).^{xvi}
- Nationally, more than half, 55%, of first-generation students took remedial education. A rigorous high school curriculum, including advanced mathematics narrows the gap in postsecondary outcomes for first-generation students.^{xvii}
- National studies show that despite a higher rate of remediation and more family obligations, low-income adult students earn slightly better grades, on average, than do traditional students.^{xviii}
- Making college awareness services and activities available to students and parents has significant and positive effects on students' preparation and plans for college.^{xix}

Are Ohioans adequately prepared for college?

We conclude:

Too many Ohio citizens are not adequately prepared for college and preparation must improve.

Affordability



Summary: Tuition levels can price academically able students out of the system. Affordability is connected to preparation, participation and degree attainment. Ohio's public colleges and universities are among the least affordable in the nation. Ohio is seeking to improve affordability for its neediest students through a combination of freezing/limiting fee increases and expanding need-based financial aid.

Affordability

To assess the affordability of higher education, tuition and fees were reviewed and their relationship with family income as well as student financial aid. Many states collect “net price” information, which is useful in assessing affordability for students. The Board of Regents plans to collect this information in the future.

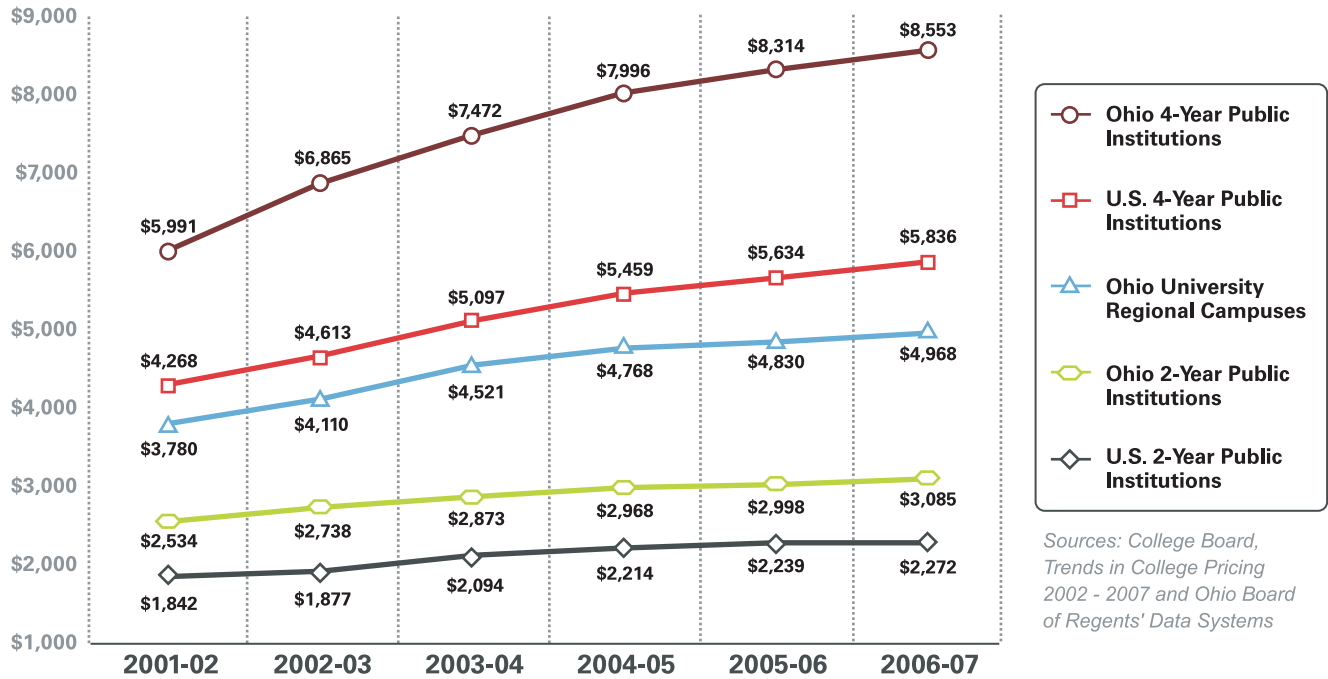
How affordable are Ohio’s public higher education institutions?

What we know:

- Ohio ranks as one of the most expensive 10 states in tuition and fee charges. As the chart on the next page shows, tuition and fees for Ohio’s public four-year and two-year institutions are almost 50% above national averages, and, until this biennium, rose rapidly.
- Financial access to two-year colleges is not equitable because university branches and technical colleges charge significantly more than community colleges.
- Students pay high tuition and fees in Ohio because state and local tax support per student is low. In 2006, Ohio’s tax support was more than \$1600 less than the national average.^{xxi} Because of debt incurred to finance facilities, Ohio’s colleges and universities have less flexibility with tuition revenues than many other institutions.
- The Ohio College Access Network, formed in 1999 provides free counseling to families and students on sources of financial aid.
- Ohio is expanding its student financial aid programs:
 - The *Ohio College Opportunity Grant*, when combined with federal Pell grants, will fully-fund tuition at public two-year institutions for Ohio’s neediest citizens (typically students from families with annual incomes of \$25,000 or less). The Grant will improve the chances that needy students will enroll and succeed in higher education.^{xxii} Some students, in both urban and rural areas, still may have as much as \$2,000 in unmet financial need, which is a significant barrier to access and success.
 - The new *Choose Ohio First Scholarship Program* will support undergraduate and/or graduate education for many Ohio residents in science, technology, engineering, and math (STEM) fields, medicine, and STEM education.

In-State, Undergraduate Weighted Tuition & Fees

Ohio compared to the Nation
(Expressed in constant 2007 dollars)



What does research say about affordability?

- The two main reasons that students leave school without a degree are: they needed to work (26%) and other financial reasons (16%).^{xxiii}
- Studies show that perceptions of high net prices deter adequate academic preparation and that aspirations decline by the 12th grade because of concerns about college costs and the availability of financial aid.^{xxiv}
- Many eligible low-income students (1.5 million) do not apply for federal financial aid and moderate and low-income families do not understand costs and financial aid.^{xxv}
- Nationally, three-fourths of full-time, first year undergraduates receive some type of financial aid, and about 45% of all full-time, first-time undergraduates have a loan.^{xxvi} Studies show that providing generous financial aid packages and targeting financial aid to those with financial need can encourage students to take more courses and reduce time spent working outside the classroom.

How affordable are Ohio's public higher education institutions?

We conclude:

Ohio's colleges and universities are among the least affordable in the nation and this situation must change.

Institutional Context

Breadth and Quality



Summary: Ohio's colleges and universities are diverse. Tuition charged by public two-year campuses varies significantly and affects geographical access and participation in higher education. The high quality and capabilities of Ohio's higher education system are exceptional resources. If bold steps are taken that foster greater collaboration and increased services, higher education can provide the education, research and public services needed to support a thriving 21st century economy.

Institutional Context Breadth and Quality

Ohio's colleges and universities are exceptional resources. They educate future leaders who will provide the talent, energy and innovation to keep Ohio competitive in a knowledge-based economy.

Is higher education capable of providing educational, research, and public services needed to support a thriving 21st century economy?

What we know:

- All citizens live within 30 miles of a college or university campus; however, only about 4% of the adult population (ages 25 and older) are taking advantage of the availability of higher education by enrolling in college.
- The high quality of many of Ohio's institutions, academic, research and public service programs is nationally and internationally recognized. In recent months
 - Ohio students continue to be selected as Rhodes Scholars.
 - Ohio institutions lead the country in most faculty chosen as "fellows" for various scientific organizations.
 - Several campuses have been successful in attracting major federal and private grants in a wide range of fields, including medical, education and commercialization programs.
 - Colleges continue to form partnerships with each other and businesses to address workforce needs.
- Students who graduate from Ohio's colleges and universities succeed in passing licensure exams, have higher incomes and contribute to their communities and the state. (*Board of Regents' Performance Report, 2006*)
- Ohio has a strong higher education infrastructure and many collaborative partnerships needed to support expanded education, research and public service activities. Appendix F is a map of Ohio's state supported and independent higher education institutions.
- Quality education can be delivered in both large and small classes. In fall 2005, for public institutions, the median size of a lecture class was 22 students with 21% of course enrollment in classes with fewer than 20 students and 23% of course enrollments in classes with 50 or more students. (*Board of Regents' Performance Report, 2006*)
- For public institutions, more than half (57%) of all undergraduate credit hours were taught by full-time faculty. (*Board of Regents' Performance Report, 2006*)

What kind of higher education system does Ohio have for two-year institutions?

What we know:

- Ohio citizens have access to many two-year colleges - community colleges, technical colleges and two-year branch campuses.
- Financial access varies by geographic location. As Table 1 below shows, on average, university branches charge almost twice as much as community colleges. The map shows the current lowest cost option by county.
- Participation rates (in home counties) are higher for the lower cost community colleges.
- Enrollment growth is higher for the lower cost institutions.

TABLE 1
Ohio Public Two-Year Campuses
Price, Participation and Growth Rate

| Type of Two-Year Campus | COVERAGE | PRICE | PARTICIPATION | GROWTH RATE |
|--------------------------|----------|---------|---------------|-------------|
| Community College | 24% | \$2,379 | 48 | 27% |
| State Community College | 35% | \$3,444 | 29 | 23% |
| Technical College | 14% | \$3,833 | 28 | 28% |
| University Branch Campus | 28% | \$4,747 | 17 | 12% |

Sources: Board of Regents' Data Systems and U. S. Census, Population Estimates

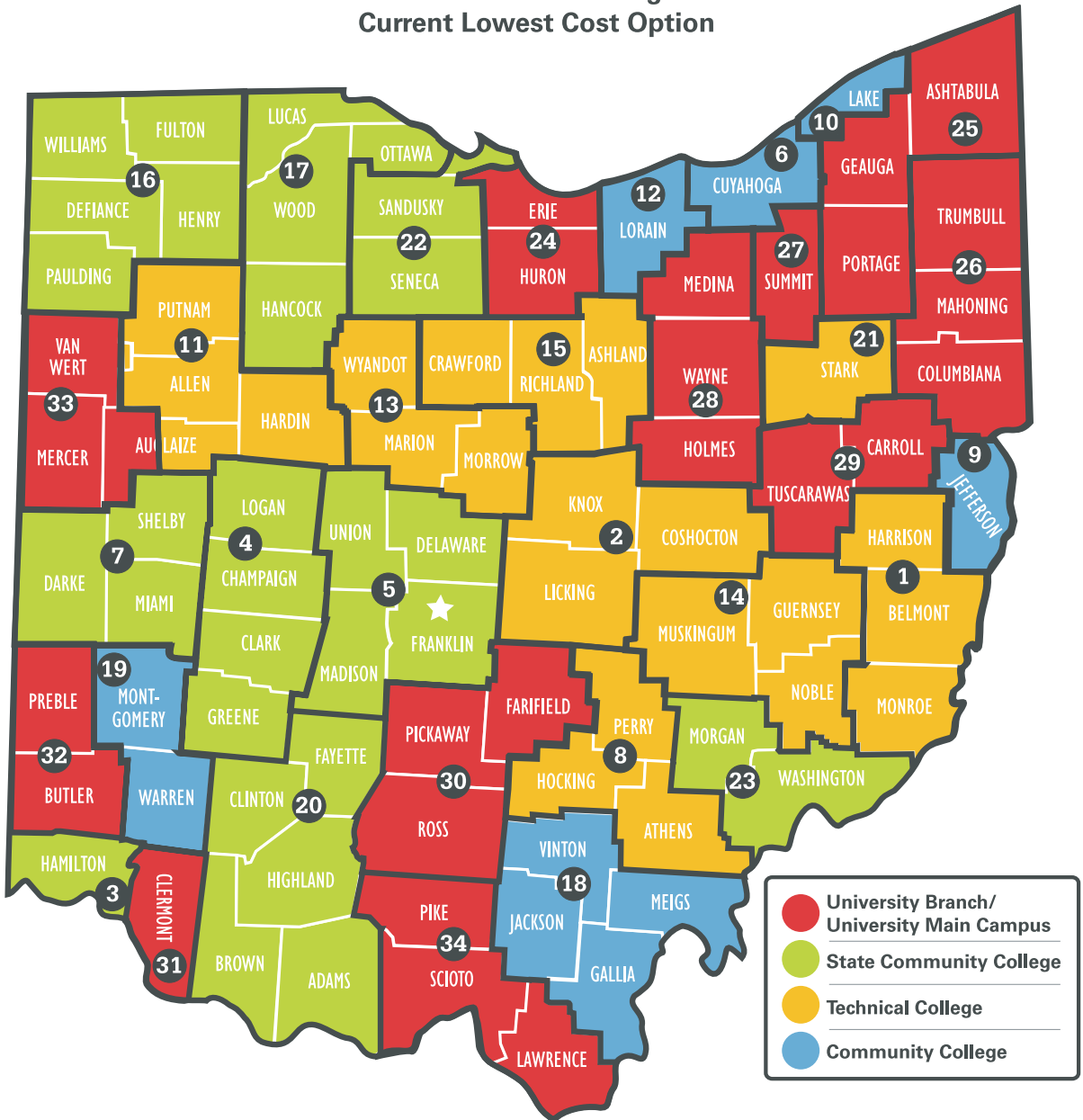
COVERAGE = % of Ohio population where the type is lowest cost option

PRICE = Full-time average tuition

PARTICIPATION = Enrollment from home county (per 1,000 - age 18 to 49)

GROWTH RATE = Headcount enrollment growth (1998-2006)

Ohio Districts Indicating the Current Lowest Cost Option



1. Belmont Technical College
Ohio University – Belmont
2. Central Ohio Technical College
The Ohio State University – Newark
3. Cincinnati State Technical & Community College
University of Cincinnati – Raymond Walters
University of Cincinnati – University College
4. Clark State Community College
5. Columbus State Community College
6. Cuyahoga Community College
7. Edison State Community College
8. Hocking Technical College
9. Jefferson State Community College
10. Lakeland Community College
11. Lima Technical College
The Ohio State University – Lima
12. Lorain County Community College
13. Marion Technical College
The Ohio State University – Marion
14. Muskingum Area Technical College
Ohio University – Zanesville
15. North Central Technical College
The Ohio State University - Mansfield
16. Northwest State Community College

17. Owens State Community College
University of Toledo – Community & Technical College
18. Rio Grande Community College
19. Sinclair Community College
20. Southern State Community College
21. Stark State College of Technology
Kent State University – Stark
22. Terra State Community College
23. Washington State Community College
24. Bowling Green State University – Firelands
25. Kent State University – Geauga
Kent State University – Ashtabula
26. Kent State University – East Liverpool
Kent State University – Trumbull
Kent State University – Salem
27. University of Akron – Community & Technical College
28. University of Akron – Wayne
29. Kent State University – Tuscarawas
30. Ohio University – Lancaster
31. University of Cincinnati – Clermont
32. Miami University – Hamilton
Miami University – Middletown
33. Wright State University – Lake Campus
34. Shawnee State University
Ohio University – Ironton

What kind of higher education system does Ohio have for four-year institutions?

What we know:

- Ohio citizens have access to diverse four-year colleges.
- As Table 2 below shows, undergraduate tuition for public universities varies from \$5,300 to \$11,400.
- Selectivity for public universities varies with ACT scores averaging less than 21 to more than 24.
- Graduation rates for public universities vary from 29% to 84%.
- As Table 3 on the right shows, most university research is at The Ohio State University and the University of Cincinnati.

TABLE 2
Ohio Public Universities
Listed by Access/Selectivity Scale

| INSTITUTION (Main Campus Only) | Total Headcount | In-State Undergraduate Tuition | Average ACT Score (2000 Cohort) | Undergraduate Graduation Rate | Access/ Selectivity Scale* |
|-----------------------------------|--------------------|--------------------------------------|---------------------------------------|-------------------------------------|----------------------------------|
| Shawnee State University | 3,897 | \$5,832 | < 21.0 | 29% | 1 |
| Central State University | 1,761 | \$5,294 | < 21.0 | 29% | 1 |
| Youngstown State University | 13,279 | \$6,601 | < 21.0 | 40% | 2 |
| University of Akron | 22,476 | \$8,383 | < 21.0 | 37% | 2 |
| Cleveland State University | 15,119 | \$7,584 | < 21.0 | 34% | 2 |
| Kent State University | 22,869 | \$8,430 | < 21.0 | 52% | 3 |
| Bowling Green State University | 19,150 | \$9,060 | 21.0-22.5 | 65% | 3 |
| University of Toledo | 19,448 | \$7,927 | 21.0-22.5 | 50% | 3 |
| Wright State University | 16,214 | \$7,278 | NA | NA | 3 |
| University of Cincinnati | 28,245 | \$9,375 | 22.5-24.0 | 56% | 4 |
| Ohio University | 20,610 | \$8,727 | 22.5-24.0 | 77% | 4 |
| Ohio State University | 52,512 | \$8,433 | > 24.0 | 74% | 5 |
| Miami University* | 16,198 | \$11,442 | > 24.0 | 84% | 5 |
| NEOUCOM | 459 | | | | |

Sources: Board of Regents' Data Systems and the American College Testing Service

* Miami's tuition varies with scholarship amount awarded; figure shown is maximum for any in-state student.

** Access/Selectivity Scale: 1 = Strongest Access Orientation, 5= Strongest Selectivity Orientation. Based on average ACT Score, undergraduate tuition and undergraduate orientation.

TABLE 3
Ohio Public Universities and Research Activity*

| INSTITUTION (Main Campus Only) | Percent Graduate | Research Expenditures | Research Scale** |
|-----------------------------------|---------------------|--------------------------|---------------------|
| The Ohio State University | 25% | \$608,923,000 | 1 |
| University of Cincinnati | 29% | \$286,036,000 | 1 |
| Ohio University | 17% | \$43,229,000 | 2 |
| Wright State University | 25% | \$40,328,000 | 2 |
| University of Toledo | 17% | \$32,351,000 | 2 |
| University of Akron | 18% | \$26,888,000 | 2 |
| Miami University | 8% | \$18,026,000 | 3 |
| Cleveland State University | 37% | \$15,884,000 | 3 |
| Kent State University | 21% | \$11,045,000 | 3 |
| Bowling Green State University | 16% | \$9,746,000 | 3 |
| NEOUCOM | 100% | \$5,703,000 | 3 |
| Central State University | 1% | \$1,579,000 | 4 |
| Youngstown State University | 10% | \$1,382,000 | 4 |
| Shawnee State University | 0% | \$0 | n/a |

Sources: Board of Regents' Data Systems and National Science Foundation, 2006

*Ohio's private universities, including Case Western and the University of Dayton have strong research programs, and information for independent institutions is included in Section 8 of this report.

**Research Scale: 1: >\$100M; 2: \$25M-99M; 3: \$5M-24M; 4: <\$5M

Is higher education capable of providing educational, research, and public services needed to support a thriving 21st century economy?

We conclude:

Ohio's higher education system is well-positioned for the 21st century, but institutions need to improve focus on their core strengths, reposition themselves to serve additional and more diverse students and increase collaboration to benefit all Ohioans.

By 2012, states are likely to face substantial revenue gaps assuming the current revenue structure.

In most states, higher education expenditures are expected to grow less rapidly than total state and local government spending.

- Nelson A. Rockefeller Institute of Government, 2002

Financial Condition and Productivity



Summary: Higher education has worked to improve productivity in the last decade. Additional productivity improvements can and must be part of the solution to educating more Ohioans. Institutions, particularly four-year, can improve graduation and retention rates and make other curricular changes, such as including more technology in courses and expanding on-line learning. Improving productivity could include shortening time to degree, addressing unnecessary duplication among institutions, removing state subsidies from unproductive majors and programs, reengineering delivery of large courses, and a number of other strategies that have been undertaken by several states.^{xxviii} In addition, productivity can be improved through more collaborative programming and use of facilities and services. Productivity changes will not fully support costs to enroll and graduate several thousand more Ohioans. Additional state, federal, and private investments are required for Ohio to meet this challenge.

Financial Condition and Productivity

Educating thousands of additional Ohioans is a formidable task. Is higher education financially capable of achieving this goal? Are accountability systems in place to monitor financial condition?

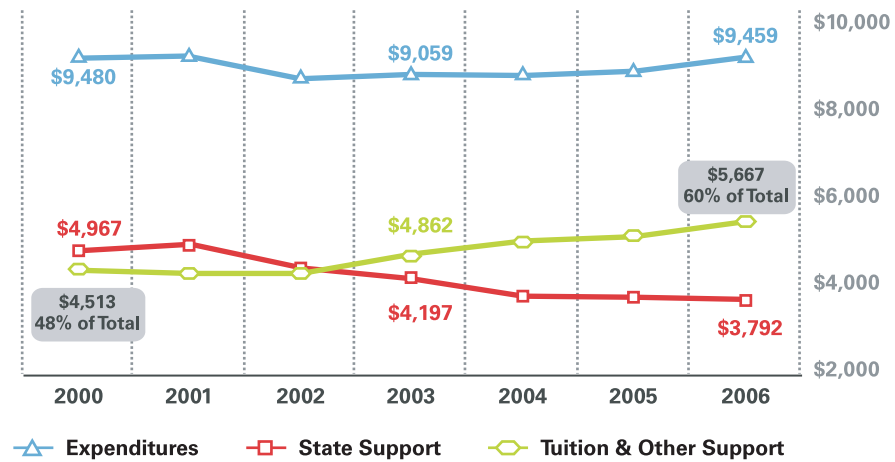
Are Ohio's public institutions currently able to financially support substantial increases in enrollments and degrees at a high quality level?

What we know:

- While Ohio's current state appropriations plus tuition and other revenues dedicated to educate students are average when compared with other states, unlike most states, Ohio relies heavily on student tuition to fund higher education as shown in the chart on the following page. This has the consequence that Ohio families must shoulder 30% of family income to pay for public two-year colleges' expenses and 42% for public four-year institutions' expenses. (*Appendix C, Table 4*)
- Unlike many other states, Ohio has a two-year tuition freeze. Moreover, Ohio relies on institutions to pay for substantial capital renewal with local facilities debt.
- Ohio's and other states' higher education institutions have a number of financial pressures including:
 - Skyrocketing **energy** and **health care** costs
 - High costs for **capital renewal** to renovate, rehabilitate or replace aging facilities
 - Substantial costs of specialized **high tech equipment** and **facilities**
 - **Environmental issues** including costly government regulations, energy conservation and reductions of greenhouse gases.
- Enrolling many more students and expanding research will require renovation to current campus infrastructure and possibly some new buildings.

Expenditure, State Support and Other Support per Undergraduate FTE

FY 2000 to FY 2006
Constant 2006 dollars



Source: Ohio Board of Regents' Data System

Are appropriate fiscal health accountability systems in place?

What we know:

- Each college produces an annual financial report using nationally accepted accounting practices as determined by the Governmental Accounting Standards Board (GASB).
- Annual audits are conducted by or at the direction of the Auditor of State and posted on the web.
- The Regents' Vice Chancellor for Finance reviews each audit.
- The audited data are used in calculating financial ratios required by legislation enacted in 1997. The financial ratios and other financial data are posted on the web. The most recent ratios are included in Appendix E.
- Campuses submit quarterly financial reports which are distributed to elected and appointed state officials.
- Regents' staff periodically conducts enrollment and financial aid audits of state colleges and universities.
- Regents' staff periodically conducts financial aid audits of private colleges and universities.

Can productivity be improved?

Are Ohio students completing their degrees?

- Ohio's public higher education institutions have documented administrative and academic cost savings. *(Results Through Productivity Report, Ohio Board of Regents, 2007)*
- Ohio's two-year college completion rate is near the average for the Midwest region and the nation.
- Ohio's 54% six-year bachelor's degree completion rate is near the national average, but is behind all but two other states in the Midwest region. Completion rates are a proxy for the relative efficiency of the state's post-secondary system. *(Responding to Constituents' Needs in a Changing Climate, Midwestern Higher Education Compact, January 2007)*
- Many students are taking fewer courses per term than a decade ago. Nationally, the average student obtains a four-year degree in about 4.6 years. In many instances, students are working. The result is higher costs for students and families because they pay more tuition, fees and living expenses for the extended stay in college.

○ A recent national report identified ways to improve educational productivity:

- Improving the preparation of high school students and adults for college-level work; and creating effective transitions between schools and colleges, two- and four-year colleges, and the workplace.
- Streamlining the educational process, including curriculum and course redesign, for greater productivity and cost-effectiveness; and adopting educational policies to reduce course repetition, to offer incentives for degree completion, and to assess and recognize academic proficiency acquired outside the institution.
- Accommodating enrollment growth through institutions that focus on providing high-quality, cost-effective undergraduate education; avoiding program proliferation and increases in research capacity that come at the expense of productivity and undergraduate growth; encouraging collaboration to address unmet educational needs and underserved regions; assuring effective utilization of facilities; and encouraging and creating new institutions and systems of educational delivery.^{xxvii}

Ohio has taken a number of steps to improve productivity in administrative and academic areas, including adopting business practices when appropriate and encouraging collaborative programs, collaborative use of facilities and on-line learning. The combination of the University of Toledo and the Medical University of Ohio demonstrated the value of bold steps in achieving meaningful improvements in productivity and efficiency at the university level. As Ohio moves forward, additional efforts will be required from all institutions.

One excellent example of the opportunity for increased productivity and efficiency lies in Northeast Ohio where five universities are located in four contiguous counties. *The Northeast Ohio Universities Collaboration & Innovation Study Commission* recently issued its report recommending a number of steps that, if implemented, would foster increased productivity and efficiency through collaboration. Those initiatives include:

- By 2009, establish a common academic calendar and application process to assist students in applying and transferring within the northeast Ohio network of public universities. This is a step taken long ago by many other states.
- Review low-demand programs, involving academics from outside Ohio, to determine their continuance or combination into a single regional program at a specific institution.
- Establish a combined academic program and department among the four universities in computer science to achieve a scale and prominence beyond that of any single institution in this critical STEM field.
- Establish a common technology transfer entity for the participating universities of northeast Ohio.
- Implement a common healthcare purchase plan for all the public institutions of northeast Ohio, directly addressing a high and fast growing area of cost for every institution.

Are Ohio's public institutions currently able to financially support substantial increases in enrollments and degrees at a high quality level?

We conclude:

Ohio's institutions need to improve productivity and additional state, federal, and private investments are necessary to support additional students.

“Create more jobs and economic growth by strengthening higher education’s research base and the ability to develop and bring to market new ideas and innovations.”

- Governor’s Commission on Higher Education and the Economy, 2004

Economic Development

Workforce Development,
Research and Technology
Transfer



Summary: Ohio has made tremendous progress in increasing research expenditures in the past 20 years, but Ohio is still lagging other states in workforce development and below national R & D expenditures per capita. Increases in workforce development, research and technology transfer activities are essential for Ohio to be successful. Additional federal, state and private investments are required and can move Ohio into a position to support a thriving 21st century economy.

Economic Development: Workforce Development, Research and Technology Transfer

Economic growth is an issue for Ohio.

Four reasons for Ohio's slow economic growth were identified in a Battelle study:

1. Lack of new business formation
2. Slow-paced new product innovation
3. Delayed commercialization of technology from the state's research institutions
4. Failure to provide sufficient employment opportunities for graduates of Ohio's colleges and universities.

Are Ohio's current levels of workforce development adequate to support a thriving 21st century economy?

What we know:

- All campuses are extensively involved in workforce development.
- Ohio has formed Enterprise Ohio as a network of focused workforce development. More than half of the *Network* contracts are for companies with 100 or fewer employees. (*Appendix D, Chart 9*)
- In 2007, Ohio's General Assembly enacted House Bill 119, which transfers adult, post high-school programs to the Board of Regents by January 1, 2009. This transfer 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 workforce development programs.
- Ohio is launching the *Ohio Skills Bank* office within the Board of Regents to support regional partnerships in twelve designated economic regions. The Bank will address critical occupational and skill shortages within the regions and create convenient, customized learning pathways that prepare adult learners to fill available jobs.
- Ohio's Tech Prep program allows a student to jump start a college degree while in high school and prepares students for high skill, high demand technical careers in a competitive environment.
- The Board of Regents is collaborating with the Ohio Department of Aging to find ways to reengage baby boomers and others in the workforce.

- Ohio's Workforce Investment Act program is successfully meeting the workforce development needs of many participants through increased employment and employment retention rates. However, from July 1, 2005 through June 30, 2006, Ohio under spent its available Workforce Investment Act monies by nearly \$42.5 million, more than 20% of available funds for workforce development for dislocated workers, adults and youth.^{xxix}

- Are Ohio public higher education graduates meeting the expectations of Ohio's employers when hired? Some states conduct employer satisfaction surveys, and Ohio plans to do so in the upcoming year. Having baseline and national benchmarks for employer satisfaction could be of great value to higher education.

Are Ohio's current levels of workforce training adequate to support a thriving 21st century economy?

We conclude:

Innovative changes are needed to expand employability skills programs to develop a high-talent, flexible workforce and a new cadre of entrepreneurs that can compete in a rapidly changing global economy.

Are Ohio's current levels of research and technology transfer adequate to support a thriving 21st century economy?

What we know:

- As the chart on the right shows, Ohio has made significant progress in reaching national averages in *Research and Development* expenditures per capita. In 2005, Ohio was 86% of the national average as compared with 59% in 1985.
- A 2008 National Science Foundation study, which ranks states by quartile, shows:
 - Ohio is in the third quartile of states in percentage of workforce employed in science and engineering occupations.
 - Ohio is in the third quartile of states in research and development as a share of the gross domestic product (2004).
 - Ohio is in the third quartile of states in academic research and development per \$1000 of gross domestic product (2005).
 - Ohio ranks in the second quartile of states in academic patents awarded per 1,000 science and engineering doctorate holders in academia. (2006).
 - Ohio ranks in the fourth quartile of states in venture capital disbursed per \$1000 of gross domestic product (2006).^{xxx}

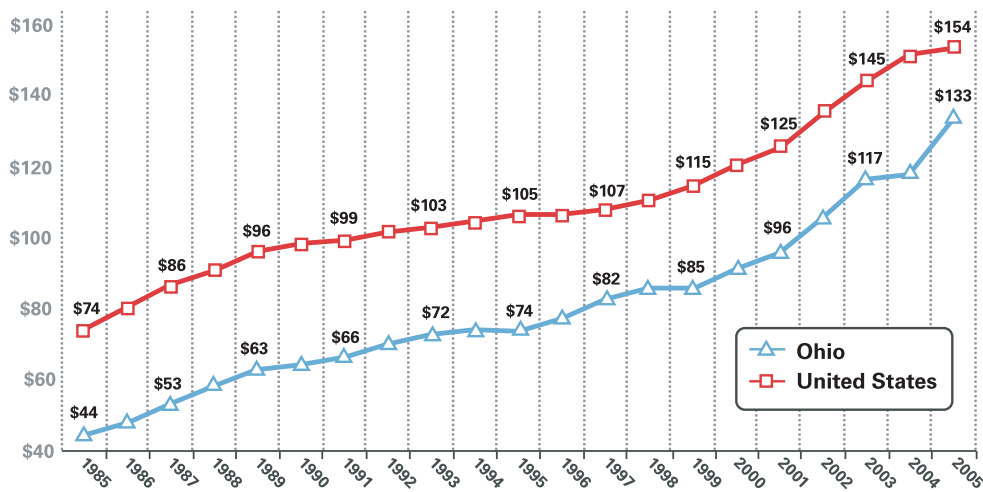
- Higher education research expenditures have almost doubled in the past 10 years. (*Appendix D, Chart 7*)
- Ohio jumpstarted its research and technology transfer activities in 2002 through creating the *Third Frontier Project*, a 10-year, \$1.6 billion initiative to expand Ohio's high-tech research capabilities and promote innovation and company formation. More than \$500 million have been allocated with more than half of these funds awarded to public and private higher education institutions.

The impetus for creation of the *Third Frontier Project* was the *Ohio Plan for Technology and Development*, which was conceptualized by the Ohio Board of Regents as a way to connect Ohio business and industry, institutions of higher learning and state government in a partnership to identify research based economic development opportunities.
- Ohio is making substantial investments in three major higher education research programs. Ohio's programs are designed to leverage federal funds, build on unique research areas that have potential for national competitiveness and support long-term economic growth.

- Substantial funding of \$135 million in the current biennium for the new *Ohio Research Scholars Program* will support increased numbers of highly-qualified faculty in critical science, technology, engineering, math, and medical areas. (Note: from 1982 to 2007, Ohio supported an *Eminent Scholars Program* with similar goals.)
 - Ohio's *Action Fund* (\$5.5 million for the current biennium) provides matching capital funds for research facilities and instrumentation.
 - Ohio's *Research Incentive* (\$18 million annually) is a performance-based program that rewards institutions for past successes in attracting external research support.
- Ohio has implemented a number of other programs, including the *Technology Commercialization Incentive Program* and *Innovation Incentive*, which was focused on strengthening doctoral programs through reallocation and additional resources.
 - The new *Choose Ohio First Scholarship Program*, funded at \$100 million for the current biennium, will support undergraduate and/or graduate education for many Ohio residents in science, technology, engineering, and math (STEM) fields, medicine, and STEM education.
 - Ohio's Supercomputer facility is a powerful research tool, and an important resource for public and private institutions as well as business and industry throughout the state.
 - Ohio's applications for patents, invention disclosures submitted, licenses, options executed and gross license income have increased dramatically since 2001. (Appendix D, Chart 8)
 - In its *U.S. Licensing Activity Survey: FY 2006*, the Association of University Technology Managers reported that Ohio's public and private universities launched 19 start-up companies. While Ohio has made impressive gains, Ohio is behind many established programs, including MIT with 23 start-ups and the University of California System with 39 start-ups.

Total R&D Expenditures per Capita

Ohio Compared to the Nation
1985 to 2005 in constant 2005 dollars



Source: National Science Foundation, 1985 - 2005

Are Ohio's current levels of research and technology transfer adequate to support a thriving 21st century economy?

We conclude:

While Ohio has made progress, additional investments in research and technology transfer are critical to future success.

Summary and Next Steps

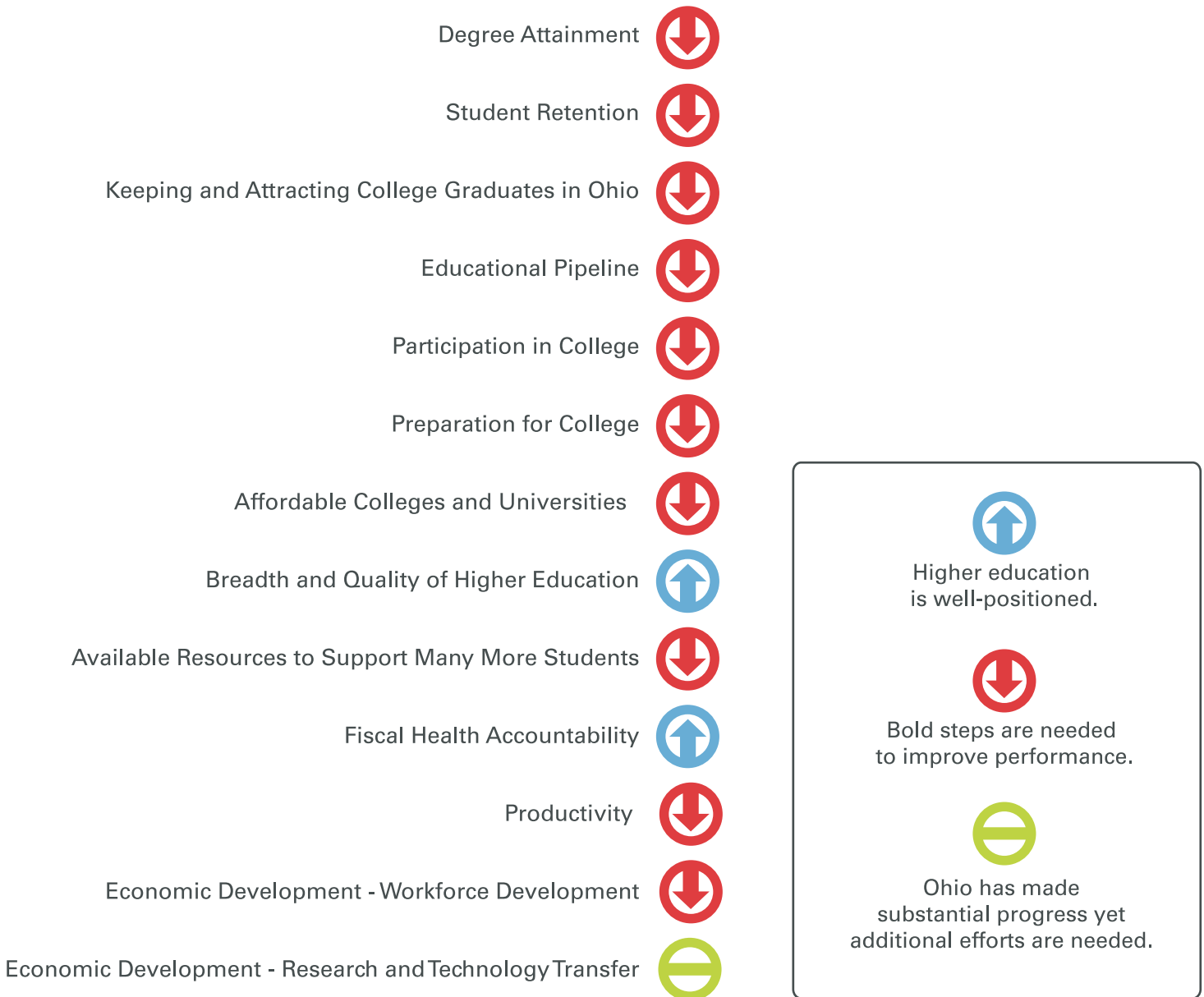


Summary and Next Steps

As other state and national reports have concluded, Ohio's is losing ground in its economic prosperity, which is directly related to educational attainment, workforce development, research and technology transfer. If Ohio is to have college graduates in the numbers and disciplines that it needs for a thriving 21st century economy, how ready is higher education to help Ohio achieve this goal? The Regents assess higher education's condition in the following dashboard:

Higher Education in Ohio – 2008 Condition Dashboard

How ready is higher education to meet the needs of a thriving 21st century economy?



How well is higher education positioned to provide the needed educational services for a thriving 21st century economy? Current trends in educational and degree attainment, participation, preparation, affordability, productivity and finance, and workforce development, research and technology transfer are insufficient and must change.

Within the overall context of producing more college graduates and increasing workforce development, research and technology transfer, Ohio faces 10 significant challenges:

1. Projected declines in the State's youth and working age population.
2. Enrolling and graduating more adults (over 25 year olds).
3. Improving college-going rates directly from high school.
4. Improving participation and degrees awarded in educationally underserved counties.
5. Improving college and university retention, graduation, two-year to four-year transfer rates and P-12 linkages.
6. Increasing the number of students taking more rigorous high school courses, including *Advanced Placement* and *Postsecondary Education Opportunity* courses.
7. Making higher education more affordable.
8. Achieving equitable financial access to 2-year colleges in all geographic regions.
9. Increasing state, federal and private investments for education and research.
10. Increasing degree attainment while maintaining high quality.

Future *Annual Condition Reports* will closely monitor each of these areas and address underlying causes that explain Ohio's performance as well as additional topics. **Because of the strength of Ohio's higher education system, we are optimistic and confident that Ohio will successfully confront these challenges. Increasing the number of college graduates and workforce development, research and technology transfer activities will lead to better economic prosperity and a higher quality of life for Ohioans. To achieve these results, institutions must be more productive, and additional state, federal and private investments are required. In the long-term, Ohio will reap tremendous benefits.**



Appendices
Resources
End Notes

Stakeholder Feedback

Public and Private College and University Trustees
ICU
OACC
AICUO
Governor's Workforce Policy Board
BAHEE
Association for Career and Technical Education
Ohio Association of Joint Vocational Schools
Ohio Faculty Council
Two-year faculty Council
Ohio Association of Student Financial Aid Administrators
Ohio Student Government Association
Ohio House, Majority Caucus
Ohio House, Minority Caucus
Ohio Senate, Majority Caucus
Ohio Senate, Minority Caucus
State Board of Education

Earned Income Projections

"With Change" means with increase in the number of graduates and 70% retention rate
Numbers in parentheses are negative.

| Numbers based on projections | 2000 | 2007 | 2017 | 2030 |
|--------------------------------------------------------|--------|--------|--------|--------|
| Earned income per capita (in year 2000 dollars) | | | | |
| US | 17,329 | 18,050 | 18,194 | 17,362 |
| Ohio | 16,588 | 17,174 | 17,252 | 16,482 |
| Difference from US | (741) | (876) | (942) | (880) |
| Ohio with change | 16,588 | 17,174 | 17,371 | 16,967 |
| Difference from US | (741) | (876) | (823) | (395) |

Expected earned income (in billions of year 2000 dollars)

| | | | | |
|------------------|----------|----------|----------|----------|
| US | 4,876.83 | 5,432.07 | 5,962.17 | 6,312.37 |
| Ohio | 188.33 | 197.80 | 200.79 | 190.37 |
| Ohio with change | 188.33 | 197.80 | 202.18 | 195.98 |

Percent of people aged 25 to 69 with a BA or higher

| | | | | |
|--------------------|-------|-------|-------|-------|
| US | 26.1 | 29.2 | 32.6 | 35.6 |
| Ohio | 22.7 | 25.4 | 28.6 | 32.3 |
| Difference from US | (3.4) | (3.8) | (4.0) | (3.4) |
| Ohio with change | 22.7 | 25.4 | 29.8 | 36.3 |
| Difference from US | (3.4) | (3.8) | (2.7) | 0.6 |

Number of people aged 25 to 69 with a BA or higher

| | | | | |
|------------------|-----------|-----------|-----------|-----------|
| Ohio | 1,427,872 | 1,651,774 | 1,899,507 | 2,001,355 |
| Ohio with change | 1,427,872 | 1,651,774 | 1,981,152 | 2,249,225 |
| Difference | | | 81,646 | 247,870 |

Notes: Expected earned income is the total earnings of people aged 25 to 69. Earned income per capita is expected earned income divided by the total population. This figure is lower than a typical per capita income figure would be, but the direction of change is the same.

Projections Prepared by: Dr. Joel A. Elvery
With Ellen Cyran and Dr. Mark Salling of the Northern Ohio Data Information Service
Levin College of Urban Affairs
Cleveland State University

Analysis by the Midwestern Higher Education Compact

Appendix C includes selected tables from Responding to Constituents' Needs in a Changing Climate, prepared by the Midwestern Higher Education Compact (MHEC) in January 2007. This information was compiled from several national data sources as noted on each table.

Table 1: Leading Demographic Indicators

Ohio Compared to other MHEC States and the National Average

| | Projected change in total population 2005-2030 ¹ | Projected change in under-18 age group 2005-2030 ¹ | Projected change in 18-64 age group 2005-2030 ¹ | Projected change in over 64 age group 2005-2030 ¹ | Population 25 years and over with less than a high school diploma or equivalent (2005) ² | Population 25 years and over with a bachelor's degree or higher (2005) ² | Residents enrolling in college for the first time who do so in other states (2004) ³ | Net migration of all first-time degree-seeking undergraduate students (2004) ³ |
|-----------|-------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| OH | 0.6% | -6.3% | -8.2% | 54.9% | 13.7% | 23.3% | 14% | -1.0% |
| US | 23.0% | 16.4% | 11.5% | 94.7% | 15.8% | 27.2% | 17% | 3.5% |
| IA | -0.6% | -8.0% | -10.4% | 52.2% | 10.4% | 23.8% | 11% | 18.2% |
| IL | 5.8% | 1.0% | -2.4% | 58.6% | 14.3% | 29.2% | 20% | -9.2% |
| IN | 9.0% | 6.6% | -0.3% | 60.8% | 14.7% | 21.3% | 12% | 10.6% |
| KS | 6.9% | 1.0% | -3.1% | 65.6% | 11.3% | 28.2% | 14% | 7.1% |
| MI | 4.8% | -4.8% | -3.5% | 67.0% | 13.0% | 24.7% | 10% | -0.4% |
| MN | 21.9% | 17.9% | 9.9% | 93.4% | 9.1% | 30.7% | 20% | -3.0% |
| MO | 11.5% | 5.6% | 1.5% | 69.1% | 15.0% | 24.0% | 16% | 4.0% |
| ND | -4.5% | -14.1% | -17.0% | 62.7% | 11.8% | 25.5% | 29% | 18.4% |
| NE | 4.3% | 2.5% | -7.3% | 61.1% | 10.5% | 27.3% | 17% | 0.5% |
| WI | 10.7% | 2.3% | -0.7% | 82.0% | 11.2% | 25.0% | 17% | -1.9% |

¹National Center for Higher Education Management Systems. Data from the U.S. Census Bureau

²U.S. Census Bureau, 2005 American Community Survey

³U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Spring 2005

Table 2: Postsecondary Preparation

Ohio Compared to other MHEC States and "Top Performing" States in the Nation¹

| | 18-24 year-olds with a high school credential (2002-2004) | 9 th -12 th graders taking at least one upper-level math course (2003-04) | 9 th -12 th graders taking at least one upper-level science course (2003-04) | 7 th -12 th graders in <i>math</i> courses taught by teachers with a major in their field (1999-2000) | 7 th -12 th graders in <i>science</i> courses taught by teachers with a major in their field (1999-2000) | 7 th -12 th graders in <i>academic</i> core courses ³ taught by teachers with a major in their field (1999-2000) |
|------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| OH | 86% | 60% | 28% | 75% | 65% | 61% |
| Top performing states ² | 94% | 64% | 40% | 84% | 88% | 81% |
| U.S. | 87% | 53% | 31% | 65% | 73% | 70% |
| IA | 90% | 57% | 43% | 70% | 90% | 80% |
| IL | 87% | n/a | n/a | 63% | 87% | 70% |
| IN | 89% | 47% | 30% | 71% | 82% | 79% |
| KS | 88% | n/a | n/a | 56% | 77% | 70% |
| MI | 90% | 35% | 23% | 63% | 78% | 66% |
| MN | 92% | 46% | 29% | 88% | 88% | 92% |
| MO | 88% | 54% | 35% | 51% | 70% | 66% |
| ND | 95% | 53% | 34% | 76% | 81% | 73% |
| NE | 90% | 61% | 37% | 84% | 82% | 80% |
| WI | 91% | 61% | 38% | 69% | 86% | 81% |

¹All data in the table are from the National Center for Public Policy and Higher Education, *Measuring Up 2004*. Data are from the U.S. Census Bureau, the Council of Chief State School Officers, and the U.S. Department of Education's National Center for Education Statistics.

²For this and all subsequent tables, the benchmark for "top performing states" is the median performance level of the top five states on a given indicator (i.e., the third highest scoring state).

³Core courses include: English, Math, Social Studies, and Science.

Table 3: Postsecondary Participation, Persistence, and Completion
Ohio Compared to other MHEC States and "Top Performing" States in the Nation¹

| | Chance for college by age 19 (2002) ² | 18-24 year-olds enrolled in college (2002-04) | 25-49 year-olds enrolled part-time in any type of postsecondary education (2003) | First to second year persistence of full-time students at two-year institutions (Fall 2004) | First to second year persistence of full-time students at four-year institutions (Fall 2004) | First-time, full-time students earning a bachelors within 6 years of enrollment (2003-04) | Certificates, degrees, and diplomas awarded at all institutions per 100 undergraduates (2003-04) |
|-----------------------|--------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| OH | 41% | 35% | 3.2% | 51% | 73% | 54% | 17 |
| Top performing states | 52% | 41% | 5.1% | 62% | 82% | 64% | 20 |
| U.S. | 38% | 35% | 3.9% | 53% | 77% | 55% | 17 |
| IA | 51% | 35% | 3.5% | 48% | 75% | 64% | 19 |
| IL | 42% | 35% | 4.9% | 51% | 76% | 58% | 17 |
| IN | 42% | 29% | 3.2% | 54% | 76% | 55% | 18 |
| KS | 50% | 38% | 4.0% | 50% | 74% | 53% | 18 |
| MI | 38% | 42% | 4.4% | 57% | 74% | 55% | 15 |
| MN | 53% | 38% | 3.7% | 50% | 78% | 57% | 20 |
| MO | 39% | 33% | 4.0% | 51% | 73% | 56% | 18 |
| ND | 62% | 41% | 2.9% | 48% | 71% | 48% | 18 |
| NE | 48% | 37% | 4.0% | 55% | 75% | 55% | 17 |
| WI | 46% | 35% | 3.8% | 57% | 79% | 57% | 20 |

¹Information in this table is from the National Center for Public Policy in Higher Education, *Measuring Up 2006*, with data from Thomas Mortenson and *Postsecondary Education OPPORTUNITY*, the U.S. Census Bureau, the National Center for Higher Education Management Systems, and the National Center for Education Statistics.

²"Chance for college" is defined as the relative probability that a student entering ninth grade will finish high school in four years and proceed directly to college.

Table 4: Affordability of Higher Education
Ohio Compared to Other MHEC States and the National Average

| | % of average annual family income needed to pay for <i>public 2-year</i> college expenses after financial aid, 2005-06 ¹ | % of average annual family income needed to pay for <i>public 4-year</i> college expenses after financial aid, 2005-06 ¹ | % of average annual family income needed to pay for <i>private 4-year</i> college expenses after financial aid, 2005-06 ¹ | Family share of public higher education operating revenues (2005) ² | Family share of public higher education operating revenues (1995) ² | % of average income needed for the poorest 20% of families to pay listed tuition in the states' lowest-priced colleges, 2005-06 ¹ | Average annual per student borrowing of federal undergraduate education loans, 2004-05 ^{1,3} |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| OH | 30% | 42% | 67% | 50% | 44% | 25% | \$3,552 |
| U.S. | 24% | 31% | 72% | 37% | 31% | 16% | \$3,619 |
| IA | 26% | 30% | 59% | 49% | 34% | 23% | \$3,112 |
| IL | 24% | 35% | 69% | 28% | 20% | 17% | \$3,770 |
| IN | 24% | 30% | 66% | 50% | 41% | 19% | \$3,549 |
| KS | 20% | 26% | 47% | 38% | 30% | 15% | \$3,377 |
| MI | 24% | 36% | 48% | 52% | 44% | 17% | \$3,120 |
| MN | 22% | 26% | 54% | 45% | 30% | 24% | \$3,234 |
| MO | 23% | 31% | 54% | 40% | 38% | 18% | \$3,407 |
| ND | 24% | 28% | 34% | 44% | 36% | 25% | \$3,110 |
| NE | 21% | 27% | 50% | 36% | 27% | 14% | \$3,447 |
| WI | 21% | 26% | 61% | 37% | 28% | 21% | \$3,277 |

¹National Center for Public Policy and Higher Education, *Measuring Up 2006*. Data from National Center for Higher Education Management Systems, National Center for Education Statistics, and the U.S. Census Bureau.

²State Higher Education Executive Officers, *State Higher Education Finance, FY 2005*.

³Figures include both student and parent subsidized and unsubsidized loans, but do not include loans originating from state sources or private loans (including credit card debt). The figure is therefore not an accurate measure of total student borrowing, which is higher than the figures listed. According to College Board, students at all levels in 2005-06 borrowed a total of \$16 billion in private bank loans, compared to \$69 billion in federal loans.

Supporting Data

Chart 1: Degree Attainment

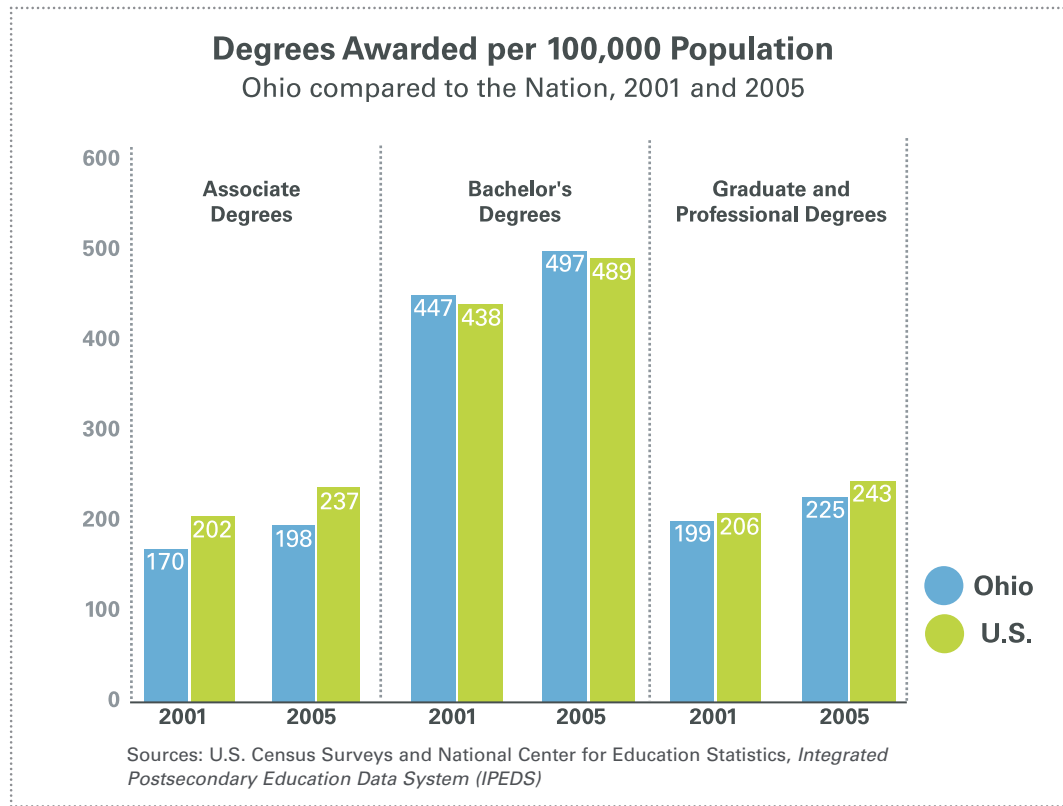


Chart 2: Educational Attainment by Race and Gender

| Educational Attainment for the Population 25 Years And Over by Race and Gender – 2005 | | HIGHEST DEGREE LEVEL | | | |
|------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------|----------------------|---------------------------|----------------------|
| | | Male | | Female | |
| | | Associate or Higher | Bachelor's or Higher | Associate or Higher | Bachelor's or Higher |
| OHIO | RACE | | | | |
| | Black or African American Alone | 19.2% | 13.9% | 21.7% | 14.3% |
| | White Alone, not Hispanic or Latino | 31.5% | 25.2% | 30.5% | 22.8% |
| | Hispanic or Latino | 21.3% | 16.0% | 25.7% | 16.2% |
| | American Indian and Alaska Native Alone | 26.2% | 17.9% | 18.7% | 9.5% |
| | Asian Alone | 72.1% | 68.4% | 60.4% | 55.3% |
| | Native Hawaiian and Other Pacific Islander Alone | <i>Data not available</i> | | <i>Data not available</i> | |
| | Some Other Race Alone | 20.6% | 15.6% | 25.8% | 13.4% |
| | Two or More Races | 26.2% | 19.0% | 25.4% | 17.2% |
| TOTAL OHIO | 30.7% | 24.6% | 29.9% | 22.1% | |
| NATION | Black or African American Alone | 23.5% | 16.6% | 25.7% | 17.8% |
| | White Alone, not Hispanic or Latino | 38.8% | 31.7% | 36.7% | 28.3% |
| | Hispanic or Latino | 16.5% | 11.8% | 18.3% | 12.7% |
| | American Indian and Alaska Native Alone | 21.1% | 13.5% | 22.9% | 13.7% |
| | Asian Alone | 59.6% | 53.1% | 53.1% | 45.6% |
| | Native Hawaiian and Other Pacific Islander Alone | 22.1% | 15.4% | 24.5% | 15.5% |
| | Some Other Race Alone | 13.9% | 9.4% | 16.0% | 10.6% |
| | Two or More Races | 31.4% | 23.3% | 32.5% | 24.0% |
| | TOTAL NATION | 35.2% | 28.5% | 34.0% | 26.0% |

Source: 2005 American Community Survey

Chart 3: Degree Trends

| Trends in Degrees Awarded by Level and Field | | | | | | |
|-----------------------------------------------------|--------|--------|--------|--------|--------|----------|
| Ohio Public and Private Institutions – 2002 to 2006 | | | | | | |
| Level | 2002 | 2003 | 2004 | 2005 | 2006 | % Change |
| Associate Degrees | | | | | | |
| Total | 19,796 | 20,859 | 22,200 | 22,391 | 23,891 | 21% |
| STEM | 8,049 | 8,988 | 10,351 | 10,374 | 11,220 | 39% |
| Non-STEM | 11,747 | 11,871 | 11,849 | 12,017 | 12,671 | 8% |
| Bachelor's Degrees | | | | | | |
| Total | 52,288 | 54,344 | 56,252 | 56,428 | 57,997 | 11% |
| STEM | 12,282 | 12,104 | 12,745 | 12,615 | 13,347 | 9% |
| Non-STEM | 40,006 | 42,240 | 43,507 | 43,813 | 44,650 | 12% |
| Graduate and Professional Degrees | | | | | | |
| Total | 23,224 | 23,719 | 24,467 | 25,710 | 25,916 | 12% |
| STEM | 5,886 | 5,618 | 6,165 | 6,475 | 6,426 | 9% |
| Non-STEM | 17,338 | 18,101 | 18,302 | 19,235 | 19,490 | 12% |

Sources: Board of Regents' Data System and Information provided by Ohio's Private Institutions

Chart 4: Retention of College Graduates

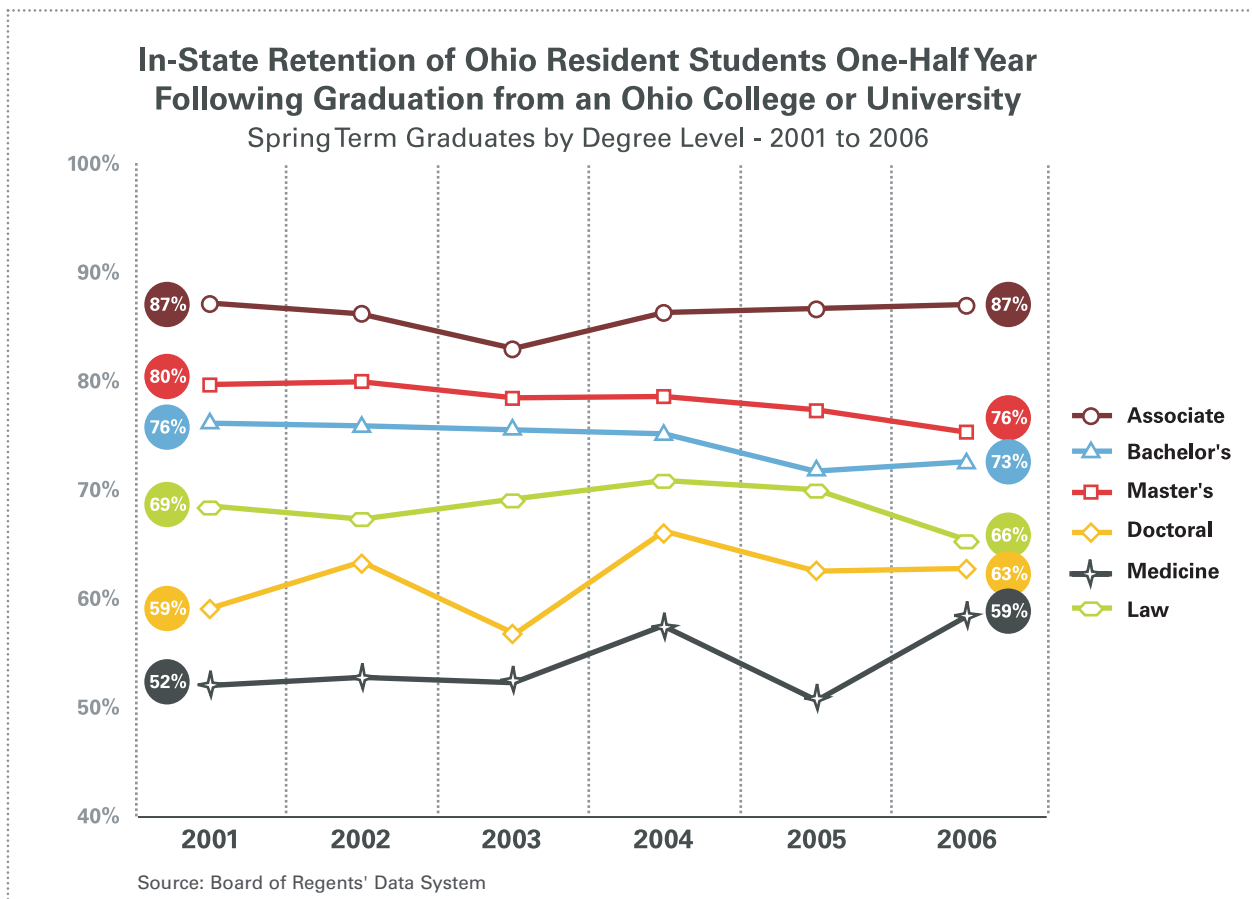


Chart 5: Educational Pipeline

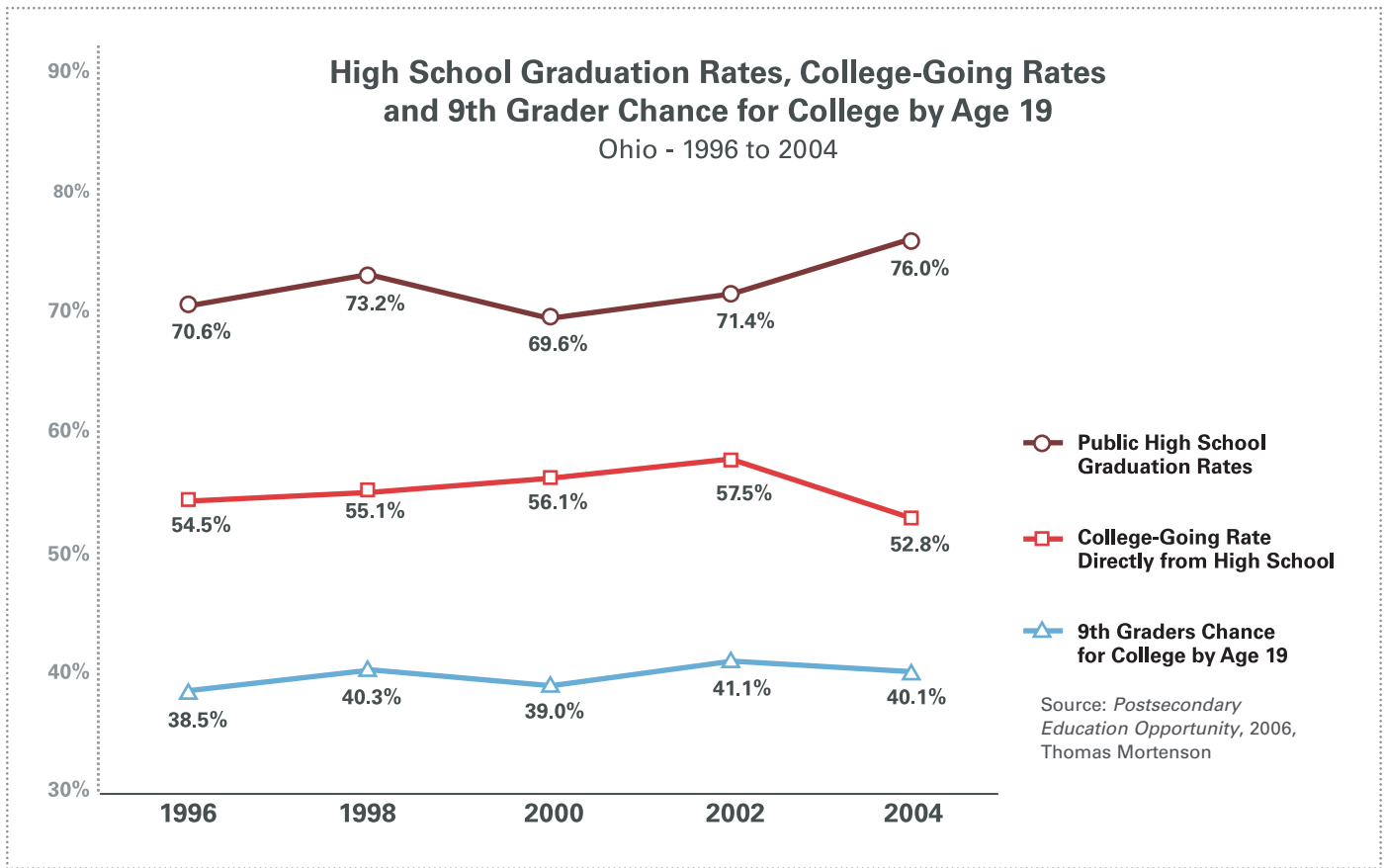


Chart 6: ACT Scores

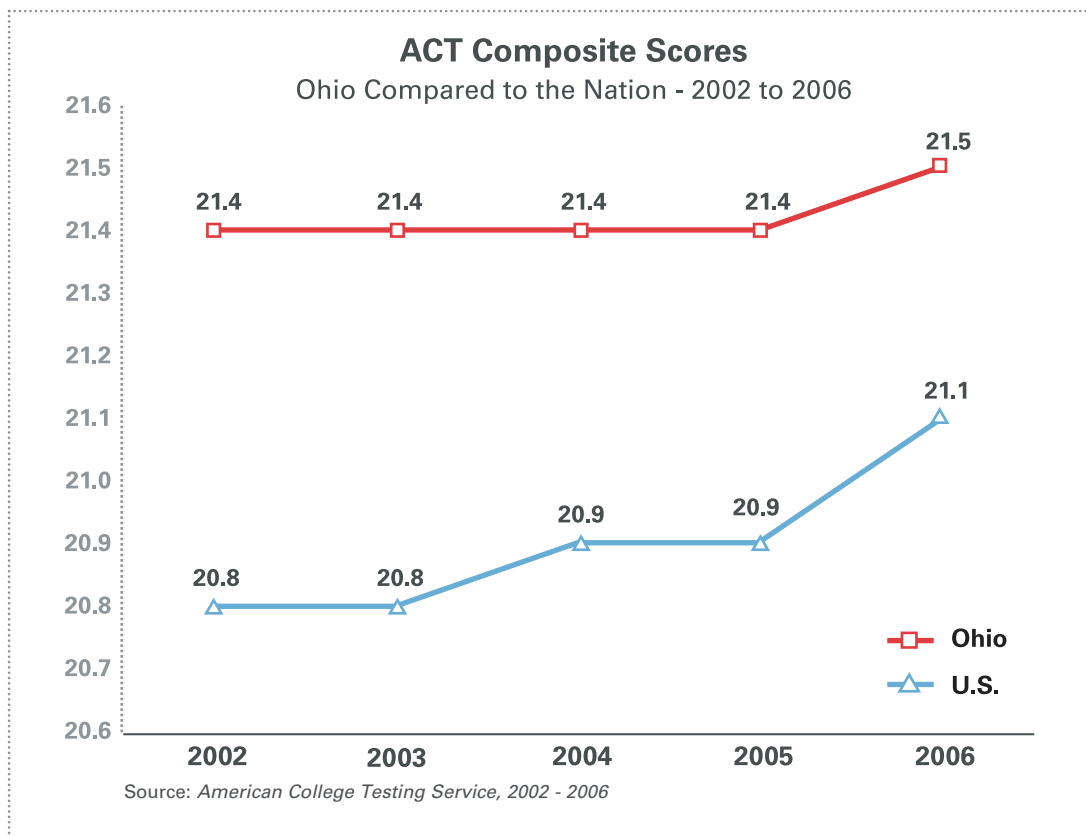


Chart 7: Research

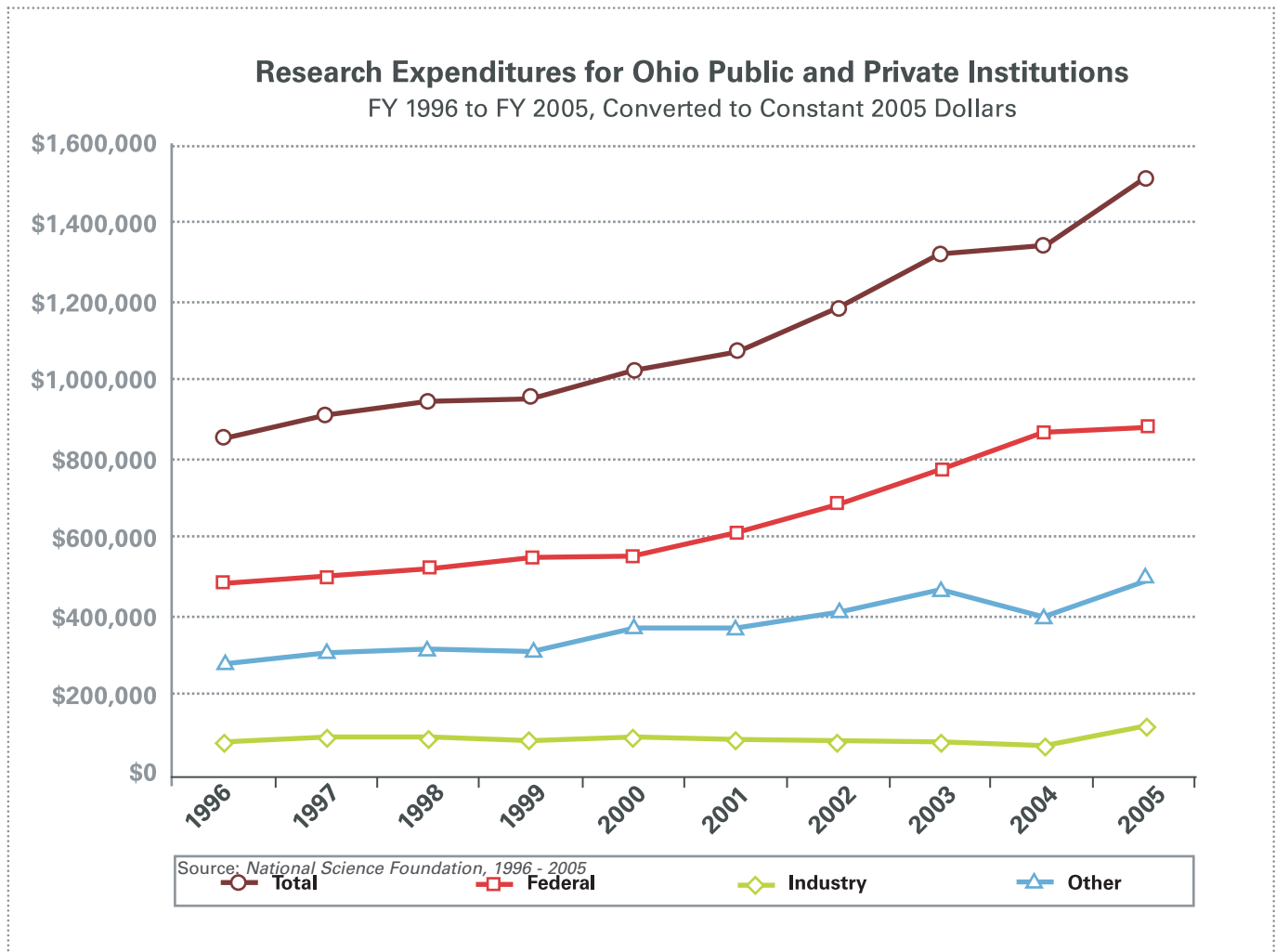


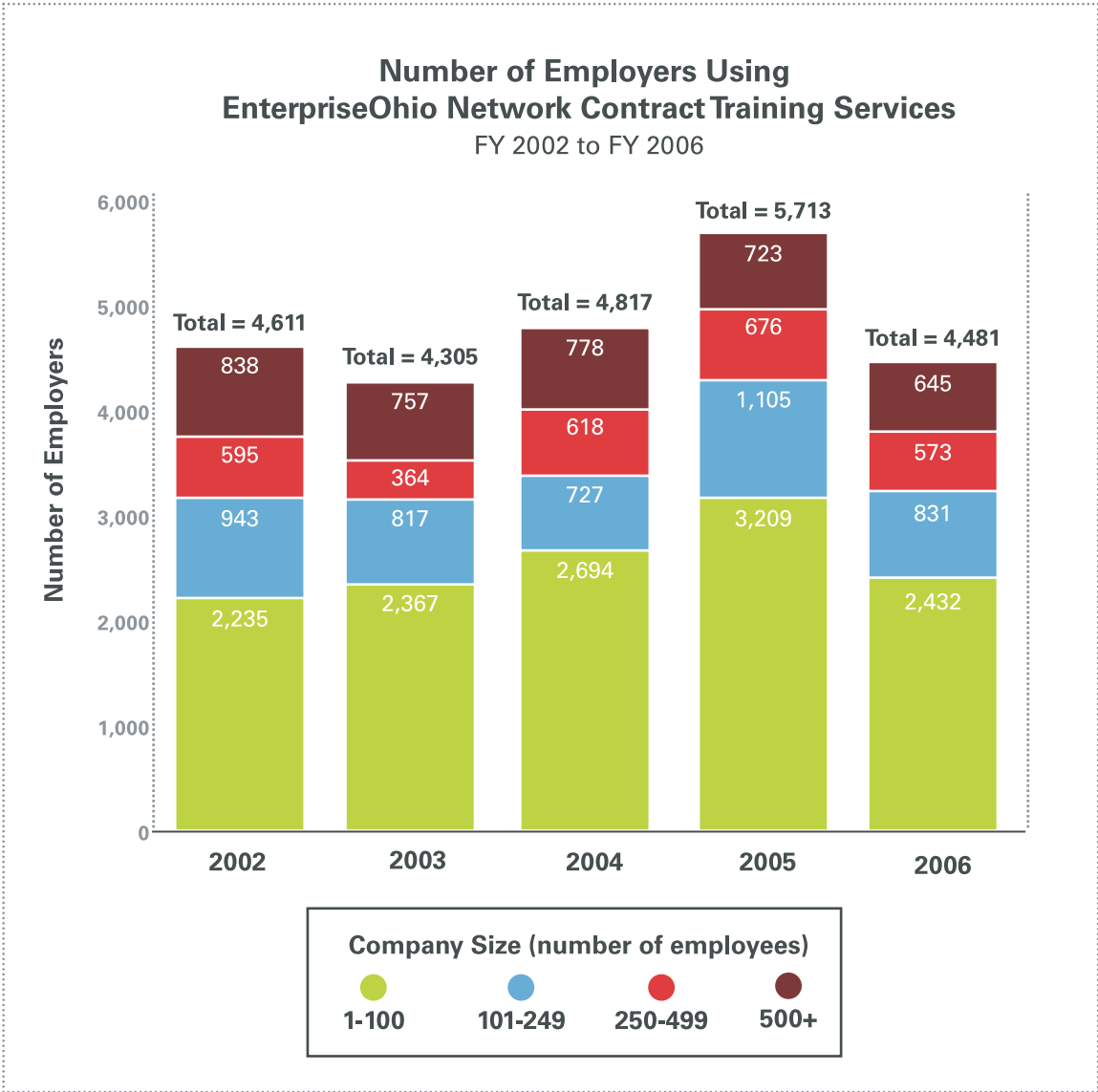
Chart 8: Technology Transfer

Technology Transfer and Commercialization Activities at Ohio's Universities
FY 2001 to 2005

| Activity | FY 2001 | FY 2002 | FY 2003 | FY 2004 | FY 2005 | % Increase FY 2001 to FY 2005 |
|---------------------------------------------|---------|---------|---------|---------|---------|-------------------------------|
| Total U.S. Patent Applications | 270 | 323 | 331 | 399 | 438 | 62% |
| U.S. Patents Issued | 107 | 112 | 108 | 121 | 97 | -9% |
| Invention Disclosures Submitted | 449 | 593 | 583 | 731 | 759 | 69% |
| Licenses & Options Executed | 95 | 92 | 131 | 120 | 138 | 45% |
| Gross License Income Received (\$ millions) | \$16.5 | \$16.3 | \$18.4 | \$22.7 | \$23.8 | 44% |
| Start-up Companies Formed | 17 | 17 | 15 | 20 | 17 | 0% |

Source: Board of Regents' Data System and Institutional Surveys

Chart 9: Workforce Development Enterprise Ohio



Source: Board of Regents' Data System

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 | | | | | | | |
| BELMONT TECH | 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:

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.

The FY 2007 financial ratios for Hocking College are based on the college's preliminary FY 2007 Financial Report. As of February 20, 2008, Hocking College's FY 2007 Financial Report is still under review by the Auditor of the State.

The FY 2007 financial ratios for Marion Technical College are based on the college's preliminary FY 2007 Financial Report. Per a request of Marion Technical College, the Auditor of the State granted a filing extension through February 29, 2008.

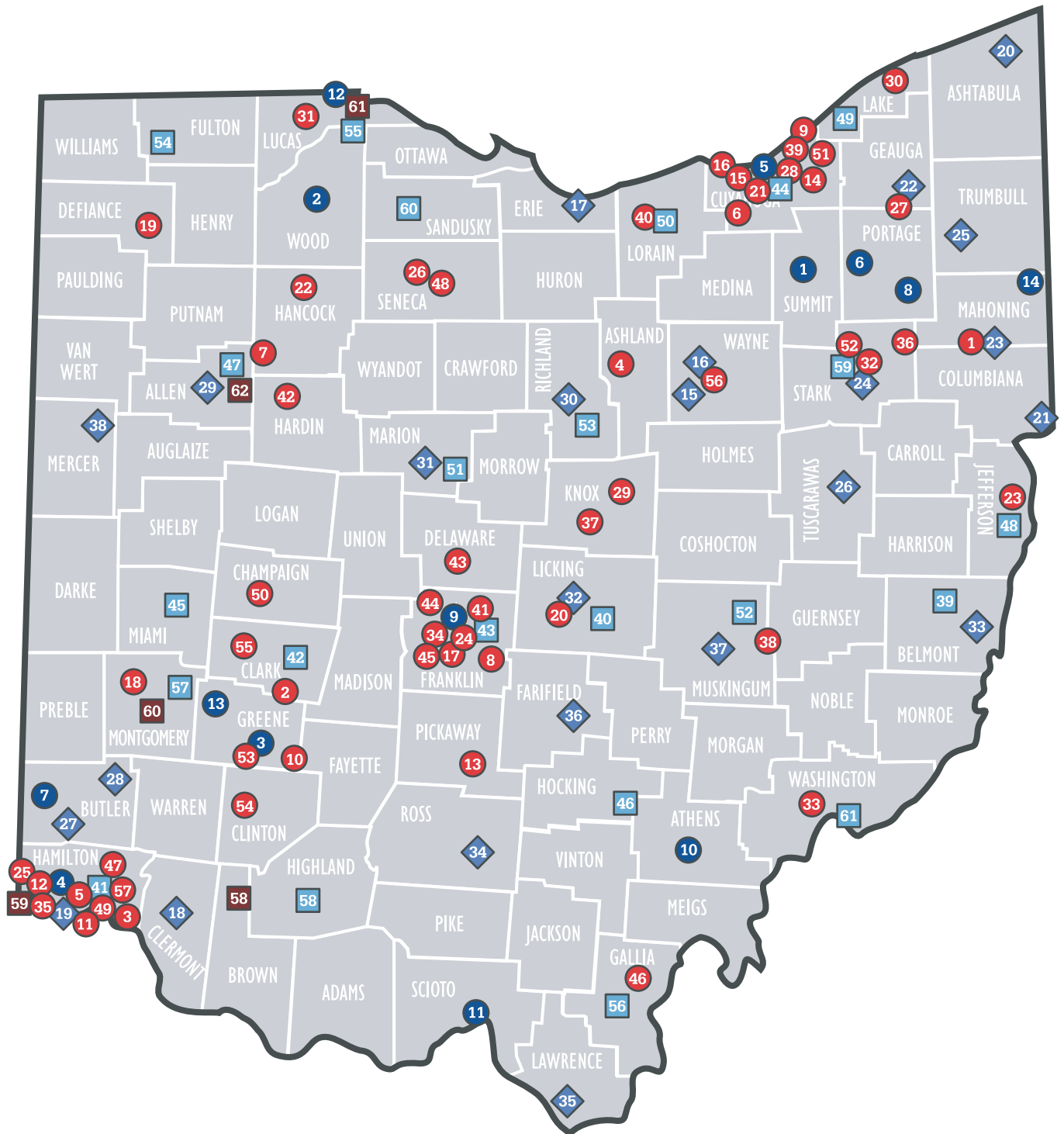
Pursuant to the administrative rule (126:3-1-01) established by Senate Bill 6, a composite score of or below 1.75 for two consecutive years would result in a campus being placed on fiscal watch.

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.

Ohio Higher Education Institutions

State Supported and Independent



| Independent | State Supported |
|-----------------------------------------------------------|---------------------------------------------------------------|
| 5 University Main Campus | 5 University Main Campus |
| 55 Community College | 55 Community College |
| | 56 University Branch Campus |

Ohio Higher Education Institutions

Map Key

Independent Institutions

University Main Campuses

1. Allegheny Wesleyan College
2. Antioch University
3. The Art Academy of Cincinnati
4. Ashland University
5. The Athenaeum of Ohio
6. Baldwin-Wallace College
7. Bluffton University
8. Capital University
9. Case Western Reserve University
10. Cedarville College
11. Cincinnati Bible College & Seminary
12. Cincinnati Christian College
13. Circleville Bible College
14. Laura and Alvin Siegal College of Judaic Studies
15. Cleveland Institute of Art
16. Cleveland Institute of Music
17. Columbus College of Art & Design
18. University of Dayton
19. The Defiance College
20. Denison University
21. David N. Myers College
22. University of Findlay
23. Franciscan University of Steubenville
24. Franklin University
25. God's Bible College
26. Heidelberg College
27. Hiram College
28. John Carroll University
29. Kenyon College
30. Lake Erie College
31. Lourdes College
32. Malone College
33. Marietta College
34. Mt. Carmel College of Nursing
35. College of Mount St. Joseph
36. Mount Union College
37. Mt. Vernon Nazarene College
38. Muskingum College
39. Notre Dame College of Ohio
40. Oberlin College
41. Ohio Dominican College
42. Ohio Northern University
43. Ohio Wesleyan University
44. Otterbein College
45. Pontifical College Josephinum
46. University of Rio Grande
47. Temple Baptist College
48. Tiffin University
49. The Union Institute
50. Urbana University
51. Ursuline College
52. Walsh University
53. Wilberforce University
54. Wilmington College
55. Wittenberg University
56. The College of Wooster
57. Xavier University

Community Colleges

58. Chatfield College
59. Cincinnati College of Mortuary Science
60. Kettering College of Medical Arts
61. Mercy College of Northwest Ohio
62. Northwestern College

State Supported Institutions

University Main Campuses

1. University of Akron
2. Bowling Green State University
3. Central State University
4. University of Cincinnati
5. Cleveland State University
6. Kent State University
7. Miami University
8. Northeastern Ohio Universities College of Medicine
9. The Ohio State University
10. Ohio University
11. Shawnee State University
12. University of Toledo
13. Wright State University
14. Youngstown State University

University Branch Campuses

15. Agricultural Technical Institute - OSU
16. University of Akron - Wayne
17. Bowling Green State University - Firelands
18. University of Cincinnati - Clermont
19. University of Cincinnati - Raymond Walters
20. Kent State University - Ashtabula
21. Kent State University - East Liverpool
22. Kent State University - Geauga
23. Kent State University - Salem
24. Kent State University - Stark
25. Kent State University - Trumbull
26. Kent State University - Tuscarawas
27. Miami University - Hamilton
28. Miami University - Middletown
29. The Ohio State University - Lima
30. The Ohio State University - Mansfield
31. The Ohio State University - Marion
32. The Ohio State University - Newark
33. Ohio University - Belmont
34. Ohio University - Chillicothe
35. Ohio University - Ironton
36. Ohio University - Lancaster
37. Ohio University - Zanesville
38. Wright State University - Lake Campus

Community Colleges

39. Belmont Technical College
40. Central Ohio Technical College
41. Cincinnati State Community & Technical College
42. Clark State Community College
43. Columbus State Community College
44. Cuyahoga Community College
45. Edison State Community College
46. Hocking Technical College
47. James A. Rhodes State College
48. Jefferson Community College
49. Lakeland Community College
50. Lorain County Community College
51. Marion Technical College
52. Muskingum Area Technical College
53. North Central State College
54. Northwest State Community College
55. Owens State Community College
56. Rio Grande Community College
57. Sinclair Community College
58. Southern State Community College
59. Stark State College of Technology
60. Terra Community College
61. Washington State Community College

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- i Of the Midwestern states, Minnesota has the highest percentage of its population with an associate's degree or higher and ranks among the top ten states nationally.
- ii *The AP Program and Student Outcomes: A Summary of Research*, 2007, M. Ewing, The College Board
- iii For 2007-8, two university regional campuses are slightly above the amount funded by the federal Pell and College Opportunity Grant.
- iv *Workforce Investment Act Program Year 2005 Annual Report, July 1, 2005 - June 30, 2006*, State of Ohio, Department of Jobs and Family Services
- v *Good Policy, Good Practice*, National Center for Public Policy and Higher Education and National Center for Higher Education Management Systems, 2007
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- viii Of the Midwestern states, Minnesota has the highest percentage of its population with an associate's degree or higher and ranks among the top ten states nationally.
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