

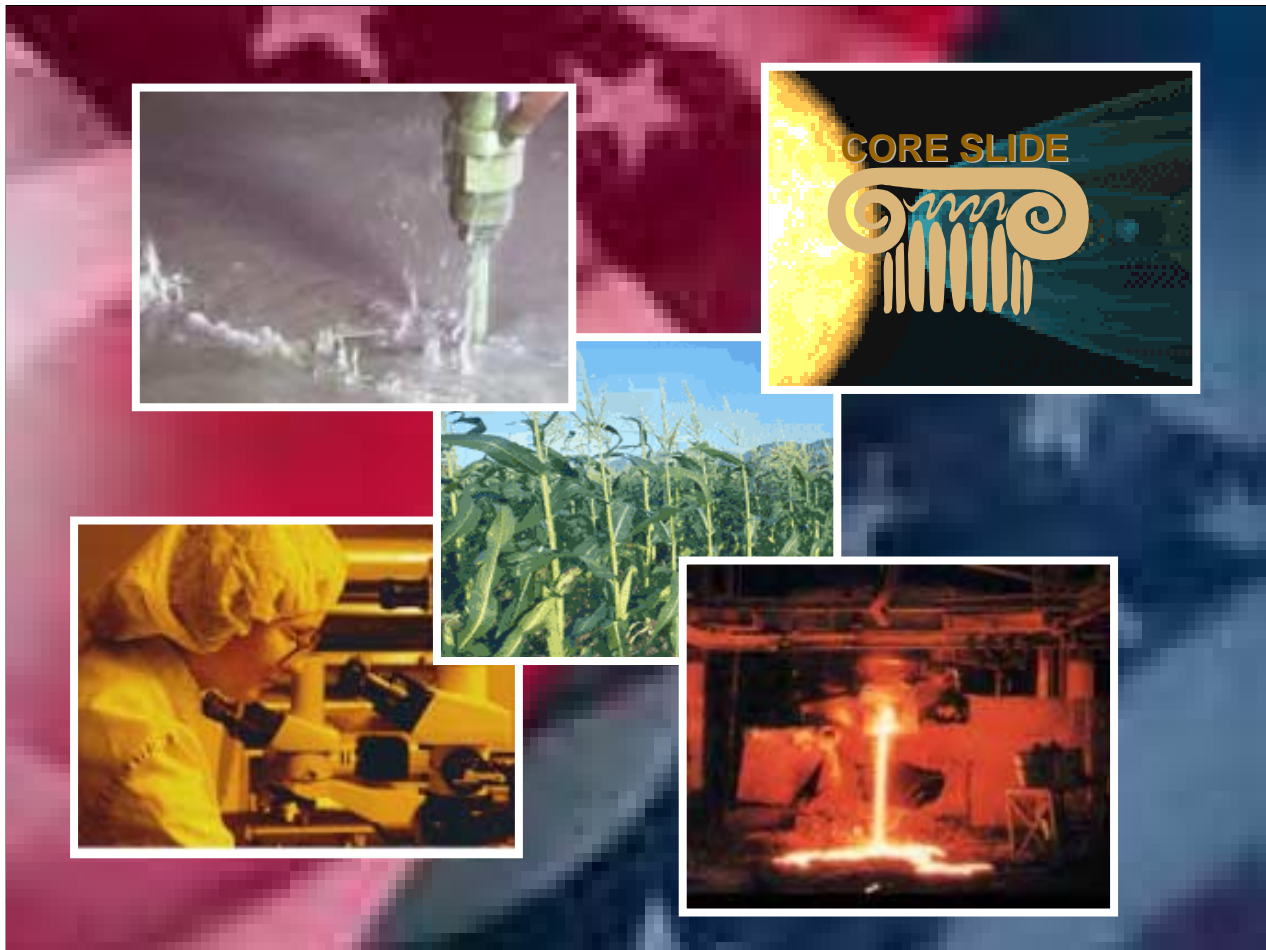
I appreciate the opportunity to speak with you today ... to talk with you about Ohio's changing economic landscape ... and about the choices Ohio and its leaders need to make as we move into a new century.

It is no exaggeration to suggest that Ohio today stands at a crossroads ... and that the choices we make will determine our future here in America's heartland.

Some years ago ... Woody Allen began a graduation speech with these words: "More than at any other time in history, mankind faces a crossroads. One path leads to despair and utter hopelessness. The other, to total extinction. Let us pray we have the wisdom to choose correctly."

The good news today is that Ohio's choices are much better.

In fact, if we choose correctly ... Ohio can build on its heritage of innovation and national leadership ... and its citizens can enjoy economic success and a bright future.



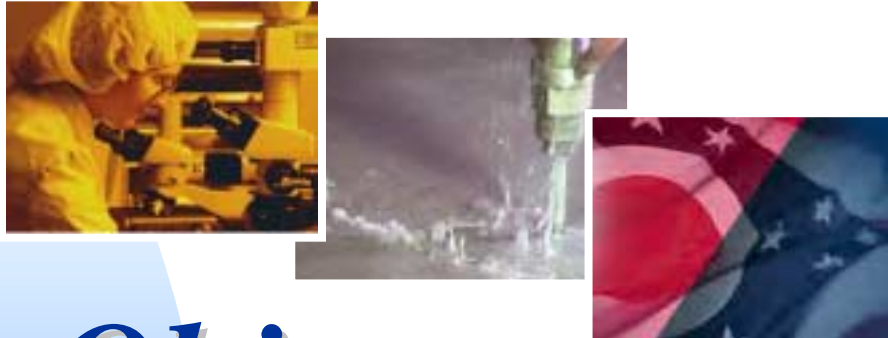
**Ohio begins the 21st century in a different economic setting.**

**A new, knowledge-based economy is emerging ... growing along side and transforming the agricultural and manufacturing economies that have dominated our state for the past 200 years.**

**Innovative technology and knowledge-based businesses are reshaping our economic landscape ... changing the way we do business ... and redefining the forces that contribute to economic success.**

## Success Strategies for the Knowledge Economy

---



***Ohio . . .***  
***A heritage of leadership.***  
***Preparing for a bright future.***



With this changing economy ... Ohio and its leaders must make some important choices about how we are going to provide a better education for more of our citizens ... how we are going to build our capacity to train the knowledge workers who will fill the high-skill, high-wage jobs that will be used to measure our future prosperity ... and how we are going to build the technology sector that will reinforce Ohio's agricultural and manufacturing base and make our economy stronger and more competitive.

Our challenge is clear: To make the choices that will prepare Ohio to be a fierce competitor in the knowledge economy ... to capitalize on our heritage of leadership ... and to prepare for a bright future.

Those choices are what we want to talk about today.

## OHIO'S RICH HERITAGE

# Advancing America's Frontier

### 19th century economy

- u Agricultural abundance
- u The nation's transportation crossroads



### 20th century economy

- u Leader in manufacturing
- u Influx of workers for jobs
- u America's center of innovation

*Ohio: A heritage of leadership ...*

As Ohio looks toward its bicentennial in 2003, we are reminded of its strong pioneer tradition ...

u Of the settlers who populated the Ohio Valley more than 200 years ago ...

Of the productive farmers who provided exports to help a new nation's economy ...

Of the the immigrants who flooded into Ohio in the 19th century ...

u Of the great 20th century industrialists who laid the foundations for a new economy ...

And of the creative entrepreneurs like Kettering, the Wright Brothers, and Goodyear who made Ohio America's center of innovation.

# Ohio's Third Frontier

---



*“We are the pioneers of Ohio’s third frontier – a frontier of exploration and discovery where knowledge is king.”*



**Governor Bob Taft**  
State of the State Address  
February 2002

*Ohio: A heritage of leadership ...*

To be sure ... times have changed.

That’s why Governor Bob Taft ... in his State-of-the-State address this year ... reminded us that technology, talent and capital are now the core drivers of economic success ... and that Ohio is not moving fast enough to keep pace on this “Third Frontier” of exploration and discovery ... where knowledge is king.

Gov. Taft set a bold agenda for expanding Ohio’s knowledge generating and high-tech research capabilities ... but, it does NOT mean that we can abandon the past.

To contrary, we must blend our current assets with those that need to be developed as we take a giant stride forward to Ohio’s Third Frontier.

# Preparing for the Future

---

- u What are Ohio's economic challenges today?
- u How is the Knowledge Economy different?
- u What will it take to lead in the 21<sup>st</sup> century's Knowledge Economy?



*Ohio: Preparing for the future*

To succeed in this new economic setting, Ohioans need a better education. They must have advanced job skills that have been ratcheted up throughout our society. And they must have access to the benefits of research universities whose discoveries will lead to the creation of new jobs and fuel economic growth.

So today ... I want to explore three critical questions with you.

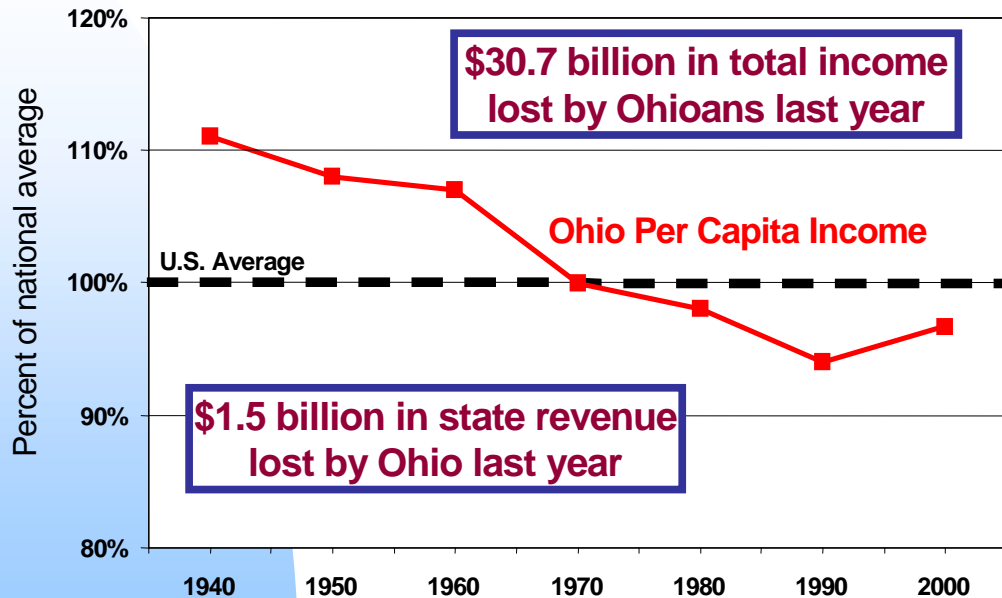
- u First, what are Ohio's economic challenges today?
- u Second, how is the Knowledge Economy different?
- u And third, what will it take to lead in the 21<sup>st</sup> century's Knowledge Economy?



In the heyday of the industrial era, Ohio could compete with anyone ... and most Ohioans believe that this is still the case ... that we are continuing to do well ... and that our state is still among the nation's leaders.

## TRAILING THE NATIONAL AVERAGE

# Ohio's Income Growth



Sources: U.S. Census Bureau, 2000;  
Office of Budget & Management, 2000

*Ohio: Preparing for the future*

But the fact is ... those days have passed.

u As recently as the 1960s, Ohioans' average per capita income was well above the national average. That began to change in the 1970s, and Ohioans' per capita income is now below the national average.

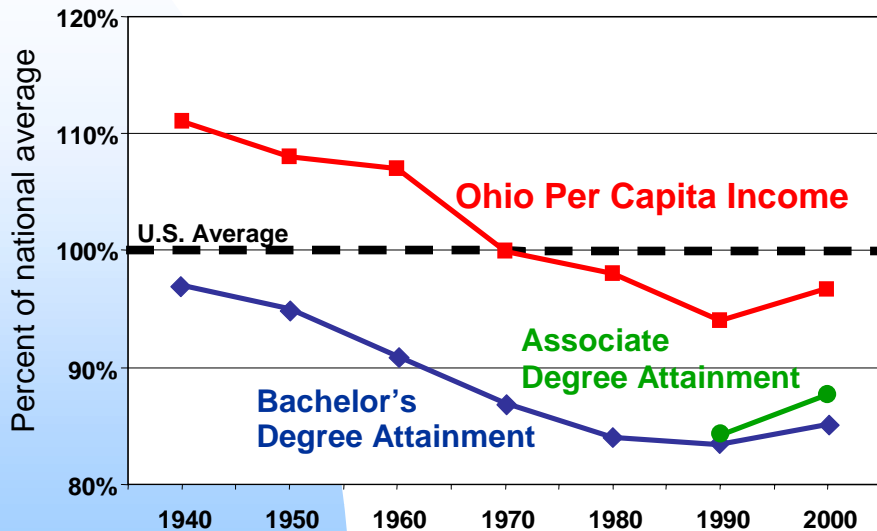
This year, every man, woman and child in Ohio is earning almost \$2,400 less than the average American.

This is why the Governor and other Ohio leaders have called for a new economic growth strategy ... u one that reverses the \$30.7 billion loss in Ohioans' total personal income during just the past year ... u and that restores the estimated \$1.5 billion lost in state revenue during the past Fiscal Year.

That's \$1.5 billion ... more than enough to pay for court-mandated school funding ... and more than the State of Ohio spent last year on healthcare services for infants and toddlers to ensure that these children have a safe and healthy start in life.

## CONFIRMING THE CONNECTION

# Income and Education



*Compared to the national average, per capita income has paralleled the percent of population with a bachelor's degree.*

Source: U.S. Census Bureau, 2000

*Ohio: Preparing for the future*

What's the source of the problem? Why has Ohio's economy declined relative to those of other states?

We don't have to look very far for an answer.

u As we can see in this graphic ... compared to the rest of the nation, Ohioans' per capita income has fallen and risen at the same rate as the percentage of the state's population with a bachelor's degree.

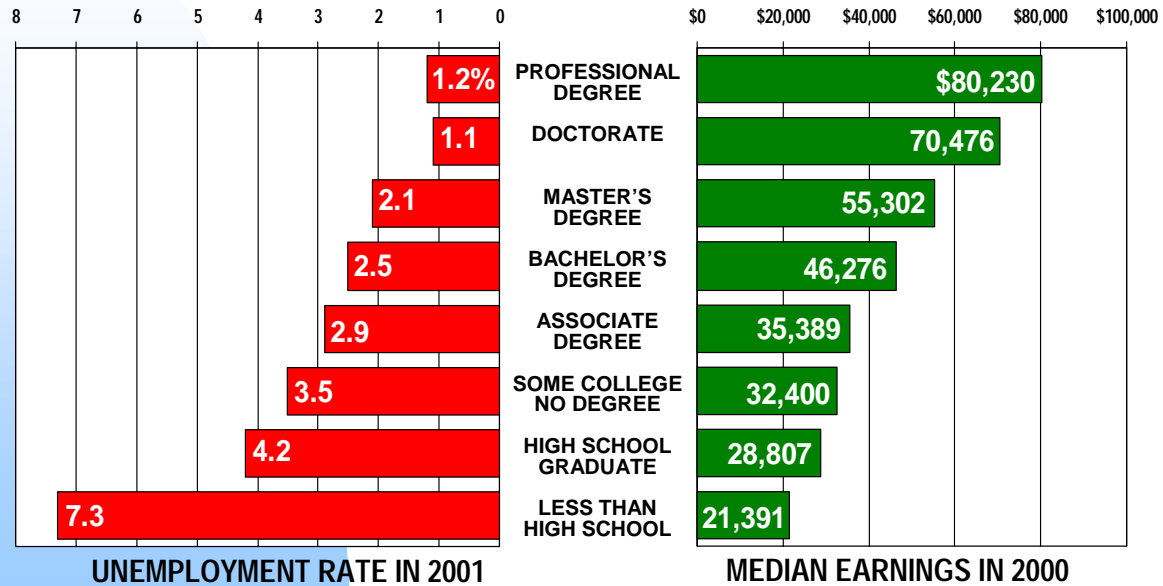
u And while comparable data have only been available since the early 1990s ... and even with a substantial increase in the last decade ... we are substantially below the national average in Associate Degree attainment ... an increasingly important degree in a knowledge- and idea-based economy.

Simply put ... in an economy that is increasingly dependent on knowledge and skill, Ohio is becoming ... in a relative sense ... less educated ... and less competitive.

## HIGHER LEARNING

# Equals Higher Earning

In today's world, those with a higher education will benefit most.



Source: Postsecondary Education OPPORTUNITY

*Ohio: Preparing for the future*

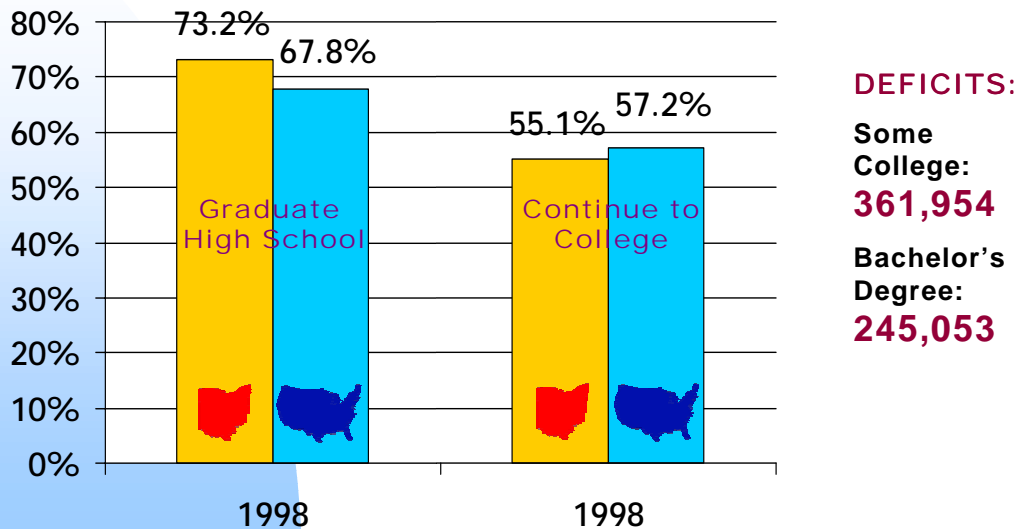
If more evidence is needed, consider the relationship between learning and earning.

u Ohioans with the most education are in the greatest demand ... they are the highest paid ... u and they are the least likely to experience unemployment.

This fact forces us to modify the old adage about the rich getting richer and the poor getting poorer. Today the most educated people are earning higher salaries, while those who are not well educated are falling further and further behind.

## EDUCATIONAL ATTAINMENT

# Where Ohio Stands Today



Source: U.S. Census Bureau 2000, Postsecondary Education Opportunity

*Ohio: Preparing for the future*

Let's look at the problem a bit more closely.

- u At the elementary and secondary levels ... Ohio's performance ... measured in terms of high school graduation ... is above the national average.

- u But in higher education ... Ohio has a serious education deficit. Our citizens are participating in and earning degrees at a lower rate than the national average.

In recent years, these gaps have been closing. In fact ... we are approaching the national rate.

But the historic problem is serious ... reflecting three generations during which too many of our young people ignored advanced education.

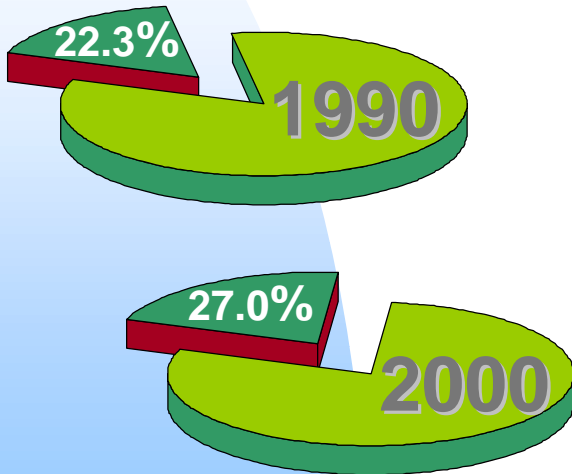
- u Just to reach the national average ... more than 361,000 Ohioans would have to complete some college work. And the deficits for colleges graduates ... for two- and four-year degrees are almost as large.

It's important to put these numbers in context. 361,000 is about the current capacity of Ohio's colleges and universities. And that's roughly the population of Canton, Massillon and the rest of Stark County (378,098).

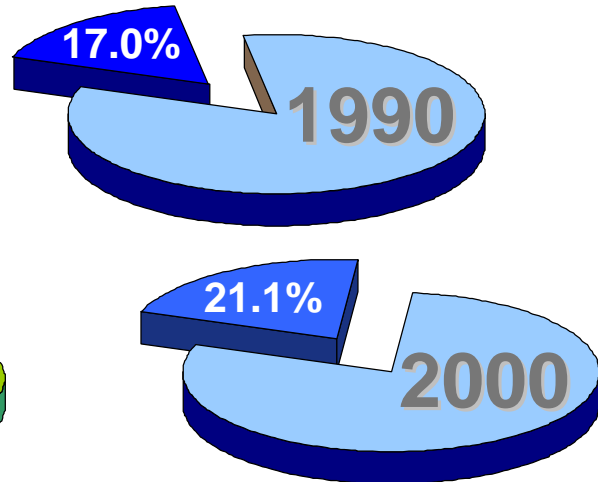
## EDUCATION LEVELS IN OHIO

# Improvement in the '90s ...

Percent of Ohioans with  
**Associate Degree or Higher**



Percent of Ohioans with  
**Bachelor's Degree or Higher**



Source: U.S. Census Bureau 1990, 2000

*Ohio: Preparing for the future*

Ohioans are getting the message ... and we are doing better.

More of our citizens are going to college ... and a growing percentage of our population is completing degree requirements.

IMPROVEMENT, BUT . . .

## Ohio Hasn't Made Up Ground

### Percent of population with a bachelor's degree

1. Connecticut	27.2%	1. Massachusetts	33.2%
2. Massachusetts	27.2%	2. Colorado	32.7%
3. Colorado	27.0%	3. Maryland	31.4%
4. New Jersey	24.8%	4. Connecticut	31.4%
5. Virginia	24.5%	5. New Jersey	29.8%
...		...	
<b>39. OHIO</b>	<b>17.0%</b>	<b>39. OHIO</b>	<b>21.1%</b>
40. Iowa	16.9%	40. South Carolina	20.4%
41. South Carolina	16.6%	41. Oklahoma	20.3%
42. Louisiana	16.1%	42. Tennessee	19.6%
43. Tennessee	15.9%	43. Indiana	19.4%
44. Alabama	15.6%	44. Alabama	19.0%
45. Indiana	15.6%	45. Louisiana	18.7%
46. Nevada	15.3%	46. Nevada	18.2%
47. Mississippi	14.8%	47. Kentucky	17.1%
48. Kentucky	13.6%	48. Mississippi	16.9%
49. Arkansas	13.4%	49. Arkansas	16.7%
50. West Virginia	12.3%	50. West Virginia	14.8%

Source: U.S. Census Bureau 1990 Census, 2000 Census

*Ohio: Preparing for the future*

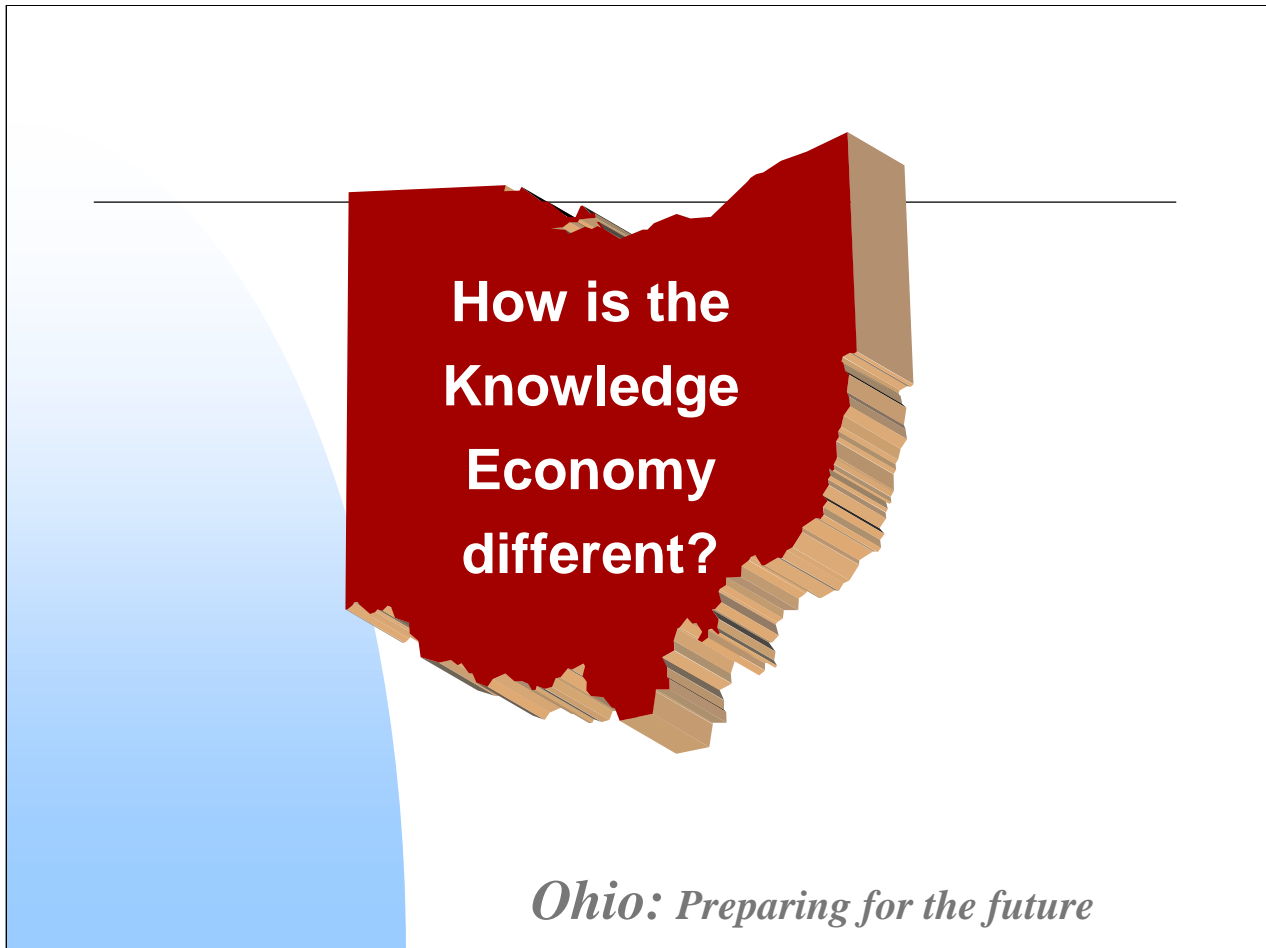
But better is not good enough.

In fact, during the past decade, our higher levels of participation and degree attainment have allowed us only to keep pace with other states.

u In 1990, Ohio ranked 39th out of 50 states in the percent of its citizens with a bachelor's degree.

u Today, we are still 39<sup>th</sup>. We are not catching up with the nation's leaders.

This is NOT good news ... and its implications for Ohio's future economic success may be more serious than we think.

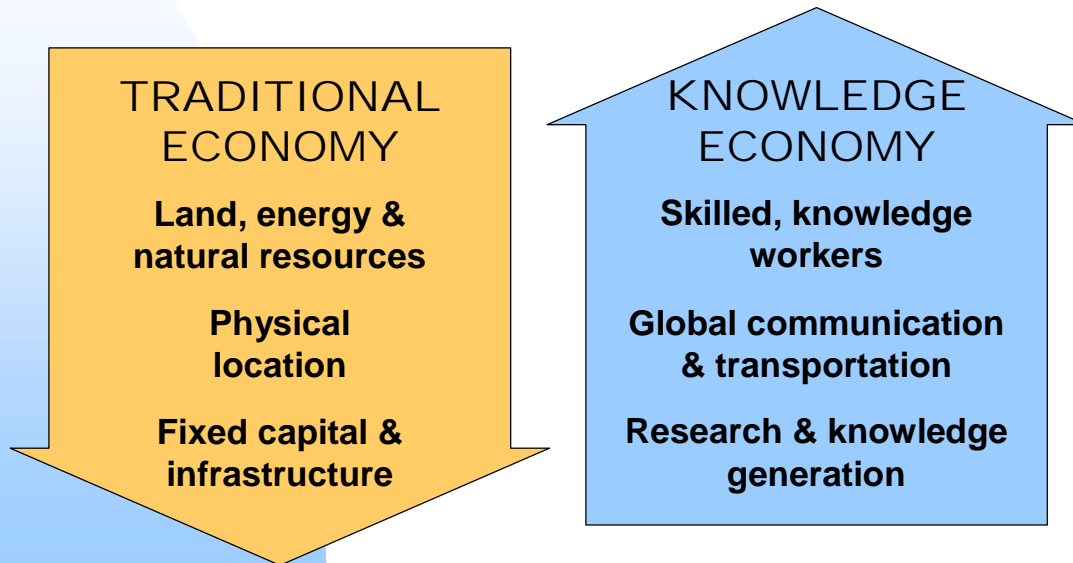


The explanation for this is found in the emergence of a new economy ... a Knowledge Economy that places a premium on what people know and are able to do ... a Knowledge Economy that will define Ohio's Third Frontier.

IT'S A DIFFERENT ECONOMIC GAME . . .

# The Knowledge Economy

## #1: SOURCES OF ECONOMIC SUCCESS



*Ohio: Preparing for the future*

How will the Knowledge Economy change the economic game? How will it redefine Ohio's economic advantages ... and affect our future success?

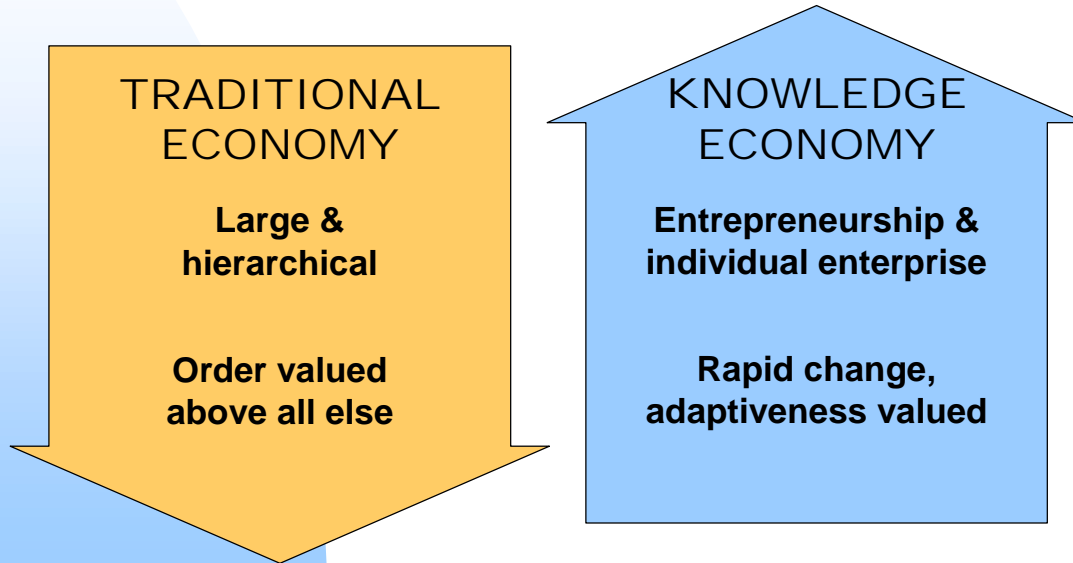
u Certain factors, highly valued for success in the traditional economy, are less important today. u And other factors, either less valued or not even considered in the past, are now deemed critical to success in the Knowledge Economy.

Success today will require well-educated, skilled workers ... targeted investments in advanced communication and transportation systems and in other areas of technological innovation ... and a strong research capacity that contributes to the creation of new businesses and new jobs, in such sectors as advanced manufacturing, biotechnology and information technology.

IT'S A DIFFERENT ECONOMIC GAME . . .

# The Knowledge Economy

## #2: ORGANIZATIONAL FACTORS



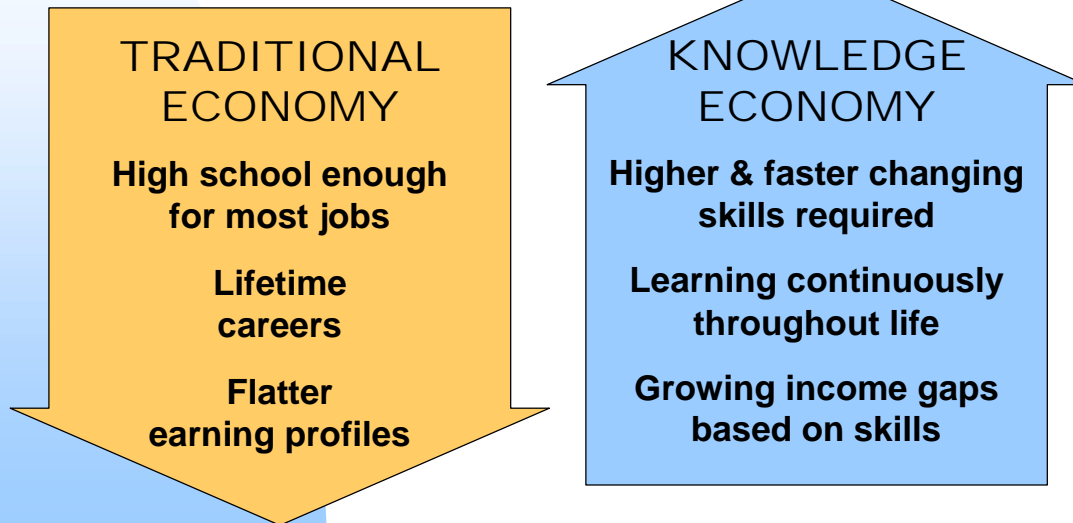
*Ohio: Preparing for the future*

Success in the Knowledge Economy also will demand new kinds of businesses ... agile, entrepreneurial companies with the capacity to change rapidly ... and to adapt to new opportunities and environments.

IT'S A DIFFERENT ECONOMIC GAME . . .

## The Knowledge Economy

### #3: LEARNING AND EARNING



*Ohio: Preparing for the future*

And success will depend upon workers who can meet higher and rapidly changing skill requirements ... who value learning and are able to make it a priority throughout their lives.

And all of the evidence today points to growing income gaps based on people's knowledge and skills.

Stated very simply ... the connection between learning and earning is going to be stronger than ever before.

## THE KNOWLEDGE ECONOMY

# Changing How We Do Business

Agriculture  
Fremont



Steel fabrication  
Lorain



Food processing  
Orrville



Insurance  
Cincinnati



Auto manufacturing  
Central Ohio



*Ohio: Preparing for the future*

But Ohio's future will not be defined solely by our success on the leading edge of technology.

A growing number of Ohio businesses are shaping their success by applying innovative technologies to the way they do business ...

- u A farmer in Fremont who administers pesticides and fertilizers based on a satellite global positioning system's analysis of soil types and conditions ... which cuts operating costs, protects the environment and increases crop yields.
- u An insurance company in Cincinnati that uses digital communication to drill through layers of bureaucracy and achieve greater operating efficiency ...
- u Automobile manufacturers in Central Ohio and elsewhere in the state that improve productivity and profitability by uniting far-flung supplier networks and enabling globe-spanning collaboration ...
- u A food processor in Orrville that is working with the state's research universities to stop fruit spoilage and prevent food-borne bacterial infections ...
- u And a steel fabricator in Lorain that uses computer-aided manufacturing technology to save energy and cut costs.

THE KNOWLEDGE ECONOMY ...

## It's Growing in Our Community



High-tech business incubators



Retail order processing

Architectural firm



*Ohio: Preparing for the future*

Changes in the way we do business can be seen in communities here in this region.

- u Several tenants of a technology-oriented business incubation park employ engineering graduates through a university co-op program. The 40 client companies there have in the past year collectively generated more than \$26 million in revenue, gathered more than \$11 million in equity capital and generated in excess of \$9 million in payroll.
- u A major national retailer implemented new order-processing software and instituted a workforce training program with a community college to decrease order-processing cycle time.
- u And, an area architectural firm improved profitability by decreasing project design cycle time up to 20% through advanced computer-aided-design software training.



What will it take for Ohio to build on these individual success stories ... and to make our state a leader in the 21<sup>st</sup> century's Knowledge Economy?

WHAT DOES IT TAKE TO LEAD?

## #1: Invest in People



- A. Higher educational aspirations.
- B. Increased levels of college degree completion.
- C. Well-trained knowledge workers to fill high-skill, high-wage jobs.
- D. Continuous learning.

*Ohio: Preparing for the future*

Most critically ... it will require investments in people ... investments that ignite their minds and extend their skills ... that allow them to succeed in the classroom, in the workplace and throughout their lives.

- u To lead ... we must raise Ohioans' educational aspirations ...
- u and increase levels of two- and four-year college degree completion.

Today, organizations like the Ohio College Access Network are making significant inroads on these issues where communities have united to establish local programs that remove the social and cultural barriers to advanced education ... that make college more accessible and affordable to more Ohioans.

- u We also need a new emphasis ... and a greater sense of urgency ... in the area of workforce training. Without action here, high-skill and high-wage jobs will be created someplace else -- not in Ohio.

The Governor's Workforce Policy Board is addressing many of the training needs of Ohio's workers.

- u And we need to create new opportunities for people to learn throughout their careers and lives. And we must encourage people to take advantage of these opportunities because today's economy demands continuous learning.

WHAT DOES IT TAKE TO LEAD?

## #2: Invest in Research/Innovation



- A. Create new products, companies and jobs through research, technology transfer and commercialization.
- B. Support knowledge-based industries.
- C. Reclaim Ohio's entrepreneurial spirit.

*Ohio: Preparing for the future*

As a second step ... we need to invest in research ... and we need to reclaim Ohio's heritage as the nation's innovation leader.

- u This means a new emphasis on research, as well as technology transfer and commercialization, which creates new products, innovative companies and new jobs.

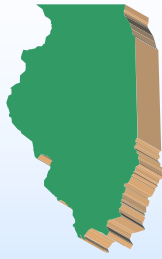
- u And it also means support for knowledge-based industries ...

- u and a new emphasis on entrepreneurial activity.

- u This is what Ohio's Third Frontier initiative ... with its emphasis on technology, talent and capital ... is all about. By building upon this foundation, Ohio can prepare itself to compete in those economic sectors where the most significant growth is expected to be. And it can position itself to be a leader in the Knowledge Economy.

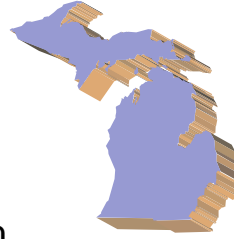
## NEW ECONOMIC GROWTH STRATEGIES

# Defining the Game



### **Illinois ...**

Investing in biotechnology, information technology and university research



### **Michigan ...**

Creating a “life sciences corridor”

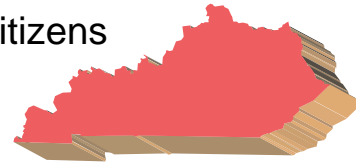


### **North Carolina ...**

Improving the skills of the workforce

### **Kentucky ...**

Transforming the educational achievement of its citizens



*Ohio: Preparing for the future*

In each of these areas ... Ohioans can point with pride to many recent accomplishments ... all of which confirm that we are beginning to close our education and research gap.

But other states are still pulling away as they respond aggressively to the new challenges of the next economy.

They are defining the game. For example ...

- u Illinois is making significant investments in biotechnology ... information technology ... and university-based research.
- u North Carolina is a national leader in education reform ... and preparing its citizens for an economy that values advanced skills and technology.
- u Michigan is creating a “life sciences corridor.”
- u And Kentucky is transforming all aspects of its education system ... and improving the skills of its workers.

# Meeting the Challenge

---

Ohio's future prosperity depends upon ...



Our ability to become one of these “early adopter” states.



Our willingness to build the capacity of our universities and colleges to generate scientific and technological breakthroughs.



Our success in meeting the challenge to educate workers.

*Ohio: Preparing for the future*

u Ohio's future prosperity depends upon our ability to take risks ...  
u to become one of these “early adopter” states.

u It depends on our willingness to invest in our universities and colleges ... to build their capacity to generate scientific and technological breakthroughs.

u And, it depends on our success in meeting the challenge to educate workers ...

# Meeting the Challenge

---

*“I’ve been going to college for two years.  
I’m going to become different, educated.  
It’s like a two-class system in this  
country. You’re educated or not.”*

**Walter Burns**

46-year-old coal miner

Source: New York Times, June 17, 2002

*Ohio: Preparing for the future*

... to fulfill the dreams of people like Walter Burns ... a 46-year-old coal miner who recently told the New York Times:

u “I’ve been going to college for two years. I’m going to become different, educated. It’s like a two class system in this country. You’re educated or not.”

# Ohio Will Be A Pathbreaker

*By 2003 . . .*

- u *Create a bold strategy for generating jobs and strengthening colleges and universities to make Ohio a fierce competitor in the 21<sup>st</sup> century's Knowledge Economy.*

*By 2006 . . .*

- u *Reduce Ohio's education deficit by 25%.*
- u *Increase business/federal R&D in Ohio by 40%.*
- u *Move from 30<sup>th</sup> into the Top 20 of Knowledge Economy states.*

*By 2010 . . .*

- u *Be a pathbreaker in knowledge and technology, creating benefits for generations of Ohioans to come.*



*Ohio: Preparing for the future*

But we must do more. We must reach ... for a vision of what we want for Ohio.

Consider this.

u **By 2003** ... Ohio will have a bold, new strategy for creating jobs, boosting prosperity, and strengthening the unique assets of its colleges and universities ... for making Ohio a fierce competitor in the 21st century.

u **By 2006** ... Ohio will have reduced its education deficit by 25 percent.

We'll see a 40 percent increase in business and federal research and development in Ohio.


And Ohio will move from **33rd** into the top 20 in the ranking of Knowledge Economy states.

u **And by 2010** ... Ohio will be a pathbreaker in knowledge and technology ... a recognized leader on America's Third Frontier.

Achieving this vision will require partnerships that allow business, industry and higher education to work together for a common purpose ... leaders who understand that the way we do business is changing ... engaged communities that take advantage of the programs of local two- and four-year colleges and universities ... and a commitment to research that turns great ideas into innovative products and services.

## WHAT ELSE DOES IT TAKE TO LEAD?

# It Takes YOU!

- u Help organize a Community Leaders Meeting to create a Community Scorecard and build an Action Agenda for your community.
- u Join the Ohio Innovation Alliance – a new partnership to make Ohio a leader in the Knowledge Economy.
- u Support Ohio's Third Frontier initiative. 
- u Plan to participate in Ohio's Statewide Economic Summit being planned for early 2003.
- u Learn more about Ohio's Knowledge Economy.  
[www.OhioKnowledgeEconomy.org](http://www.OhioKnowledgeEconomy.org)

*Ohio: Preparing for the future*

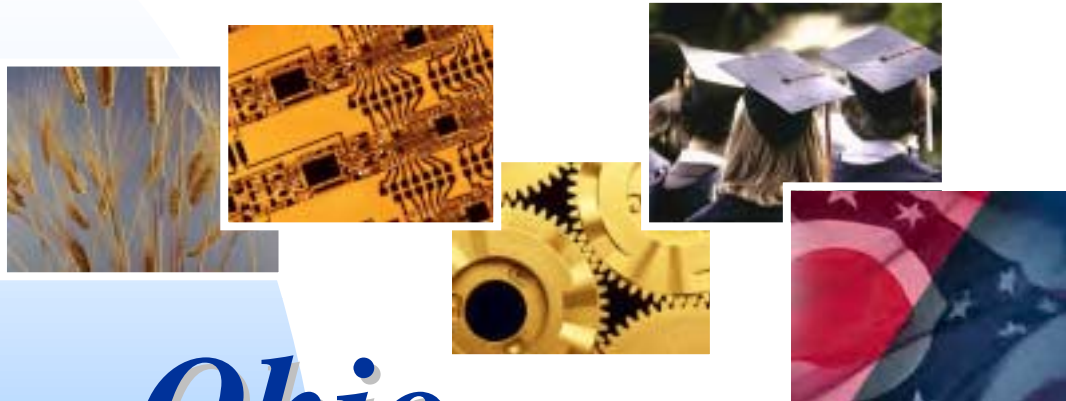
But it will require more.

It will require business, education and community leaders who understand the challenges and opportunities of the Knowledge Economy ... who know the unprecedented value of higher education ... and who are willing to ACT upon that knowledge.

That is why we are asking you to make five choices ... and to take five actions.

- u **First**, help organize a community leaders meeting. Share with others what you know about our changing economic landscape. Find out if your community is ready for the Knowledge Economy ... and if not, what it will take to make your community ready.
- u **Second**, join in a statewide public/private partnership that's being formed to make Ohio a leader in the Knowledge Economy.
- u **Third**, make sure that you are familiar with Ohio's Third Frontier initiative ... and help in building support for this new economic growth agenda.
- u **Fourth**, plan to participate in the statewide Economic Summit that is being planned now for early 2003. Get involved in planning and preparing for the summit.
- u **And fifth**, learn more about Ohio's Knowledge Economy ... and about what we can do to choose a better future for Ohio.

## Success Strategies for the Knowledge Economy



***Ohio ...***  
***A heritage of leadership.***  
***Preparing for a bright future.***



The vision that we have set out in this presentation can be achieved only if people like you are willing to join forces ... and to get serious about Ohio's future.

That agenda also will have to include some new solutions that are fully responsive to the emerging Knowledge Economy.


It is told that Albert Einstein once distributed an exam to his graduate students. As he passed it out, his secretary cautioned: "Professor, these are the same questions you asked last year." Einstein acknowledged her objections and then said: "It's all right. The questions are the same, but the answers are different."

Like Einstein's physics ... today's economy is different ... very different from that of the 19th and 20th centuries.

It calls for new answers ... and new choices.

What we are asking you to do is to help us make those choices ... and to help us prepare Ohio for a bright future.

Thank you.



Success Strategies for the Knowledge Economy

*Ohio . . .*

*A heritage of leadership.*

*Preparing for a bright future.*