

## About this report...

This is the fourth in a series of reports by the Business/Higher Education Partnership, an association of business executives from the Florida Council of 100 and leaders of Florida's state universities, community colleges, and independent colleges and universities. Our earlier reports focused on the challenge of providing adequate financing and access; this one takes on a new set of issues.

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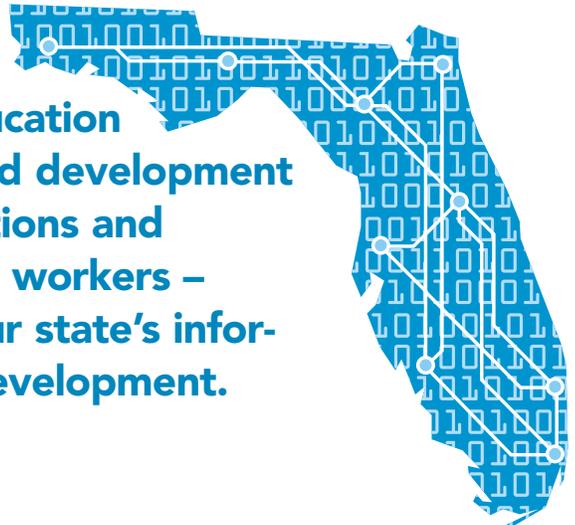
*Six ways our higher education system can make a difference in the next decade.*

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# Opportunity 2000: A New Agenda

## SUMMARY

**Use Florida's higher education system – its research and development capacity, new collaborations and training of highly skilled workers – as a lead element for our state's information-age economic development.**



## SPECIFICS



Seek greater state and federal funding for university research.



Create consortia in Southeast and North Florida to match the success of the Florida High-Tech Corridor.



Strengthen the statewide impact of our largest research universities.



Center the training and retraining of information-age workers in the community college system



Increase the percentage of college graduates in Florida's workforce. Use the capacity of independent colleges to do so by continuing to increase the Florida Resident Access Grant



Continue progress on the Business/Higher Education Partnership's original agenda – adequate funding and access, tuition and scholarship increases, efficiency and productivity.

## HIGHER EDUCATION: FROM CRISIS TO INFORMATION-AGE RESOURCE

**W**hen the Business/Higher Education Partnership began its work five years ago, it was in an atmosphere of crisis. Higher education's share of the state budget had been declining all through the 90s. A wave of high-school graduates was headed toward the system. Unchecked, we thought, these trends could easily lead to a crunch in which access to or quality of post-secondary opportunity for Floridians were badly compromised.

### PREFACE

That catastrophe has been forestalled. We will credit ourselves, modestly, for a timely warning and appropriate recommendations. But, more to the point, we thank Governors Chiles and Bush, successive legislatures (aided by a robust economy) for five successive years of healthy growth in higher education funding. Tuition has increased steadily as we suggested. Private benefactors have pitched in for buildings and endowed professorships. The public universities have realized operating efficiencies through privatization and materially increased their degree productivity. We're serving 7,000 more Floridians in our independent colleges than we

were back then. There is no cause for complacency, however. Florida still has too small a proportion of its citizens earning a baccalaureate degree. And that is because we are one of the worst states in the nation at getting 18- and 19-year-olds through high school ready to do college work. (That problem of K-12 educational quality is itself being addressed vigorously on a number of fronts). But Florida's public and private colleges and universities have progressed and strengthened – the system is robustly serving a growing student population and poised to grow some more.

So we suggest a new view at the start of a new decade. Let's regard our higher education system – the universities, community colleges and independents – not solely as a problem to be fixed but a resource on which we can aggressively capitalize. We suggest to legislators, other decision-makers and interested Floridians the following as a top priority for this year and next:

**Use Florida's higher education system – its research and development capacity, new collaboration, and training of highly skilled workers – as a lead element for our state's information-age economic development. ■**

## A NEED AND AN OPPORTUNITY

If a newcomer to Florida turned up in Tallahassee and asked to see Florida's industrial policy for the digital era, what would he find? Consultant Tom Lipscomb did roughly that early this year. What he turned up was unsurprising – a bunch of promising beginnings, some knowledgeable people within and outside the Enterprise Florida complex and a sense in many quarters that Florida could be well-positioned to ride the next wave of technology-led growth.

But we would be hard-pressed yet to claim a comprehensive, well-integrated set of policies for Florida (though Governor Bush's [it.florida.com](http://it.florida.com) study commission is at work on just that). There is nothing wrong with that given the pace at which internet commerce is taking off compared to the typically slower pace of government and institutional change. But the clock is ticking as competitor states formulate their answers to the same questions.

This general sense of where Florida stands animates our recommendations. Plenty of important matters, like alternative

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**We must create a place where Floridians can flourish... where they can grow and prosper.**

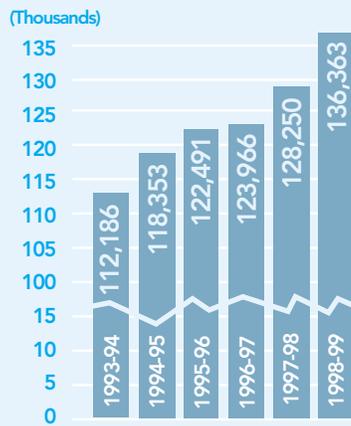
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– Governor Jeb Bush, *State of the State Address*, March 7, 2000.

## State University System Operating Budget History



## State University System Annualized FTE Enrollment



**To be a leadership economy, Florida must learn to compete nationally and internationally by adding value to products and services, not simply on the basis of low cost.**

— Cornerstone report. Florida Chamber, 1989

ways of increasing bandwidth, we leave to the judgment of others. The it.florida.com commission filed its initial report just last month recommending, among other things, a range of actions to modernize state government operations, permitting and taxation. We focus our suggestions on the crucial role higher education can and should play plus some readily identifiable steps Florida can take to get where it needs to go.

Several studies more formal than ours have reached the same conclusion. The Board of Regents most recent five-year plan was most often discussed in newspaper accounts for its somewhat controversial designation of differentiated university missions. But the plan also prominently recommends that we spend these next several years building research and graduate education capacity, collaborations among the universities and relationships with strategic clusters of growing industries. All of these are among the recommendations that follow. Similarly the community colleges retain their role as the entry point for many to take the first two years of college courses and for some general educational functions in their communities. But the special focus in the current strategic plan is on workforce training, through two-year technical degrees, shorter-term special certificate programs and retraining of older workers. The Postsecondary Education Planning Commission, which did its own planning on the same cycle as the two systems, endorsed these same priorities.

We also note a host of studies concluding that Florida's population growth and the accompanying economic vitality mask some weakness in generating high-wage, high-tech jobs. That was the essential finding of an influential Cornerstone study by SRI International, commissioned by the Florida Chamber just over a decade ago and being updated this year. A nationally known demographer has found that Florida is extraordinary in generating 1.2 jobs for each worker who moves here (suggesting that many retirees, young people and women have been going to work in some capacity). Enterprise Florida completed its own detailed study in January, finding once again that Florida is prodigious in job creation generally (a strength) but average or lagging at the higher wage end of the job spectrum. Enterprise Florida proposes to address the issue with further strategic planning, but the case for nurturing the right kind of growth is obvious.

Strong university research is a pillar of Silicon Valley itself; it is paying off for Cambridge, Massachusetts, where \$1 billion in commercial biotechnology office and research space is under construction, and in the Research Triangle, where a collaboration of three universities and focused economic development has produced the nation's lowest unemployment rate. Florida universities have had their share of successes too. These include: a brain research institute at the University of Florida medical school, commissioned a decade ago still being built out; and the National High Magnetic Field Laboratory in Tallahassee, a collaboration of Florida and Florida State University, now headed into its second federal funding cycle. Florida and FSU are both in the top 50 universities in patent income, FSU outpacing such schools as Stanford and Yale thanks to the cancer drug Taxol. And as Governor Bush noted in an interview this January, Florida's commercial high-tech sector, while geographi-



cally dispersed is considerable and fast growing. In recent months, entrepreneurs in South Florida have launched Internet Coast (a business development association informally structured like the net itself) and some of them who have sold their first businesses upstream are putting together an incubator in Boca Raton to launch new E-businesses.

But rather than focus on scattered instances of promising developments, let us shift now to consideration of a single project in which all the elements came together with dramatic success: the Florida High Tech Corridor (sometimes known informally as the I-4 Corridor).

## A SUCCESS AND ITS LESSONS

Five years ago Florida was in a head to head internal competition at Lucent Technologies for a huge new semi-conductor manufacturing facility. Spain had \$90 million in public subsidies on the table to capture the \$700-million facility. Florida could not match that but came up with a counter proposal Spain could not match, a formal research partnership with two nearby universities, The University of Central Florida and the University of South Florida. That arrangement plus a more modest tax incentive carried the day for Florida. And besides the original facility a \$300-million addition and second \$700-million plant have followed – \$1.7 billion of building in all.

The collaboration between the two universities and Lucent’s Cirent manufacturing subsidiary provided the impetus for formation of the Florida High-Tech Corridor, a fast-blossoming four-year old enterprise with successes too diverse and numerous to chronicle here. It has given birth to joint research collaborations with more than 100 other companies. It is an umbrella

for economic recruiting with participation local development authorities from the Space Coast to St. Petersburg. Valencia and other nearby community colleges were involved from the start in training workers for the new factory; that worked so well the colleges now have a \$1.2 million National Science Foundation grant to develop a model program for training micro-chip workers. All this was done for a direct state subsidy of less than \$1 million a year, plus the sales tax waiver that Cirent has directed back into university research. The multiplier effect on the region’s economy is formidable.

There are lessons obvious and not so obvious in the corridor collaboration’s success, according to Peter Panousis, CEO of Cirent and a partnership director, who briefed us last fall. It came together under the spur of an opportunity – and a big one – and thus commanded his commitment and that of the two university presidents. For this particular project so many on-site meetings were required that geographic proximity was important, and so it mattered that USF and UCF were each only about an hour away. The project, also by its nature, succeeded in weaving in a strong workforce development component involv-

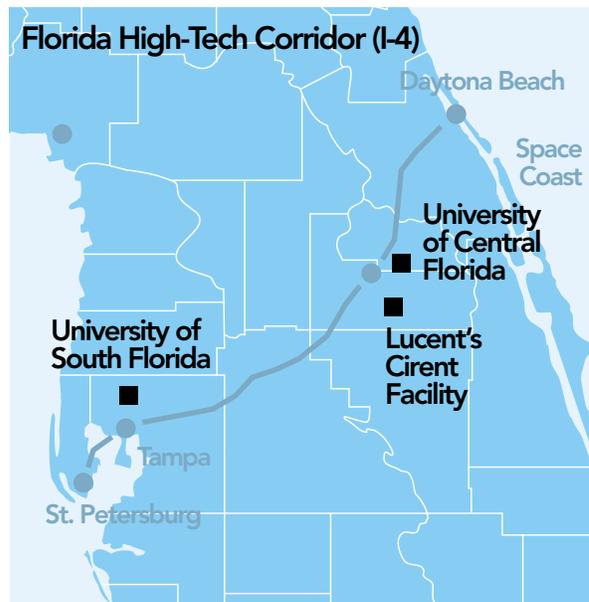


**Florida is a “virtual job engine” says Sena Black, senior vice president of marketing and information for Enterprise Florida and author of a new study on Florida’s economic competitiveness. But the state has a dismal record when it comes to developing good, high-paying jobs. Even high-tech jobs, typically touted for their high-wage potential, pay at rates “substantially below the national average” in Florida and lower than most of its competitor states.**

**Another finding that should come as no surprise: The bulk of Florida’s jobs are less “knowledge-based” than jobs in competing states. “The quality of our jobs leaves something to be desired,” Black concedes.**



– Florida Trend, March 2000





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**Research directed toward specific problems has become an economic engine, driving productivity in the global market.... During the next five years the SUS should increase state and local government support for R & D by 25 percent.**

”  
– State University System’s Five-Year Strategic Plan, 1998

ing community colleges and the connection of relevant economic development authorities. And UCF and USF have found the collaboration an exercise in expanding the research pie rather than a competition for what they were doing individually.

Florida is a big enough state with enough universities that there is obvious appeal to doing the same sort of thing elsewhere. Southeast Florida has the geographic compactness, four research universities (Florida Atlantic, Florida International, Miami and Nova Southeastern) and a robust complement of mid-sized high-tech companies. North Florida, although more spread out, has the state’s two largest research universities and the advantage of ties to some huge defense installations. Effort to organize corridors in those two regions have advanced slowly but steadily over the last two years and that makes sense – neither has a single obvious momentum builder the scope of the Lucent deal. But as discussed further below, investing in those two corridors would be a sound and logical undertaking even if a bit more gradual and painstaking than the Florida High-Tech Corridor has proven to be.

## A NEW AGENDA

**T**o recapitulate: the ever-increasing pace of growth in knowledge industries, the operative strategic plans for our higher education system, and the dramatic success of the Florida High-Tech Corridor all point the same way. Florida can do itself some big favors in generating high-end economic growth if it capitalizes on the research and development capacity of universities and the whole higher education system’s role in turning out more adequate numbers of well-trained workers. Here are some specific means and measures of how that might be done.

### #1—Seek greater federal and state support for university research.

Florida’s public and private universities currently garner about \$700 million in federal research and development funding per year. Chancellor Adam Herbert has suggested, and we agree, that with more aggressive efforts in Washington we should be able to raise that figure above \$1 billion in the next year or two. Though Florida doesn’t have a Cal Tech or an MIT, four of its universities (Florida, FSU, USF and the University of Miami) are among the top 100 recipients of federal funds. In recent years Florida’s congressional delegation has gained a growing role in the appropriations process and shown strong interest in building the state’s participation in advanced research.

But while Florida gets a slightly smaller share of federal research funding than its size and federal tax contribution would indicate, the bigger disparity, PEPC candidly noted in its five-year strategic plan, is in state contributions (compared to competitor states like North Carolina). Florida ranks 46th nationally on a per capita basis on the number of science and engineering doctoral degrees, only about 52 percent of the average. Given the intimate connection between graduate education and research there is a strong case for building enrollment in these programs including various forms of scholarship aid. Florida will strengthen its position in bidding for federal research contracts as it builds the state’s own investment in that enterprise and industry participation

Florida already has had some successes with collaboration – notably the Florida-FSU pairing for the Magnetic Field Laboratory and several joint projects between FSU and the University of Miami. Knowledgeable people in S.U.S. believe that collaborations will be particularly helpful in securing grants this decade. The new strategy has the potential for making



# Opportunity 2000: A New Agenda

the pie bigger without detracting from individual universities' ability to get their own programs funded.

## #2. Create consortia in Southeast and North Florida to match the success of the Florida High-Tech Corridor.

The striking results of that collaboration, led by Lucent, USF and UCF, have prompted interest in doing the same sort of thing in other sections of the state with other universities. In practice, putting together these additional corridors has proven neither quick nor easy. Last year an I-95 corridor sought to achieve a small organizing appropriation from the state; plans for an I-10 corridor were not that far along. The appropriation was approved by the Legislature but vetoed without explanation, by inference because not enough preliminary work had been done.

Both projects have advanced significantly since. The four research universities in Southeast Florida are all signed on. So are the lead economic development organizations in the three Southeast counties – no small feat given a history of factional competition among them. But so far the project lacks a lead industrial partner like Lucent or a full-time staff person, a role former AT & T executive Randy Berridge has performed since early on for the Florida High-Tech Corridor. A number of organizational meetings have resulted in formation of a North Florida Technology Alliance. It is chaired by University of West Florida President Morris Marx, has a commitment of people and money from the St. Joe Co. and has an initial focus on defense-related research – a huge presence from Jacksonville to the tip of the Panhandle.

Each of the projects is seeking a state appropriation of about \$750,000. We think that is reasonable – equitable too considering the state money continuing to flow to the operating side of the corridor in Central Florida. The projects have too



much potential to falter over chicken-and-egg arguments about which part happens first. Nor is it reasonable to expect for these two the meteoric trajectory the initial corridor traced.

## #3. Strengthen the statewide impact of our largest research universities.

Our discussion of corridors above and elsewhere in this paper requires a qualification. We see the corridors as a way, not the sole way to capture the potential economic development impact of university research and development. The University of Florida, for instance, has been a statewide presence in scientific agriculture for years and has far-flung outposts like a defense-related research center in Fort Walton Beach. Distance learning technology is bringing resources formerly accessed by a trip to Gainesville or Tallahassee to campuses across the state. Some planners, including Governor Bush's study commission on information technology, foresee the three corridors ramping up to a Florida Research Alliance in which the capabilities of the whole system would be accessible in ways they are not presently. That is a major objective in the S.U.S. five-year strategic plan.

A striking case-in-progress showing the potential here is a collaboration in the making between NASA and S.U.S. to create a strong new biotechnology research component at the cape. The key academic component is a linkage to the University of Florida's biology department, and there are



**Research, development, and the commercialization of new technology is a driving force in the IT industry. While Florida has strengthened in this area, the state's technology programs are still very loosely aligned.... Mechanisms to inspire greater collaboration in aggressively pursuing funding for research, development, and commercialization of new technologies is needed.**



– Itflorida.com study commission initial report, February, 2000.

**Florida's 28 community colleges stand poised and ready to accept Florida's workforce challenges. We are proud of our system's ability to efficiently and effectively respond to the demands and needs of Florida's citizens, businesses and industries.**

— J. David Armstrong Jr., executive director community college system, January 2000.

plans for a new university building near the Space Center. This is a win-win-win scenario that has everyone happy. Florida's space industry is modernized for the coming decade as is NASA's own research relevance. And there are expected to be workforce training opportunities for the community colleges and spin-off research contracts to other public and independent universities – much the same litany of good things that has evolved from the Florida High-Tech Corridor.

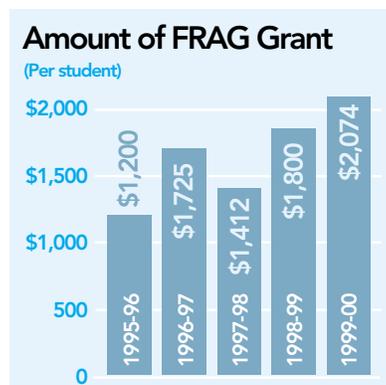
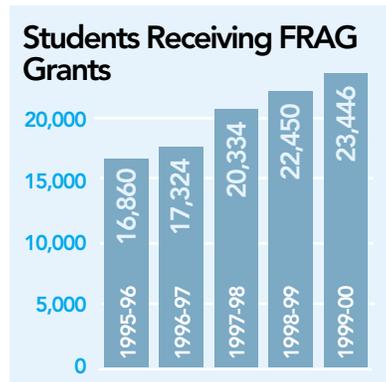
**#4 Center the training and retraining of information-age workers in the community college system.** Dating back to the foresight of Governor Collins' administration, Florida is fortunate to have a network of 28 community colleges within driving distance for nearly every Floridian. Locally based and governed, the schools have built in capacity to move nimbly to serve the evolving needs of employers. Though the colleges retain a role in the first two years of undergraduate education, for the last several years their strategic focus has been on market-sensitive workforce training.

The colleges have had numerous successes in this regard and now routinely undertake surveys of strategic job categories, locally and statewide, and tailor certificates with tightened training cycles (some of which attract retooling college graduates) to fit industry needs. That makes sense because a recent community college survey showed chip-manufacturing jobs paying \$40,000 a year and many other technical degree options similarly well-compensated. Still, the system's own benchmarking shows our community colleges falling somewhat short of those

in North Carolina and other competitor states. We have two recommendations to lawmakers. First, consider the developmental costs to the community colleges in what they are currently undertaking in funding the critical jobs program and other initiatives. Second, give community colleges the lead role in unifying and consolidating the delivery of adult workforce training, (in a few places still dominated by K-12 systems, which have plenty on their hands with their primary mission).

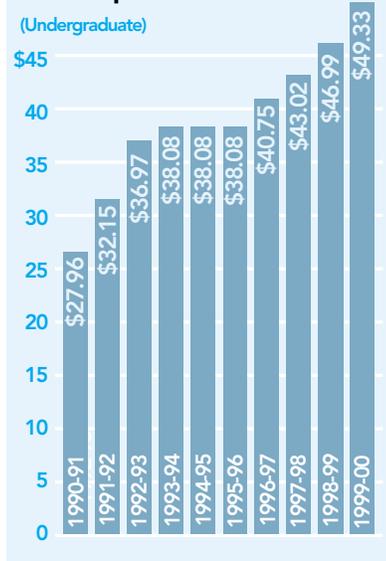
**#5. Increase the percentage of college graduates in Florida's workforce. Use the capacity of independent colleges to do so by continuing to increase the Florida Resident Access Grant.** A characteristic of the most dynamic job markets is their relatively high percentage of college graduates. North Carolina's Research Triangle and some others approach 40 percent of workforce; Florida's figure hovers in the low 20's, always a debit in industry recruitment and retention. So increasing public university and independent college enrollment is good for both the future earnings potential of individual Floridians and the state's economic dynamic.

It is in this way, that Florida's independent sector, even the many fine liberal arts colleges that have no large research establishment, have something to contribute to the new agenda. We recommended in our initial report raising the Florida Resident Access Grant from \$1,200 to \$3,000 over three years. We still do, and the sooner the better. After four years, we are about halfway to the \$3,000 level and the independent schools, true to their promise, are serving 7,000 more Florida students. They have further capacity and since Florida is both a growing and low-tuition state, it picks up the lion's share of each additional undergraduate at the universities. That makes the \$3,000 FRAG a bargain.



**#6. Continue progress on the Business/Higher Education Partnership's original agenda – adequate funding and access, tuition and scholarship increases, efficiency and productivity.** To return to the introduction of this paper, we think Florida has made sufficient progress on the concerns that led to the partnership's formation five years ago to take on a new proactive agenda. But we still think the goals defined in *The Emerging Catastrophe... and How to Prevent It* are good ones, worth repeating. A continued strong economy provides the opportunity for needed investment in growth and quantity. We will experience more demand for access as we succeed – as we should and must – in getting a higher percentage of young people through high school ready to do post-secondary work. The partnership believes it reasonable to ask students and their parents to pay for a growing share of higher education through rising university tuition. (Florida still ranks #49 among the states in this regard). Concurrently, we would like to see higher tuition backed by increases in need-based aid. Finally we think lawmakers are right to look for increases in degree productivity (which the two public systems have achieved) and will find that decentralization and some privatization bring greater operating efficiency than legislative micromanagement. ■

**State University System Tuition per Credit Hour**  
(Undergraduate)



## About the Business/Higher Education Partnership

This partnership was established in early 1995 – a collaboration among the Florida Council of 100, the State University System, the Community College System and the Independent Colleges and Universities of Florida. Its directors include 16 private sector CEOs from the Council of 100 and 16 college and university presidents and heads of higher education systems. In its first year, the partnership prepared a study, report and strategic vision for higher education in Florida. The *Emerging Catastrophe...And How to Prevent It* was released in January 1996, and two update reports followed.

The Florida Council of 100, founded in 1961, is an organization of the state's chief executives which informally advises the Governor and periodically studies public policy issues. The partnership has been one of the Council's highest priorities for the last six years. Other current activities include support of Governor Bush's A+ education program and work to improve low-performing schools as well as a study of revitalizing the core of inner cities.

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Staff Director



**Business/ Higher Education Partnership**

Suite 560 • Bayport Plaza • 6200 Courtney Campbell Causeway  
Tampa, Florida 33607 • (813) 289-9200 • Fax (813) 289-6560

