Aligning Workforce and Higher Education for Florida’s Future

Commission on Higher Education Access and Educational Attainment

FINAL REPORT

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Executive Summary

In May 2012, the Chair of the Board of Governors of Florida’s State University System issued a call to action to education, business and workforce, and legislative leaders to address Florida’s need for future baccalaureate degree attainment. In response to the call, the Commission on Higher Education Access and Educational Attainment, composed of seven members, was established. Over the course of more than a year, the Commission wrestled with questions regarding Florida’s future—near-term and long-term—and the kind of alignment between higher education and workforce that would be necessary for a changing world of work.

The major questions the Commission strove to answer were:

1. In what fields do we expect substantial gaps in future workforce needs for bachelor’s degree graduates?
2. Will the increased demand be evenly distributed around the state or will some geographic areas be disproportionately impacted?
3. Is the pipeline of college-age students going to be able to produce a sufficient number of college-ready students?
4. Is there going to be any need in the near future for additional universities or colleges to meet this demand?
5. Should all these new students attend our state universities, or is there a major role to be played by the State’s colleges and other sectors?

This final report contains the Commission’s answers to the questions as well as a plan for moving forward. Among the major products from the Commission’s work this past year is a sustainable method for conducting a gap analysis of baccalaureate level workforce demand. In fact, the 2013 Legislature provided $15 million for incentive funding to universities and colleges to expand targeted programs to meet workforce gaps.

Critical gap areas include computer and information technology, accounting/auditing/financial services, and middle school teacher retention. These are Florida’s most critical baccalaureate-degree shortage areas, in which there is a projected undersupply of over 4,000 graduates for jobs in these areas each year. Although supply-demand gaps appear in other areas, none are as critical as these three.

How will it be possible to ramp up bachelor’s degree production in the three targeted areas to meet the demand? First, there is sufficient capacity within Florida’s postsecondary system to expand without having to build new colleges or universities. Second, higher education is developing programs in new and innovative ways through
partnerships, e-Learning and other alternative designs to decrease baccalaureate-level workforce gaps. Above all, expansion needs to be thoughtful and systematic. Without planning and partnerships, a plausible effect is the creation of numerous weak programs that compete with each other, resulting in an unnecessary waste of resources. Such a reaction is neither economically nor educationally justifiable.

The Florida College System, along with Florida’s independent institutions of higher education, has a major role to play in expanding capacity. Although not every Florida College System institution is interested in ramping up baccalaureate production, it may be good public policy for the right institutions to get into the business of baccalaureate expansion in an organized, sustainable manner to meet Florida’s needs.

In recent years, performance-based funding has focused the discussion about higher education’s alignment with the state’s highest priorities in terms of “outcomes.” A major outcome of higher education is the production of college graduates who are able to successfully fulfill jobs in high demand occupations. In 2013, the Florida Legislature and the Governor’s Office elevated the discussion surrounding performance-based funding, providing $20 million in additional appropriations linked to outcome measures. In addition, the Board of Governors of the State University System has drafted a 10-metric performance-based funding model that clearly links outcomes to funding. The Access and Attainment Commission’s focus on graduates for jobs in high demand occupations is consistent with the direction that Florida’s legislative and executive offices are taking.

If colleges and universities expand capacity, however, will the students come? Is the pipeline of college-age students going to be sufficient to supply the State with the educated workforce that it needs? The short answer to this question is “Yes,” as long as we continue to see modest increases in college graduation rates along with modest increases in college enrollments of high school graduates or transfer students.

But there is also a long-term answer to this question, which depends upon the kind of future Florida wants. If the State desires to raise its standing from #33 out of 50 states in the New Economy Index’s ranking of Knowledge-Workers, then the answer is “We still have a lot of work to do.”

We have made progress in providing information to students and parents about job placement rates and average salaries in different curricular majors and fields as a result of an Economic Security Report, as directed by the Legislature during the 2012 session. But we need to do even more in letting prospective students know where the jobs will be and what programs are available to prepare them for these jobs. The choice of college major is theirs, but the opportunities must be there for them to choose.

Data informs policy. It is the hope of the members of the Commission for Access and Educational Attainment that the data-driven method on which the Commission built its gap analysis will provide the groundwork for sustainable, effective policies that align Florida’s workforce needs and higher education for both the near- and long-term future.
In May 2012, the Chair of the Board of Governors of Florida’s State University System issued a call to action\(^1\) to address the state’s need for future baccalaureate degree attainment. The call was prompted by an economic environment that demands better alignment between a changing world of work and the knowledge and skills of college graduates.

Florida is the fourth largest state in the nation, with 19.3 million\(^2\) residents. It will continue to grow. In terms of growth rate, Florida ranks sixth in the nation, with a projected growth rate of 2.75\(\%\)^3. That means that there will be 3,600,000 new Floridians by 2025—a total population around 23 million people. Is Florida up to the task of providing the educated workforce that the state will need? Can the existing colleges and universities produce enough bachelor’s degree graduates to fill employers’ needs for educated workers, especially in high demand occupations?

The Genesis of the Commission

In its 2025 Strategic Plan, the Board of Governors embraced a vision to increase baccalaureate degrees awarded statewide from 53,000 per year to 90,000 per year. To generate these additional 37,000 graduates, the state needs a significant number of new students to graduate from Florida’s institutions.

Unfettered growth of college graduates is not automatically positive, however, especially if graduates can’t find jobs or don’t have the knowledge and skills that employers need. If higher education can better align baccalaureate degree production with workforce demand, everyone benefits—graduates, employers, and the State. Florida’s colleges and universities have a major role to play in advancing the overall health and well-being of all who call the state their home.

\(^1\) “Board of Governors Commission on Higher Education Access and Degree Attainment.” Letter from Dean Colson, Chair to Members, Board of Governors; Members, Boards of Trustees; Frank T. Brogan, Chancellor; University Presidents, May 16, 2012. Retrieved July 19, 2013 from http://www.flbog.edu/pressroom/_doc/colson_brogan_FC100_may_17_2012.pdf


What does that mean, then, in planning for a future Florida? How, then, do we grow in ways that are well-aligned with future needs? During the course of fifteen months, the Commission for Access and Educational Attainment addressed the following key questions:

1. In what fields do we expect substantial gaps in future workforce needs for bachelor’s degree graduates?
2. Will the increased demand be evenly distributed around the state or will some geographic areas be disproportionately impacted?
3. Is the pipeline of college-age students going to be able to produce a sufficient number of college-ready students?
4. Is there going to be any need in the near future for additional universities or colleges to meet this demand?
5. Should all these new students attend our state universities or is there a major role to be played by the State’s colleges?

The Commission met seven times over the course of 15 months, between June 2012 and September 2013 and developed a sustainable methodology for a “gap analysis” that identifies the areas of highest demand for baccalaureate degree graduates. It also developed a plan to provide incentives for colleges and universities to expand or build targeted programs to reduce those gaps.

This report summarizes the work of the Commission and presents its plan to address targeted workforce gaps at the baccalaureate level in which the projected under-supply exceeds 100 openings a year through the year 2025. The Commission’s recommendations provide for:

- a process that distributes funds appropriated by the 2013 Legislature to expand higher education in high demand areas to better align baccalaureate degree production with the state’s workforce needs,
- encouragement of partnerships across higher education to fill the gaps, including innovative delivery designs that use e-Learning and other alternative methods to speed up degree production,
- a recommendation to build upon or expand existing capacity, rather than create additional universities or colleges, and
- consideration of next steps, including a sustainable methodology for updating the gap areas on a regular cycle.

This final report is organized into five sections that follow the questions listed above. A sixth section is added that describes the four recommendations in the bullet points above and a competitive process, funded by Florida’s 2013 Legislature, to address the gap in knowledge workers in identified areas. The final section discusses the need to consider a longer-term view of Florida’s workforce needs in future gap analyses. Appendices to this report provide greater detail about the gap analysis methodology and the Solicitation for Grant Applications process.
The Gap Analysis: Results

1. In what fields do we expect substantial gaps in future workforce needs for bachelor’s degree graduates?

Over more than a year, a group of researchers from both workforce and higher education that supported the Commission met for several hours approximately every two weeks. Their main task was to develop a sustainable methodology for a gap analysis that would identify occupations requiring a bachelor’s degree in which the projected annual under-supply exceeded 100 workers. Researchers participated from the Department of Economic Opportunity, the Florida Council of 100, the Florida College System, the Independent Colleges and Universities of Florida, the Commission for Independent Education and the State University System.

As shown in Table 1, the top occupation in which there is a projected annual under-supply exceeding 2,000 projected positions is a the STEM (Science, Technology, Engineering and Math) field (computer occupations), followed by two professional fields with gaps hovering around 1,000 annually —teacher education and accountants, auditors and financial analysts.

Table 1: Annual Projected Under-Supply in Florida in Occupations Requiring a Bachelor’s Degree

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Projected Annual Under-Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Occupations</td>
<td>2,361</td>
</tr>
<tr>
<td><strong>Computer Network Architects</strong></td>
<td>439</td>
</tr>
<tr>
<td><strong>Computer Systems Analysts</strong></td>
<td>564</td>
</tr>
<tr>
<td><strong>Computer Programmers</strong></td>
<td>316</td>
</tr>
<tr>
<td><strong>Software Developers - Applications</strong></td>
<td>459</td>
</tr>
<tr>
<td><strong>Software Developers – Systems Software</strong></td>
<td>370</td>
</tr>
<tr>
<td><strong>Graphic Designers</strong></td>
<td>213</td>
</tr>
<tr>
<td>Middle School Teachers</td>
<td>1,024</td>
</tr>
<tr>
<td>Accountants &amp; Auditors &amp; Financial Analysts</td>
<td>971</td>
</tr>
<tr>
<td>Training &amp; Development Specialists</td>
<td>348</td>
</tr>
<tr>
<td>Operations Research Analysts</td>
<td>217</td>
</tr>
<tr>
<td>Kindergarten Teachers</td>
<td>210</td>
</tr>
<tr>
<td>Industrial Engineers</td>
<td>177</td>
</tr>
<tr>
<td>Medical &amp; Clinical Laboratory Technologists</td>
<td>169</td>
</tr>
<tr>
<td>Insurance Underwriters</td>
<td>132</td>
</tr>
<tr>
<td>Credit Counselors</td>
<td>118</td>
</tr>
<tr>
<td>Public relations Specialists</td>
<td>116</td>
</tr>
</tbody>
</table>

Missing from the list are many other occupations that require graduates in STEM and liberal arts fields. Health sciences are also missing from the list, but mainly because
those jobs tend to require education either above (e.g. physicians) or below (e.g. occupational therapy assistants) the baccalaureate degree level.

Although the highest gap is in a STEM area (computer occupations), the results of the analysis did not point to a general gap in occupations supplied by STEM graduates. The omission of more general STEM areas from the critical needs list does not imply, however, that Florida’s higher education system should stop producing graduates in these areas. But it does suggest that we may be producing enough to support current demand. It may also suggest that we are not retaining graduates in Florida’s workforce in these areas. Graduates in high demand occupations may leave Florida for employment elsewhere or, in the case of middle school teachers, may even switch fields.

Using Florida Department of Economic Opportunity statewide job growth data, Table 2 below presents the top 15 occupational groups that are projected to have the largest total number of openings from 2012 to 2020. Please note that this is the annual number of openings—many of which are filled—not the annual gap between demand and supply. The educational codes used by the U.S. Bureau of Labor Statistics were applied to identify the typical education level required for entry into the jobs that fall under a particular occupational category.

Table 2 illustrates that, for health occupations, many of the annual openings will occur in jobs that require an associate’s or graduate degree to obtain employment.
Table 2: Florida’s Top Occupational Groups by Projected Demand (Annual Job Openings, 2012-2020)

<table>
<thead>
<tr>
<th>Occupational Group</th>
<th>Associate</th>
<th>Bachelor</th>
<th>Master</th>
<th>Doctoral</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Diagnosing and Treating Practitioners</td>
<td>7,228</td>
<td>234</td>
<td>1,104</td>
<td>3,727</td>
<td>12,293</td>
</tr>
<tr>
<td>Preschool, Primary, Secondary, and Special Education School Teachers</td>
<td>1,088</td>
<td>7,098</td>
<td>0</td>
<td>0</td>
<td>8,186</td>
</tr>
<tr>
<td>Business Operations Specialists</td>
<td>0</td>
<td>5,866</td>
<td>0</td>
<td>0</td>
<td>5,866</td>
</tr>
<tr>
<td>Financial Specialists</td>
<td>0</td>
<td>5,193</td>
<td>0</td>
<td>0</td>
<td>5,193</td>
</tr>
<tr>
<td>Computer Occupations</td>
<td>0</td>
<td>4,410</td>
<td>0</td>
<td>18</td>
<td>4,428</td>
</tr>
<tr>
<td>Postsecondary Teachers</td>
<td>0</td>
<td>315</td>
<td>506</td>
<td>2,269</td>
<td>3,090</td>
</tr>
<tr>
<td>Counselors, Social Workers, and Other Community and Social Service Specialists</td>
<td>0</td>
<td>1,369</td>
<td>1,435</td>
<td>0</td>
<td>2,804</td>
</tr>
<tr>
<td>Top Executives</td>
<td>1,996</td>
<td>703</td>
<td>0</td>
<td>0</td>
<td>2,699</td>
</tr>
<tr>
<td>Health Technologists and Technicians</td>
<td>2,308</td>
<td>240</td>
<td>15</td>
<td>0</td>
<td>2,563</td>
</tr>
<tr>
<td>Other Management Occupations</td>
<td>1,041</td>
<td>933</td>
<td>283</td>
<td>0</td>
<td>2,257</td>
</tr>
<tr>
<td>Lawyers, Judges, and Related Workers</td>
<td>0</td>
<td>27</td>
<td>0</td>
<td>2,185</td>
<td>2,212</td>
</tr>
<tr>
<td>Adult Basic and Secondary Education and Literacy Teachers, All Other</td>
<td>0</td>
<td>2,192</td>
<td>0</td>
<td>0</td>
<td>2,192</td>
</tr>
<tr>
<td>Engineers</td>
<td>0</td>
<td>2,114</td>
<td>0</td>
<td>0</td>
<td>2,114</td>
</tr>
<tr>
<td>Media and Communications Workers</td>
<td>0</td>
<td>1,355</td>
<td>0</td>
<td>0</td>
<td>1,355</td>
</tr>
<tr>
<td>Operations Specialties Managers</td>
<td>0</td>
<td>1,171</td>
<td>0</td>
<td>0</td>
<td>1,171</td>
</tr>
<tr>
<td>All Others</td>
<td>3,050</td>
<td>9,098</td>
<td>1,003</td>
<td>487</td>
<td>13,638</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16,711</td>
<td>42,318</td>
<td>4,346</td>
<td>8,686</td>
<td>72,061</td>
</tr>
</tbody>
</table>

Source: Employment projections were derived from Department of Economic Opportunity 2012-2020 Statewide Projections.

One caution about applying workforce gaps to educational programs needs to be stated here. Many degree programs can qualify students for a number of different jobs. There is often not a one-to-one relationship between a college major and the job a student obtains after graduation. For example, Table 3 below shows that students who qualify for jobs listed in the high demand computer and information science occupations usually major in a number of different degree programs. (Please see Appendix B for an
expanded list of occupational gaps and the educational programs that provide bachelor’s degree graduates for these gaps.)

Table 3: College Majors that Prepare Students for the Jobs Listed in Computer Occupations Cited in Table 1

<table>
<thead>
<tr>
<th>Major</th>
<th>CIP Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer and Information Sciences, General</td>
<td>11.0101</td>
</tr>
<tr>
<td>Information Technology</td>
<td>11.0103</td>
</tr>
<tr>
<td>Computer Programming/Programmer, General</td>
<td>11.0201</td>
</tr>
<tr>
<td>Information Science/Studies</td>
<td>11.0401</td>
</tr>
<tr>
<td>Computer Systems Analysis/Analyst</td>
<td>11.0501</td>
</tr>
<tr>
<td>Computer Science</td>
<td>11.0701</td>
</tr>
<tr>
<td>Web Page, Digital/Multimedia and Information Resources Design</td>
<td>11.0801</td>
</tr>
<tr>
<td>Computer Graphics</td>
<td>11.0803</td>
</tr>
<tr>
<td>Computer Systems Networking and Telecommunications</td>
<td>11.0901</td>
</tr>
<tr>
<td>Computer and Information Systems Security/Information Assurance</td>
<td>11.1003</td>
</tr>
<tr>
<td>Computer Engineering, General</td>
<td>14.0901</td>
</tr>
<tr>
<td>Computer Software Engineering</td>
<td>14.0903</td>
</tr>
<tr>
<td>Management Information Systems, General</td>
<td>52.1201</td>
</tr>
<tr>
<td>Digital Arts</td>
<td>50.0102</td>
</tr>
<tr>
<td>Design and Visual Communications, General</td>
<td>50.0401</td>
</tr>
<tr>
<td>Industrial and Product Design</td>
<td>50.0404</td>
</tr>
<tr>
<td>Graphic Design</td>
<td>50.0409</td>
</tr>
</tbody>
</table>

The Gap Analysis: A Brief Overview of the Method

The “gap” in Florida’s future workforce needs includes two major components: 1) “demand” by occupation, and 2) “supply” by education program, which is the number of baccalaureate graduates being produced by Florida postsecondary institutions.

In order to identify the workforce gaps at the baccalaureate level, the researchers established “decision rules” to match two discrete taxonomies—one for labor and one for education—that were developed by different federal agencies. The Classification of Instructional Programs (CIP) taxonomy, developed by the U.S. Department of Education, assigns numbered codes to educational programs so that they can be tracked and compared in various databases at federal, state, and local levels. Similarly, the Standard Occupational Classification (SOC) system, developed by the U.S. Department of Labor, is a taxonomy of occupations. Officials developing each of these taxonomies did not do so collaboratively. We have therefore inherited a system in which, for example, a high school principal is classified as an “educator” by CIP code but a “manager” by SOC code. In other words, the two systems don’t “talk” to each other unless a cross-walk is built.
The next hurdle the researchers faced was choosing among several methodologies to classify educational levels needed by different occupations. These different methods are described in Appendix A, along with the rationale for the Commission’s choice of the method used by the Bureau of Labor Statistics.

The step-by-step process and the method that the researchers developed in conducting this gap analysis have also been documented in materials contained on the Florida Board of Governors web site under the link to the Commission for Access and Educational Attainment.  

2. **Will the increased demand be evenly distributed around the state or will some geographic areas be disproportionately impacted?**

According to the state Demographic Estimating Conference, Florida’s population is expected to grow to 21.2 million by 2020, but the growth rate will vary by region. As represented in Map 1 below, data from the Florida Legislature’s Office of Economic & Demographic Research (EDR) shows that certain regions, such as the greater Orlando-Tampa region, will grow faster in terms of percentages of the population than the state’s largest urban area, Miami. But because of its sheer size, the numbers of educated workers Miami will need will also continue to grow, although not as fast as in other parts of the state.

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Although it may sound counter-intuitive, it may not be necessary to regionally align where Florida should increase its bachelor’s degree production in high demand areas with where the population is growing the fastest. There are several reasons why. First, many college and university students are not placebound and expect to re-locate for work after graduation. Secondly, higher education is not “placebound,” either. Today’s colleges and universities are able to deliver all or part of their degree programs online—either by themselves or in partnership with other institutions. Thirdly, student-employer connections can be built into the curriculum regardless of employer location. Students can connect with potential employers in high demand fields before they graduate through internships and other on-site opportunities. With input from employers and occupational advisory boards, colleges and universities can embed certificates into existing curricula. And fourth, a key facet of any degree program should be career information about where jobs are located before students enroll in their program majors.

At several of its meetings, Commission members voiced concern about the potential for higher education to over-develop programs in high demand occupations in response to its gap analysis. The Commission noted on several occasions that the list of high demand programs should not be regarded as a “shopping list” by institutions throughout Florida to create new programs. Several of the Board of Governors’ regulations address...
the issue of unnecessary duplication of new programs, in particular Regulation 8.011. Florida needs to expand capacity to produce more baccalaureate trained employees in high demand occupations, but it needs to do so in a way that is economically and educationally justifiable.

How best, then, to expand capacity to produce baccalaureate graduates in high demand occupations? Should programs be centered in regions where the jobs are most plentiful? Let’s look at a specific example. Based on regional workforce data from the Department of Economic Opportunity (DEO), 70% of the computer occupations identified by the Commission’s gap analysis are found in the four shaded areas identified in Map 2 below, which represent six DEO workforce regions and sixteen counties.

Map 2: Highest Unfilled Workforce Demand in Computer Occupations, by Region in Florida

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In considering where to expand existing baccalaureate degree programs that lead to employment in these occupations, should only those institutions that are physically located in these regions be considered? For the State University System, that perspective would favor UNF, UCF, USF, FAU and FIU. But what if UWF, in the Pensacola area, or UF in Alachua County, has a strong program that could expand in a cost-effective manner?

To some extent, however, it does not matter which regions in Florida are expected to grow the fastest if demand for a particular program is clear. In addition, educational technology enables the delivery of programs students need at accessible times and locations—without regard to the location of the provider. It also may not matter which regions will need the greatest number of bachelor’s degree trained workers in, say, computer science and information technology fields if students are told, when they enter these programs, where the jobs are located and if they are willing to move to these areas.

It does matter, however, if multiple institutions throughout the higher education system—public and private, predominantly two- or four-year—react to high demand by ramping up existing programs or building new programs. A lack of systemic thinking can result in unwarranted duplication of programs, the net effect of which can be numerous weak programs that compete with each other, incurring redundant costs. Such a reaction is neither economically nor educationally justifiable.

3. **Is the pipeline of college-age students going to be able to produce a sufficient number of college-ready students?**

The answer is “probably” if the composition and performance of Florida’s economy remains relatively unchanged. We are currently on track in making two needed improvements so that Florida produces the number of bachelor’s graduates the Board of Governors has projected by the year 2025: 1) increasing State University System enrollments and 2) improving graduation rates in all sectors—high school, college and university.

Students are considered college-ready when they have the knowledge, skills and academic preparation needed to succeed in introductory college credit-bearing courses within an associate or baccalaureate degree program.

*Maintaining the Status Quo*

To support the status quo, the pipeline of potential baccalaureate degree-seeking students comes predominantly from high schools and transfer students from the 28 state public colleges. The Florida Department of Education, however, projects flat growth for the number of standard diplomas awarded through the year 2016. The actual numbers of students who earned standard diplomas in 2010-11 was about 150,000 students. That number is not expected to change at all through 2019-2020. Historically, roughly half—48 to 55%--of high school graduates who receive standard
diplomas (not GEDs or alternate diplomas) will enroll in college in Florida. If this projection proves correct and the number of high school diploma recipients stays flat, then we need to employ strategies to increase the percent that continue on to college.

A positive development is the fact that more students are graduating from high school “college-ready.” The Florida College System reports that the percentage of recent high school graduates, age 20 years or younger, who needed remediation upon entry to college declined from 20% in 2007-08 to 14% in 2011-12. These improvements have no doubt been influenced by an increase in the rigor of the high school curriculum and better communication about expectations for college entry.

Another factor that is important to consider in whether Florida is producing the college-ready students it needs is the selectivity of its State University System. Last year there were 150,000 high school diplomas awarded in Florida and 30,000 of these graduates were admitted to the State University System institutions. The SUS is currently a selective system and it turns away qualified applicants from Florida high schools. The average high school GPA for all first-time in college students, including profile admits\(^6\), at state universities in Fall 2012 was 3.8. At Florida State University, for example, entering freshmen in Fall 2013 had an average GPA of 4.0. For the Summer/Fall 2012 session, 30,040 unduplicated students applied to FSU. Of these applicants, 16,124 were admitted and 5,738 actually enrolled.\(^7\) To increase the number of Floridians who go to college within the state, it makes sense to expand baccalaureate capacity in the Florida College System.

The Florida College System’s transfer students are another critical piece of the pipeline of potential baccalaureate degree graduates. Transfer students have already demonstrated success in college by earning an associate’s degree and a desire to continue for a bachelor’s degree. Historically, 45%-50% of A.A. recipients continue their education the following year either within the State University System or the Independent Colleges and Universities of Florida. A portion of students who earn A.S. and other associate degrees also transfer into professional and more general bachelor’s degree programs.

The Commission’s efforts focused on gaps in baccalaureate degree production—and not gaps at the associate’s or graduate levels. Additional efforts to target associate degree completers to continue to the baccalaureate could also increase Florida’s baccalaureate degree production. A January 2010 OPPAGA report found that most A.A. degree recipients never applied to a state university and their survey of 3,000

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students found that the most common reason was a lack of information about transfer policies.⁸

A third source in the pipeline of potential college-ready students results from the sheer increase in Florida’s population. The Florida Legislature’s Office of Economic & Demographic Research (EDR) projects that Florida’s 18 to 24 year old population will increase by 147,000 from 2010 to 2025. If Florida enrolls 34% of the 18 to 24 year old population in 2025, the same percent as it did in 2009 (the year for which we have the latest data), then Florida is projected to add 50,000 undergraduates through population growth alone.

And finally, a fourth source in the pipeline is new Floridians. During the past five years, 39% of Florida’s net migrants (25 years and older) have had a bachelor’s or graduate degree, which is considerably higher than the educational attainment of Florida’s resident population (25%). Based on analyses of geographic mobility estimates for 2006-2010, Florida annually imports a net of about 2,400 people with bachelor’s and graduate degrees. Unfortunately, many of those who migrate to Florida with bachelors or graduate degrees are in the older age brackets; some are at or near retirement age. The additional 2,400 bachelor’s degree-holders Florida gains through net migration, however, is small compared to the current 86,000 bachelor’s degrees produced by all of Florida’s colleges and universities each year.

**Increasing College-Going Rates**

If Florida wants to significantly improve its economic performance relative to that of other states, however, it will have to increase the number and percentage of its residents with bachelor’s (or higher) degrees. For example, one reason Florida ranks 35th in the nation in terms of knowledge workers is that it ranks 37th in the nation (and last among the 10 most populous states) in the percentage of its population with at least a bachelor’s degree.

Encouraging a greater percentage of Floridians to go to college will be a heavy lift. If we look at a broader range of students than just immediate high school graduates who continue to college, Florida ranks 31st in the nation and slightly below the national and “Big 10” state averages in the percent of its 18- to 24-year olds who are enrolled in higher education, based upon the most recent data available from 2009.⁹

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⁹ Source: NCHEMS staff analysis of IPEDS Fall Enrollment Survey and U.S. Census Population estimates. (See Slide 13, 9/26/13 Commission for Higher Education Power Point materials.)
4. Is there going to be any need in the near future for additional universities or colleges to meet this demand?

The simple answer to this question is “No, Florida does not need any new colleges or universities to meet the workforce demand for bachelor’s degree graduates.” The state is currently on track to meet the Board of Governors’ bachelor’s degree production goals for 2025 with just modest improvements in the system—without even considering other sources of college-ready students. In its 2012-2025 Strategic Plan, the Board of Governors of the State University System set a goal to produce 90,000 bachelor’s degrees a year by 2025. The system of 12 public universities is currently on track to reach the 90,000 goal, with only modest improvements in graduation rates or enrollment increases, where there is room to do so.

If additional growth should also occur within the Florida College System, the ability of the state to produce the bachelor’s degrees it needs for high demand occupations would be assured. Although not every Florida College System institution is interested in ramping up baccalaureate production, it may be good public policy for the right institutions to get into the business of baccalaureate expansion in an organized, sustainable manner to meet Florida’s needs. For that to occur, the Florida College System should be funded to meet statewide need for baccalaureate degree production in high demand areas, with a clearer delineation of which Florida Colleges System institutions would be major baccalaureate producers.

Further, to avoid duplication and to maximize access to baccalaureate programs throughout the state, the Board of Governors and the State Board of Education should collaborate to ensure the best possible results for students and the State. For example, in cases in which both a university and a state college have an interest in expanding baccalaureate degree production, a joint standing committee of members and staff of both boards could serve as an annual review committee. Other possible mechanisms for collaboration could include a Listserv that all institutions, public and private, two- and four-year, could post the titles of prospective baccalaureate degree program offerings well in advance of actual program development, such as nine to twelve months before the institutional board would review the program for approval. The bottom line is that policy changes may be in order so that Florida expands baccalaureate program offerings in an effective, efficient manner.

5. Should all these new students attend our state universities, or is there a major role to be played by the State’s colleges and other sectors?

Yes, there is indeed a major role for Florida’s state colleges and independent sectors of higher education to play to meet workforce demand at the baccalaureate degree level. Florida has 12 public universities, including one that is brand new and that has yet to enroll any students. Almost 350,000 students enroll in the system. The Florida College
System’s 28 state colleges enroll almost 879,948 full- and part-time students (headcount) with 25,389 of these currently enrolled in bachelor’s level programs.\textsuperscript{10}

The Independent Colleges and Universities of Florida also play a major role, producing 26\% (n = 19,000) of Florida’s bachelor’s degree graduates at 31 private, non-profit institutions. Together, these institutions enroll 153,000 students throughout 141 actual sites throughout the state.\textsuperscript{11}

The Commission for Independent Education has jurisdiction over 921 independent institutions operating in Florida with 379,752 students enrolled. The majority, 60\%, of the institutions are non-degree granting institutions. But the 369 institutions which are degree-granting enroll the overwhelming majority of students—302,517.\textsuperscript{12}

Across the U.S., higher education has matured. Few states build new public colleges or universities today. Far and away the preferred path is to expand established colleges and universities to new locations or centers. In addition, the latest data available show that 65\% of Florida’s recent high school graduates—a total of 93,104 students--enrolled in one of the 28 Florida state colleges in 2010-11. Many of these will transfer to four-year programs. In 2011-12, 62,614 state college students earned an Associate in Arts degree, the degree that enables them to take advantage of Florida’s 2+2 program and transfer to a four-year institution. In addition, almost 4,000 more state college students earned a bachelor’s degree at a state college.

A focus on quality within the State University System so that every student who enrolls also graduates, coupled with a clear identification of Florida College System institutions that are well-positioned to expand baccalaureate degree production, would provide Florida with the workforce it needs.

**Implementing a Process to Decrease the Workforce Gap in High Demand Occupational Areas**

The 2013 Legislature provided $15 million for the implementation of the gap analysis, as developed by the Commission on Access and Educational Attainment. Appendix C of this report is a draft Solicitation for Grants Application that will be released in November 2013 to award a small number of grants to colleges and universities to increase baccalaureate degree production in targeted gap areas.

In its gap analysis, the Commission identified occupations in which there were gaps of 100 or more unfilled positions a year, a criterion that yielded over a dozen broad occupational areas on which to focus. At its August 19, 2013 meeting, the Commission reviewed a process that is consistent with legislative intent to award between four and six grants in the highest demand gap areas, including:

1) computer and information technology gap areas (over 2,000 annual under-supply)
2) accounting, auditing and financial analyst gap areas (around 900 annual under-supply)
3) middle-school teaching, focusing on teacher retention rather than new teacher training programs (over 1,000 annual under-supply).

A word of explanation regarding the third area, middle-school teacher retention, is in order. Additional analysis of Florida Dept. of Education data on teacher retention show that some school districts in Florida experience significant loss of new teachers within a few years. The Solicitation for Grant Applications focuses on the need for inservice and pre-service efforts to develop effective strategies and activities to identify and address problems in retaining new middle-school teachers, such as targeted training in technology applications or classroom management.

The grant application process is competitive. Per legislative intent, a State University System institution must submit the application and serve as the fiscal agent. Partnerships with state colleges and independent institutions, however, are strongly encouraged. The grant criteria award additional points for state universities that partner with another institution. The rationale for encouraging partnerships is to provide an incentive for institutions within a region to work together to address gaps, thus avoiding any tendency for multiple institutions within a region to offer the same program, diluting the resources and negatively affecting long-term sustainability of one or more of the competing programs. One strong program within a region is better than several weak ones. Other award criteria include points for innovative curricular and delivery designs to speed up degree production, including eLearning and other alternative models.

The legislation calls for two years of funding to award winners, contingent upon legislative appropriations next year. Institutions that build upon existing capacity, rather than developing brand new programs, have a competitive advantage the first year. All award recipients must agree to monitoring and evaluation. If an institution is unable to implement the program it proposed the first year, those grant dollars would return to the Board of Governors to be added for distribution with the second year of available funds.

The Solicitation for Grants will be released in November 2013, review of proposals will be completed by the beginning of the next legislative session in March 2014, and funds will be distributed to institutions by the end of the 2013-14 fiscal year. The detailed process for reviewing applications and awarding the grant funds, along with deadlines is described in Appendix C.
A three-stage monitoring and evaluation process will be implemented. First, the same senior policy staff, or their designees, who provided support to the Commission during the development of the gap analysis will also monitor and evaluate institutions’ progress in implementing the proposed programs. Staff will draft progress reports and evaluations and provide them to Commission members, who will meet twice a year to monitor progress and make any necessary recommendations for improvements. Commission reports and recommendations will be forwarded to the Board of Governors. As the fiscal agent for the appropriated funds, the Board of Governors will maintain final oversight authority to ensure progress is being made.

Next Steps: Considering a New Florida

Few states are able to steer higher education in a way that truly responds to workforce needs. One of the major reasons is that students can choose what majors to pursue—and they often don’t make their choices based upon occupational demand. Another reason is the difficulty in wrestling disparate labor and education data into submission—the CIP-SOC exercise. The researchers from both workforce and higher education who developed the methodology have provided a useful, sustainable tool with which to conduct future analyses.

This gap analysis should be repeated every three years, preferably as part of an Estimating Conference that includes all of the parties who participated in this inaugural effort. Because the gaps are at the baccalaureate level and it takes at least several years to produce a graduate, the gap analysis does not need to be conducted more frequently than every few years.

What other next steps might be considered? First and foremost, we need to closely monitor and evaluate efforts of the programs that are funded through the grant application process with legislatively appropriated funds to reduce the gaps at the baccalaureate level over the next few years. If the programs and the process are successful, we need to make adjustments in the current gaps and develop new projections for the next 5 years or so.

But that is not all that we should do. Although the Commission for Access and Educational Attainment focused on the near future in its investigation of baccalaureate degree production and alignment of economic and educational resources to achieve that, it also spent some time looking further into the future.

The information below was discussed by Commission members at their September 26, 2012 meeting showing where Florida ranks on national indicators of economic and social well-being
Most growth in the New Economy stems from increases in knowledge and innovation. Florida fared worst in two categories highly related to education—Knowledge Jobs and Innovation Capacity. In the category of Knowledge Jobs, Florida ranked 33rd in the 2010 New Economy Index. In Innovation Capacity, Florida ranked 32nd. The category “Knowledge Jobs” includes indicators that track employment of IT professionals outside the IT industry; jobs held by managers, professionals, and technicians; the educational attainment of the entire workforce; immigration of knowledge workers; migration of domestic knowledge workers; employment in high-value-added manufacturing sectors; and employment in high-wage traded services. Innovation Capacity was measured by 1) the share of jobs in high-tech industries; 2) scientists and engineers as a share of the workforce; 3) the number of patents relative to the size of the workforce; 4) industry R&D as a share of worker earnings; 5) nonindustrial R&D as a share of GSP; 6) green energy production; and 7) venture capital invested as a share of worker earnings.

A recent report notes that “Over the long term, slow and consistent increases in state postsecondary attainment can attract high-value-added industries. But in the short term, the available jobs determine the demand for postsecondary talent. As a result, increasing postsecondary attainment without increasing the share of jobs that require postsecondary talent will simply further the brain drain into states where college-level jobs are available.”13

So therein lies the rub: How does Florida plan for a future that may require higher levels of educational attainment in its workforce, such as in Computer and Information Technology, if the state has traditionally been a low-producer of bachelor’s degrees and lacks the resources to ramp up? This is the kind of question Floridians need to answer for the long-term. Are we content with the status quo for a Florida in which the economy

is based upon tourism and agriculture—and low-skilled workers to support those industries? Or does Florida’s future include strong growth in information technology, for example, that depends upon knowledge workers? If the latter, then Florida has some work to do.

Here are some other characteristics that will also make Florida’s future different from its past:

- Florida’s older population (age 60 and older) will account for most of Florida’s population growth, representing 55 percent of the gains.

- In 2000, Florida’s prime working age population (ages 25-54) accounted for 41.5 percent of total population. With the aging baby boom generation, this percentage is estimated to have fallen to 39.7 percent in 2009 and by 2030 is projected to represent 36.0 percent.

- The ratio of taxpaying workers to retirees will fall as baby boomers age, and new retirees will not be fully replaced by younger workers. An increasingly smaller percentage of individuals will assume the bulk of the tax burden as the number of elderly increases and the demand for services continues to grow.

Regarding the need to develop alternate future scenarios in projecting Florida’s workforce needs, at its December 10, 2012 meeting, the Commission members discussed several possibilities:

- benchmarking Florida’s needs to aspirational peer states,
- using Enterprise Florida Targeted Industry Clusters and also identifying aspirational clusters,
- thinking in terms of Existing, Evolving (starting to take off) and Emerging (on the horizon) industries and occupations, and
- thinking in terms of short- vs. long-term needs, with long-term defined as 8 years or more.

In considering aspirational states that would be appropriate comparators for targeted industries and occupations that Florida might pursue, the Commission suggested the following:

- Consider the educational resources that top states have that Florida may lack, such as better prepared K-12 students on NAEP scores or a very high rate of community college transfer activity to the universities and take these factors into consideration when considering alternate scenarios.
- Choose aspirational states according to the most likely areas of growth for Florida. Who is #1 in each of our targeted industries and who is #50? What are our aspirational goals? What’s a reasonable number of job openings or percent of growth to increase?
Consider our ranking in the New Economy Index. For example, what ranking do we want for Florida regarding the state’s place in the “Innovation Jobs” category?

Consider the need to diversify the economy, rather than simply increase the number of 18 to 24 year olds in college. Do we want to further increase large sectors—or do we turn our attention to smaller, but promising, sectors?

The Florida economy is improving. Thanks to legislative support, higher education has incentive funding to encourage institutions to expand baccalaureate degree production in areas that the state needs. But we also need to make progress on long-term strategies that will help the system grow in carefully planned ways as the economy improves. This includes looking at how we fund higher education and providing incentives for growth.

In recent years, performance-based funding has focused the discussion about higher education’s alignment with the state’s highest priorities in terms of “outcomes.” A major outcome of higher education is the production of college graduates who are able to successfully fulfill jobs in high demand occupations. In 2013, the Florida Legislature and the Governor’s Office elevated the discussion surrounding performance-based funding, providing $20 million in additional appropriations linked to outcomes measures. In addition, the Board of Governors of the State University System has drafted a 10-metric performance-based funding model that clearly links outcomes to funding. The Access and Attainment Commission’s focus on graduates for jobs in high demand occupations is consistent with the direction that Florida’s policymakers are taking.

Data informs policy. It is our hope that the data-driven method on which the Commission on Access and Educational Attainment built its gap analysis will provide the groundwork for sustainable, effective policies that align Florida’s workforce needs and higher education for both the near- and long-term future.