

**THE ROLE
OF MAINE'S
PUBLIC
UNIVERSITY
SYSTEM**

MAKING MAINE WORK

CRITICAL INVESTMENTS FOR THE MAINE ECONOMY

TO THE READER:

December 2010

Maine is emerging from one of the worst recessions since the 1930s, and the economic world we are now entering is very different than the world we left behind. For the past 30 years, Maine's primary economic drivers have been defense, real estate, and consumer spending. Our world has changed, and none of these will be present to the same degree in the years ahead.

Now, Maine must build a new future. We need the intelligence to analyze our position; the insight to create a focused strategy; and, the courage to carry out those tough decisions. We must create the incentives and infrastructure to support a new wave of private sector investment.

The challenge is real, but we are upbeat about Maine's potential. Our analysis and recommendations build upon the collective wisdom of many recent Maine studies and the viewpoints and ideas of Maine business managers statewide.

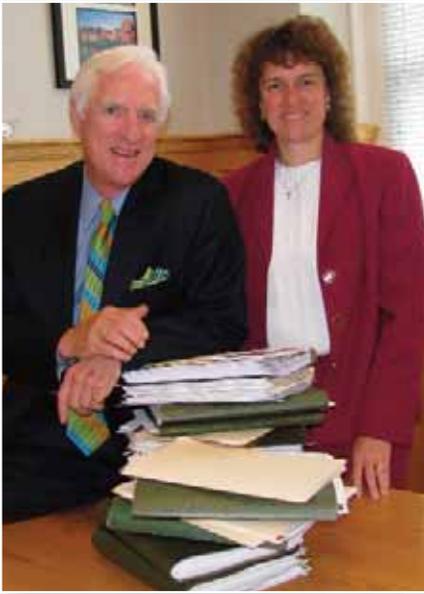
There is no time to waste. Maine's future beckons. Join us in facing the economic challenges head on. Let us have the courage and discipline to create an environment that catalyzes private sector investment and to focus our public sector investments in ways which will make Maine one of the most productive and prosperous states in the nation.



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MAKING MAINE WORK: CRITICAL INVESTMENTS FOR THE MAINE ECONOMY

Making Maine Work: Critical Investments for the Maine Economy is a comprehensive action plan for improving productivity, growing the economy, and providing a higher quality of life for all Maine people. Released in July 2010, the original report and recommendations were the result of a joint effort between the Maine State Chamber of Commerce (MSCC) and the Maine Development Foundation (MDF). It explored the investments needed to grow the economy and the factors that influence those decisions.

Along with *Making Maine Work*, MDF published two background reports: *Maine's Investment Imperative II: Unleashing the Potential*, an in-depth review of more than 100 reports and recommendations on key issues influencing investments in Maine, and the results of the *Investment Imperative Survey with 1,000 Maine Businesses*.

EXECUTIVE SUMMARY

Achieving the vision of a high quality of life for all Maine people will require a strong economy. A strong economy requires a highly educated workforce that can innovate and adapt to change. As the largest educational and research organization in the state, Maine's public University System has a large role to play in moving us forward.

Maine faces several challenges now and in the years to come. We have a slowly growing and aging workforce and an economy in transition. The jobs of the future will require education and training beyond high school and many of the highest growth and highest wage jobs will require a bachelor's degree or more. Yet, Maine's higher education attainment rates trail regional rates. Faced with this gap in qualified workers, it is imperative that every Maine person achieve their highest educational potential.

Now, more than ever, businesses need Maine's University System to educate the workforce and develop ideas to help grow the economy. The good news is that the University of Maine System is already doing much of the work, but the message from Maine business is that there is room — and a need — to do more.

A quality and efficient public university system requires a sturdy foundation. Maine's public University System must:

- FOUNDATION 1:** Operate as a true system.
- FOUNDATION 2:** Communicate the value of the system and its parts.
- FOUNDATION 3:** Build and maintain the necessary infrastructure to best serve Maine people.
- FOUNDATION 4:** Ensure that tuition is affordable for all Maine people, particularly low and moderate income families.

And it must embrace the following recommendations to support economic growth in Maine:

EDUCATE PEOPLE FOR THE MAINE ECONOMY:

- RECOMMENDATION 1:** Enroll, educate and graduate more people.
- RECOMMENDATION 2:** Graduate people with the skills and knowledge that meet the current and future needs of Maine businesses.

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DRIVE INNOVATION AND SUPPORT ENTREPRENEURSHIP:

- RECOMMENDATION 3:** Increase and expand the capacity for the University System to conduct research and development that leverages additional funding, generates marketable ideas and supports job and wealth creation in the Maine economy.
- RECOMMENDATION 4:** Develop the entrepreneurial skills of students and faculty and support technology and knowledge transfer system-wide, providing the opportunity and capacity to commercialize ideas.
- RECOMMENDATION 5:** Bring the University System’s R&D and knowledge directly to the businesses that will use them.

SERVE THE PUBLIC AND SUPPORT BUSINESS:

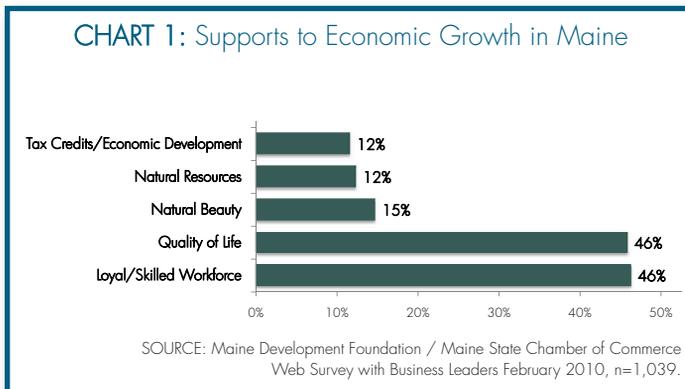
- RECOMMENDATION 6:** Provide technical support and capacity that Maine businesses require to be competitive in the national and global markets.
- RECOMMENDATION 7:** Make regional economic development a priority and work actively with partners to achieve community and economic development goals.

EXPAND THE ROLE OF COMMUNITY AND CULTURAL CENTERS:

- RECOMMENDATION 8:** Develop and market the cultural and community assets of each campus as a means of attracting and retaining people in Maine.

MAKING MAINE WORK

The following report explores the role of Maine's public universities in the state economy. It builds on a broader analysis of the economy released in July 2010, *Making Maine Work: Critical Investments for the Maine Economy*, a comprehensive action plan for improving productivity, growing the economy, and providing a higher quality of life for all Maine people. The original report and recommendations, a joint effort between the Maine State Chamber of Commerce (MSCC) and the Maine Development Foundation (MDF), explored the investments needed to grow the economy and the factors that influence those decisions. Along with *Making Maine Work*, MDF published *Maine's Investment Imperative II: Unleashing the Potential*, an in-depth review of more than 100 reports and recommendations on key issues influencing investments in Maine, as well as a third document summarizing the findings from a Maine business leaders' survey with more than 1,000 responses.



The survey asked business leaders to rank the factors that supported investment and to specifically identify the supports and barriers to investment in Maine. Similar to other studies, the study found the three greatest barriers to investment in the state are cost issues: health insurance, energy and regulations. Likewise, the study found that the greatest supports are a loyal/skilled workforce and the quality of life. Close to one-half of the business leaders mentioned a loyal and skilled workforce as a strong positive factor for investment.

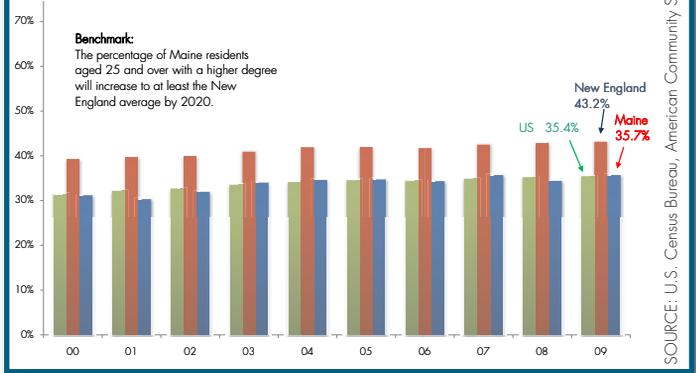
Moreover, a review of the Maine Department of Labor analyses showed that a majority of the high-wage, high-growth jobs will require a college degree or other post secondary training. However, Maine lags the region in the proportion of adults with college degrees. This places the state at a competitive disadvantage in terms of providing employers and industry with a skilled workforce now and into the future. (See Chart 2 on page 4.)

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CHART 2: U.S., New England and Maine
Higher Degree Attainment Rates (2000-2009)



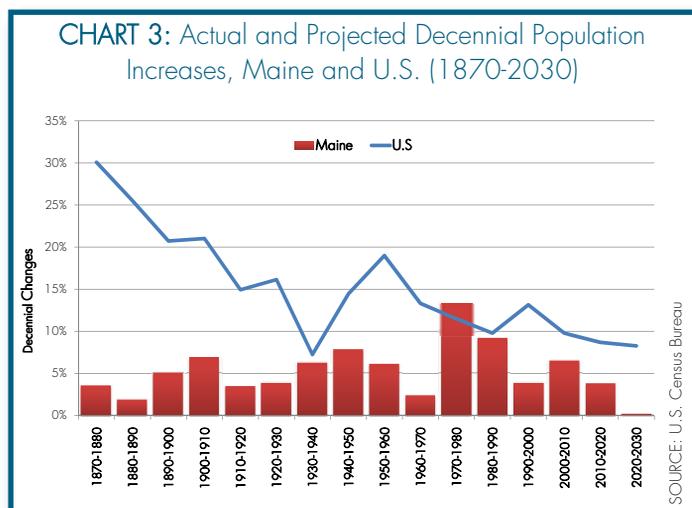
This report focuses on the role higher education plays in growing Maine’s economy and the investments necessary to support the work. Specifically, this report looks at the current role of the University of Maine System (University System) in contributing to economic development, evaluates what more might be done, and provides recommendations for how best to deploy the System’s resources to reach its full potential.

MAINE TODAY AND TOMORROW

Maine is slowly emerging from one of the worst recessions since the 1930s, weathering record job losses, a large drop in personal and business wealth, and unprecedented numbers of home and business foreclosures. The challenge now is “to re-create the engines of growth in Maine’s economy.” This is essential and can happen if the public and private sectors work together. The first step is to understand the world we live in and the one we will see down the road.

DEMOGRAPHICS

Maine’s population is growing very slowly. For the last 140 years, Maine’s population has grown relatively slowly ranging from 3% to 14% growth each decade. Looking forward 20 years, population growth in Maine is projected to slow to nearly negligible levels. This means that the workforce we have today is the workforce we will have for the next two decades.



Maine’s population is getting older. As of 2009, Maine’s median age was 43.4, making Maine’s population the oldest in the nation.¹ Projections show a growing share of the population nearing retirement age and a shrinking share of younger working-age adults. Considering the projections of slow population growth, into the future, the average age will continue to rise.

For businesses looking at long-term sustainability in Maine, the age and the lower-than-average education levels of the current workforce are not optimum conditions for making long-term investments in the state. To replace retiring workers, Maine needs more talent moving to the state.

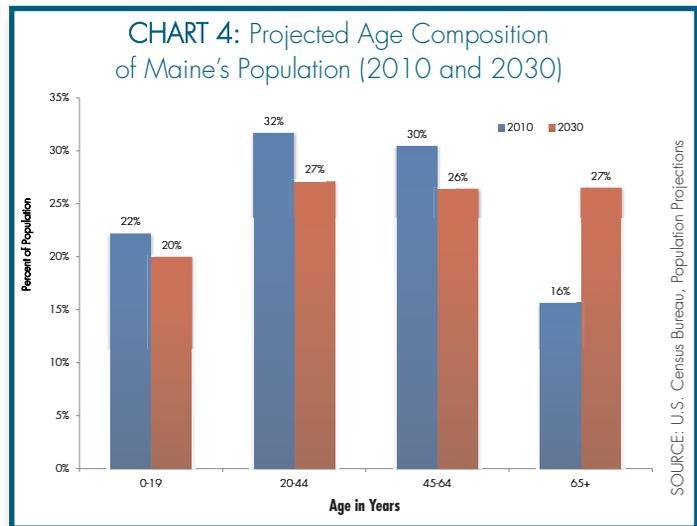
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¹ U.S. Census Bureau





In addition, adults need to continue their education and training to keep their skills and knowledge current with employer needs. Higher education can help by educating our current workforce and supporting existing and prospective employers, which in turn, will create an economy that attracts more talented people to the state, building Maine's future workforce.



THE MAINE ECONOMY

In addition to demographic challenges, Maine has a number of economic challenges. Maine's economic base continues to shift from traditional natural resource extraction and manufacturing to a more knowledge-based economy with a focus on service and high-tech fields. Unfortunately, due in part to cost structures in Maine, we have not always been able to keep pace with changes in the global economy.

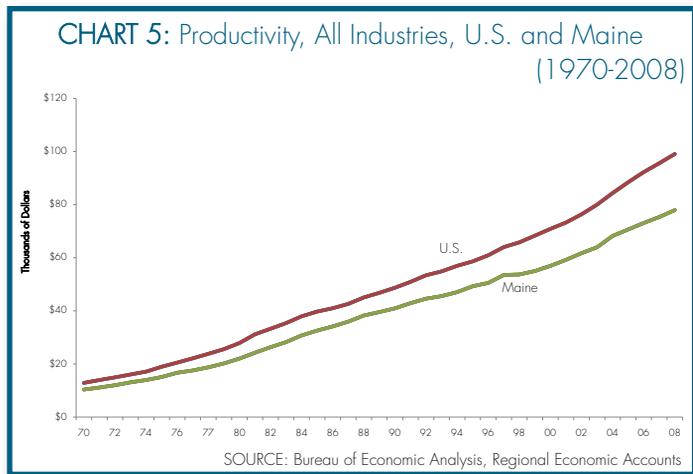
Maine ranks 30th in personal per capita income² (all sources) and 45th in wages.³ Linked to income is productivity, a measure of economic output from each worker. Maine lags the nation in this measure and that gap has grown in recent years. Simply stated, Maine is not keeping up with the competition and as a result, Maine workers aren't earning what they could. This stymies growth, limits opportunities, and deters new talent and new ideas from coming to Maine.

Increasing productivity must ultimately be a goal of any successful economic development plan. This will make us more competitive, drive growth, create jobs, raise incomes, and bring more talent and ideas to the state.

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² Bureau of Economic Analysis 2008

³ Pew Center on the States 2007



INVESTMENTS TO INCREASE PRODUCTIVITY

There are two means to increase productivity: *invest in technology* and *increase innovation*. The first strategy involves making investments – in capital, innovation, technology – that will improve output and make us more competitive. There is a role for the private and public sectors. Industry needs to invest, and the public sector needs to use its resources to ensure that there is an environment conducive to investment, one with a strong foundation and one with stability and certainty.

The second strategy is to invest in the people that make up our workforce to accelerate innovation. This is done through education. Education is directly linked to productivity, particularly in the knowledge-based economy. As a state, we need to make sure that every Maine person has the opportunity to reach their highest educational potential. This helps meet the needs of existing industry and will help attract new industry. An educated workforce drives innovation and generates new ideas that become the companies and jobs of the future. This is about creating opportunities that grow the Maine economy.

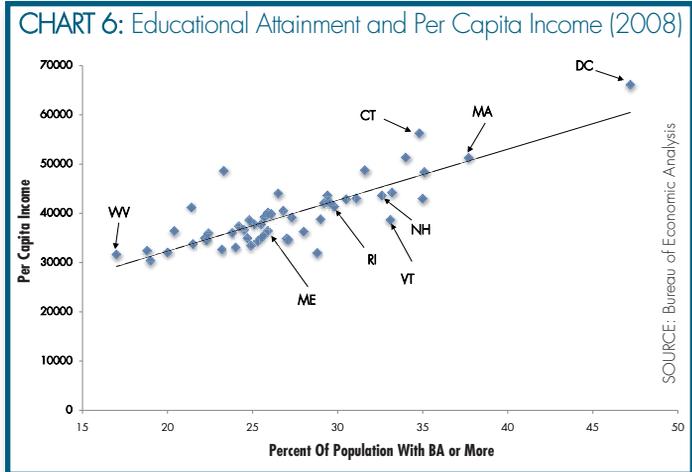
Again, there are roles for the private and public sectors. The private sector must encourage and enable its workforce to pursue educational opportunities. It must also advocate for the value of higher education and sustained and adequate support. The public sector must work with the private sector and provide a quality and efficient public higher education system.



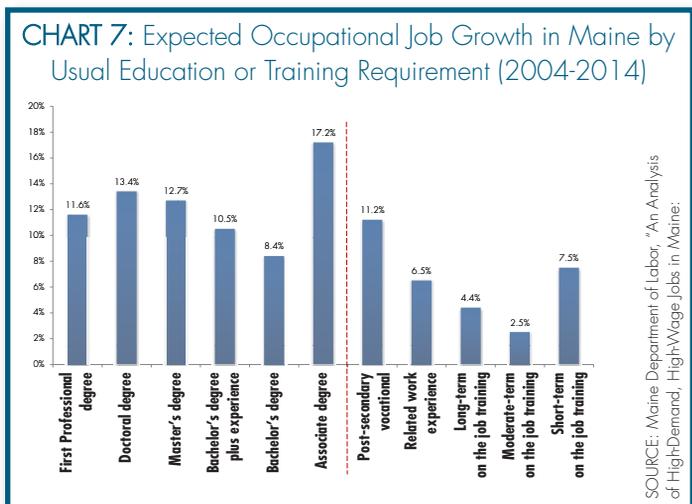


AN INVESTMENT IN HIGHER EDUCATION

Increasing access to higher education opportunities is critical to the growth of Maine's economy. A person's level of education is directly tied to their economic well being. Greater earnings potential come with higher educational attainment.



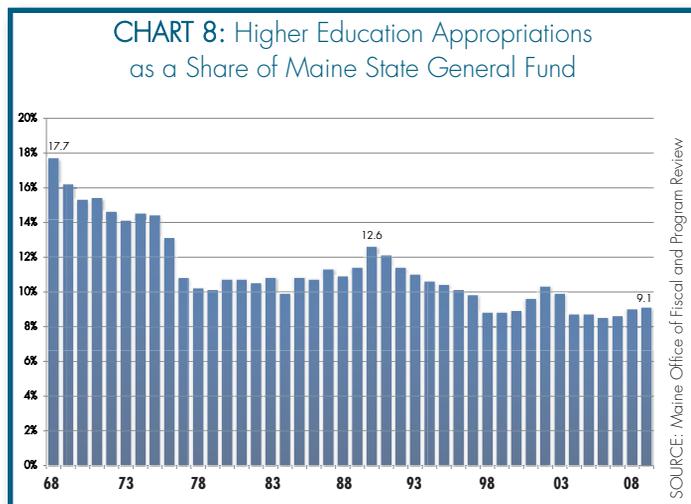
Additionally, a majority of high growth jobs will require higher education in the near future.



Despite these facts, the share of funding for the public higher education systems (University of Maine System, Maine Community College System, and Maine Maritime Academy) reflects a decreasing priority relative to other budgetary responsibilities in the General Fund (see Chart 8 on page 9). While the University of Maine System has grown to be

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the largest and most comprehensive system of higher education in the state, its appropriation from the state budget continues to shrink.



In 2009, the University System appropriation was 6.5% of the General Fund, down from a high of 15.2% in 1968.⁴ As the share of monetary support declines, the public’s need for the education, research, and community resources provided by the University System grows.



⁴ University of Maine System, “State General Fund Support of Maine Education 2008/2009”

FOUNDATIONAL RECOMMENDATIONS FOR A HEALTHY PUBLIC UNIVERSITY SYSTEM

A quality and efficient public university system requires a sturdy foundation. With a strong base, various components can be successfully delivered to benefit the people of Maine. Several recent efforts have explored the issues facing higher education and the state economy and have built consensus among legislators and University System administrators on the best path forward. These efforts include the New Challenges, New Directions Task Force,⁵ the Maine Compact for Higher Education,⁶ and the Maine Coalition for Excellence in Education's Prepare Maine Initiative.⁷ Their work identified sound and actionable strategies to move Maine forward. A consensus is emerging around four foundational recommendations:

- 1** *Maine's public University System must operate as a true system.* A healthy system allows for the easy exchange of people and ideas. It allows for and encourages the individuality and diversity of its components but efficiently allocates and distributes public resources for a common public goal. All clients are able to enter the system at any point and have access to all products and services that meet their needs. Governance structures across the system support efficient delivery of quality services and products. Successful system management leads to cost savings that can be reinvested in students and faculty.⁸ *This is the responsibility of the University of Maine System Office and its Board of Trustees.*
- 2** *Maine's public University System must communicate the value of the system and its parts.* The University System must be active cheerleaders and advocates for the value of higher education and degree completion in spurring the growth of prosperity in the state. Further, it must show residents how the University System can help them succeed both personally and professionally. Prospective students and businesses need to understand that the entire system has something of value to offer them. Maine people and policymakers need to understand the positive return on their public investment in terms of dollars, jobs and growth for the whole system. Campuses must communicate unique

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⁵ University of Maine System New Challenges, New Directions Task Force, "Report of the Task Force: New Challenges, New Directions," 2009

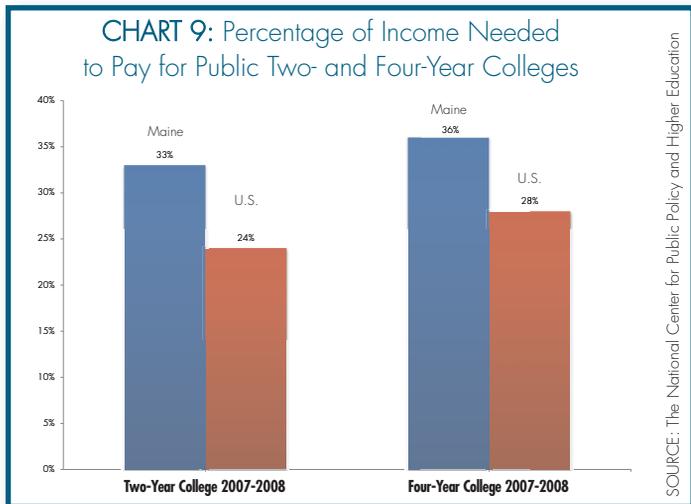
⁶ www.collegeforme.com

⁷ www.preparemaine.org

⁸ Models of successful university system management and realignment include the University of North Carolina's Tomorrow System Initiative and the realignment of Arizona State University.

services and identities to prospective students and businesses. Campuses must quantify the positive return on the public investment in terms of dollars, jobs and growth. *This is the responsibility of the University of Maine System Office and its individual campuses.*

- 3** *Maine’s public University System must build and maintain the necessary infrastructure to best serve Maine people.* The University System must maintain the necessary buildings, laboratories, physical plants, technologies, and communications infrastructures to serve its clients and to play an active role in the knowledge-based economy. There needs to be a system-wide facilities plan. *This is the responsibility of the Governor, the Maine State Legislature, and the University of Maine System Office.*
- 4** *Maine’s public University System must ensure that tuition is affordable for all Maine people, particularly low and moderate income families.* The University System must ensure that all Maine people who have the aptitude and desire to pursue a BA or BS degree in the system can do so and that tuition is affordable. Maine’s relatively lower incomes make affordability more difficult. The University System should consider setting a ceiling for tuition that is tied to income, continue support and development of financial tools that help pay for tuition, adopt flexibility in service delivery to allow students to finish in less time (three-year degrees) or to finish at a pace that fits their economic situation, and make a commitment to accept and graduate all qualified low and moderate income Maine students who want to earn their degrees. *This is the responsibility of the Governor, the Maine State Legislature, and the University of Maine System Office.*



THE UNIVERSITY SYSTEM'S ROLE IN ECONOMIC DEVELOPMENT

With a strong foundation in place, the University System can deliver the services needed to drive economic development in Maine. It is the largest provider of higher education in the state; its footprint is statewide and is comprised of seven universities, nine university college outreach centers, 75 distance learning centers, and a law school. The University System has a considerable presence and, as a result, a large role to play in the economy.

The good news for Maine people is that their University System is already doing many things for economic development. But the message from Maine business is that there is room — and a need — to do more.

The following sections present a case for what the University System can do to strengthen its economic development role. This is done by presenting what businesses need; highlighting what the University System is already doing; examining a number of best practices from public higher education systems around the country;⁹ and, making recommendations to advance the University System's economic development role in Maine. These are organized by four primary roles that the University System plays in the overall economic development of Maine, namely to:

- 1** *Educate People for the Maine Economy;*
- 2** *Drive Innovation and Support Entrepreneurship;*
- 3** *Serve the Public and Support Maine Businesses; and,*
- 4** *Expand the Role of Community and Cultural Centers.*

⁹ Much of the information in this section was found in "A New Paradigm for Economic Development — How Higher Education Institutions Are Working to Revitalize Their Regional and State Economies," a March 2010 publication by the Nelson A. Rockefeller Institute of Government (www.rockinst.org).

SECTION ONE:

EDUCATE PEOPLE FOR THE MAINE ECONOMY

MAINE BUSINESSES NEED...

All higher education institutions are in the business of educating and graduating students ready to participate in the economy and society. To best serve this role, the higher education offerings and services must match current and future workforce needs. The University System needs to offer the mix and numbers of courses necessary to meet labor market demand, and it must deliver it in a way that is convenient for the student. This is a competitive market, and a resounding theme is that today's customer expects flexibility.

From businesses' perspective, the primary role of the University System is to educate people to productively participate in the workforce. People need to graduate from the University System with the knowledge and skills that meet the needs of today's industry as well as the capacity to adapt to a changing global economy. In addition, industry needs the University System to increase its output – educating and graduating many more students. Chart 7 (see page 8) shows that occupations requiring an associate's degree or higher will experience growth rates ranging from 8.4% to 17.2% during the next four years. The Maine Department of Labor also predicts that 41% of high-wage, high-growth occupation openings through 2014 will require a bachelor's degree or better.¹⁰

An educated workforce enables businesses to compete in the global, knowledge-based economy. An educated workforce increases economic productivity, earns more, and enjoys a higher quality of life. An educated workforce attracts new growth businesses that create jobs, which in turn will serve to attract more talent to the state, benefiting all in the Maine economy. Maine currently lags the region in degree attainment, putting us at a competitive disadvantage.

UNIVERSITY SYSTEM ALREADY DOES...

Annual enrollment across the University System is over 32,000 (part- and full-time). This represents almost half of all higher education enrollments, public and private, in the state of Maine.¹¹ The University System is an attractor, with 12% of enrollment from out of state.

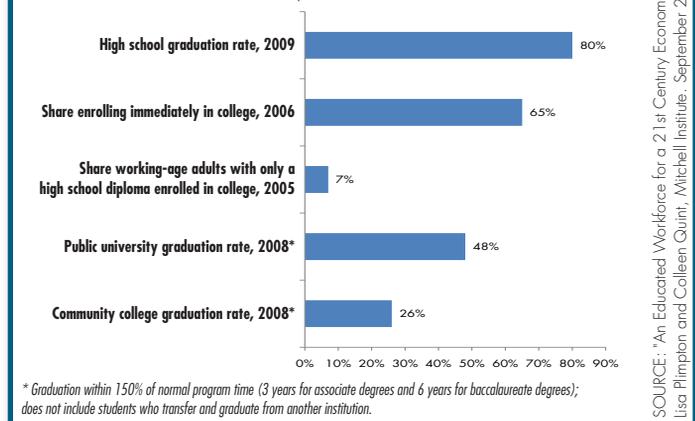
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¹⁰ Maine Department of Labor Center for Workforce Research and Information, "An Analysis of High-Demand, High-Wage Jobs in Maine," June 2008
¹¹ Senator George J. Mitchell Scholarship Research Institute, "An Educated Workforce for a 21st Century Economy," September 2010





CHART 10: College Preparation, Participation, and Completion in Maine



As Chart 10 above illustrates, there are ample opportunities to increase higher degree attainment in Maine, particularly by focusing on the adult market and on improving completion rates.

The University System has a graduation rate of almost 50%. A majority of students from Maine remain in state and work in the Maine economy after graduation. Approximately 63% of baccalaureate graduates from UMaine's class of 2008 remained in Maine and secured full-time employment in the Maine economy. Almost 16% of out-of-state graduates from that same class also remained to work in Maine.¹² The University System is actively working to increase these numbers – enrolling, retaining and graduating more people by:

Raising Aspirations and Improving Retention:

- K-12 curriculum development: Working with local schools to help prepare students for college;
- K-12 visitations: Making Maine students aware of college opportunities (MELMAC Education Foundation approach);
- K-12 Science Technology Engineering and Mathematics (STEM) curriculum development: Filling curriculum gaps for today's industry; and,
- Student Success Centers: USM has a support system to help retain students and protect the public's upfront investment.

Improving Access:

- Providing distance learning centers statewide: Tele-education brings the classroom to people; and,
- Increasing on-line learning: Providing greatest flexibility and meeting the demand for a fast-growing sector in higher education nationwide.

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¹² The University of Maine, Office of Institutional Studies, "Life After UMaine, The Employment and Educational Status of 2007-2008 Baccalaureate Recipients," February 2010

Reaching Beyond Traditional Students:

- Working with active duty military personnel;
- Actively recruiting international students;
- Expanding programs for adult learners and current workforce; and,
- Providing joint programs with Maine Community Colleges to expand reach and provide a range of options.

Meeting Workforce Needs:

- Educating people to fill needs in the health care workforce;
- Educating the majority of Maine’s K-12 teachers;
- Developing tourism management to meet the needs of a growing seasonal industry;
- Offering a range of professional degrees in line with the needs of Maine employers (Examples: semi-conductor and insurance industries); and,
- Expanding engineering and high-tech sector training for high-growth, high-demand jobs.

IDEAS FROM OTHER STATES...

Greater Accessibility via Technology:

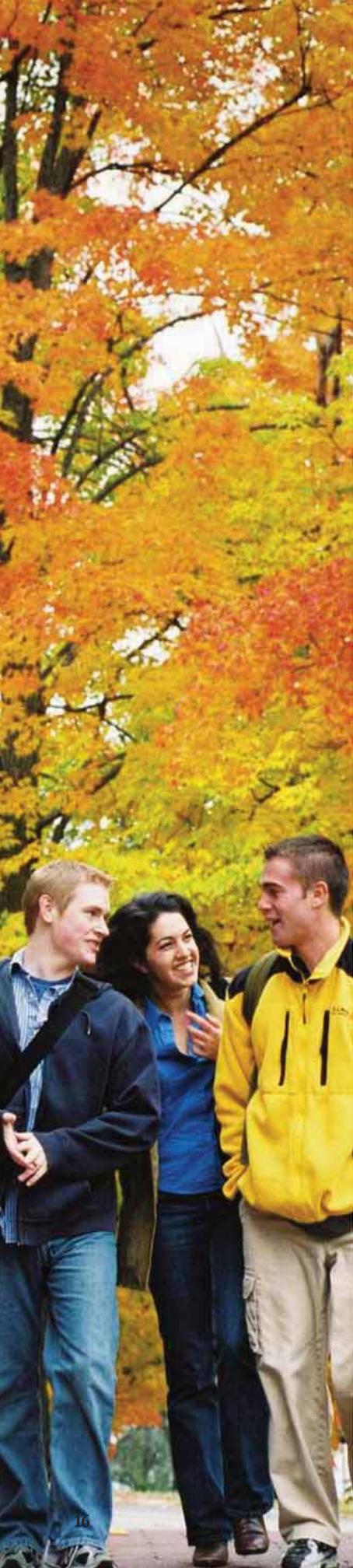
Western Governors University (WGU; www.wgu.edu) is an on-line university formed by private industry and government to serve a population spread over a wide geographic region. WGU offers a vast array of on-line competency-based degree programs (bachelor’s and master’s) with a focus on affordability and flexibility and has served more than 20,000 students from all 50 states.

Both *Excelsior College* (www.excelsior.edu) and *Empire State College* (www.esc.edu) in New York state have distinguished themselves through expansion of on-line services, particularly targeting adult students.

Directly Meeting the Workforce Needs of Employers:

The *Intellectual Capital Partnership Program* (ICAPP; www.icapp.org) of the *University System of Georgia* is designed to offer a full complement of economic development services to Georgia businesses. One service involves working directly with businesses to assess their workforce needs, identify gaps and develop and deliver educational programs that provide employees with the missing skills. When higher education institutions work directly with industry to identify gaps in the workforce’s skill set and then design programs to deliver on those needs, there is the dual benefit of serving more students and ensuring a positive economic outcome.





RECOMMENDATIONS TO EDUCATE PEOPLE FOR THE MAINE ECONOMY

1 The University System must enroll, educate and graduate more people. It should adopt the goal of the Maine Compact for Higher Education for all Maine institutions of higher education to educate 40,000 additional degree holders, above and beyond current projections, to reach the projected New England attainment rate by 2020.

STRATEGIES...

Raise college aspirations of traditional Maine students and improve retention rates. To meet the above goal the University System needs to have an active hand in raising the aspirations of all Maine children to attend college and keeping them in once they arrive in order to increase degree attainment and to capitalize on upfront financial investment in students.

- Invite all school children and their families to visit the campuses throughout their elementary and secondary educational careers and provide programming and learning opportunities that promote the need for higher education (Maine Department of Education and the K-12 system must be active and willing participants);
- Support and expand the Early College program; and,
- Invest in a coordinated support system across all campuses to help first and second year students get the help and resources they need to keep them in school (Model: USM Student Success Centers).

Working adults – a large percentage of Maine’s workforce – have some college experience but did not complete a degree program. Serving this population has the dual benefit of reaching the goal above as well as improving the skills and productivity of the existing workforce.

- Support and work with programs like College Transitions and Maine Employers’ Initiative;
- Support Prior Learning Assessment (PLA) programs that provide credits for work experience; and,
- Create ease of credit transfer across the system to allow working adults with a variety of educational experiences to continue their education and get credit for past work.

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It is not enough to just graduate more people. It is an imperative that more people graduate with the skills and knowledge that meet the current and future needs of Maine businesses.

STRATEGIES...

Align curricula and courses with the needs of Maine businesses to deliver an education and the necessary skills that support growth sectors in the Maine economy.

- Establish a Business Advisory Board at each campus (many already exist - this would consolidate the work to one entity), with business representatives from Maine's Technology Clusters, regional Economic Development Districts, regional employers, and industry associations, to inform the universities of workforce and skill needs across the Maine economy, to assist faculty in curriculum development, and to assist graduating students to find employment; and,
- Establish a System Business Advisory Board for the University of Maine System, made up of representatives of each of the seven campuses' Advisory Boards, as well as representatives from statewide economic development entities, to inform and guide the Chancellor's Office and the work of the Board of Trustees.





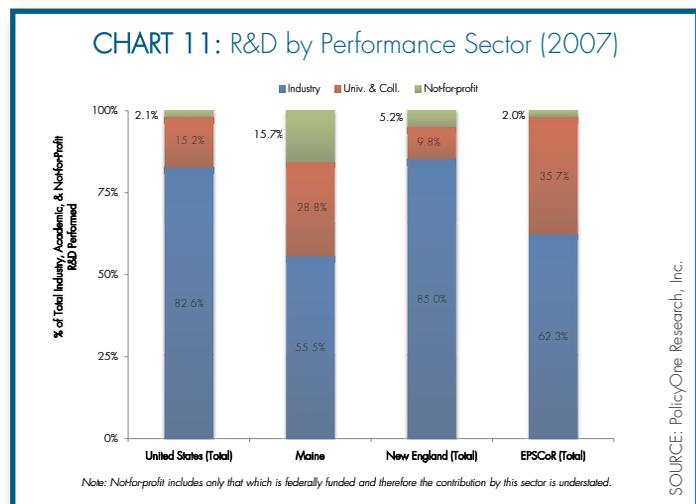
SECTION TWO: DRIVE INNOVATION AND SUPPORT ENTREPRENEURSHIP

MAINE BUSINESSES NEED...

Maine businesses need access to the innovation and entrepreneurial capacity found at the University System. Innovation and entrepreneurship are the biggest drivers of economic growth in today's economy and the University System is a major source. Nobel Prize Winner, Robert Solow, showed that 80% of gross domestic product (GDP) growth comes from innovation. New ideas lead to advancements in current services and products and allow for business expansion. New ideas lead to new businesses, job creation, and increased incomes. Entrepreneurs behind the innovation bring essential skills to the workforce. Existing talent attracts new talent to Maine. This is what will ultimately sustain long-term growth in the Maine economy.

UNIVERSITY SYSTEM ALREADY DOES...

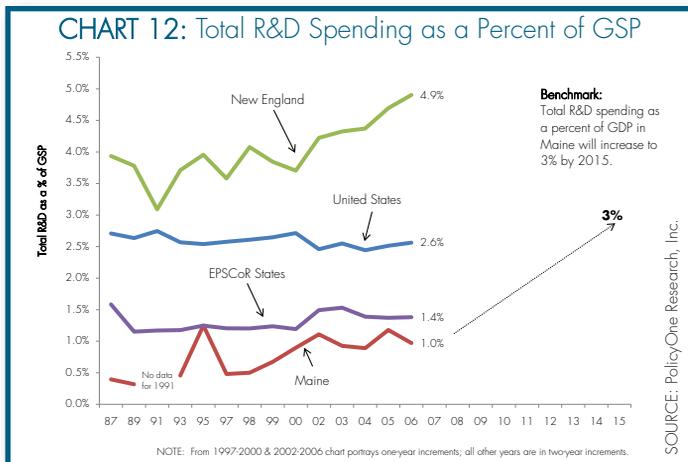
With the support of the Maine Legislature and the Governor, the University System has managed to increase the scale of its R&D in recent years and that accounts for almost 30% of all R&D within Maine.



Despite this, Maine still ranks 41st in academic R&D nationally and total R&D in Maine is well off the 3% of gross state product (GSP) target set in the 2010 Maine State Science and Tech Plan.¹³

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¹³ Maine Office of Innovation, "2010 Science and Technology Action Plan: A Bold Approach to Stimulate Maine's Economy"



Additionally, the University System is not producing the number and types of graduates needed to drive innovation. For science and engineering graduate enrollments, Maine ranks 51st nationally. Maine ranks 38th for science and engineering degrees awarded.¹⁴

Expanding R&D is a good public investment. The University System's use of the Maine Economic Improvement Fund (MEIF) over the past five years leveraged on average an additional \$4 to \$5 for every \$1 invested, supported the creation of hundreds of jobs, and led to several business spinoffs.¹⁵

Leading Maine in R&D:

- UMaine and USM lead in academic R&D, leveraging on average \$4 to \$5 for every \$1 from MEIF, supporting hundreds of jobs, and creating business spinoffs.

Leading the Nation in Innovation:

- UMaine's AEWC / Advanced Structures and Composites Center is a worldwide leader in wood composite technologies.

Fostering Ideas and Opportunities:

- Creation of the Foster Center for Student Innovation at UMaine to help all students commercialize their ideas; and,
- Creation of the Innovation Engineering program available to all students system-wide; and,
- Creation of the Target Technology Center that helps entrepreneurs create and grow innovative businesses.

Partnering with Maine Businesses:

- Hundreds of examples of combining resources and expertise to create business opportunities: Brunswick Naval Air Station project with Bath Iron Works, UMaine, USM and Southern Maine Community College to provide a range of engineering instruction to employees.

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¹⁴ Maine Office of Innovation, "Maine Innovation Index, 2009"

¹⁵ University of Maine MEIF website www.umaine.edu/meif/





IDEAS FROM OTHER STATES...

Locating Research Facilities near Industry:

This often occurs at what are known as research parks. The most well known of these is *Research Triangle Park* (www.rtp.org) in North Carolina, a joint venture of *UNC, NC State, and Duke* started more than 50 years ago. The Park was developed for the purpose of attracting high tech businesses to North Carolina by offering them the opportunity to locate on-site with the R&D facilities and knowledge of higher education institutions. This gives business direct access to publicly-funded innovation to drive their growth and provides students and faculty access to private resources and commercial systems.

State public funds are able to leverage considerable private investment. The combination benefits the people of North Carolina with business creation and job growth. Employment in the Park went from 5,000 in 1970 to more than 30,000 in 1990. Employment in the region went from 286,000 in 1970 to 1.03 million in 2007. Personal per capita income went from 11.4% below the national average in 1970 to 1.5% above in 2007.

Other examples of successful research parks include *University of Wisconsin Research Park* in Madison (www.universityresearchpark.org), *Western Michigan University's Business Technology Research Park* (www.wmich.edu/btr), and the *St. Louis Center of Research, Technology and Entrepreneurial Exchange* (CORTEX; www.cortexstl.com).

The complement to locating academic R&D off campus in business parks is offering businesses the opportunity to locate directly on campuses, as is the case with the *Centennial Park* (www.centennial.ncsu.edu) on the campus of NC State. This is an on-campus research facility and business park. The campus consists of a combination of labs, classrooms, libraries, private companies, government offices, incubators, residences, food service, and recreational amenities.

Centennial Park is controlled by NC State. Legal flexibility, made possible by the state legislature, allows for state appropriations combined with private sector tenant rents to pay off bonded debt and private financing from developers with long-term leases. The on-campus location provides for an open interaction and exchange of ideas among faculty, students, and industry tenants. It is a considerable amenity for tenants and their employees.

Attracting the Best Innovation Talent to the State:

The State of Georgia has embraced this approach through the *Georgia Research Alliance's* (www.gra.org) *Eminent Scholars Program*. The program invests \$1.5 million to lure a top researcher to the state by providing them with money and the highest quality research facilities. The program has attracted more than 60 researchers to Georgia, with an upfront investment of \$510 million that leveraged \$2.6 billion, creating 5,500 new jobs, and 150 new companies.

RECOMMENDATIONS TO DRIVE INNOVATION AND SUPPORT ENTREPRENEURSHIP

- 3** Increase and expand the capacity for the University System to conduct research and development that leverages additional funding, generates marketable ideas, and supports job and wealth creation in the Maine economy.

STRATEGIES...

Support tools that attract money and talent, including continuing and expanding the support of competitive grants and funds that leverage outside money and human capital to conduct R&D in Maine.

- The University System must work with State Government and private investors to support funding tools (like the MEIF and Maine Technology Asset Fund) to attract additional R&D funds; and,
- Create an Eminent Scholars program (modeled after the successful Eminent Scholar programs and in line with the Maine Science and Tech Plan) to identify, attract, and retain up-and-coming research talent (aligned with targeted technology sectors) to Maine through the granting of funds, research facilities, and tenured positions.

- 4** Develop the entrepreneurial skills of students and faculty, and support technology and knowledge transfer system-wide, providing the opportunity and capacity to commercialize ideas.

STRATEGIES...

Provide students with an entrepreneurial foundation and incorporate the necessary entrepreneurial skills into a student's education that will allow them to succeed in the Maine economy of today and tomorrow.

- Incorporate foundational entrepreneurial classes into the core curriculum for students pursuing a BA or BS in the University System; and,
- Make Innovation Engineering classes a requirement of students pursuing a BA or BS in the University System.

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Commercialize good ideas by providing the infrastructure, funding and support for technology transfer and commercialization in the University System and across Maine.

- Increase funding for the existing technology and innovation centers and add additional centers in places that directly support populations, targeted sectors, and science and technology development plans.

5 Bring the University System's R&D and knowledge directly to the businesses that will use them.

STRATEGIES...

Establish business relationships with private industry, as well as promoting private and public supported partnerships with Maine businesses that bring the University System's resources where those businesses reside.

- Continue the business and higher education collaboration at the Brunswick Naval Air Station that serves the manufacturing and technical industries in southern Maine. This would use a dual public and private funding model and would be on a scale and time-frame that fits the Maine market (successful ventures in other states took a commitment of decades to realize success).

SECTION THREE:

SERVE THE PUBLIC AND SUPPORT BUSINESS

MAINE BUSINESSES NEED...

Maine's public University System must ultimately serve the public. The University System has considerable capacity in its people, knowledge, and technology. The University System must deploy these resources to advance good public policy, to effectively serve the public, and to solve problems facing our economy and our society.

Maine businesses also need access to these resources in order to help deliver services and products. This means sharing the University System's people, knowledge, and technology to help advance economic development. Economic development and business support must be engrained in all that the University System does, and it must span all departments and curricula.

UNIVERSITY SYSTEM ALREADY DOES...

The University System brings its capacity to the business community on a regular basis. This benefits existing small and large businesses, across multiple sectors, as well as emerging businesses. Connections seem to be strongest on the smaller rural campuses while the larger campuses are able to deliver services on a broader scale.

Working Directly with Businesses and Industry:

- Established collaborative agreements with hundreds of Maine businesses;
- Cooperative Extension has more than 2,000 visits each year; and,
- Muskie School for Public Service and the Margaret Chase Smith Policy Center provide the highest quality research and service to Maine people, businesses, and policymakers.

Providing Support:

- Invested in microenterprise development;
- Established the Centers for Women, Work and Community to assist entrepreneurs, women and men;
- Hosts Small Business Development Center; and,
- Offers a number of internships across campuses, particularly in conjunction with professional schools and programs.

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Regional Economic Development:

- Campuses are active in community revitalization and regional economic development projects.

IDEAS FROM OTHER STATES...

One Stop Shopping for Businesses:

Georgia Institute of Technology (www.gatech.edu/economicdevelopment) offers an array of economic development programs to existing and prospective businesses in the Atlanta area. These services are offered on a mixed-use campus in Atlanta that houses university facilities, a conference center, a hotel, commercial offices, the state Department of Economic Development, business technology assistance, state utilities office, job training facilities, and a bank. This helps with business retention and expansion as well as attraction.

Delivering Employer and Industry Specific Training:

The *North Carolina Community College System* (www.nccommunitycolleges.edu) has taken a customer friendly approach, offering workforce training on demand to companies in industries designated as growth industries. The System's 58 community colleges work with the state Department of Commerce to deliver non-credit workforce training to eligible businesses. New and existing employers are able to approach the Department of Commerce to get training developed at no cost. The employer, in turn, works directly with the college to develop curriculum. The venture is supported through \$12.4 million per year in public funds.

Georgia's Quick Start Program, run by the *Georgia Technical College System* (www.georgiaquickstart.org) offers an even more customer friendly service. It deploys job training directly to employers on location at no cost. Like the North Carolina service, the program is open to growth businesses and businesses that are expanding employment or facilities.

Taking the Lead in Regional Economic Development:

Towson University (www.towson.edu/tuinthecommunity) located near Baltimore, Maryland, is a key player in regional economic development efforts. Towson delivers training assistance to the region's employers in an effort to help turn around blighted areas. Towson is also host to a Small Business Development Center.

RECOMMENDATIONS TO SERVE THE PUBLIC AND SUPPORT BUSINESS

6

Provide technical support and capacity that Maine businesses require to be competitive in the national and global markets.

STRATEGIES...

Deploy the University System's resources, making all businesses aware of the University System's resources, and delivering the University System's knowledge, technical capacity and people to help advance those businesses.

- Support the work of Cooperative Extension and maintain funding at a level to meet service needs;
- Work closely with Maine businesses and enter into partnerships to fund and develop technical facilities (labs, industrial equipment, etc.) that are aligned with industry needs and University System curricula;
- Clearly state the expectation of a minimum number of hours of economic or community development service for faculty and students within the system and provide them with the time and resources to make that happen;
- Develop, manage, and promote a coordinated intern program across the system that serves businesses and non-profits statewide and gives students opportunities outside their regions – use and expand the existing InternHelpME.com program, developed by the *Maine State Chamber of Commerce*; and,
- Create a clear, flexible, standard legal, and financial framework for use across the system that enables the University System to work in partnership with Maine businesses and non-profits.



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7 The University System must make regional economic development a priority and work actively with partners to achieve community and economic development goals.

STRATEGIES...

Institutionalize economic and community development by establishing capacity at the campus levels to actively participate in regional and statewide initiatives and to best deploy the University System's resources to achieve those goals.

- Establish a University System position to work with the state Department of Economic and Community Development and other statewide non-profit economic development organizations such as Maine and Company, the Maine International Trade Center, the Maine Technology Institute, the Maine State Chamber of Commerce, and Maine Development Foundation (that position would also participate as a member of the System Business Advisory Board);
- Campus presidents need to establish an administrator (who will serve as a member of the Business Advisory Board mentioned earlier) in charge of economic development at each campus to work with the Economic Development Districts and other regional economic and community development efforts; and,
- Utilize the System Business Advisory Board established earlier to allow these people to coordinate and efficiently use resources statewide.

SECTION FOUR:

EXPAND THE ROLE OF COMMUNITY AND CULTURAL CENTERS

MAINE BUSINESSES NEED...

The University System campuses serve as major employers as well as community and cultural centers for the regions they serve. Each campus is a customer of regional businesses, and it is a key asset that attracts and retains residents. Businesses need the University System to embrace and invest in this role. They need the University System to develop and market their cultural assets to attract people from inside and outside of Maine to their regions.

UNIVERSITY SYSTEM ALREADY DOES...

University System has a considerable economic impact statewide:¹⁶

- The University System has an annual economic impact of nearly \$1.5 billion on the State of Maine;
- The University System generates \$8.10 for every \$1 of state appropriation;
- The University System provides \$375 million in income and benefits to more than 13,000 workers (employees + vendors) and supports an additional 7,700 jobs in the Maine economy; and,
- 3.3% of Maine GDP is stimulated by University System activity.

Each campus is a cultural and arts center for its communities and region. Campuses are building reputations in various arts and mediums, including:

- Investors in downtown buildings and Main Streets;
- Renowned libraries, repositories, and regional performance centers;
- Expanding reputation and expertise in Franco and Acadian culture;
- Top-flight music and visual arts programs; and,
- Active creative economy supporter, helping local artisans make a living.

IDEAS FROM OTHER STATES...

Downtown and community revitalization are common themes in other states. The following are a few examples where institutions have used its resources and size to revitalize downtowns and city centers.

The *University of Memphis* worked with community officials and developers to tie campus expansion to redevelopment plans in downtown Memphis (www.memphis.edu/planning/student_projects.htm). The work has resulted in \$63 million in mixed-use development, consisting of 230 residential units, retail space, restaurants, and the renovation of historic structures. The investment has leveraged an additional \$13.9 million in private development.

Arizona State University moved its facilities to downtown Phoenix (www.campus.asu.edu/downtown/) as part of a city redevelopment initiative. This brought 15,000 students, 1,800 faculty, 1,300 jobs, and a \$167 million impact to downtown Phoenix.

¹⁶ University of Maine System, "Economic Impact on the State of Maine: The connection between the University of Maine System and the State of Maine," September 2007





RECOMMENDATIONS TO EXPAND THE ROLE OF COMMUNITY AND CULTURAL CENTERS

8

Campuses must develop and market their cultural and community assets as a means of attracting and retaining people in Maine.

STRATEGIES...

Invest in downtowns through participation in community development in their regions to attract people and businesses.

- The campuses need to establish formal working relationships with the downtown groups in their regions to help promote and boost their community development projects. (Example: Partnerships with Maine Downtown Center, Main Street Maine communities, etc.)

Market assets and work with organizations to promote their art and cultural assets for the purpose of attracting people to Maine and their regions.

- The University System needs to work with the Maine Office of Tourism and the Maine Arts Commission to market and advertise campus activities, assets, and attractions to people inside and outside of Maine;
- The University System needs to work with Maine Office of Tourism to provide every incoming student and their families with information on the sites and attractions of Maine; and,
- The University System needs to work with arts and cultural organizations to promote Maine's creative economy.

A strong economy is essential to realize the vision of a high quality of life for all Maine people.

We will get there through private investment that drives productivity and incomes.

Maine businesses need the public sector to set in place the foundations that allow for that investment.

There is no foundational piece more important than our workforce and Maine's Public University System must play a role in our success.

**Together we can
Make Maine Work.**

SELECTED READINGS

The following publications offer the reader more information on this topic:

“A New Paradigm for Economic Development – How Higher Education Institutions are Working to Revitalize Their Regional and State Economies.” David F. Shaffer and David J. Wright, The Nelson A. Rockefeller Institute of Government, University at Albany SUNY. March 2010. Visit http://www.rockinst.org/pdf/education/2010-03-18-A_New_Paradigm.pdf.

“An Analysis of High-Demand, High Wage Jobs in Maine.” Dana Evans, Glenn Mills, and Merrill Huhtala, Center for Workforce Research and Information, Maine Department of Labor. June 2008. Visit <http://www.maine.gov/labor/lmis/publications/pdf/HighWage-HighGrowthReport.pdf>.

“An Educated Workforce for a 21st Century Economy – Public Policy Opportunities for Higher Education in Maine.” Lisa Plimpton and Colleen Quint, Senator George J. Mitchell Scholarship Research Institute. September 2010. Visit http://www.maine.gov/portals/0/pdfs/shared/HigherEdPublicPolicy_Sep2010.pdf.

“Greater Expectations: Compact Report.” Maine Compact for Higher Education. May 2004. Visit http://www.collegeforme.com/action_plan.pdf.

“Indicators of Higher Degree Attainment in Maine.” Maine Compact for Higher Education. August 2008. Visit http://www.collegeforme.com/pdf/HigherEdIndicators_aug08.pdf.

“Maine’s College Graduates – Where They Go and Why (Revisited).” Prepared for the Finance Authority of Maine by David I. Silvernail and Brianne L. Woodard, Center for Education Policy, Applied Research, & Evaluation University of Southern Maine. February 2006. Visit http://www.famemaine.com/files/Content/Publications/where_they_go_and_why_2.pdf.

“Measuring Up 2008 - The National Report Card on Higher Education.” The National Center for Public Policy and Higher Education. 2008. Visit <http://measuringup2008.highereducation.org/>.

“Report of the Task Force: New Challenges, New Directions.” University of Maine System New Challenges, New Directions Task Force. November 2009. Visit <http://www.maine.edu/pdf/FinalNCNDPlan.pdf>.

“2010 Science and Technology Action Plan: A Bold Approach to Stimulate Maine’s Economy.” Maine Innovation Economy Advisory Board and Maine Office of Innovation. October 2009. Visit http://www.maine.gov/decd/innovation/pdfs/2010_S&T_Plan.pdf.

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