Final Report of
THE LT. GOVERNOR'S COMMISSION ON HIGHER EDUCATION & ECONOMIC GROWTH

December 2004

Prepared for
Governor Jennifer M. Granholm

ACKNOWLEDGEMENTS

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The commission also acknowledges the time and effort of those people who served on the work groups. Their participation informed the commission in critical areas and contributed a breadth and depth of expertise without which this report could not meet the governor's charge.

A number of institutions deserve acknowledgement and thanks for contributing key resources that facilitated the commission's work. Public hearings were the most vital component of its fact-finding efforts, and several institutions—Lansing Community College, Northern Michigan University, Northwestern Michigan College, Saginaw Valley State University, and Wayne State University—generously provided facilities and other enabling resources. The Delta-Schoolcraft Intermediate School District, the Ingham Intermediate School District, Lawrence Technological University, Michigan State University, Northern Michigan University, and the University of Michigan all opened their real and virtual facilities to the commission and work groups for meetings.

Finally, the commission is grateful for the tireless work of John Austin, who served as policy director for the commission. Senior policy adviser John Burkhardt, PhD, director of the University of Michigan Center for the Study of Higher and Post-Secondary Education (CSHPSE), worked with a team of researchers to support the commission's work: Britany Affolter-Caine, Nathan Daun-Barnett, Mark Garrett, Laurel Park, and Tom Perorazio from the University of Michigan's CSHPSE; and William Edwards from Michigan State University's Education Policy Center. Senior policy advisor Jim Jacobs, PhD, of the Community College Research Center at Columbia University, also contributed to the effort. In combination with staff support from Public Sector Consultants, the research team expertly captured both the intent and the spirit of the commission's findings and facilitated the delivery of this report to the governor within the time allotted.

FOREWORD

In June 2004 Gov. Jennifer M. Granholm signed Executive Order No. 2004-32 (Appendix A) and announced the formation of the Lieutenant Governor's Commission on Higher Education and Economic Growth, chaired by Lt. Governor John D. Cherry Jr. The executive order charged the commission with identifying strategies to double the number of Michigan residents with degrees and other postsecondary credentials of value within ten years. The deadline given to the commission for its final report was December 31, 2004.

Thirty voting members were appointed to the commission; nonvoting members included the directors of the Departments of Labor and Economic Growth, Education, and Information Technology; the state budget director; the state treasurer; the president of the State Board of Education; two state senators; and two state representatives. (A list of the commission members is provided in Appendix B.) The commission met four times over a six-month period to consider the issues and discuss recommendations consistent with the charges in the executive order. Four subgroups of the commission, supplemented by additional experts and stakeholders, engaged in additional meetings, e-mail exchanges, and telephone conferences between full commission meetings. The four work groups were in the areas of:

- **Improving Preparation**—encompassing curriculum, standards, assessment, instructional modes, and advanced placement and dual enrollment opportunities for high school students
- **Expanding Participation**—focusing on instilling higher levels of educational aspiration in Michigan residents, removing financial and cultural barriers, and increasing higher education capacity and distance learning opportunities
- **Increasing Degree Completion—**focusing on barriers preventing students from completing degrees, better accommodating students' varying paces of attainment, easing student transfers, and expanding articulation agreements on credits among higher education institutions
- **Maximizing Economic Benefits—**focusing on aligning degree-granting programs to emerging business needs, workplace-specific and on-site education, commercialization of university research, and entrepreneurial partnerships between public education and private business

Each work group met independently six or seven times over the course of the commission's work.

The commission spent most of its first three months collecting and analyzing information about higher education issues in Michigan and how Michigan trends and governmental policies compare to those of other states. The commission used a variety of means to accumulate background information needed to understand which higher education issues were most important to developing Michigan's workforce. The following approaches

were used to build a common knowledge base as a foundation for the commission's final recommendations to the governor and the legislature:

- Solicitation of public comment through a series of six public meetings held throughout the state, online comments through the Cherry Commission website (*www.cherrycommission.org*), and the submission of written comments. (A summary of comment from the public meetings can be found in Appendix C.)
- Presentations to the full commission and to commission work groups by leading national and Michigan experts on specific higher education topics identified as critical.
- Research briefs and special reports on various higher education issues prepared by commission staff, universities, research organizations, and state agencies.

Where practical, the full text of background materials was also made available to the public on the commission website.

Recommendations emerged from work group deliberations and evolved in an iterative process, with each work group discussing and refining recommendations and issuing individual reports to the commission (provided in Appendix D). Commissioners and work group members provided approval on the overall direction of each work group's recommendations before the November commission meeting. This final report is a compilation and synthesis of all of the work groups' recommendations and reflects the consensus of the commission.

CONTENTS

INTRODUCTION

> If we want a high-performance economy, we must work now to improve the strength, depth, and adaptability of our colleges and universities. The mission of this commission could not be more critical to our state.
>
> Gov. Jennifer M. Granholm, March 15, 2004

With those words, Gov. Jennifer M. Granholm established the Commission on Higher Education and Economic Growth under the leadership of Lt. Gov. John D. Cherry Jr. She also gave the commission a daunting charge—within the next ten years find ways to double the number of Michigan residents who obtain college degrees and other valuable credentials. As she had said in her 2004 State of the State address just weeks earlier, Michigan's economic position has changed, and the state will have to travel new roads to reach a brighter economic future. Now she was asking the "Cherry Commission," as it would be known, to blaze a trail that would dramatically change the nature of Michigan's workforce.

Michigan began the twentieth century as a hotbed of innovation and entrepreneurship that led to the state's domination of the industrial economy. Michigan created the automobile industry and became a world leader in furniture manufacturing, pharmaceuticals, chemicals, and other industries. The state's manufacturing base created a thriving Michigan economy, one in which workers with little formal education in the traditional sense were able enter the middle class and earn a decent living. It also attracted people from across the nation and around the world to live and work here, to make these splendid peninsulas home.

Today, the foundations of Michigan's economy have changed, in response to a worldwide knowledge revolution. To thrive economically, Michigan must now adapt and innovate to contend with global—not just national—competitors. To do that, Michigan must ensure that its residents are the best educated in the world and prepared for a lifetime of learning.

Facing this economic imperative, the governor asked the Cherry Commission to develop a set of powerful ideas that would transform Michigan's education system and help the state make the transition into today's economy by instilling in all residents the aspiration for education beyond high school, developing their ability to achieve postsecondary success, and providing them with access to a wide variety of learning institutions.

Michigan public and private education institutions—from colleges and universities to community colleges to technical apprenticeship and certification training programs—offer Michigan residents the opportunity to achieve postsecondary success in numerous forms. Many Michigan residents will complete baccalaureate degrees—or better yet, postbaccalaureate degrees. Others will complete associate's degrees or certificate programs in fields vital to Michigan's economic future such as health care, advanced manufacturing, and information technology. Still more will complete apprenticeship

and technical training programs after high school. Some will become entrepreneurs informed and motivated by an education that supports this ability.

To grow in the decades ahead, Michigan needs an unprecedented number of residents who have reached these milestones along the higher education continuum. At the same time opportunities for those who end their education at high school will continue to diminish. Those who say that all Michigan residents do not need a four-year college degree are right. But anyone who believes that Michigan residents can look forward to a good life with only a high school diploma could not be more wrong.

The governor and lieutenant governor challenged the bipartisan commission to make policy recommendations that would meet three goals:

1. Double the percentage of residents who attain postsecondary degrees or other credentials that link them to success in Michigan's new economy
2. Improve the alignment of Michigan's institutions of higher education with emerging employment opportunities in the state's economy
3. Build a dynamic workforce of employees who have the talents and skills needed for success in the twenty-first century

Under Lt. Governor Cherry's leadership, the 41-member commission took its responsibility seriously, conducting wide-ranging research and intense deliberations. The commission heard testimony from scores of leaders and residents from all walks of life, and gathered input from hundreds more by mail, online, and in person. The report that follows reflects not only the insights gained from that work but also the commission's strong sense of urgency about the need for change to give Michigan the economic future it wants and deserves.

THE CHOICE

Michigan is at a moment of decision. Having established the standard of economic success in the industrial economy of the twentieth century, Michigan is today precariously balanced between that era and the changing economy of a new century. Michigan's residents, businesses, and governments can either move **forward** to a future of prosperity and growth fueled by the knowledge and skills of the nation's best-educated population or they can drift **backward** to a future characterized by ever-diminishing economic opportunity, decaying cities, and population flight—a stagnant backwater in a dynamic world economy.

This report of the Lt. Governor's Commission on Higher Education and Economic Growth reflects the imperative of fundamental change in Michigan's economy and the role education plays in this transformation. Michigan's willingness to work hard and its ability to innovate are characteristics that gave state residents a high standard of living in the last century. That legacy—the quality of life we enjoy today—is imperiled by a changing economy in which knowledge is the key to economic growth and opportunity. **Michigan can meet this challenge only if it has the courage to set and achieve within the next ten years a new expectation for learning: postsecondary education for all.**

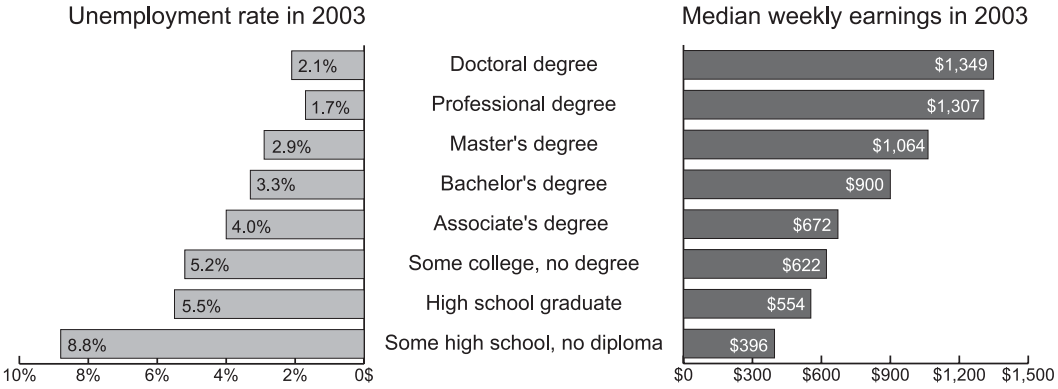
WHY HIGHER EDUCATION MATTERS

Education has long been recognized for the many ways it enriches individuals and communities. In today's economy, a highly educated population has a second and immediate benefit: when work can be located anywhere in the global village, economic growth and jobs will be created in those regions that have this key ingredient.

For most of the last century, Michigan's residents enjoyed a higher standard of living than almost any people in the world. The work involved in mass-producing cars and other products provided decent wages to workers who had relatively little formal education. Today that world is gone. In its place is an economy that demands significant educational achievement in all but the lowest paying sectors. Even production jobs in Michigan's world-leading manufacturers today demand workers with advanced education and skills.

As in the country as a whole, **education levels determine Michigan residents' income levels and either limit or expand their opportunities for future economic gains** (see Exhibit 1).

EXHIBIT 1
U.S. Unemployment Rates and Earnings by Educational Attainment Level, 2003



SOURCE: U.S. Bureau of Labor Statistics.
NOTE: Unemployment and earnings for workers aged 25 and older, by educational attainment; earnings for full-time wage and salary workers.

Each year of college attainment enables an individual to increase annual earnings by an average of 10 percent. Furthermore, the gap in earnings between persons with a high school diploma or less compared to those with an associate's, bachelor's, or advanced degree has been widening since 1975. This gap in earnings has grown, even as the supply of college-educated workers has risen.

There is also a strong correlation between the education level of a state's workforce and

its economic vitality. States that educate and nurture creative talent—and that build and maintain the necessary K–12 and postsecondary education systems—keep and attract people and investment and can capitalize on the multiplier effects that create new companies and jobs. Recent research shows that a 5 percent increase in the share of college-educated adults would boost overall economic growth by 2.5 percent over ten years, and the real wages of all Michigan residents by 5.5 percent.

As shown in Exhibit 2, over the past 30 years per capita income growth in Michigan has decreased by 12 percent relative to the U.S. average, putting it well behind the best-educated states (that is, those states with the highest shares of knowledge industries and highly educated people).

EXHIBIT 2

Per Capita Income in Selected States, 2001, Ranked by Percentage Change Relative to U.S. Average, 1969–2001

State	2001 per capita personal income	Rank	1969–2001 income change relative to U.S. average	Rank	Share of population 25–34 with bachelor's or higher degree in 2000
U.S. Average	$30,527		n/a		27.5%
District of Columbia	$45,284	1	31.24%	1	50.6%
Massachusetts	$38,945	4	18.06%	2	41.4%
Colorado	$34,003	7	15.51%	3	34.8%
Connecticut	$42,550	2	13.37%	4	35.3%
Virginia	$32,328	12	13.25%	5	33.1%
New Hampshire	$33,771	8	13.23%	6	33.3%
New Jersey	$39,077	3	10.39%	10	34.7%
Minnesota	$32,722	11	8.99%	14	34.5%
Maryland	$35,355	6	6.43%	20	34.2%
Michigan	**$29,499**	**20**	**–11.78%**	**47**	**26.0%**

SOURCE: U.S. Bureau of Economic Analysis.
NOTE: These states were selected because they all experienced above-average income in 2001 and above-average income growth over the previous 15 years.

Further data indicate that the disparity illustrated above is **accelerating** as people gravitate toward states and metropolitan areas that have already established themselves as talent centers in the world economy.

The fact that postsecondary education leads to greater economic growth is undeniable, and the reasons are equally clear. Postsecondary education

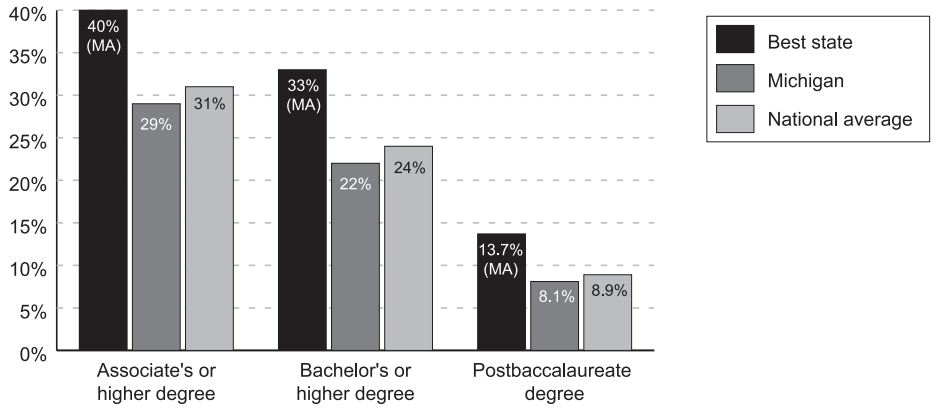
- **fosters discovery of new ideas** that create new goods, services, and whole industries;
- **prepares people** in the disciplines and with the skills demanded by today's economy;
- **builds dynamic, attractive communities** where creativity and culture create the quality of place that is today so critical at attracting economic development and jobs; and
- **creates greater prosperity** for the college educated and non-college educated alike by making a state's economy more productive and dynamic.

WHERE MICHIGAN STANDS

The decades when manufacturing workers with little formal education enjoyed high wages may have created a high standard of living in Michigan, but they also produced a dangerous side effect: an education achievement gap between Michigan and its competitors. Exhibit 3 illustrates the problem. While in leading states 40 percent of adults have an associate's or higher degree and 33 percent of adults have a baccalaureate or higher degree, the comparable figures in Michigan are 29 and 22 percent, respectively. Michigan's share of adults with a master's or higher degree is 8 percent, compared to 14 percent in the leading states.

EXHIBIT 3

Percentage of Adults Aged 25 and Older with Degrees, 2000



SOURCE: U.S. Census Bureau.

The troubling reality in Michigan is that nearly all (90 percent) of the state's 9th graders say they want to go on to college, but only 41 percent enroll directly out of high school and, ultimately, only 18 percent graduate with a bachelor's degree.

Many factors affect Michigan's poor performance in the attainment of postsecondary degrees.

Too few students successfully finish high school prepared for success:

- An unacceptable number of young adults in Michigan drop out of high school, leaving them woefully unprepared to navigate today's economy, let alone the economy of tomorrow. While the state lacks reliable data on the extent of its dropout problem, credible national studies suggest that only 65 to 73 percent of 9th graders graduate from high school in four years.

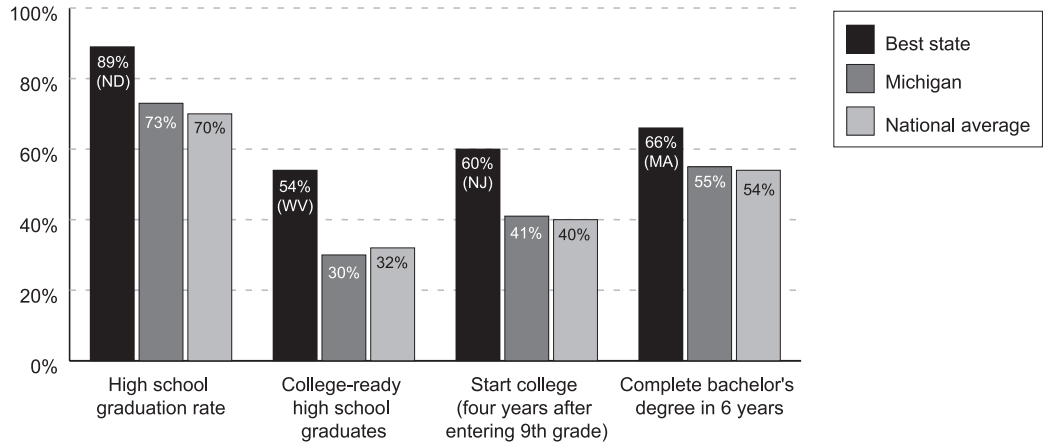
- Only 30 percent of students who graduate from high school take a course of study rigorous enough to prepare them for postsecondary education.

Too few of our young people and adults are participating in postsecondary education compared with leading states:

- Thirty-seven percent of 18–24-year-olds are enrolled in institutions of higher education, well behind leading states that enroll up to 48 percent.
- The share of Michigan adults over the age of 25 participating in postsecondary education has declined in the past decade from 5.4 percent to 4.1 percent, putting Michigan even farther behind the leading states where up to 6.5 percent of all adults aged 25 and older are enrolled in some form of postsecondary learning.

A final issue is poor completion rates for those who are seeking a bachelor's degree (see Exhibit 4). Just over half of Michigan's residents who seek a bachelor's degree will complete it within six years—a rate significantly lower than that of the leading states. And a large share (25 percent) of Michigan residents over the age of 25 have some college experience but no degree or credential.

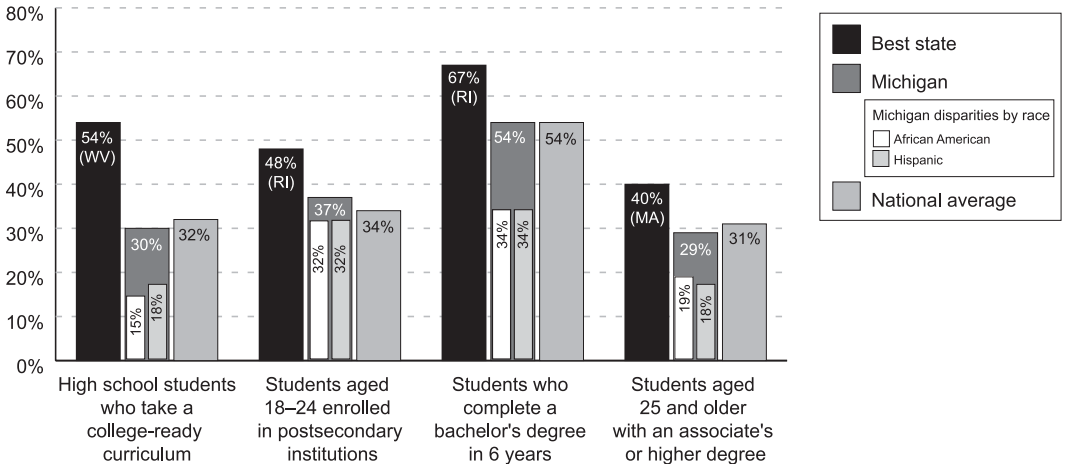
EXHIBIT 4
Education Preparation and Completion Rates, 2000



SOURCES: Greene and Forster, 2003; National Center for Public Policy in Higher Education, 2004; National Information Center for Higher Education Policy Making and Analysis, 2002.
NOTE: "College-ready" means possessing the minimal requirements necessary to apply to a four-year college or university (Greene and Forster).

All these numbers are significantly worse for Michigan's African American and Hispanic residents (Exhibit 5), and those who live in a rural or less developed area (Exhibit 6).

EXHIBIT 5
Educational Attainment, with Michigan Disparities by Race



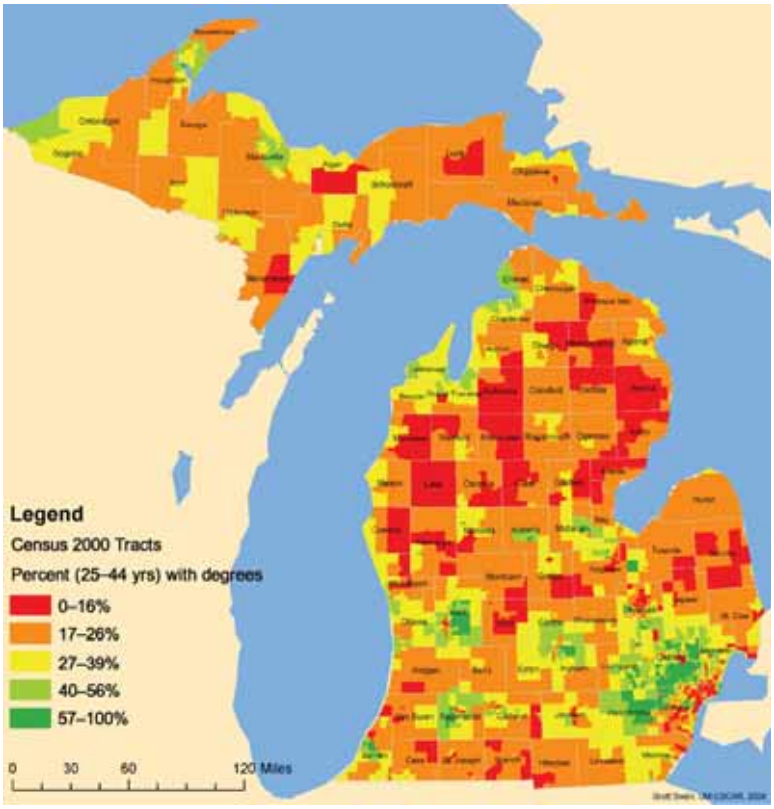
SOURCES: Greene and Forster, 2003; Education Commission of the States, 2003; National Information Center for Higher Education Policy Making and Analysis, 2002; U.S. Census Bureau, 2000.

As Exhibit 6 graphically illustrates, much of rural Michigan—and some urban pockets—are marked with low higher education achievement levels.

While too few young people in Michigan earn college degrees, the problem is exacerbated by the fact that Michigan is losing many of its best and brightest to states where dynamic cities are known as great places to live and work. Net out-migration of Michigan residents stands at 11.2 percent overall, and is acute among educated 22–29-year-olds.

- Michigan lost 11,665 residents in this age group with bachelor's degrees, while the leading state (California) gained 140,588; the average net migration for all states was a gain of 6,929.
- Michigan also does very poorly (45th in the country) in attracting young, educated people to the state.

EXHIBIT 6
Michigan Educational Attainment by Geographic Location



SOURCE: U.S. Census Bureau; University of Michigan Center for Statistical Consultation and Research.

WHAT MICHIGAN MUST DO

While Michigan clearly has some distance to travel to join the top rank of states with highly educated residents and growing incomes, Michigan has some very strong assets that will help it compete in this economy. Even with its relative decline, the state is still a major economic power. Michigan has remained both the decision-making center and the research and design/engineering center for automobiles and related advanced manufacturing industries. Michigan ranks very high in the share of high-tech jobs compared to the rest of the nation; the high-technology share of employment in Michigan exceeds the national norm for similar employment by 72 percent. Michigan has a huge share of global research and development spending and highly skilled R&D workers in the automobile and pharmaceutical industries and life sciences and related sectors, making Michigan first in industry-supported research and development as a share of gross state product.

Much of Michigan's comparative advantage today is linked to its powerful statewide network of public and private universities, colleges, community colleges, and training institutions. Led by three nationally ranked research universities, these 182 institutions collectively support research and development on the cutting edge of new ideas and technologies, and serve as the ladder to expanded economic opportunity for Michigan's residents. These institutions make Michigan

- fourth in the nation for total research and development expenditures as a percentage of gross state product,
- seventh in the percentage of science and engineering degrees granted each year, and
- ninth in the number of patents issued.

Michigan's public and private higher education institutions are strategically located across the state and collectively awarded over 140,000 degrees and certificates last year, giving Michigan a strong foundation from which to improve these figures.

While the commission has been candid about Michigan's problems, it is united in the belief that bold and courageous action will allow Michigan to achieve greatness in the decades ahead that will match and surpass its past achievements. Michigan's challenge is now to turn these assets into greater economic growth and opportunity for its residents. It is in that spirit that the commission offers the following recommendations.

RAISE THE BAR

Today, Michigan can make no more important statement about the critical nature of postsecondary education than to guarantee that all students can complete meaningful postsecondary education after they finish high school. Just as the high school diploma came to define expectations of minimum educational attainment in the twentieth century, postsecondary education must be the new minimum standard for the twenty-first century, and its achievement is a shared responsibility of the student, community, and state.

RECOMMENDATION
Make Higher Education Universal

The commission recommends that Michigan, over the next decade, forge a new compact with its residents: an expectation that all students will achieve a postsecondary degree or credential coupled with a guarantee from the state of financial support linked to the achievement of that goal. This commitment to universal higher education should strive to remove financial and other barriers to degree and credential completion and end, once and for all, the idea that postsecondary education is an option rather than a necessity. The compact will send a powerful message to Michigan's current residents and businesses and to those it hopes to attract: Michigan will set and reach the new standard of educational achievement in America.

(Participation Work Group rec. 1,
Completion Work Group rec. 1,
Economic Benefits Work Group rec. 2)

The commission is persuaded that the competencies required for success in college *and* in the workplace have converged. All students today must be equipped with rigorous academic preparation and high-performance job skills. The long tradition of sorting students into "college-bound" versus "non-college-bound" tracks is no longer relevant; indeed, it is harmful to a student's future and to the state's economy. The same core competencies must define a "high-expectations" set of learning objectives for all students, whatever their background, interests, experience, or life destination.

In recent years, Michigan has focused attention on early childhood education and has put in place rigorous K–8 curriculum standards. State legislative, education, and government leadership has realized that Michigan must extend rigorous standards to the high school level and better connect high school learning to postsecondary aspiration and success.

RECOMMENDATION

Set High Expectations for High School Students through Rigorous Standards and Curriculum

The commission recommends that the State Board of Education develop by the 2006–2007 school year rigorous high school standards that reflect the competencies necessary for postsecondary success and readiness for the world of work. The commission further recommends that school districts require all students to take courses that will allow them to achieve these new standards and, by extension, postsecondary success. Guidance from the State Board of Education/Michigan Department of Education should be provided in the form of a new high school curricular framework to guide the teaching for all students in grades 9–12.

The commission anticipates that the subject matter required to reach the new standards can and will be delivered through a variety of contexts, teaching styles, and course selections. But the commission categorically rejects the idea that schools should offer to students a curriculum that does not prepare them for postsecondary success. Until this curricular framework is established, the commission recommends that districts adopt a curriculum (i.e., course of study) that reflects rigorous standards for all students, such as that of the Presidents Council, State Universities of Michigan, and the requirements for becoming a Michigan Scholar. Once established, the new Michigan high school standards and curricular framework should be adopted by school districts for all students.

(Preparation Work Group rec. 1)

To support a new set of rigorous standards, a new assessment is needed to track progress in meeting standards, inform curriculum and instruction, and increase readiness as well as the aspiration to succeed in postsecondary education.

RECOMMENDATION
A New High School Assessment

The commission recommends that legislation be passed calling for a new high school assessment for use in the 2007–2008 school year to replace the high school–level MEAP. This assessment must:

1) Be an accepted test for college readiness for the purposes of admission
2) Increase students' aspirations to attend institutions of postsecondary education
3) Measure individual student performance against the new Michigan standards
4) Be useful for aligning curriculum, course sequences, and grade-level content against the standards
5) Be valid as the high school assessment required under federal law (No Child Left Behind)

While it should produce a score on a recognized college entrance exam, this assessment should also measure students' competence and adherence to the full array of Michigan's new high school standards. The commission further recommends that until a new assessment is deployed, Michigan school districts adopt a high expectation for students aspiring to enroll in postsecondary education—corresponding to a composite score of 22 on the ACT program or an equivalent college entrance exam (the level of 22 being strongly correlated with successful completion of a postsecondary degree).

(Preparation Work Group rec. 1)

Individuals with the skills that have traditionally defined entrepreneurship—risk-taking, creativity, responsibility, and adaptability—are now making a difference throughout our society, whether in their own ventures or working for another employer. More Michigan residents must use these skills to create new businesses *and* benefit existing firms. Michigan must rekindle a culture of entrepreneurship, starting with the education of all the state's young people and extending to how Michigan thinks about economic development and job-training activities.

RECOMMENDATION

Create a Culture of Entrepreneurship

- The State Board of Education must integrate entrepreneurial skills and education into Michigan's K–12 standards.
- Michigan's two- and four-year higher education institutions must create a Center of Excellence for Entrepreneurship and Innovation as a network to cultivate entrepreneurial education and activities among Michigan community colleges, universities, and business and community partners.
- Michigan's two- and four-year higher education institutions must develop and offer entrepreneurial degree or certificate programs and enhance existing degree programs with entrepreneurship skills and training.
- The Michigan Department of Labor and Economic Growth and Michigan's K–12 and higher education associations must add to current, initial efforts to create 75–100 partnerships among Michigan's community colleges, universities, and K–12 systems that offer an entrepreneurial curriculum leading to certificates and degrees.

(Economic Benefits Work Group recs. 2 and 4)

CLEAR THE PATH

As Michigan creates a high-expectations environment for all high school students, it also must recognize that far too many Michigan students attend high schools that do not help them find success in life and work. This problem is most acute in low-income communities, exacerbating the ethnic and regional disparities that exist in educational attainment in Michigan. To make real the belief that all students can achieve rigorous academic standards linked to postsecondary success, Michigan must give all students the opportunity to attend high schools capable of helping them reach that goal.

RECOMMENDATION

Implement New Strategies for High School Success

Before the decade is over, Michigan's government, business, education, and civic leadership must put in place a network of newly fashioned secondary schools and learning environments. This effort must be on a scale sufficient to effectively serve every school community where students are dropping out in large numbers or are not achieving Michigan's high expectations for learning. Refashioned high school environments must be formed around research-based models that engage and motivate students. Proven models include small high schools, blended high school and postsecondary institutions, and career and other themed and contextualized learning environments.

(Preparation Work Group rec. 3)

No effort to create a high-expectations learning environment in Michigan's schools can fail to recognize the critical role that teachers and administrators play in achieving these goals. Policymakers can create new standards on paper, but it is only educators who make them real in the lives of Michigan children. We must give educators the tools and support they will need to achieve the commission's ambitious goals.

RECOMMENDATION

Equip Educators and Administrators to Support the High-Expectations High School Path

Michigan's school districts must make the creation of the high-expectations learning environment the central focus of professional development activities at the secondary school level. Intermediate school districts (ISDs) and two- and four-year higher education institutions—in partnership with education stakeholders from the business and foundation community—must develop new strategies and new resources for professional development that will allow teachers to help all students meet the new rigorous standards.

(Preparation Work Group rec. 2)

RECOMMENDATION

Create Community Compacts for Educational Attainment

Michigan local government leaders (from mayors to county commissioners) must join with business, labor, and education leaders to organize "community compacts" that increase local postsecondary participation rates by 5 percent each year for the next ten years. Each community should establish baselines for postsecondary participation and set targets for annual improvement, focusing efforts on students who are unlikely to attend college. As part of these local compacts, public and private universities, colleges, community colleges, and postsecondary training institutions should create partnerships with local school districts and high schools with low rates of students going on to college.

(Participation Work Group rec. 3)

Michigan's communities are currently engaged in extensive and intensive economic development efforts. Whether at the municipal or county level, there is almost universal recognition that communities must take their economic destinies in their own hands. Business decision makers routinely cite the availability of a skilled workforce as the chief determinant of investment decisions, and communities whose residents have higher levels of education also have higher levels of economic growth. Yet, few Michigan communities have focused on this critical link between increased education attainment and economic development goals. To thrive economically, communities across Michigan must see the issue of increasing educational attainment as a responsibility that all stakeholders must share.

RECOMMENDATION

Improve Institutional Completion Measures

The leadership bodies of Michigan's two- and four-year higher education institutions must ensure that each public and private higher education institution sets its own success goals and benchmarks for student progress and degree completion that emphasize timely progression to the degree. Such goals and measures should be based on each school's unique mission and population, but with attention to the success among important subgroups within the student body (e.g., minorities and women). Goals, measures, and results are to be reported annually, beginning with the 2005–2006 academic year.

(Completion Work Group rec. 2)

While more Michigan residents need to participate in higher education, Michigan will not achieve its economic development goals unless it helps a far greater share of its higher education students complete degrees in a timely manner. Michigan's state universities have themselves recognized the critical nature of this goal and have challenged themselves to increase completion rates. There are a number of important factors within each learning institution's control that can improve Michigan's degree completion rates, including guidance counseling, outreach, and support services. All these services are particularly important to historically underrepresented populations. As part of a compact of shared accountability, each public and private two- and four-year higher education institution should shine a light on its own work to increase enrolled students' completion rates and should hold itself accountable for improving its completion rates.

While most Michigan residents live within commuting distance of two- and four-year higher education institutions, proximity remains a serious barrier to educational attainment. This problem is most acute in Michigan's non-metropolitan counties, which have long had low higher education participation rates. Michigan's economic success requires that in every region of the state there is easy access to the full range of degree-granting programs, including baccalaureate degrees in a variety of high-demand fields. Michigan's higher education institutions, both public and private, are moving to offer convenient access to a full range of higher education programming through extension programs, university centers, partnerships between community colleges and four-year institutions, and a host of virtual and remote learning opportunities. The expansion of these efforts can ensure that all Michigan residents have the geographic access and opportunity to gain advanced degrees that are relevant for economic opportunity. We also recognize that many of Michigan's two-year institutions are prepared to offer applied baccalaureate degrees in selected areas that correspond with regional economic needs.

RECOMMENDATION

Expand Access to Baccalaureate Institutions and Degrees

- Michigan's higher education institutions must examine the availability and geographic coverage of higher education services and put in place the necessary partnerships to ensure that residents in all parts of the state have access to two- and four-year baccalaureate programs.
- Universities that currently grant applied baccalaureate degrees must forge new partnerships with community colleges to expand the availability of this credential. In addition, the Michigan legislature must pass enabling legislation during the 2005–2006 legislative session that defines the criteria and process by which Michigan community colleges may offer applied baccalaureate degrees in response to unmet economic, employer, or community needs in their service regions where partnership arrangements have failed to meet these needs.

(Completion Work Group rec. 4)

As Michigan's high schools prepare all students for postsecondary education and training, an increasing number of our secondary school students will have the ability to complete college-level work during their high school years. Michigan must seize this opportunity for learning by expanding opportunities for high school students to earn college credit. This will allow students to achieve their education goals more quickly, reduce the cost of postsecondary degrees, and give many students a better understanding of their own potential to succeed at college-level work. Rather than hold its students back, Michigan must be willing to accelerate the pace of learning to realize education gains that will translate into a stronger economy and better jobs.

RECOMMENDATION

Expand Opportunities for "Early College" Achievement

The legislature must replace the current dual enrollment funding system during the 2005–2006 legislative session with a system that provides incentives for collaboration between secondary and postsecondary institutions.

Michigan's school districts must expand opportunities for dual enrollment and for taking college credit courses so that 50 percent of the state's high school students are earning college credit by 2015. All school districts, even those with the most academically challenged schools, should achieve a minimum enrollment of 10 percent.

(Participation Work Group rec. 2)

For a growing number of residents, the path to higher education and postsecondary credentials is not a straight line. Many start at a two-year school and either transfer to a four-year school or resume postsecondary education after some time away. All Michigan residents should be able to obtain postsecondary credentials of value, regardless of whether they start and finish at a single institution, move between institutions, or re-enroll after time away for work or family obligations.

A major roadblock to degree completion in Michigan today is the difficulty students have transferring credits as they navigate between institutions. Many lose credit that they have worked hard to obtain, while others are forced to repeat courses to earn degrees in their chosen field. The state and higher education institutions must make this journey as efficient and user-friendly as possible if more people are to earn postsecondary credentials in a reasonable length of time and at a reasonable cost.

Today, many students transfer from Michigan's community colleges to four-year institutions before earning an associate's degree, and some of these students have completed more than half of the requirements for an associate's degree or other credential from the community college before transferring to a four-year baccalaureate program. When such students subsequently complete at a four-year degree-granting institution the necessary coursework for the associate's degree from a community college, they are entitled to a valuable credential. This credential—an associate's degree—is one that the student could use in the labor market while pursuing a four-year degree. In addition, the absence of this degree shortchanges employers who cannot recognize what may be a valuable potential employee because the person does not have a recognized credential.

RECOMMENDATION

Improve Transfer Process and Award Dual Degrees

- Michigan's two- and four-year higher education institutions must create by 2006 a statewide "Transfer Wizard": a website containing course articulation and transfer information for all Michigan institutions, clearly identifying what courses are accepted, and where.
- Michigan higher education institutions must establish by 2006 the Michigan Milestone Compact. This compact would grant to a student transferring from a community college to a four-year degree-granting institution an associate's degree or other credential/degree by the community college partner following completion of necessary course work conforming to agreed-upon learning outcomes.

(Completion Work Group rec. 3)

RECOMMENDATION

Increase the Number of Postbaccalaureate Professionals

- Michigan businesses and foundations must create a significant endowment to fund scholarships for Michigan students to pursue postbaccalaureate degrees at our higher education institutions, with priority for key disciplines (e.g., science, engineering).
- Michigan's higher education and business community must partner to greatly expand internship opportunities for undergraduate and graduate students and faculty. Such efforts should use public or privately funded stipends to create incentives for students working in emerging fields.
- Michigan's universities must expand dual enrollment programs to allow undergraduate students to move efficiently and seamlessly to postbaccalaureate degree achievement.

(Economic Benefits Work Group rec. 6)

While Michigan wants far greater numbers of its residents to earn associate's and bachelor's degrees, our goals for educational attainment must reach higher. Across the nation, talent centers that bring together large numbers of advanced degree holders are enjoying the highest rates of economic growth. Whether they are in university labs and classrooms or corporate research and development centers, these are the people who are advancing the frontiers of knowledge and fueling explosive economic growth. To ensure Michigan's economic future, we need ever-increasing numbers of Michigan residents to reach the highest pinnacles of education. At the same time, Michigan must attract the best and the brightest from around the country and the world to our campuses and workplaces.

RECOMMENDATION

Target Adults Seeking to Complete Postsecondary Credentials

Michigan's postsecondary education institutions must lead community-based outreach campaigns that over the next ten years will recruit half of the 1.5 million adults with limited postsecondary education to return and complete their degree. These efforts should include an "amnesty" on stale or expired credits, recognition of work-based learning experiences, and better utilization of the tremendous education benefit that Michigan's businesses and labor unions have created for employees.

(Participation Work Group rec. 4, Completion Work Group rec. 6)

While Michigan has a slowly growing traditional school-age population, a relatively large proportion of adults in Michigan have some postsecondary education but have not attained a postsecondary degree or other credential of value. These adult residents can be tremendous assets to economic growth if Michigan can re-engage them in postsecondary education and see them earn credentials.

Helping these adults complete their credential means reaching out to adult learners and workers, communicating the importance of postsecondary education, and making it easier for working adults to access the financial aid, support services, and diverse learning delivery techniques that are available.

Whether it is the increased number of young people who leave high school ready to succeed in higher education or the tens of thousands of older workers who return to the college campus, the recommendations of the commission have implications for the capacity and organization of Michigan's higher education system. While the commission believes Michigan's existing higher education capacity can be used in new and more effective ways to begin achieving its ambitious goals, it also believes that the longer-term, capacity-related implications of these recommendations need to be well understood.

RECOMMENDATION
Conduct an Analysis of Higher Education Capacity Needs

During the next legislative session, the higher education community must conduct an analysis of the emerging issues and special problems related to higher education human resource and physical infrastructure capacity.

(Participation Work Group rec. 5)

WIN THE RACE

To win in today's economy, Michigan needs to better leverage one of its strongest assets—its powerful network of higher education institutions—to nurture the industries of the future and to translate these new industries into jobs for Michigan residents. This does not mean abandoning manufacturing, but rather building on traditional strengths in automobile design and manufacturing and other key industries. Michigan can apply its research and development talent to assist its existing industries to adapt and compete through new innovations, products, and technologies.

RECOMMENDATION
Create an Emerging Economy Initiative

- The state and federal governments, universities, and private industry must boldly invest in Michigan's Technology Tri-Corridor to support the research, development, and commercialization of emerging technologies. This investment should promote Center of Excellence partnerships in the Tri-Corridor; organize and fund public/private partnerships among higher education institutions, private partners, and venture capital funds in emerging economic sectors; and focus peer-reviewed and applied research on projects with commercial potential.
- Michigan must create a Twenty-first Century Research Fund that will give state, institutional, and private sector researchers improved access to matching funds for major research activities that align with the commission's commercialization strategies.

(Economic Benefits Work Group rec. 1)

The state must ensure that the powerful research being conducted at Michigan's research-intensive universities—and in conjunction with businesses—is translated more effectively into new companies, jobs, and an increasingly entrepreneurial culture.

RECOMMENDATION
Commercialize More Research

- Michigan's higher education institutions must make commercialization of research an institutional priority and align internal practices and performance measures to support it where appropriate.
- Michigan's colleges and universities should establish their own venture capital funds within their schools, colleges, institutes, and similar divisions to create locally managed pre-seed funds that leverage the existing Smart Zones and business accelerators.
- Michigan's universities and community colleges must form networks to accelerate applied research and business formation that leverage existing Smart Zones and business accelerators.

(Economic Benefits Work Group rec. 3)

In every community there are current job and skill needs among existing employers that need to be matched with a highly trained workforce. For example, a recent study of Michigan's health care industry showed that up to 100,000 new, technically trained health care workers are needed to serve this sector. Michigan residents need to have tools and information available to help them better understand the jobs that exist today and which education programs prepare them well for these jobs. Michigan's public and private postsecondary institutions also need to consider their contributions to preparing Michigan residents in the disciplines and with the skills in demand in their region.

RECOMMENDATION

Align Postsecondary Education with Economic Needs and Opportunities

- The Michigan Department of Labor and Economic Growth must develop and make available by 2006 a more powerful and user-friendly system for linking job and occupational data with job/career information and guidance at the community level.
- The Michigan Department of Labor and Economic Growth must organize, in conjunction with the postsecondary education community, a process for communicating and reporting annually the match between current and emerging job and occupation needs and the efforts and outcomes of postsecondary education institutions to meet those needs.

(Economic Benefits Work Group rec. 6)

In an era in which quality of place is a critical factor in economic development, higher education institutions are a primary driver of community development and cultivating quality of place. Colleges and universities contribute to the physical and aesthetic appeal of a community; the diversity of residents; and the arts, culture, and entertainment milieu. Higher education institutions have both tremendous opportunity and civic responsibility to participate strongly in community development and revitalization.

RECOMMENDATION

Expand the Role of Higher Education Institutions in Community Development

All higher education institutions must aggressively partner with their communities and "cool city" commissions to develop and implement strategies and programs that leverage their unique role. Prime among these are participation in local planning and development policy shaping; partnering in mixed-use developments; enhancing art, culture, and entertainment offerings; and using the physical and land assets of these institutions creatively as locales for private sector development, incubation of firms, and housing.

(Economic Benefits Work Group rec. 5)

As Michigan embarks on this journey to postsecondary educational attainment and greater economic growth, its taxpayers and residents need to know what is working and what is not, how far the state has come, and how far the state has to go in its quest to become the nation's best-educated population. As Michigan residents move through an education process that begins long before kindergarten and continues through graduate degrees and employment, the state must be able to chart individuals' progress while respecting their right to privacy.

Currently, Michigan has disconnected data systems tracking K–12 students, higher education students, and adult job training and re-employment programs. The state cannot answer simple yet critical questions such as: What specific degrees and credentials do Michigan residents have? Where do high school students go and what do they do after graduation? What do graduates of the state's various colleges and universities do next? Where are they working? Answers to these and more detailed questions about the outcomes for particular schools and programs are essential to guide smart policy and investments in an education system that strives for lifelong learning.

RECOMMENDATION

Develop a Lifelong Education Tracking System

The Michigan Department of Information Technology must develop by 2007 an interagency data-sharing arrangement, in coordination with Michigan's K–12 and higher education institutions, that creates a functioning lifelong education tracking system with information from multiple data sources, including CEPI, MDLEG, and higher education.

(Completion Work Group rec. 5)

CONCLUSION

The early experimentation of innovators such as Henry Ford, Ransom E. Olds, and the Dodge brothers catalyzed a hundred years of industrial growth in Michigan in the early twentieth century. **Today, in the first decade of a new century, Michigan must transform itself once again to be a leader in an era where knowledge is the key ingredient in economic success.**

If Michigan's residents, education systems, and governments can work together to increase the share of the state's population with credentials of value, Michigan will be a vanguard state for economic vitality and quality of life. The commission believes the recommendations offered in this report are a roadmap to fundamental change in Michigan. Some recommendations will be implemented soon, while others will require years of sustained effort to achieve. Some are as modest in scope as others are sweeping. Some will guide the strategic investment of new resources while others will deploy existing resources more wisely.

Taken as a whole, these recommendations represent a dramatic break from the policies of the past, policies that cannot guide Michigan to the future we seek. When these recommendations are implemented, Michigan will have a K–12 education system that prepares all students for success in college and work, a postsecondary education system that moves unprecedented numbers of residents to new levels of educational attainment, and the research and development infrastructure a highly educated workforce needs to reach new levels of economic growth and opportunity.

The commission's sense of urgency is undiminished by Michigan's current fiscal crisis. While recognizing that resource limitations will affect the speed with which these recommendations will be implemented, the commission believes it is critical to set this course today and move steadily forward to the future that we want for this state, increasing the pace as more resources become available. Furthermore, the commission believes that Michigan's long-term economic and fiscal health can only be secured if it makes the development of a highly educated population an overarching priority.

There is one word the commission has used in each of the recommendations contained in this report—the word "must." This word reflects the belief that the changes the commission has called for are essential if Michigan is to succeed and thrive in a changing economy. The sense of imperative that has shaped this commission's work does not come from the mandate of law. Instead, it comes from the sheer magnitude of the challenge Michigan faces and a mutual belief that all segments of our society will mobilize to meet it.

In that spirit, the commission is pleased to present this report to Governor Granholm and the people of Michigan.

GLOSSARY

ACT—This refers to the ACT Inc. college admissions test taken by a significant number of college-bound students across the country. ACT previously stood for American College Testing but the organization that develops and administers the test now uses the acronym as its official name.

Blended institutions—A subset of dual enrollment whereby high schools and colleges (typically community colleges) collaborate to provide college courses for high school students, who earn both high school and college credit. In most cases these courses are provided on the college campus.

Business incubator—An economic development tool designed to accelerate the growth and success of entrepreneurial enterprises through an array of business support resources and services. A business incubator's main goal is to produce successful firms that will leave the program financially viable and freestanding. Business incubators exist in many settings apart from colleges and universities, but academic institutions are affiliated with a disproportionately large share of technology incubators. In all of these instances, each partner has committed to the incubation and growth of a competitive local business base.

Career academies—A subset of themed high schools where the curriculum of the school is delivered in the context of a particular career area (e.g., information technology, finance, arts), and the career fields are used to relate academic content to application. Specific emphasis is placed upon career exploration and skill development.

Chunking—The grouping of certificate and degree course work into small sets of one- or two-semester courses that are designed with a skill or job goal in mind. Degrees can be "chunked" in the sense of rewarding progress with appropriate degrees at appropriate milestones, to both motivate and reward the learner and ensure that higher education translates into specific credentials of value.

Cluster-based development strategies—An economic development strategy designed to create a critical mass of institutions and employers to create an interdependent network that is focused on the collective, rather than individual, needs of industries. Clusters are aggregations and alliances of related companies within a given area that have common business needs including similar suppliers, processes, and workforce skills. Clusters form at the intersection of industrial, technological, and regional policy because business managers recognize the opportunities for economies of scale and the benefits of proximity to companies engaged in related fields.

College ready—This term has been used to describe whether a student has completed high school with the skills and aptitude to enter and succeed in college. ACT Inc. approximates college readiness by establishing the cut scores at which students are more than 50 percent likely to persist from the first year of college to the second. The other

common definition is whether students have completed the high school courses required for college application.

Commercialization or technology transfer—A process whereby a new product or procedure developed by a university or federal laboratory is licensed for commercial development to a private company. The process is highly dependent upon scientists having access to the discoveries of other researchers. Technology transfer is a two-way flow between universities and industry in which academic involvement can take three forms: (1) the product is invented at a university but developed by an existing, private company; (2) the invention originates outside the university and academic researchers improve it; and (3) the invention originates at a university and faculty members participate in its commercial development through the establishment of a startup firm.

Creative class/knowledge worker—Scientists, engineers, artists, designers, academics, etc. who work in knowledge-based professions and do creative work that leads to innovation and problem solving. Close to one-third of the workforce in the country is made up of such professionals.

Criterion-referenced tests—A measurement of achievement of specific criteria or skills in terms of absolute levels of mastery. The focus is on performance of an individual measured against a standard or criterion rather than against the performance of others who take the same test. The standard for a criterion-referenced test is typically established in conjunction with the curriculum framework established by the body responsible for education (typically the state department of education).

Cultural capital—A broad term that refers to the intangible benefits that accrue at home, in a neighborhood, and among family and friends. These are the assets people possess that extend beyond a specific dollar value that contribute to their overall potential for success. This might include having two parents at home, having access to books or a computer, living in close proximity to a library, residing in a neighborhood that provides nurturance and support for its members, etc.

Curriculum—The courses offered by an educational institution, or a set of courses constituting an area of specialization. Educators often extend this definition to include what is taught in those courses and how it is taught.

Curriculum framework/pathway—A set of guidelines that serve as the standards for what students are expected to learn and at what level. The frameworks are specific enough to describe the types of skills and abilities that should be learned in a given course and at the approximate grade level, yet they are broad enough to give educators discretion in how those standards are met.

Dual enrollment—An umbrella term used to describe an array of programs that allow high school students to enroll in courses where they can simultaneously earn both high school and college credit. Dual enrollment also has been extended to apply to students

taking courses that count towards an associate's degree and a baccalaureate degree, or baccalaureate and postbaccalaureate degrees, for example, at different institutions.

Entrepreneurship—"The ability to amass the necessary resources to capitalize on new business opportunities. The term is frequently used to refer to the rapid growth of new and innovative businesses and is associated with individuals who create or seize business opportunities and pursue them without regard for resources under their control. They build something from practically nothing and usually reinvest earnings to expand their enterprise or to create new enterprises. Other words that characterize entrepreneurship include innovative, creative, dynamic, risk-tolerant, flexible and growth-oriented" (The Kauffman Center for Entrepreneurial Leadership 1999).

Grade-level content expectations—Similar to the curriculum frameworks, these are the set of expectations for what should be taught in a specific academic subject area and in a given school year at each grade level covered (see example in Appendix D, Preparation Work Group report, Attachment 1).

High school equivalent—Refers to alternate credentials for high school completion (other than a traditional diploma). The most common is the General Educational Development (GED) test. The term is often used in federal data collection to differentiate the different pathways to high school completion. In some states, a GED is considered equivalent to a high school diploma, while in other states it is not.

K–16 model—An umbrella term used to describe a policy and structural shift toward preparing all students for postsecondary education and minimizing the barriers for those who choose to pursue it, in recognition of the fact that a postsecondary credential is fast becoming the standard for employability in the marketplace. This often translates into efforts to align the high school course requirements with postsecondary admissions expectations and high school assessments with college placement exams. This term often refers to seamless policy and practices between the K–12 and postsecondary systems.

MEAP—The Michigan Educational Assessment Program, Michigan's version of a criterion-referenced test, which is administered to students throughout the state. Versions of the MEAP are currently taken by students in grades 4, 5, 7, and 8, as well as in grades 10–12 in high school. It serves as the metric for establishing annual yearly progress in line with the No Child Left Behind (NCLB) Act.

Michigan Scholar—A student who has completed the rigorous high school curriculum recommended by the State Scholars Initiative. The course of study must include *at least* 4 credits in English, 3 credits in math (algebra 1 and 2; geometry), 3 credits in basic laboratory science (biology, chemistry, physics), 3.5 credits in social studies (U.S. and world history, geography, economics, government), and 2 credits in the same language (other than English).

Middle college—A subset of dual enrollment programs that includes the collaboration of high schools and colleges to provide opportunities for participating students to complete high school and college credits with the same course(s). The middle-college focus shifts away from high-achieving students to either a broad spectrum or an emphasis on middle- and low-achieving students.

Minimum course requirements—The number of courses and the respective levels of each subject area that students must complete in order to graduate from high school, set by the body primarily responsible for defining curriculum.

New or world economy—According to Atkinson and Court (1998), an economic system based on technological innovations such as high-speed telecommunications and powerful computers, whose most salient features are speed, flexibility, and innovation. The new economy is not limited to firms actually producing technology, but includes those incorporating technological advances into their traditional work as well as those that adopt new organizational models.

No Child Left Behind (NCLB)—The most recent reauthorization of the Elementary and Secondary Education (ESEA) Act of 1965, NCLB is the federal version of *standards-based reform*. Key provisions of the bill include testing requirements at multiple levels of student performance, establishment of baseline school pass rates, and focuses states and schools on making adequate yearly progress (AYP) toward the goal of 100 percent passing for students in mathematics and reading by 2014 in grades 3–8, plus high school. The legislation includes mechanisms for accountability, including designation of schools that do not achieve AYP, and requires supplemental services in persistently underperforming schools, instituting school choice after a certain number of consecutive years of not making adequate progress, and eventually, restructuring of schools that fail to make AYP for a specified number of years.

Schools within schools—Current literature suggests that smaller schools are advantageous for students. For high schools the ideal enrollment may be 600 to 900 students, which is much smaller than the typical comprehensive high school. The schools within schools approach attempts to define smaller communities within the larger school. These are typically organized around a particular curricular theme, such as foreign languages, the arts, career and vocation, or science and technology. In some cases, a separate organizational structure of teachers and assistant principals is created for each cluster in separate buildings; in others such separation is not possible.

Spin-offs/Startups—Business ventures created as a result of commercialization or technology transfer.

Standards—In the strictest sense, standards in the context of education define the competencies and abilities that are the expectations for what all students should learn and demonstrate. They are articulated at different levels of education, e.g., a standard set for mathematics at the high school level might expect algebraic competency, at some

point in elementary school, a standard might be expressed as facility with multiplication, division, etc.

Talent centers—A geographic region that has the capacity and amenities to attract and retain well-educated knowledge workers. Talent centers are regions with a concentration of cultural and nightlife amenities, social diversity and openness, recreational amenities, and high levels of high-technology industries.

University center—A center in which community colleges partner with four-year degree-granting institutions; extension campuses and services of university and postsecondary institutions (public and private); and multiple learning options (online, etc.) along with university extension campuses and virtual services to enhance postsecondary access and success by allowing more individuals to complete degrees and credentials of value.

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APPENDIX A: EXECUTIVE ORDER

EXECUTIVE ORDER NO. 2004-32

LIEUTENANT GOVERNOR'S COMMISSION ON HIGHER EDUCATION AND ECONOMIC GROWTH

EXECUTIVE OFFICE OF THE GOVERNOR

WHEREAS, Section 1 of Article V of the Michigan Constitution of 1963 vests the executive power of the State of Michigan in the Governor;

WHEREAS, Section 4 of Article V of the Michigan Constitution of 1963 authorizes the establishment of temporary commissions or agencies for special purposes;

WHEREAS, under Section 1 of 1931 PA 195, MCL 10.51 the Governor may, at such times and for such purposes as the Governor deems necessary or advisable, create special advisory bodies consisting of as many members as the Governor deems appropriate;

WHEREAS, Section 17 of Article V of the Michigan Constitution of 1963 empowers the Governor to present to the Legislature information as to the affairs of the state and recommend measures that she considers necessary or desirable;

WHEREAS, under Section 25 of Article V of the Michigan Constitution of 1963, the Lieutenant Governor may perform those duties requested by the Governor;

WHEREAS, the skill and determination of Michigan's workforce established our state as a world-renowned center of manufacturing in the 20th century and created the high quality of life we continue to enjoy today;

WHEREAS, both Michigan's core manufacturing industries and the new technology-based enterprises we seek to grow in the 21st century demand the talents of an increasingly educated workforce;

WHEREAS, two-thirds of the jobs that will be created in the next decade will require post-secondary education and training;

WHEREAS, Michigan now falls below the national average in critical measures of educational attainment and, in the case of the number of our citizens who have attained bachelor's degrees, our state is far behind states that are leaders in the race for economic development and jobs;

WHEREAS, ninety percent of our students express the desire to go to college as they enter high school, but only forty-one percent attend college four years later and only eighteen percent have attained bachelor's degrees six years after enrolling;

WHEREAS, those earning bachelor's degrees can be expected to earn sixty percent more than those with high school diplomas while those with associate's degrees earn twenty-five percent more than high school graduates;

WHEREAS, the businesses we hope to attract to Michigan cite the availability of a skilled workforce as a chief factor in determining where to make job-creating investments;

WHEREAS, Michigan businesses have identified a future shortage of skilled workers as a major impediment to economic growth and the prosperity it creates;

WHEREAS, other states and other nations have made great strides in increasing both the availability of higher education to their citizens and in strengthening the link between higher education and economic development;

WHEREAS, Michigan cannot hope to maintain its economic vitality and the quality of life of its residents without making a dramatic increase in the number of our citizens who attain degrees and other credentials that link them to economic opportunity;

WHEREAS, the people of Michigan have created institutions of higher learning, including state universities and community colleges, to open the doors of educational opportunity to all;

WHEREAS, that opportunity must include the ability to earn degrees and other credentials linked to success in our knowledge-based economy; and

WHEREAS, we must act now to help the citizens of Michigan attain the post-secondary education they desire and that our economy demands.

NOW, THEREFORE, I, Jennifer M. Granholm, Governor of the State of Michigan, by virtue of the power and authority vested in the Governor by the Michigan Constitution of 1963 and Michigan law, order the following:

I. ESTABLISHMENT OF LIEUTENANT GOVERNOR'S COMMISSION ON HIGHER EDUCATION AND ECONOMIC GROWTH

A. The Lieutenant Governor's Commission on Higher Education and Economic Growth (the "Commission") is created as an advisory body within the Executive Office of the Governor.

B. The Commission shall consist of Lieutenant Governor John D. Cherry, Jr., as chair and 30 additional voting members appointed by the Governor.

C. The Speaker of the House of Representatives, the House Minority Leader, the Senate Majority Leader, and the Senate Minority Leader each may designate one member of the Michigan Legislature to participate as nonvoting members of the Commission.

D. In addition to the members appointed under Section I.B and I.C, the State Board of Education President, the Director of the State Budget Office, the Director of the Department of Information Technology, the Director of the Department of Labor and Economic Growth, the State Treasurer, and the State Superintendent of Public Instruction, or their designees, will serve as ex officio, nonvoting members of the Commission.

E. Members of the Commission appointed by the Governor shall serve at the pleasure of the Governor.

F. A vacancy on the Commission shall be filled in the same manner as the original appointment.

II. CHARGE TO THE COMMISSION

A. The Commission is advisory to the Governor and shall make recommendations to:

1. Build a dynamic workforce of employees who have the talents and skills needed for success in the 21st Century economy.

2. Double the percentage of citizens who attain post-secondary degrees or other credentials that link them to success in Michigan's economy.

3. Improve the alignment of Michigan's institutions of higher education with emerging employment opportunities in the state's economy.

B. In exercising its duties the Commission will examine strategies to:

1. Increase the number of students in Michigan who attain the skills critical to post-secondary success before graduating from high school.

2. Increase the number of Michigan residents who attend post-secondary institutions.

3. Increase the number of students who successfully complete their post-secondary studies and obtain bachelor's degrees and other credentials relevant to existing and emerging economic opportunities.

4. Maximize the benefits that higher education brings to Michigan's economy.

C. The Commission shall provide other information or advice as directed by the Lieutenant Governor.

D. The Commission, not later than December 31, 2004, shall complete its work and issue a final report to the Governor for her consideration.

E. A copy of the final report shall be transmitted to the Legislature and the State Board of Education.

III. OPERATIONS OF THE COMMISSION

A. The Commission may promulgate bylaws, not inconsistent with Michigan law and this Order, governing its organization, operation, and procedures.

B. The Commission shall be staffed by personnel from and assisted by state departments and agencies as requested by the Lieutenant Governor and directed by the Governor.

C. The Commission shall meet at the call of the Lieutenant Governor and as may be provided in procedures adopted by the Commission.

D. The Lieutenant Governor, as chair, may establish workgroups or committees assigning commission members to and inviting public participation on these workgroups or committees as the Lieutenant Governor deems necessary.

E. The Commission may adopt, reject, or modify recommendations made by the workgroups and committees.

F. The Commission shall act by majority vote of its present and voting members. A majority of the voting members of the Commission constitutes a quorum for the transaction of business.

G. The Commission may, as appropriate, make inquiries, studies, investigations, hold hearings, and receive comments from the public. The Commission may consult with outside experts in order to perform its duties.

H. Members of the Commission shall serve without compensation. Members of the Commission may receive reimbursement for necessary travel and expenses according to relevant statutes and the rules and procedures of the Department of Management and Budget and the Civil Service Commission, subject to available funding.

I. The Commission may hire or retain contractors, sub-contractors, advisors, consultants and agents, and may make and enter into contracts necessary or incidental to the exercise of the powers of the Commission and the performance of its duties, as the Lieutenant Governor deems advisable and necessary in accordance with the relevant statutes, rules, and procedures of the Civil Service Commission and the Department of Management and Budget.

J. The Commission may accept donations of labor, services, or other things of value from any public or private agency or person.

K. Members of the Commission, staff, and contractors shall refer all legal, legislative, and media contacts to the Office of the Lieutenant Governor.

IV. MISCELLANEOUS

A. All departments, committees, commissioners, or officers of this state or of any political subdivision of this state shall give to the Commission, or to any member or representative of the Commission, any necessary assistance required by the Commission, or any member

or representative of the Commission, in the performance of the duties of the Commission so far as is compatible with its, his, or her duties. Free access shall also be given to any books, records, or documents in its, his, or her custody, relating to matters within the scope of inquiry, study, or investigation of the Commission.

B. Nothing in this Executive Order shall be construed to diminish the constitutional authority of the State Board of Education pursuant to Section 3 of Article VIII of the Michigan Constitution of 1963, to provide leadership and general supervision over all public education, including adult education and instructional programs in state institutions, except as to institutions of higher education granting baccalaureate degrees; to serve as the general planning and coordinating body for all public education, including higher education; and to advise the Legislature as to the financial requirements in connection therewith.

C. Nothing in this Order shall be construed to change the organization of the executive branch of state government or the assignment of functions among its units in a manner requiring the force of law.

D. The invalidity of any portion of this Order shall not affect the validity of the remainder the Order.

This Order is effective upon filing.

Given under my hand and the Great Seal of the State of Michigan this 22nd day of June, in the year of our Lord, two thousand four.

_____

JENNIFER M. GRANHOLM
GOVERNOR

BY THE GOVERNOR:

_____

SECRETARY OF STATE

APPENDIX B: COMMISSION AND WORK GROUP MEMBERS

VOTING COMMISSION MEMBERS

John D. Cherry Jr., Chair	Lieutenant Governor, State of Michigan
Fawzea Abusalah	Recent college graduate and legal assistant with Ayad & Associates
Lu Battaglieri	President, Michigan Education Association
Richard Blouse	President and CEO, Detroit Regional Chamber of Commerce
Elizabeth Bunn	Secretary-treasurer, The International Union, UAW
Brian Cloyd	Director of Corporate and Community Relations, Steelcase Inc.
Mary Sue Coleman	President, University of Michigan
Paula D. Cunningham	President, Lansing Community College
Dan L. DeGrow	Superintendent, St. Clair County Intermediate School District
Debbie Dingell	Vice Chair and Executive Director of Government and Community Relations, GM Foundation
Steve K. Hamp	President, The Henry Ford
David Hecker	President, Michigan Federation of Teachers and School Related Personnel
Lawrence Hidalgo	Training Director, Lansing Electrical Joint Apprenticeship and Training Committee
Kenneth Hill	Executive Director, Detroit Area Pre-College Engineering Program
Jack Litzenberg	Program Director and Senior Program Officer, Charles Stewart Mott Foundation
Albert L. Lorenzo	President, Macomb Community College
Paul Massaron	Owner, PEM Consulting
Mark A. Murray	President, Grand Valley State University
Robert H. Naftaly	Chair, State Tax Commission
Juan R. Olivarez	President, Grand Rapids Community College
John W. Porter	Former State Superintendent of Public Instruction
Philip H. Power	Chairman, HomeTown Communications
Glenda D. Price	President, Marygrove College
Gary D. Russi	President, Oakland University
Lou Anna Kimsey Simon	Incoming President, Michigan State University
Lee Sprague	Ogema, Little River Band of Ottawa Indians
Shirley R. Stancato	President, New Detroit
Dennis J. Stanek	Superintendent, Delta-Schoolcraft Intermediate School District
Gail F. Torreano	President, SBC Michigan
Maria Vaz	Associate Provost and Dean of Graduate Programs, Lawrence Technological University
Leola Wilson	Member, Saginaw Intermediate School District Board of Education

NONVOTING COMMISSION MEMBERS

Sandy Caul	State Representative
Irma Clark-Coleman	State Senator
David C. Hollister	Director, Michigan Department of Labor and Economic Growth
Wayne Kuipers	State Senator
Mary A. Lannoye	Budget Director, State of Michigan
Jay B. Rising	Michigan State Treasurer
Kathleen Straus	President, State Board of Education
Teri Takai	Director, Michigan Department of Information Technology
Tom Watkins	State Superintendent of Public Instruction
Gretchen Whitmer	State Representative

COMMISSION WORK GROUPS

Improving Preparation

Chair: *Debbie Dingell*[*]
Luigi Battaglieri*
Brian Cloyd*
Steven K. Hamp*
David Hecker*
Wayne Kuipers*
Mary Lannoye*
John W. Porter*
Dennis J. Stanek*
Kathleen N. Straus*
Maria Vaz*
Martha Darling, Education Policy Consultant
George Heartwell, Mayor, City of Grand Rapids
Curtis Ivery, Chancellor, Wayne County Community College
Andy Mazzarra, President, Henry Ford Community College
Mike Schmidt, Contributions Director, Education, Ford Motor Company
Bryan Taylor, President, Partnership for Learning
Mark Thomas, Principal, Northview High School

Expanding Participation

Chair: *Paul Massaron**
Irma Clark-Coleman*
Paula Cunningham*
Lawrence Hidalgo Jr. *
Kenneth Hill*
Jay B. Rising*
Lou Anna Kimsey Simon*
Lee Sprague*
Shirley R. Stancato*
Gail F. Torreano*
Leola Wilson*
Sharon Banks, Superintendent, Lansing Public Schools
Gerri Daniels, Director of Admissions, Northern Michigan University
David Eisler, President, Ferris State University
Glenn Mroz, President, Michigan Technological University

Increasing Degree Completion

Chair: *Dan L. DeGrow**
Fawsea Abusalah*
Sandy Caul*
Jack Litzenberg*
Albert L. Lorenzo*
Mark Murray*
Glenda D. Price*
Teri Takai*
Tom Watkins*
Ted Blashak, Vice President & Director, University of Phoenix – MI campus
Lou Glazer, President, Michigan Future Inc.
Juan Mestas, Chancellor, University of Michigan - FLint
Dick Shaink, President, Mott Community College

Maximizing Economic Benefits

Chair: *Mary Sue Coleman**
Richard Blouse*
Elizabeth Bunn*
David C. Hollister*
Robert H. Naftaly*
Juan R. Olivarez*
Philip H. Power*
Gary D. Russi*
Gretchen Whitmer*
Dave Amati, Director, Automotive Business, SAE International
Tom Anderson, Director, Automation Alley Technology Center
John Hayden, Vice President, HR Organizational Performance & Learning, Henry Ford Health System
Kevin Hollenbeck, Senior Economist & Director of Publications, W. E. Upjohn Institute
Conway A. Jeffress, President, Schoolcraft College
Birgit M. Klohs, President, The Right Place Inc.
Michael Rao, President, Central Michigan University
Dawn White, CEO, Solidica Inc.

[*] Asterisk (*) indicates a commission member

APPENDIX C:
PUBLIC HEARING SUMMARIES

September 7, 2004: Marquette

September 13, 2004: Saginaw

September 20, 2004: Traverse City

September 28, 2004: Lansing

October 11, 2004: Grand Rapids

October 18, 2004: Detroit

PUBLIC HEARING SUMMARY

MARQUETTE

September 7, 2004

Community College Comments

Michael Allkins said that community colleges not only provided a good opportunity for adult learners, but they also offered rigorous, challenging classes for high school juniors and seniors. He also thought that community college courses should be more easily transferred between institutions.

Collaboration, Community, and Culture

- During the Marquette hearing, several testifiers mentioned the importance of maintaining and increasing current levels of higher education funding.
- Debbie Peterson spoke of the need for increased collaboration between industries and businesses and higher education institutions. This would improve outcomes for students and provide mentoring opportunities.
- June Schafer stressed increasing teacher preparation and developing preparation programs as ways to improve student preparation.
- Rachelle Giuliani thinks administrations need to support teachers who teach rigorously even if they're not popular with students.

System Focus

- Leslie Wong, president of Northern Michigan University, indicated that higher education approaches should not be "cookie cutter" and that risk-taking should be rewarded.
- Roger Ubbelohde spoke to encouraging the independent university sector.

PUBLIC HEARING SUMMARY

SAGINAW

September 13, 2004

Community College Comments

- Students Lupe Blankenship and Carlos Amos spoke of returning to school after many years; they found that Mott Community College offered additional support to nontraditional students that was not available in a larger university setting.
- Businessman Sixto Olivo remembered how a community college had provided him with a second beginning. Community colleges are also great vehicles for increasing the number of degreed and credentialed citizens in Michigan, but their funding has been cut in recent years as attendance has exploded.
- Community college students Sean Enszer and Alyson McCloy lauded the supportive environment of the community college setting but wished to see better transferability of credits.
- Debra Lutz stated that the "nontraditional" student is now the norm. The majority of students work at least part time.
- Several attendees noted that there is a disconnect between the high school MEAP and college assessment.

Collaboration, Community, and Culture

- Attendees representing the Greater Flint Education Consortium said that partnerships leverage the resources of multiple institutions, eliminate redundancy, and streamline curricular design.
- Chery Wagonlander spoke of the work at Mott Middle College, which provides a supportive high school environment for at-risk teens within Mott Community College, allowing them access to higher education resources.
- Ronnie Newman spoke of how businesses should partner with educational institutions to ensure that students entering the workforce meet their changing needs.
- Frank Starkweather spoke of the quantity of vacant land in the Flint/Saginaw area, the amount of capital available for business loans, but the lack of microloans available for small businesses. He stressed that most businesses in the country are small, and most people are employed in small businesses, but the development structure is aimed at giving financial incentives to large businesses. By providing a portion of resources to smaller business, Michigan could help redevelop some blighted areas. Teaching entrepreneurship and financial literacy in school could also help to develop future small business owners.
- Joe Liefbroer spoke of giving students job-training experience while in high school to help them acquire the skills needed for the job market.

Financial Aid

- State Senator Goschka and other community representatives stressed the need for per pupil funding at public universities and community colleges. At this time of budget shortfalls, per pupil funding could help keep expensive technical programs at schools that might otherwise cut them.
- An attendee said that the Michigan tuition grant program is a good program to help low-income students attend their school of choice.
- Terri Winegarden spoke of how time spent on education should count toward work hours for individuals on cash assistance. Studies consistently show that education is the best way to keep families out of poverty, yet the state system does not encourage low-income individuals to start or continue their education.
- Written comments from Mary Poma suggested that state and federal funds should not limit grants and scholarships to undergraduate programs. Her daughter lost all grants and the Michigan Competitive Scholarship after completing her associate in science degree because her pharmacy program at Ferris State University was considered a graduate program.

System Focus

Eric Gilberston, president of Saginaw Valley State University, emphasized the differences among state universities and urged that the commission recognize and enforce the roles played by each institution.

PUBLIC HEARING SUMMARY

TRAVERSE CITY

September 20, 2004

Barriers

Stephen Siciliano of Northwestern Michigan College (NMC) spoke of the community college role in doubling the number of degrees in Michigan, serving as the primary bridge between secondary and university education and also serving place-bound students. He also mentioned barriers to higher education, including the difficulty of dual enrollment and community college credits transferring to four-year institutions.

Community College Comments

- Mike Hill also mentioned the difficulty of articulation between institutions and suggested rewarding institutions that made credit transfers easier.
- Jean Morciglio, from Lansing Community College, also spoke on the difficulties of articulation and how upset community college students often became when they discovered that their classes didn't transfer to four-year schools. She also mentioned that only 5 percent of vocational students go on to bachelor's programs and that there should be a means of transferring vocational competencies into general education credits that would count toward a four-year degree.
- Marguerite Cotto, of NMC, highlighted the population of students served by community colleges, traditionally nontraditional students, but noted that NMC was seeing an increase in the number of traditional students, largely because of rising costs.
- Cheryl Gore Follette, chair of the NMC Board of Trustees, spoke of the great economic benefits that community colleges provide to both the community and individual students. By being so close to local issues and local employers, community colleges are most responsive to surrounding businesses and also the most cost effective for their students.
- Community members also expressed their support of local community colleges. Gary Dawley thought that the University Center concept was valuable in Northern Michigan and thought the programs should be expanded to include more bachelor's and master's classes for place-bound students.

System Focus

Cameron Bruner-Koch, president of North Central Michigan College, told commissioners of needed systemwide changes: improving students' readiness to learn, increasing collaboration between K–12 and higher education, expanding dual enrollment opportunities and their acceptance, enhancing career pathways, and changing the way students are tracked throughout the system.

Collaboration, Community, and Culture

- Bob Van Dellen, president of Baker College of Cadillac, thought collaboration between public and private universities would be a more effective use of resources.
- James Candela from MDE wants to see more parental and community involvement in developing high school reform strategies.
- Leonard Zolnierek stressed the need to change cultural ideas about higher education, highlighting the importance of education to populations who wouldn't traditionally consider college.
- Mike Kenney also spoke of the need to stress life-long learning in all populations.
- Elaine Wood mentioned the career pathways program as a means for bringing traditionally non-college-bound students into the higher education arena.

Standards and Testing

- Mike Ryan, a professor at Ferris State University, questioned if by increasing admission standards, we were leaving behind a large group of citizens.
- James Pavelka, the superintendent of Traverse City Area Public Schools, voiced his support for implementing the ACT instead of the MEAP. If more high school students take the ACT, more will go to college, as witnessed in other states that have adopted the ACT as their statewide exam.
- Lynn Gullekson thought that students currently see college as a risk because of cost and the lack of jobs; we need to stress why education is a good investment.

Remediation

- Ranai Kruth and Karen Mulligan from Tynsdale College spoke on the need of many students for remediation. They mentioned that remedial courses usually don't succeed in isolation. Comprehensive programs with support from faculty and administrators are crucial.
- Bob Van Dellen also mentioned the serious need to address preparation; 75 percent of students coming to Baker College of Cadillac need some remedial work.

Financial Aid

- Bob Van Dellen supported increasing the amount of grant money available to students, as opposed to loans.
- Mike Hill wanted to see the ACT work keys option protected as a pathway to qualify for the Merit Award.
- Ranai Kruth and Karen Mulligan wanted to see financial aid extended to cover remedial courses, which currently are not considered college level classes and thus are not eligible for financial aid.

PUBLIC HEARING SUMMARY

LANSING

September 28, 2004

Dual Enrollment and Articulation

- Several testifiers stressed the importance of dual enrollment.
  - Rebecca Douglas, a student at Lansing Community College (LCC), noted that it could shave off some of the credits needed to begin the college process while also getting students interested and more familiar with postsecondary education early on.
  - Bewar Haji, also a student at LCC, said that dual enrollment could provide a better ratio of teachers to students and provide students with a smooth transition to college.
- Articulation agreements were also directly and indirectly mentioned several times.
  - Joan Hartwig, LCC, said LCC provides several services to help students to transfer to universities and has many courses that transfer. She said that high school graduation requirements should be more aligned with community college requirements, and community colleges should work on being aligned with four-year institutions.

Apprenticeships and Vocational Education

- Jan Danford, LCC, discussed the importance of M-TECs (Michigan Technical Education Centers) in building a dynamic, skilled workforce. She noted that high schools and community colleges need to work together to develop the skills needed for employment, and said a blend of online and face-to-face interaction is important.
- Mike Crawford, National Electrical Contractors Association, said that one way to increase graduation rates overall is to grant college credit to apprenticeship programs; these programs already have a high completion rate.
- Ralph Hansen, Eaton ISD, cited vocational education and technical training as factors in student's success in college. To assess high school success, the state should look at all the skills, talents and knowledge students have gained, and a more appropriate way to do this is through the ACT and workplace readiness assessments rather than the MEAP.
- Phil Schloop, International Union of Operating Engineers Local 547, said vocational education shows capable students a path toward concrete job opportunities. Teachers and high school counselors need to understand the importance of apprenticeship programs and how they apply math and physics principles in particular to real life situations. Students in apprenticeships are able to make decent wages while receiving training. He said that while technical classes are sometimes more expensive to operate and are usually the first to be cut, they are an important investment in the future workforce.

- Russ Bellant, Local 547, echoed many of these points and also noted the need for K–12 counselors to make sure students are aware of careers in the skilled trades.

Workforce/Career Preparation in K–12 and Higher Education

- Mac MacIlroy, Michigan Manufacturers Association, stated that a good business climate includes a commitment to public education, but that the system should be held accountable. He stressed that the duty of K–12 and technical training, in addition to higher education, is to graduate competent students who are ready to compete in the global economy. He also noted the importance of (1) developing a common language between the educational and business communities, (2) eliminating bureaucracy, and (3) using the correct assessment tools, including the ACT and workforce preparation test.
- Jim Sandy, representing Michigan Business Leaders for Education Excellence, also noted that K–12 preparation was key to success in higher education and the future workforce. He cited the need for rigorous and challenging high school courses. He posed the idea of a state curriculum that mandated higher numbers of math and English courses.
- Jack Davis, trustee of the Lansing School District, said there is a need to educate the public on the importance of education for a career. He said that in order to decrease dropout rates, the system must work with students even prior to the 9th grade. There is a need to work with more middle class teachers on identifying and working with their low income and minority students.
- Lee Schleicher, Washtenaw Technical Middle College, talked about the three Rs of education—relevance, relationships, and rigor. He feels there is a need to apply academic learning and make it relevant to potential jobs. He offered several ideas for the state—dropping seat time as a measurement of learning; allowing those who are ready to move ahead; expecting more than K–12 from students; ensuring that taxpayers are not paying for the same credit twice by allowing easier transfer of credits; offering incentives for dual enrollment.
- Ken Akini, a student at LCC, said LCC offers him a chance to gain the knowledge needed to get a job he enjoys and his professors have helped him succeed. The core classes have intertwined curriculum, which makes them relevant to the real world.
- Jann Jencka, Ingham ISD superintendent, discussed professional development in K–12. She said there is a link between a well-educated workforce and a good economy, but the challenge is to incorporate career planning into the K–12 system. Each graduating senior should have a postsecondary plan. Contextual and applied courses in high school are important to focus students on the relevance of their learning to their career paths. It is also important to offer high-quality professional development for teachers, which should include training teachers to engage their students in career preparation.
- Chris Laverty, LCC board chair and UAW/GM member, discussed how technology was taking the place of people in many manufacturing jobs, but there will still be a

local skilled worker shortage. He talked about the Lansing Area Manufacturing Partnership (LAMP) and the fact that there needs to be more partnership development among business, labor, schools, and the state.

Standards and Testing

- Several testifiers responded that they were in favor of making the ACT the state assessment test.
- Mark Reckase, Michigan State University, noted that high school students have different paths of courses and it makes designing an assessment test difficult. He presented four options—a minimum competency test, end of course exams, survey battery tests that focus on common courses (like the MEAP), or a prerequisite skills test like the ACT and workplace readiness tests. He suggested that the latter is the best choice for Michigan.
- Bill Scaletta, Lakeshore High School principal, said that while a high school diploma is no longer enough for success, discrimination prevents many minority students from getting to higher education. There is a need to close the educational gap between African-American and other students. He supports changing the high school assessment test from the MEAP to the ACT.
- Barbara Blanchard, Michigan PTSA, says that her organization is supportive of a change in assessment tests from the MEAP to the ACT. The following issues with the MEAP were noted by her and other testifiers:
  - Takes too much time out of educational time
  - Designed as an assessment tool for the state, but has no relevance to postsecondary institutions. Students desiring to go to college still must take the ACT.
  - Does not assess workplace readiness
  - The ACT provides prompt results to evaluate curriculum

Higher Education and Economic Growth, "Cool Cities"

- Phil Diamond, Governor's Council of Economic Advisors, cited higher education institutions as catalysts for growth and vitality in their local communities. Higher education institutions are centers of research, innovation, and new industries that will generate more growth in the knowledge economy. He will offer more specific recommendations for the commission's review in November.
- Doug Drake showed information and statistics that demonstrate this. There are eight states plus the District of Columbia that had above-average per capita income and above-average income growth; these areas are all considered "knowledge-based" economies with a low ratio of manufacturing relative to knowledge occupations. These areas have metropolitan areas with a higher percentage of degreed workers than in Michigan.

Incentives for Participation in Higher Education

- Jenessa Demps and Sititria Pugh are 8th grade HOPE scholars. They said this program is very important for putting them on the path to success. They receive tutoring and have the opportunity to engage in community service. They said being introduced to college through programs at LCC encourages them to do well in school now and makes them look forward to going to college after graduation.
- Linda Minter, Women's Resource Center, LCC, stated the need for funding of programs that help adults reenter the educational system and make it easier for single moms to participate, including subsidized child care, financial aid, and services to help those adult students with lower skills and poor study habits. She also said public assistance program's work requirements make it difficult for people to attend school to improve their situation.

High School Reform

- Charles Breiner, Howell Public Schools, spoke on behalf of the Michigan Department of Education's High School Reform Committee. He provided a copy of the most recent draft of the committee's work. This committee is looking at several areas of reform to increase graduations rates and better prepare students for post high school experiences and economic independence.

PUBLIC HEARING SUMMARY

GRAND RAPIDS

October 11, 2004

Introduction

Lieutenant Governor John Cherry commenced the public hearing, held at Grand Rapids Community College in Grand Rapids on October 11, 2004, at 4:03 P.M. Lieutenant Governor Cherry's opening remarks recapped the goal of the commission and placed it in the context of other economy-growing strategies. He explained that a high school diploma is no longer a ticket to a middle-class lifestyle, that higher education (a baccalaureate degree at a minimum) is necessary in today's economy, and that developing an expectation of postsecondary training for all high school graduates is key.

Lieutenant Governor Cherry outlined the agenda for the public hearing and then led the commissioners in introductions.

John Austin, policy director for the commission, provided background information and reiterated the focus of the commission. He noted that all commission-related public documents can be found at the commission website, *www.cherrycommission.org*.

Jeff Williams, Public Sector Consultants Inc. and staff for the commission, reviewed the administrative procedures of the public hearing.

Juan Olivarez, president of Grand Rapids Community College (GRCC), welcomed everyone to the facility. Olivarez explained that GRCC celebrates its 90th birthday this year, commemorating the first community college in Michigan. He also emphasized the important role that community colleges play in Michigan's communities.

Independent and Community College Comments

- Gaylen Byker from Calvin College and others pointed to the role independent and community colleges play in host communities. He noted that independent colleges and universities can handle expanded enrollment, especially for minority students.
- Like other testifiers, Tim Davis, former GRCC student and alumnus, stressed the importance of several community college components: (1) the transferability of credits to a four-year institution, (2) the cost savings for quality higher education, and (3) personal contact with professors.
- Several testifiers spoke about the importance of community college and university relationships, particularly in crafting specialized degrees (2+2, 3+1, simultaneous enrollment). It was noted that such programs can cut students' costs by more than half.

- Bev Drake of the Michigan Works Program ASCET urged the continued support of community colleges and workforce initiatives. She cited three concepts important for success: (1) inclusivity (openness) and diversity, (2) adaptability and flexibility, and (3) basic employer and academic skill sets (life or soft skills).
- Donald Green, dean of Ferris State University's Grand Rapids campus, shares similar opinions with other testifiers that community colleges can serve as catalysts for economic growth. He believes that the applied, career-oriented services that community colleges offer to Michigan citizens where they live and work is the key.

Collaboration, Community, and Culture

- During the Grand Rapids hearing, several testifiers mentioned the importance of maintaining and increasing current levels of higher education funding.
- Several testifiers spoke of the importance of adaptability and flexibility of programs.
- Randy Flechsig of Davenport University and other testifiers stressed the importance of promoting private sector partnerships to meet relevant needs, ensuring that the link between career and education is strong, and connecting the business community to education. Davenport employs an employer education advisory group to assist in curriculum and outreach endeavors.
- Win Irwin, CEO and president of Irwin Seating and Chair, made four recommendations to the commission: (1) continue to drive connections between careers and education, (2) promote guaranteed high school diplomas, (3) focus on math and science, and (4) explore the impact of access to adult education.
- Gene Pierce from the Tuscola Intermediate School District offered testimony supporting secondary career and technical education (CTE). Pierce stated that CTE is a crucial aspect of competing in a global economy and an integral component of the total education experience. CTE is often a catalyst for bringing education and business together.
- Susan Broman, executive director of the Steelcase Foundation, spoke about the company's Education Reform Initiative (ERI) and how it is used as a catalyst to bring together stakeholders to solve problems, particularly in urban education. ERI has four main priorities: (1) creating a community accountability system (student performance and achievement and community involvement, (2) integrating health and human services, (3) changing policy, and (4) ensuring that school readiness begins at birth. The program focuses on voluntary, accessible, culturally competent, and universal services.
- Crystal January-Craft, systems director for Employment and Organizational Development at Spectrum Health, spoke of her concerns about the labor shortage in critical health care services. She recommended four actions to address this problem: (1) expose children earlier (middle school) to professions in health care, (2) use internships to increase young people's exposure to careers, especially if the internships are linked to scholarships, (3) expand college programs related to health care professions, and (4) increase the visibility of health care services as "cool" careers.

When asked about retention strategies, she replied that Spectrum Health focuses its employee retention efforts during two periods: within the first five years and post ten years, the time when professionals are likely to seek a career change.

- Ken Chester of Pro-Active Search encouraged replicating the success that the University of Michigan and Michigan State University have had with commercial spin-offs.
- Glenn Oxender from Glen Oaks Community College urged the commission to be bold and not to be afraid to increase taxes to support key programs. He explained that a one-mil tax increase for community college education would raise $290 million. A 0.25-percent increase in the sales tax would raise $271 million for capital improvements.
- Nino Rodriquez, Early Childhood Multi-Cultural Education program, emphasized the importance of multilingual education in global relations.
- Donald Roy, Ferris State University, promoted increasing student enrollment among at-risk kids, the need for continuing education, and faculty study circles. He pointed to the "Early Success" program, a 0–5-year program in Osceola County that has been successful and deserves continuing funding.

At-Risk Students

- Raymond Gant, Ferris State University Minority Affairs, explained that providing multiple opportunities for students to visit and experience a campus coupled with personal contact from someone within the university encourages minority students to enroll.
- Bill Wiener, dean at Western Michigan University, spoke about increasing numbers of students of color in terms of attending and completing college. He noted the lack of both available students as freshman and minority faculty to help recruit students of color. Wiener pointed to the King-Chavez-Parks Future and Faculty Fellowship Program as one method to help fill in these gaps, but also stressed that the program is underfunded.
- Linda Spöelman, Michigan Developmental Educators, offered four suggestions stemming from her work with at-risk students: (1) use the Michigan Developmental Educators, (2) use research from their field, (3) look at their model programs, and (4) employ a holistic approach and remember to put the student's needs first.
- Charles Burt offered his experiences with GRCC's "Learning Corner at Wealthy" as a nontraditional delivery system to disadvantaged neighborhoods in Grand Rapids. In terms of preparation, the program starts with high expectations and offers GED preparation and seamless transitions to postsecondary education and job readiness skills. Collaborations with businesses to promote life-long change increase participation. Strong faculty/student relationships, peer support, and English as a Second Language (ESL) classes help raise completion rates.

High School Issues

- Several testifiers in Grand Rapids spoke about the need to expose students to career and higher education opportunities sooner in life. These advocates pointed to middle school as the ideal time to introduce options to youngsters.
- Terri Handlin, Forest Hills teacher, GRCC board member, and Michigan Education Association (MEA) member, summarized several testifiers' viewpoints. She spoke of the disconnect between curriculum and the economic needs of society. She explained that many students ask why they are taking courses; they don't understand the sprit of entrepreneurship and don't believe they can make a living doing something they are passionate about. Her suggestion to create internships for teachers to experience the "real world" was echoed by others. Both teachers and students need opportunities to interact in the business world.
- Paul Bergen explained that the goals of the Berrien County Career Pathways are highly transferable to the commission: that all students going through school have focus and a plan, and all students go on to college. Other testifiers shared his view and have had success driving the first year of community college into the senior year of high school to help prepare students for postsecondary education.
- Jeremy Hughes, Michigan Department of Education (MDE), explained that the MDE would submit to the commission a white paper with recommendations by October 20. These recommendations would center on four key concepts: (1) the rigor of high school curriculum, (2) the relevance of high school curriculum, (3) relationships between students and adults for success, and (4) rethinking of structures and functions of high schools. He suggested that the Michigan Curriculum Framework (raising standards) be revised and graduation standards be enhanced, improved, and increased.
- Bert Bleke, superintendent of Grand Rapids Public Schools, noted that too few superintendents think about "quality instruction" and suggested that we examine how we teach our children and how to improve our teachers. When asked about the relationship between K–12 and community colleges, Bleke replied that being small is critical and low student-teacher ratios are key.
- Parents David McCarthy and Melanie Kurdys of Portage Parents for Quality Education (*portagescience.org*), expressed frustration with how the Portage public school system changed science courses to meet No Child Left Behind regulations. They shared their concern over the lack of parental input in the public education system and also emphasized the importance of a learning culture.

PUBLIC HEARING SUMMARY

DETROIT

October 18, 2004

Introduction

Lieutenant Governor John Cherry commenced the public hearing, held at Wayne State University in Detroit on October 18, 2004, at 4:05 P.M. Lieutenant Governor Cherry's opening remarks recapped the goal of the commission and placed it in the context of other economy-growing strategies. He explained that a high school diploma is no longer a ticket to a middle-class lifestyle, that higher education (a baccalaureate degree at a minimum) is necessary in today's economy, and that developing an expectation of postsecondary training for all high school graduates is key.

Lieutenant Governor Cherry outlined the agenda for the public hearing and then led the commissioners in introductions.

John Austin, policy director for the commission, provided background and reiterated the focus of the commission attendance. He noted that all commission related public documents can be found at the commission website, *www.cherrycommission.org*.

Jeff Williams, Public Sector Consultants Inc. and staff for the commission, reviewed the administrative procedures of the public hearing and other ways to submit comments.

Irvin Reed, president of Wayne State University (WSU), welcomed the commission to the WSU campus. He provided a brief background on WSU, noting that partnerships have been a key to its success. WSU has 220,000 alumni around the world, but most graduates (90 percent) remain in Michigan. Reed mentioned that WSU caters to the needs of Michigan's residents and is positioned to maintain quality yet boost enrollment to meet the governor's challenge. Several presenters testified about WSU programs as potential models.

- Michelle Hunt-Bruner, Academic Success Center, spoke of tutoring and supplemental programs that help students become 95 percent more confident to succeed in their courses after going through the program. The program teaches students how to learn by focusing on the basics of time management and note taking and creates an individualized plan of work that addresses identified needs.
- William Hill spoke on keys to increasing student graduation and noted four strategies that WSU focuses on: (1) improving access through relationships with community colleges, (2) retention and support through an emerging scholars program that supports students in the classroom, (3) learning from other institutions via best practices, and (4) evaluation.
- Jerry Herron introduced the Med Start Program, which offers a special curriculum

and options for medical students. The program also offers the chance to be pre-accepted into medical school.

Community College Comments

- Many testified about the positive impact independent and community colleges play in host communities, their vital role in the comprehensive outlook of post-secondary education in Michigan, and the value of their education for the cost.
- Richard McMillan, vice president of Macomb Community College, spoke of the important role of community colleges in creating a knowledgeable workforce. New economy challenges and employers want workers with bachelor's degrees in technology. Most public universities do not offer these degrees, and community colleges are adaptable and underutilized. McMillan recommends replicating other states' programs in which community colleges award technical baccalaureate degrees (four-year degrees built on existing two-year technical degrees) designed to meet critical workforce needs. This approach would not require new funding or institutions, would not compete with current university offerings, but would improve Michigan's technical and educational profile and meet workforce needs.

University Comments

- Paula Wood, dean of the WSU College of Education, had four recommendations for the commission to consider: (1) We need a laser focus on achievement and excellence so that students learn at very high levels; (2) "advanced education for all" needs to be a mantra; (3) university/school/business partnerships must be seen as important; and (4) urban educators are a special breed and need attention and creative solutions with all partners at the table (alternative pathways-limited license to instruct, online courses and seminars).
- Alice Horning, Michigan Writing Program Administrators and University Writing Program at Oakland University, urged the commission to pay close attention to budget priorities and the teaching of writing, noting that small class size matters. She offered the group as a resource.
- Charles Chambers, president of Lawrence Technological University (LTU), offered specific recommendations. For preparation, he urged the commission to consider offering college courses in high school. For participation, increase need-based financial aid access across the board and utilize the capacity of independent universities and community colleges. For completion, use combination degrees (2+2+2 program). For economic development, reward institutions involved in R&D.

Collaboration, Community, and Culture

- Several presenters spoke to the success of the Detroit Area Pre-College Engineering Program (DAPCEP) and offered personal testimonies of their experiences with the program. Arthur Haman explained that 90 percent of DAPCEP graduates attend college, with 62 percent of those in engineering, math, and sciences. DAPCEP high

schoolers can earn college credit, and classes are offered free. Corporate and city, state, and federal government funds are used to support DAPCEP. Teacher training is crucial to make great teachers who prepare students well.

- Greg Handel, senior director for Workforce Development at the Detroit Regional Chamber, suggested that there is a huge untapped resource in those who graduate high school, attend college, but drop out. He stated that there needs to be a partnership to expose people to careers that do not require four-year degrees but that do require some training. He encouraged the commission to explore a system to get to these people, track them, and get them into programs.
- Peggy Kahn with the Coalition for Independence through Education (CFITE) and the University of Michigan-Flint talked about removing barriers to access to higher education for parents on public assistance. CFITE has proposed a pilot program in which hours in full-time education count to meet work requirements; partnerships between public agencies and education institutions are involved.
- Terri Simmons, executive director of Technology and Support Services at Lenawee Intermediate School District (ISD), spoke on maximizing the potential of institutions to educate students through partnerships by recounting Lenawee ISD's experience with Jackson Community College (JCC). The union of JCC vocational technology center on Lenawee ISD's campus sends a clear message that K–12 education is connected to postsecondary education. Understanding that it may not be the last step in the education ladder, JCC has partnerships with other universities and colleges. Postsecondary education that is affordable, accessible, and convenient is paying off for Lenawee citizens.
- Greg Newson, International Union of Operating Engineers (IUOE 324), introduced the Journeyman and Apprentice Training Fund and programs. The three-year, privately funded program has a staff of 20, houses 50 pieces of equipment in its 30,000-square-foot program, and provides 6,000 people with on-the-job training as apprentices and journeymen. Newson offered several recommendations. To boost participation, he recommends career days and job fairs offered to middle and high schoolers that send the clear message that the construction industry is "teching" up. These potential students need to know that they will need good math, English, and computer skills and a high school diploma or GED. We also need a better screening process that encourages serious students.
- Lisa Phillips, principal of Detroit Technology High School, explained that the structure of schooling needs to change, and we need to change the culture of low achievement in communities. She pointed to a collaborative effort between Detroit public schools and the Bill and Linda Gates Foundation that reduced class size and brought more interaction and accountability on all levels to education. Phillips stated that perhaps Detroit Technology High School is a model program.
- Mark Clevey, vice president of the Small Business Association of Michigan, provided comment on how entrepreneurial businesses can act as catalysts to economic growth through (1) scientific breakthroughs (research universities) that generate successful research results, (2) breakthrough products, and (3) entrepreneurial business

development, which is currently lacking. Clevey said that entrepreneurs, with their great potential to impact the economy, are the business engine and the primary liaison between Michigan manufacturers and research universities. He offered the following recommendations designed to foster a robust strategic partnership between Michigan universities, cutting-edge small business entrepreneurs, and Michigan manufacturers. The state should (1) establish realistic and measurable goals and programs to encourage the transfer of university technology to industry, (2) establish business incentives to encourage the purchase of university technologies by Michigan businesses and follow-on product development, and (3) work to get federal research grants for cutting-edge businesses.

- Al Hermsen, president of the Michigan Student Financial Aid Association, asked the commission to address two important issues: (1) the lack of financial aid and (2) encouraging early (elementary and middle school) awareness of higher education opportunity programs that include parents. Hermsen responded to a question about financial aid limits to part-time students by saying that some scholarship programs do require fulltime enrollment.

Minority and/or At-Risk Students

- Julian Pate, director of Education at Focus: HOPE, introduced the program as a potential model. Focus: HOPE provides opportunities to overcome racism, poverty, and injustice by serving neglected, low-income populations across all ages and education. Its students are directed to employment in skilled manufacturing areas and are matriculated at local community colleges. Focus: HOPE is a holistic approach that addresses basic work skills and soft or life skills. Pate suggests investing in longer-term programs that prepare students for careers.
- Reggie Turner, State Board of Education, expressed deep concern over several issues including the future of affirmative action and the creation of a stronger K–12 system that feeds to higher education institutions.
- Jorge Chinea, WSU, explained that more political participation by Latino populations is needed. They also need meaningful retention programs and support that is multifaceted (social, psychological, cultural, institutional). He pointed to the WSU's Center for Chicano and Latino Studies programs as ones that meet these needs and can be used as models.
- Andre Furtado, WSU, urged the commission to fund those institutions that are willing to work with minority and open enrollment students. He explained that learning communities that elicit trust and consider family responsibilities can reach these students and help them succeed.
- Norman Bent, board member of the Detroit Hispanic Development Corporation and Advocates for Latino Student Advancement in Michigan Education, suggested removing the barriers that residency policies present in accessing in-state tuition.

High School Issues

- Several testifiers in Detroit spoke about the need to expose students to career and higher education opportunities sooner. These advocates pointed to middle school as the ideal time to introduce youngsters to options.
- Other testifiers spoke of the disconnect between curriculum and the needs of the economy, and suggested making high schools accountable for preparing students.
- Gail Shenkman, Michigan Department of Education High School Reform Team and principal of Dearborn High School, explained that a white paper recommending reforms to high school education would be submitted to the commission by October 20. These recommendations would center on four key concepts: (1) the rigor of high school curriculum, (2) the relevance of high school curriculum, (3) relationships between students and adults for success, and (4) rethinking of structures and functions of high schools. She suggested that the Michigan Curriculum Framework (raising standards) be revised and graduation standards be enhanced, improved, and increased.

APPENDIX D:
REPORTS OF THE WORK GROUPS

Preparation Work Group

Participation Work Group

Completion Work Group

Economic Benefits Work Group

REPORT OF THE PREPARATION WORK GROUP

INTRODUCTION

As we enter the twenty-first century, employers and colleges both are expecting the same higher order skills of new hires and of new students—in traditional competencies such as reading and mathematics, as well as analytic ability, problem solving, adaptability, and communication. The high school diploma is no longer adequate as an automatic ticket to the middle class. In almost every growing high-wage field, some form of postsecondary training and/or education is required.

All students today must be equipped with rigorous academic preparation and high-performance job skills. The long tradition of sorting students into "college-bound" versus "non-college-bound" tracks is no longer relevant; indeed, it is harmful to a student's future and to Michigan's economy. Michigan must deliver solid preparation for postsecondary education, life, and work if its residents are to enjoy a decent standard of living, and if Michigan is to be the site of creation of new ideas and industries, and competitive with the world on the basis of workforce skills and talent.

The work group is very cognizant that raising expectations to ensure that all students master a rigorous curriculum and essential competencies will challenge Michigan's education community and the community at large. Success at this courageous and essential endeavor is a shared responsibility of students, families, parents, educators, the local community, and the broader society. To deliver on high expectations for all high school students, Michigan must marshal all the resources that are needed—human, moral, intellectual, and financial—to insist on high-quality preparation for all its young people.

In developing the recommendations presented below, the work group has reviewed evidence that persuasively suggests that:

- Michigan has been and is a leader in developing rigorous academic standards and learning expectations for its public schools.
- Michigan has recently, by enhancing the focus on early childhood education and putting in place national leading K–8 standards and grade-level content expectations, significantly advanced the preparation of K–12 students for success in postsecondary education, life, and work. Michigan is beginning to realize important achievement gains for students in their early K–12 years.
- This progress comes despite, and is continually challenged by, the stark realities that affect the ability of many of our children to achieve in school: many children have not been read to and have little experience with books or reading; too many children come to the schoolhouse door underfed, lacking basic health care, and distracted by unstable home and community environments.
- For many years Michigan residents could succeed in the workplace with only a basic high school education. Today, the work group is persuaded there is convincing

data suggesting that the competencies required for success in college *and* in the workplace have converged and are significantly more demanding. These competencies define a "high expectations" set of core abilities for all students, whatever their background, interests, experience, or life destination.

- There is persuasive evidence that high expectations and a rigorous course of study, when organized and delivered effectively, can enhance student aspiration, motivation, *and* achievement, particularly among those students most at risk of failure in the current educational environment. The work group has reviewed compelling evidence that high expectations, delivered in an engaging, contextualized, personalized learning environment, pay dividends in terms of academic achievement and high rates of success at taking the next step to college and work.
- The work group is persuaded that it is critical for Michigan to improve the rigor, relevance, and quality of high school education in order to reduce a disturbing dropout rate and significantly enhance the preparation of young adults to step immediately and successfully to postsecondary education and/or work opportunities.
- A significant number of states have defined more clearly than Michigan the academic and work world competencies they expect all high school students to master, the curriculum alignment that supports those standards, and assessments that both test and guide attention to attainment of high standards and preparation for college and work.
- A growing number of states have more aggressively and effectively pioneered new high school models that increase student engagement and achievement.
- Michigan will not be successful in reaching the governor's goal of doubling the number of holders of postsecondary degrees and other credentials of value by continuing to perpetuate the differences in preparation rates and levels by demographic group that exist now. The future success of its residents depends on Michigan's ability to raise the floor of preparation for *all* students, and make particular strides in raising achievement among racial minorities and within communities where achievement has been weak.
- Part of this effort requires the state to have the courage to move ahead boldly to develop more rigorous high school standards (grades 9–12) to match the nationally recognized, nation-leading K–8 standards already in place, and to better align these standards with the expectations of postsecondary education and the world of work.
- Part of "raising the floor" means increasing the expectations of students and parents who today are "discouraged out," fall out, or choose to "opt out" of a rigorous high school course of study. To ensure that all students do participate effectively in a high-standards curriculum, a variety of pathways must be established that effectively help students succeed in a high-expectations environment.
- These high school frameworks and pathways must allow all students the choice of a contextualized learning environment and learning that helps them to achieve similar results in meeting rigorous standards compatible with postsecondary education and the world of work. The models for successfully delivering rigorous standards and curriculum range from very effective career context models, high school blended

with community colleges or other postsecondary institutions, or smaller themed schools and personalized learning environments, to rigorous college preparatory schools. The work group has found these learning environments can work for the traditionally at-risk and underachieving as well as the most motivated students.

- Further, a rigorous, high-expectations high school learning environment requires aggressive and focused attention to support and improve the ability of administrators, instructional leaders, and teachers to prepare for and deliver high-quality instruction.
- Therefore, a strong message of cultural change must be developed and delivered to help all Michigan students and adults understand the changing nature of twenty-first century education and work, convincing them that high standards at the K–12 level are essential and have both immediate and future benefit for students' opportunities, income, and contribution to Michigan's economy. An aggressive public/private marketing and communications effort must undergird a shift to more rigorous standards and expectations for all K–12 students. Students, parents, and the broad stakeholder community that cares about Michigan's economic future and education improvement must work together to support the alignment of expectations and the delivery of instruction throughout K–12 and postsecondary education.

The work group has divided its recommendations into three areas: the high expectations three-part core of standards, curriculum, and assessment; essential enablers of this high-expectations preparation regime (e.g., professional development, instructional leadership, cultural change), and new environments and learning contexts that deliver high standards in high school for all students.

RECOMMENDATION 1

Set High Expectations for High School Students through Standards, Curriculum, and Assessment

- The work group recommends that the State Board of Education develop by the 2006–2007 school year a revised, more rigorous set of high school standards (building off the current MDE examination and revision of high school academic standards) that set as a goal for high school proficiency the competencies necessary for postsecondary success and readiness for the world of work. (A number of research-driven frameworks exist that should serve as beginning text for this effort.) It is important that these standards be developed through a process that affords input and ownership from higher education, business, and labor, as well as the K–12 education stakeholder community.
- The work group further recommends that all school districts take formal action to require for all students rigorous courses designed to meet the new standards. Guidance and technical assistance from the State Board of Education/MDE should be provided in the form of a new, rigorous high school curricular framework to guide the teaching for all students in grades 9–12. It is important to note that the work group anticipates that rigorous standards can and will be met through a variety of contexts, teaching

styles, and course selections. (An example of grade level expectations for grades 9 and 10 from Washington State is provided in Attachment 1.)

- Until this curricular framework is established, the work group recommends that districts adopt a curriculum (i.e., course of study) that reflects rigorous standards for all students, such as that of the Presidents Council, State Universities of Michigan (see Attachment 2), and the requirements for becoming a Michigan Scholar. Once established, the new Michigan high school standards and curricular framework should be adopted by school districts for all students.
- To support the implementation of a new set of rigorous standards and enhance motivation and seamless connection to postsecondary education, the work group recommends that a new high school assessment should be developed for use in the 2007–2008 school year to replace the high school–level MEAP. This assessment needs to be constructed to accomplish five tasks:
  - Be an accepted test for college readiness and admission
  - Increase students' aspirations to attend college/institutions of higher education
  - Measure student performance against the new Michigan standards
  - Be useful for aligning curriculum, course sequences, grade-level content, and individual student success against the standards
  - Be valid as the criterion-referenced, standards-derived assessment required under federal law (No Child Left Behind)
- This assessment should be constructed as a hybrid of a college-accepted assessment(s) and include additional standards and competencies important for Michigan to measure based on its standards, if necessary. It also must serve as a guide to teachers and instructional leaders, providing timely feedback on individual student progress in meeting the rigorous standards. A practical means to develop such an assessment is to work with ACT, College Board, or other college-entry testing services to develop the appropriate assessment that meets the requirements outlined above, e.g., tests students' achievement of the new Michigan standards while also assessing college readiness.
- The work group recommends that the State Board of Education develop and the legislature support this new assessment in grades 10, 11, and 12, in order to determine post–high school proficiency, facilitate college-level work in high school, and focus high school instruction on remediation when necessary.
- Given the importance of college readiness not tested in the current MEAP the work group further recommends that until a new assessment that does include a widely accepted college readiness component is deployed, Michigan school districts adopt a high expectation for students aspiring to enroll in postsecondary education—corresponding to a composite score of 22 on the American College Testing program (ACT) or an equivalent college entrance exam (the level of 22 being strongly correlated with successful completion of a postsecondary degree). Such a challenge should be pursued until the State Board of Education has completed and adopted new higher standards, curriculum, and assessment that support a similarly high expectation of college readiness.

- In addition, the work group recommends an assessment that supports planning/readiness for more rigorous high school–level standards at the middle/high school bridge (8th grade).

RECOMMENDATION 2

Equip Educators and Administrators to Support the High-Expectations High School Path

The work group recognizes that teachers and instructional leaders are our most valuable resource and the key to any reform effort. They must be equipped and supported to lead this vital change. The work group understands the importance of effective professional development of teachers, administrators, and instructional leaders to support implementation of high-expectations standards at the high school level. There are a number of areas where support is essential.

- Professional development of high quality, intensity, and focus is required to ensure that high school leaders and teachers are fully equipped to help students achieve the abovementioned standards and curriculum goals. Intermediate school districts (ISDs) local districts, and higher education institutions—in partnership with the education stakeholders from the business and broader community—must provide the professional development activities and opportunities to ensure that high school leaders are fully equipped to help students meet the rigorous standards.
- The work group recommends that teacher preparation institutions and community colleges partner with ISDs, school districts, and the broader education stakeholder community to develop and define teacher preparation strategies and programs that consistently prepare instructional leaders and teachers with the skills and in the quantity/areas needed to help students meet the rigorous high school standards and to teach in new environments and contexts for learning.
- The work group recommends that guidance counselors be equipped and guidance functions be aligned with the training and tools to support a high expectations learning environment and the research-proven frameworks that support it. (These are areas where the Participation Work Group has developed additional recommendations.)
- The work group recommends that the state and local school districts develop a set of incentives and rewards for attracting and keeping high-quality administrators and teachers in locations and in content areas most needed to support the implementation of the high-expectations regime at the high school level.
- The work group recommends formal credentialing of high school administrators and certification focused on successful competencies in managing and delivering a high-expectations high school regime.
- The work group recommends that all education stakeholders engage in aggressive outreach efforts for parents, students, families, and others explaining the high-expectations curriculum and its implications.

The work group recognizes that it is a very significant undertaking to realize a high-expectations high school environment, and that resources must be dedicated to support the tasks described above. As the state looks to allocate resources to support this effort, the work group's strong recommendation is that resources be concentrated where they are needed most for student achievement, and where there are those willing to embrace change and proven models for reform.

RECOMMENDATION 3

Implement New Strategies for High School Success

- The work group recognizes, and a mounting body of research makes clear, that the comprehensive high school model does not work for many, if not most, students. Michigan residents must change the way they think about the high school experience in order to promote new pathways for high school success. The work group has seen compelling evidence and first-hand testimony (much from Michigan high school leaders) demonstrating models for successfully delivering rigorous standards and curriculum to students ranging from those at risk, or who might otherwise be dropouts, to traditional high achievers. These models include very effective implementation of career/technical and career pathway contexts that attract and serve all students, not a segmented "vocational" few. The work group has seen good data on the success of other frameworks: high schools blended with community colleges or other postsecondary institutions, small personalized high schools, smaller themed schools, schools within schools that offer contextualized and personalized learning environments, rigorous college preparatory schools, as well as schools focused on at-risk students or dropouts that effectively engage and accelerate learning to the same high standards.

  The work group believes that these new frameworks, delivery mechanisms, and organization of high school education are essential if Michigan is are to ensure that all students meet the new high standards and that high school is not their terminal educational experience.

- The work group is very sensitive to the reality that many high school students are not engaged in learning and do not succeed under the current system, and that raising the bar and expecting achievement of more academic rigor for all students could result in greater disillusionment and more dropouts. That is why Michigan must, with great urgency, make changes to its secondary schools to effectively create a challenging learning environment for all, particularly in communities where significant numbers of young people are dropping out of school and are not well prepared for the next steps in life.
- The work group recommends that before the decade is over, Michigan should put in place a network of newly fashioned secondary school learning environments at a sufficient scale to effectively serve every school community where students are dropping out in large numbers or are not reaching Michigan's high expectations for achievement.

- The work group calls on Michigan's political, business, education, and civic leadership at the state and local levels to make a priority (as other states have done) the refashioning of high school, particularly in low-achieving communities, around research-based models that engage and motivate students. Proven models include small high schools, blended high school and postsecondary institutions, and career and other themed and contextualized learning environments. The work group recommends that the governor appoint a public/private steering committee of business, labor, philanthropic, and K–12 and higher education leadership committed to high school reform to guide this development process over the next ten years.
- The work group recommends combining funds from certain public and private sources with discretionary U.S. Department of Education funds to provide state planning grants, incentive funds, and technical assistance in developing new high school models focused on districts that currently have low levels of educational attainment or considerable disparities between higher- and lower-achieving students. State-controlled federal resources, such as Workforce Investment Act (WIA) and Perkins funds, and private philanthropic funding can be leveraged for these purposes in areas with higher populations of at-risk youth, and the U.S. Department of Education is encouraging states to request allowable new uses of federal education funding to support high school reform.
- The work group recommends that new frameworks be developed not only where they are needed most in terms of current poor achievement, but that incentives and resources be targeted to those school communities willing to embrace a proven reform model.
- In addition, a major strategy for schools and districts facing restructuring options under No Child Left Behind due to lack of adequate yearly progress is to develop, with technical assistance from the state and partner stakeholders, research-based high school reform models as a core strategy at the school and district level.

The work group also encourages state action to tilt the incentives built in to school operational financing as well as infrastructure development and financing policy to accelerate the embrace of new strategies for high school success; e.g., the differential cost of education at the high school versus elementary level, the financing tools for new or revamped high school buildings.

CONCLUSION

The work group is well aware that helping all high school students master a rigorous learning program is a daunting, long-term project that will require shared dedication and energy and a commitment of resources from many quarters. The work group is equally persuaded that this is a challenge Michigan must meet if its young people and the state are to thrive in a demanding knowledge economy. Raising the threshold of preparation for Michigan's young people and engaging them in learning so they remain in school are essential if Michigan is to realize the governor's vision of a state where all

engage in postsecondary education and earn credentials of value beyond the high school diploma.

The work group's recommendations and the commission report challenge all Michigan residents to work together to reform and improve educational practices in some areas, to reprioritize efforts in others, and to successfully deploy the resources needed to make real the promises implicit in the recommendations. Michigan must do two things simultaneously over the next ten years—work smarter and with greater focus with the state's resources, and identify and deliver the additional resources necessary to accomplish the ambitious goals Michigan has set.

ATTACHMENTS

1. Example of Grade Level Expectations from the State of Washington

2. Recommended Core Course of Study for Michigan High School Students, Presidents Council, State Universities of Michigan

Example of Grade Level Expectations from the State of Washington

GRADES 9/10

EALR 1: The student understands and applies the concepts and procedures of mathematics.

Component 1.1: Understand and apply concepts and procedures from number sense.

Number and numeration

1.1.1 Understand and apply scientific notation. W

- Read and use scientific and exponential notation. [MC, RL]
- Identify a real-life situation to match a particular number written in scientific or exponential notation and justify the answer. [MC, RL]
- Use scientific or exponential notation to simplify a problem. [RL, MC]
- Illustrate the meaning of scientific notation using pictures, diagrams, or numbers. [CU]
- Read and translate numbers represented in scientific notation from calculators and other technology, tables, and charts.

1.1.4 Apply understanding of direct and inverse proportion to solve problems. W

- Explain a method for determining whether a real-world problem involves direct proportion or inverse proportion. [SP, CU, MC]
- Explain a method for solving a real-world problem involving direct proportion. [CU, MC]
- Explain a method for solving a real-world problem involving inverse proportion. [CU, MC]
- Solve problems using direct or inverse models (e.g., similarity, age of car vs. worth). [SP, MC]
- Explain, illustrate, or describe examples of direct proportion. [CU]
- Explain, illustrate, or describe examples of inverse proportion. [CU]
- Use direct or inverse proportion to determine a number of objects or a measurement in a given situation.

Computation

1.1.6 Apply strategies to compute fluently with rational numbers in all forms including whole number exponents. W

- Complete multi-step computations using order of operations in situations involving combinations of rational numbers including whole number exponents and square roots of square numbers. [MC]
- Calculate using order of operations on all forms of rational numbers (e.g., (3•2+5) 2-8, 22+32).
- Use properties to reorder and rearrange expressions to compute more efficiently. [RL]

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Recommended Core Course of Study for Michigan High School Students
Presidents Council, State Universities of Michigan

English	4 Credits
Math	4 Credits Specific recommendations: - 2 credits of Algebra (Algebra I and Algebra II) - 1 credit of Geometry - 1 credit of Pre-calculus
Science	4 Credits Specific recommendations: - 1 credit of Biological Science - 1 credit of Physical Science - 1 credit of Chemistry
Social Studies	4 Credits Specific recommendations: - 1 credit of World History - 1 credit of American History - ½ credit of Economics - ½ credit of Government (Note: State law requires completion of a Government course)
Foreign Language	3 Credits
Total Credits	**19**

Note: 1 credit = 2 semesters = 1 year
½ credit = 1 semester = ½ year

REPORT OF THE PARTICIPATION WORK GROUP

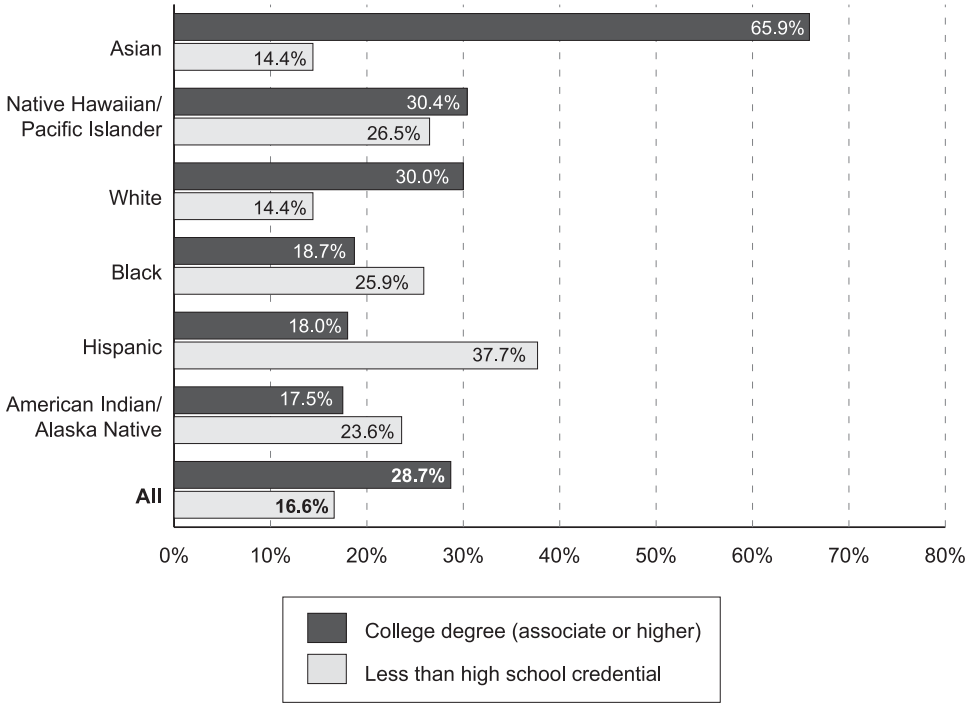
INTRODUCTION

Meeting the governor's challenge to double the number of residents with postsecondary degrees or other credentials of value will require a significant increase in the number of young people and adults pursuing postsecondary education.

The work group finds that Michigan residents are participating in postsecondary education at significantly lower rates than in leading states, and that significant gaps exist in participation among socioeconomic and racial groups.

Currently, 9.7 percent of adults 18–64 years of age are enrolled in college, putting Michigan just above the national average but below vanguard states like California, Massachusetts, and Minnesota. The Education Commission of the States (ECS) estimates that Michigan will have to enroll 222,000 more postsecondary students by 2015 to match the higher education participation rates of benchmark states like California and Rhode Island. Exhibit 1 below demonstrates the disparities when attainment is considered by race. Among African Americans, Native Americans, and Hispanics, there are still more people who have less than a high school credential than those with an associate's or higher degree. In Michigan, 29 percent of all adults aged 25–65 have an associate's or higher degree; while only 18 percent of African Americans and Hispanics hold an associate's or higher degree.

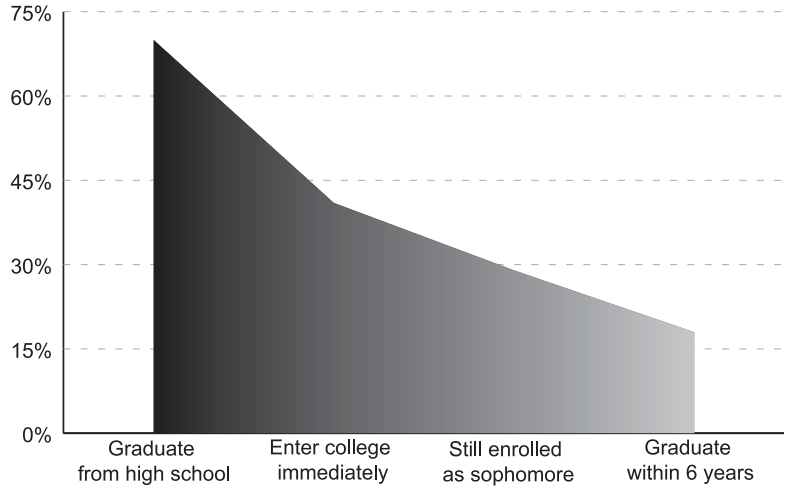
EXHIBIT 1
Highest Level of Educational Attainment, Michigan Age 25+, by Race/ Ethnicity



SOURCE: Education Commission of the States, *Closing the College Participation Gap*, *State Profiles—Michigan*, 2003.

Many factors affect postsecondary participation. Among them are inadequate preparation for and transition to college among K–12 students. According to a study completed by the National Center for Public Policy and Higher Education, only 70 percent of the students who entered high school in Michigan in 1997–98 as freshmen graduated in 2001. Among students in Michigan who graduate from high school, only 41 percent enter college immediately after high school graduation, only 29 percent remain in college after their first year, and only 18 percent graduate with a bachelor's degree within six years of high school (Exhibit 2). This ranks Michigan 28th out of the 50 states. The participation rate of young adults from high-income families is twice that of young adults from low-income families.

EXHIBIT 2
Success Rate per 100 Ninth Graders at Each Transition, U.S.



SOURCE: Adapted from National Center for Public Policy and Higher Education. *Policy Alert: The Educational Pipeline: Big Investment, Big Returns*, 2004.

The Participation Work Group acknowledges and reinforces the analysis and recommendations emerging from the Preparation Work Group that seek to improve poor preparation and decrease dropout rates at the high school level. The work group also finds:

- There is convincing data suggesting that the competencies required for success in college and work have converged, defining the text of a "high expectations" set of core competencies for all students, whatever their background, interests, experience, or life destination.
- There is persuasive evidence that high expectations and a rigorous course of study, when organized and delivered effectively, can enhance student aspiration, motivation, *and* achievement, particularly among those students most at risk of failure in the current educational environment.
- It is critical that Michigan improve the rigor, relevance, and quality of high school education in order to reduce a disturbing dropout rate and significantly enhance the preparation of young adults to step immediately and successfully to postsecondary education and/or work opportunities.
- Part of this effort requires the state to have the courage to move ahead boldly to address updated high school standards (grades 9–12) to match the nationally recognized, nation-leading K–8 standards already in place, and to better align with the expectations of postsecondary education and the world of work.

- Part of "raising the floor" means increasing the expectations of students and parents who today are "discouraged out," fall out, or choose to opt out of a rigorous high school course of study. To ensure that all students do participate effectively in a high-standards curriculum, a variety of pathways must emerge to effectively help students succeed in a high-expectations environment. These high school frameworks and pathways must allow all students to achieve similar results in meeting high standards for their own postsecondary education or work.

The Participation Work Group concurs with the central recommendation of the Preparation Work Group that Michigan should develop as expeditiously as possible new, revised, high school standards that set as a goal for high school proficiency the competencies necessary for postsecondary success and readiness for the world of work; that all school districts should require for all students rigorous courses designed to meet the new standards; and that a new assessment system be put in place at the high school level that integrates a college-accepted assessment with rigorous standards and grade-level content expectations useful for aligning curriculum.

The work group also examined additional issues affecting participation. The Center for Higher Education and Policy in its annual state report card gives Michigan a B+ in participation. However, it notes three disturbing trends:

- The relative lack of participation of minority groups in college attendance
- The low participation rates of students from low-income backgrounds
- The decline in the participation of adults in higher education credit courses

The work group focused on the barriers to postsecondary participation beyond weak preparation that contribute to these factors. The evidence persuasively suggests that the following obstacles, both perceived and real, diminish the number of Michigan residents aspiring to and participating in postsecondary education in Michigan:

- The lack of family experience with and appreciation of higher education
- The often challenging maze of application, financial aid, and other "systems" related to accessing education
- Historic and current barriers to opportunity due to race and income
- The perceived versus real cost of higher education
- The simple cultural void between many young adults' lives and the higher education world

In addition, the work group—appreciating the power of college engagement as a motivator—has examined the performance of Michigan in terms of credit and noncredit transfer and engagement programs between Michigan's higher education institutions and K–12 students.

The work group has also found that despite a number of effective programs and efforts, Michigan does not make real the benefits of college connections and accelerated college experience and credit as aggressively as many leading states.

The work group seeks to reinforce the recommendation emerging from many quarters of the commission, that given the cultural sea change required in Michigan to make real the prospect of postsecondary education for all, a strong public education and marketing campaign engaging Michigan's political, business/labor, education, and civic leadership should be conducted to support the transformation of Michigan's expectations regarding education.

Finally the enhancements in participation in postsecondary education sought by the state and facilitated by action on the recommendations of this commission will make it important to study more closely the ability of Michigan higher education institutions to provide the capacity for a potentially growing number of students and the high-quality instruction demanded.

Informed by this analysis, the work group makes the following five recommendations to improve participation.

RECOMMENDATION 1
Guarantee Postsecondary Education for All Residents

For Michigan residents, the urgency of increasing college participation and completion cannot be overemphasized. The state's future economic development and the quality of life for future generations are literally at stake. More education is not just a concept worth considering—it is the cornerstone of economic growth. For Michigan's metropolitan regions, manufacturing remains the economic engine and the auto industry is central. But this is a *new* auto industry, heavily dependent on credentials beyond high school to support the research, design, development, and other technical and administrative tasks that auto production now entails. In rural Michigan, gone are the days when local employment could be found with merely a high school diploma. There needs to be significant growth in postsecondary participation in the following components that are not utilized to their full capacity: community colleges, university centers that afford access to four-year degrees, online classes, apprenticeships, and other means.

While postsecondary success for all must be the overarching goal of Michigan's education system, success can take several forms. Many Michigan students will complete a baccalaureate degree or, better yet, a postbaccalaureate degree. Some will complete two-year associate's degree programs that lead to successful careers in fields as diverse as health care, manufacturing, and information technology. Others will complete apprenticeship programs and other technical training based on industry standards and, it is hoped, more will become entrepreneurs informed and motivated by an education that supports this ability. To grow in the decades ahead, Michigan's economy needs unprecedented numbers of residents who have reached each of these milestones along

the higher education continuum. At the same time, opportunities for those who end their education at high school will continue to diminish.

Establishing an expectation and a guarantee of postsecondary education for all will not only remove financial barriers that have kept students from pursuing higher education, it will send a powerful message to Michigan's residents and businesses and to those the state hopes to attract: Michigan will set and reach the new standard of educational achievement in America.

RECOMMENDATION 2

Expand Opportunities for "Early College"

One major strategy to increase the participation of Michigan high school students in attending Michigan higher education institutions is significant reform and expansion of credit-based transition programs that link high school and postsecondary education. Participating in college-level work, and experiencing success in that work, serves as a motivator as well, boosting aspirations and commitment to continued pursuit of postsecondary learning. There are promising data suggesting that credit-based transition programs improve the likelihood of postsecondary education and completion of degrees. Credit-based transition programs can take many forms, from dual enrollment or middle college high school (MCHS) programs, which allow high school students to take college credit classes while in high school, to the Advanced Placement program (AP) or the International Baccalaureate (IB).

In addition, there are promising practices that extend the benefits accrued from accelerating postsecondary attainment to the arena of dual enrollment that include associate's, bachelor's, master's, and other postbaccalaureate degrees.

Credit-based transition efforts have existed for many years among Michigan high schools and community colleges. Most have been used effectively to selectively recruit college-bound students. Increasingly, there is evidence from other states that these strategies can also attract, motivate, and serve students who are less likely to participate in college programs. Of course, with many of these students, the major concern has been whether they are prepared to do college-level work. The recommendations here, combined with more rigorous high school standards and curriculum emerging from the Preparation Work Group, will likely serve to help more students do college-level work earlier.

The work group found that:

- AP classes are unevenly distributed across the state and heavily dependent on the individual initiatives of each school district.
- There is no uniform policy among the four-year or two-year colleges in the acceptance of dual enrollment credits and AP exams, frustrating students' ability to understand and execute a clear progression toward valued degrees.

- Relatively few high school students are earning college credit through Michigan's dual enrollment programs. Michigan has 8,000 dual enrolled students; Utah's high school population is one-quarter that of Michigan's, yet there are more students dual enrolled in courses at their largest community college (16,000) than in the entire state of Michigan. In New York City alone, more than 50,000 students are participating in the College Now program initiated by the CUNY system. In Washington State 16,000 students are enrolled in the Running Start program. Some studies have estimated that almost half of all high school juniors and seniors in the United States are involved in dual enrollment strategies.
- The rules governing these approaches are complex and information about them is relatively difficult for parents and students to gather.
- The terms themselves (advanced placement, dual enrollment) are confusing and Michigan may benefit by applying a term to credit-based transition program that more clearly communicates what they are and the benefits they offer, e.g., "early college" or "running start" (Washington State's program).
- There is little state evaluation of how many Michigan students are in either dual enrollment or AP programs or how successful they are in earning credits from Michigan colleges and universities.
- Although very little data is collected on these programs, in general they tend to serve the high school students who are already college bound, as opposed to attracting students from families who have not considered college as an option.

In conjunction with recommendations emerging from the Preparation Work Group that will better prepare high school students, earlier, and assess them with tools that are accepted gauges of college readiness, the work group recommends a reconstruction of credit-based programs on the state level with three major policy objectives:

- Modification of Michigan's credit-based transition programs to significantly increase the participation of all students as a means of developing their success in college
- Specific focus on students in middle- and lower-achieving high schools to gain greater access to and have more success in Michigan two- and four-year colleges
- Combining these programs with a state-supported ongoing examination of program effectiveness to ensure that they are rigorously preparing students to perform college-level work

To accomplish these objectives, the work group specifically recommends:

- Setting a goal of 50 percent of Michigan high school students dual enrolled or taking college credit courses by 2015. Each school district in the state should strive to attain a minimum of 10 percent of its high school students participating in such programs. To achieve this goal the work group calls on the legislature to replace the current funding system of dual enrollment during the 2005 legislative session with a system that provides incentives for collaboration between secondary and postsecondary institutions.

- Calling on all public Michigan universities and colleges to develop a clear policy on the acceptance and transferability of AP and dual enrollment course offerings that is communicated regularly to the districts.
- Integrating dual enrollment/credit-based transition policy with high school standards, curriculum, and assessment.
- Combining dual enrollment efforts with rigorous college preparation efforts for those students who desire to attend college but are underprepared. These may take the form of classes taught at colleges that do not carry credit yet serve to introduce high school students to the expectations of college-level work. While the most successful programs combine credit programs with remedial and acceleration programs that boost motivation and achievement (often developed with community colleges), the work group also encourages strategies that support college-level course taking (such as AP) and dual enrollment that does not sanction the participant for less than college-ready performance.

RECOMMENDATION 3
Create Community-Based Compacts

The work group has reviewed evidence that persuasively suggests that the following obstacles, both perceived and real, create barriers to postsecondary education in Michigan. The policy recommendations of the participation group are devoted to these major concerns:

- **Lack of knowledge about higher education**

  Going to college is a daunting proposition, particularly if one does not receive strong guidance to navigate the process. Many Michigan young people do not fully realize that there are resources already available to assist them. Michigan's Partnership for Learning reports that 25 percent of students who do not go to college indicate that they would have if they had known how much aid was available.

  There is also a lack of knowledge about the appropriate academic preparation needed in high school, and lack of knowledge about the right timing for conducting a college search, admissions testing, and the application process.

- **Financial constraints**

  While the cost of Michigan community colleges and four-year institutions is comparable to institutions nationally and less expensive than many people think it is (people see college price tags at $20,000–40,000 a year, while a Michigan public university in reality costs $10,000–20,000 a year), across the nation the rising cost of *attending* college (including costs beyond tuition) is a financial challenge to participants. Although the just-released study by the Presidents Council, State Universities of Michigan, convincingly demonstrates that the real cost of college tuition for the consumer is 45 percent of the "sticker price," and had declined over the past six years, many are unaware or unable to take advantage of available financial

support. Many low-income families are increasingly concerned about accumulating too great a loan burden, and there is not enough understanding that a college education is an investment in future earning power.

- **Making the college connection**

  Not all students have experience and family history with higher education. Many families lack access to books, computers, the Internet, out-of-class support, effective guidance counseling, social networks, and information about college—things that are available in many families from parents or siblings. Minority students and those with less economic advantage tend to have less "cultural capital" that supports college attendance. Breaking down these barriers is an important factor influencing the educational pathways of many students.

  The Participation Work Group also recognizes the significance of *noncredit transition programs* as part of outreach efforts. There are many laudable efforts to engage individual students from school districts where large numbers of traditional non-college-bound youth are given the opportunity to explore Michigan college programs. In particular, the work group recognizes the contributions of programs such as Partnership for Learning, King-Chavez-Parks initiative, Gear-Up Michigan, and federal programs such as Upward Bound and Talent Search that promote the importance of college among many low-income youth and their families. By their nature these *noncredit transition programs* need to be based on the individual needs of the colleges and their participating units. The work group recognizes the cumulative strength of these programs and calls upon the State of Michigan and Michigan's two- and four-year postsecondary institutions to increase their resources devoted to these efforts.

  The number of guidance counselors per student in Michigan high schools, along with the quality of advice being given by counselors, has been a consistent topic of discussion by the Participation Work Group. Commissioners are especially concerned that counselors may not be sensitive to the particular needs of low-income students and their families. Commission members recommend that high school guidance counselors be given the support and training to provide better advice to students regarding college opportunities.

Since the economic future of every Michigan community is dependent on the education levels of its workforce, it is the responsibility of community leadership—mayors, council members, county commissioners, and business and labor leaders, as well as the education community—to organize the local campaign making postsecondary education the goal. The work group therefore makes the following recommendations:

- Instigate "community compacts" to increase postsecondary participation rates by 5 percent each year for ten years. Local civic, political, business, and labor institutions, as well as public and private K–12 and higher education institutions, must lead in the creation of community-based partnerships that will increase aspirations and

successful connection to and navigation of the pathways to postsecondary education and other credentials of value (such as apprenticeships).

State leadership must challenge every community to create community-based compacts with the goal of dramatically increasing participation in higher education. Each community is charged to establish baselines for its college participation and set targets for improvement. A community-organized effort can identify and promote key indicators and strategies for enhanced college participation, such as percentage of families who open a college savings account; the number of K–12 students and families who fill out and file a Free Application for Federal Student Aid (FAFSA) form in high school; the share of students participating in and achieving at college-ready rates on ACT/SAT or other benchmarks; the number enrolling in higher education and apprentice programs. State leadership, including leadership of public and private colleges and universities, municipal leaders, and ISD/school district groups, should report on and fortify these compacts, possibly by convening an annual summit of community leaders, reporting measured progress, and sharing best practices. In addition, the State Board of Education must enlist the participation of each school district in such compacts.

- Furthermore, the work group urges communities and local higher education institutions to focus and channel their efforts toward students who are unlikely to attend college and the school districts where there are large numbers of families who have students who are unlikely to attend college. (A statewide standard needs to be developed based on the percentage of students from a district or high school that attend college. For example, if on average 40 percent of Michigan high school students attend college, communities should focus on districts and schools where 20 percent of the students or fewer attend.) The work group challenges the present institutions to increase the numbers of these students by 5 percent each year for the next decade. The work group urges the public universities and community colleges to maintain data on their efforts and publish them annually.
- To assist in this strategy, the work group challenges all public and private universities/colleges/community colleges and postsecondary training institutions to follow the lead of some corporations and institutions and to create partnerships with a number of school districts and their high schools with low rates of students attending college. Each institution commits to support the exploration, enrollment, and success of students from these schools/districts. The work group recommends the state affinity groups of higher education institutions (e.g., presidents councils of universities and community colleges) promote and monitor this strategy and ensure coverage of all low-performing schools/districts.
- Provide more middle and high school students with a set number of experiences on a college or university campus that will help familiarize them with the postsecondary environment. Currently, many public colleges and universities in Michigan have programs in place to introduce students to their individual campuses. These programs are institutionally driven and funded, however, and do not necessarily reach all students.

- The Michigan legislature must examine how community funding streams and revenue sharing could be leveraged to support these community compacts, particularly in establishing incentives for communities to meet their compact goals.

The work group also recommends the following enabling actions:

- Provide in-service training for all school districts where over 15 percent of the families served are considered low income (150 percent of the poverty rate) on the specific needs of low-income students who wish to go to college, and ensure that new counselors who are hired have training in serving the needs of these individuals.
- Equip all counselors in these districts to ensure that they have proper knowledge of the financial aid process and connect these counselors to the various credit and noncredit transition programs that are available. Develop effective means that overcome current obstacles of time and multiple pressures on counselors to support counselor engagement in training.
- Determine an adequate number of guidance counselors per student in each Michigan high school, and increase the number of counselors in schools that fall below this measure.
- Admission to college does not guarantee that students will be matriculated into college-level classes. All Michigan two- and four-year colleges conduct assessment tests to determine if remediation is necessary. Many students and their families are unaware of these tests and unprepared for them. Provide all students and their families with information concerning the various placement tests currently administered by two- and four-year colleges. Provide continued support for the present efforts at the Michigan Department of Education (MDE) and the Michigan Department of Labor and Economic Growth (MDLEG).
- Develop a statewide reporting mechanism that can collect information about programs designed to assist students and their parents in learning more about postsecondary opportunities and disseminate this information to Michigan high school students and their families.
- Initiate a statewide dialogue on appropriate means to determine the most effective and cost-efficient noncredit outreach programs. Included with this dialogue would be a researched-based framework that would capture the key "experiences" that each student would receive in an ideal program based on best indicators of participation and success in college. Existing programs would then be measured against this framework, and best-performing programs would be scaled up.

RECOMMENDATION 4

Target Adults Seeking to Obtain Postsecondary Credentials

The Participation Work Group recognizes that a significant share of the current and future workforce needed to compete in a knowledge economy is in the labor market already. The work group further understands that slow growth of the traditional school-aged population and the demands of today's high-technology world require aggressive

attention to upgrading the skills and credentials of value of all residents, and that Michigan has a larger share of adults without finished credentials of value than leading states. Finally, given the fact that many young Michigan residents migrate out of the state when they complete their degrees, it makes strategic sense for the state to concentrate on raising the education levels of adults who have chosen to remain in the state.

The Participation Work Group recognizes the wide variance among adult learners and workers in terms of experience, skills, and barriers to further advancement in the labor market. They include adults without basic literacy, those needing public assistance, new immigrants, those laid-off and suffering economic dislocation, and those working but looking to move up in their career. This diverse group will require many different strategies and responses from institutions of higher education to increase their levels of participation.

The Participation Work Group believes strongly that postsecondary education will become a requirement for all of these adults to improve their advancement in the labor market, and the state's challenge is to ensure that they achieve or advance in attaining degrees and credentials of value.

The Participation Work Group has initiated discussions over ways of increasing the college participation and completion rates of adults in Michigan. The Participation Work Group has considered the following issues:

- Michigan's 18–24-year-old population is anticipated to grow 0.7 percent in the period from 2000 to 2015, while the percentage increase in the 25+ age group is expected to be 2.7 percent during the same period.
- A significant portion of Michigan adults aged 24–50 do not possess a postsecondary degree, certificate, or any credential of value, such as an apprenticeship.
- According to Census data, 23.3 percent of Michigan residents 25 years of age and older have some college.
- According to the National Center for Public Policy and Higher Education, the number of adults participating in postsecondary education in Michigan declined substantially in the past decade, from 5.4 percent to 4.1 percent.
- One of the significant means by which Michigan can realize the goal of doubling the number of residents with degrees and credentials of value is to focus strategies on increasing the participation of working adults and adults who have limited attachment to the labor market and barriers to participation.
- To accomplish this goal, it is important to coordinate adult learning programming that leads to valuable postsecondary degrees and other credentials. A significant opportunity is to integrate postsecondary education and adult learning and job training services. More than half of the community colleges in the United States provide adult basic education courses, and in 13 states the adult and basic education is under the management of postsecondary education institutions.
- In addition, Michigan is home to one of the most extensive private sector initiatives to promote higher education participation among working adults: the jointly

administered education and training funds. The three funds: UAW-GM, UAW-Ford, and UAW-DaimlerChrysler together offer substantial education tuition benefits to more than 150,000 union members and their families in Michigan. Auto-work employees are eligible for $4,600 each year for degree-related courses or $2,200 each year for job-related courses. Indeed, since 1984 the tuition benefit programs at these three companies have provided $338 million in college tuition assistance to more than 109,000 union employees—many of them from Michigan. Since 2000, however, the number of employees using the program has declined.

- Other states, such as Kentucky, have initiated large public education campaigns directed at adults urging them to return for more education, using slogans such as "Education Pays" and "Go Higher." Coupled with this public relations approach, Kentucky has developed a statewide employability certification, which encourages employers to use in their hiring decisions.

The work group recommends the development of an aggressive agenda to increase outreach efforts to adult populations not participating in higher education, with the intent to help them aspire to and receive postsecondary education or other training that leads to marketable degrees and credentials. The work group encourages all institutions of higher education, as well as community stakeholders, to pursue efforts that pull adult learners back into education and serve them in ways that meet their needs.

Organization of a Postsecondary Participation and Completion Outreach Campaign to Encourage Adults to Return to Postsecondary Education

Organize a community and local higher education institution–led state outreach campaign to encourage understanding of the significance of postsecondary education and credentials, and to promote strategies to increase the number of adults returning to college, with a goal of at least half of the 1.5 million Michigan adults in with some college experience earning a credential of value. Actions could include:

- Disseminate information directed to adults that gives evidence of the economic payoff of continued education.
- Ask higher education institutions to promote participation and offer an "amnesty" on "stale credits" and/or the ability to "test-out" of specific required classes.
- Most financial aid outreach efforts are focused on traditional college-age students. Develop user-friendly educational materials on the availability of financial aid targeted expressly to adults.
- Promote existing employer-initiated tuition plans, and—with business organizations and financial service organizations—encourage the development and dissemination of programs that provide tuition assistance to workers. In partnership with the joint-funded auto industry programs and with the major automobile companies and the UAW, establish an effort that encourages workers and their families to use their benefits to complete college.

- Highlight the educational and training opportunities through current state initiatives such as workforce boards, community colleges, and the regional skills alliances in increasing the higher education credentials of the present workforce.
- Promote utilization of online classes and other learning technologies that can provide working adults with flexible educational formats that suit their needs.

Focus Special Efforts on Linking Low-Income Adult Workers to Higher Education

There are approximately 762,000 workers in Michigan over the age of 18 working in low-wage jobs, according to U.S. Census data. Many of these workers are new Americans emigrating from other nations to live in Michigan. Generally, these adults will need substantial basic education courses to improve their foundation skills so that they can be successful at the postsecondary level. By linking basic education with postsecondary courses, particularly for those adults who have achieved 8th-grade skill competencies, impressive educational gains have been achieved. For Michigan, this means a new approach that does not alter GED efforts, but is directed at Michigan residents who have demonstrated 8th-grade skill levels—whether they possess a GED or not. For these adults, the state should:

- Develop and reinforce community colleges as the gateway to reentry to basic skills education tied to technical training. In some communities, partnerships with the local intermediate school districts (ISDs) and some community-based organizations may also be feasible. The specific programs would be developed by the community colleges in connection with their workforce development boards, but common to all programs will be three design elements: (1) Credit and noncredit programs are linked so that adults can move seamlessly into college credit programs; (2) curriculum is contextual and relates directly to specific occupational fields; and (3) support services do not stop at a specific literacy level, but instead focus on helping students enter degree programs. Include English as a Second Language (ESL) programs in this approach.
- Develop a "Work First Plus" approach for TANF (Temporary Assistance for Needy Families) recipients that combines labor market attachment with training and postsecondary education and support to improve their job retention and advancement. Engage community college leaders in the Workforce Action Network, especially as it relates to helping identify viable career pathways and linking economically disadvantaged individuals to adult basic education, ESL, and occupational training and education focused on postsecondary degree completion for TANF recipients.
- Develop industry-cluster regional skills alliances (RSAs) as employer-led catalysts for promoting cooperation among employment and training institutions in each region of the state in addressing the workforce needs of local employers. Ensure that RSAs are focused on supporting job advancement by low-income adults.
- Expand and link the extensive apprenticeship system to postsecondary education credentials so that workers receive both their journeyman's card and an associate's

degree when they complete their apprenticeship. Michigan had over 13,000 active apprenticeships at the end of 2003. These are important credentials of value for many individuals. Many apprenticeship programs conduct their in-class instruction at Michigan community colleges. In many cases the students are completing their associate's degree as well as their apprenticeship. This process should be encouraged by having more union apprenticeship programs receive college credit toward an associate's degree.

Expand Private Financial Support for All Adults Returning to College

Encouraging adults to completed postsecondary education has a strong link to the workforce development needs of current state employers. Most companies believe that higher levels of education are good for the productivity and profits of their firm, and all the major firms in Michigan have some form of tuition assistance program. One of the goals of the commission will be to expand and develop these programs to meet the needs of more working adults. Actions recommended include:

- Encourage more small and medium-sized Michigan firms to initiate some form of tuition reimbursement program, making sure that companies are aware of the federal tax advantages of maintaining these plans, as well as the effects of an educated workforce upon the firm.
- Through the Community Reinvestment Act (CRA) statute, organize FDIC-regulated Michigan financial institutions to determine what new programs could be introduced for low-income adults where loans could be made to students who complete their college degree.
- Physically challenged adults constitute one of the most underutilized resources in Michigan. In a knowledge economy that is less based on physical assets, the labor skills of the physically handicapped become even more important to the future of the state. Develop a program with Michigan Rehabilitation Services (MRS) where funds from Perkins and other legislation are used to send qualified MRS clients into internships and work-based education programs.

RECOMMENDATION 5

Conduct a Rigorous Analysis of Higher Education Capacity Needs

The work of the commission underscores the fact that slightly more than 20 percent of Michigan adults have attained a bachelor's or advanced degree, and at the current rate of attendance, Michigan projects only a 2 percent increase in those numbers by 2015. To be on a par with the best-performing states, the projected increase would need to be closer to 37 percent. As a result, a "participation gap" of some 222,000 students is projected (35 percent above the 2000–2001 academic year level of participation), unless Michigan acts now.

The physical and human resource capacity of Michigan's colleges and universities to educate more students, in keeping with the commission's charge, is demanding creative

and aggressive actions—many of them newly recommended by this commission. The strategies recommended to accelerate high school students' success at gaining college credits, increase degree completion rates, assist individuals in reaching a number of education milestones and credentials, and enhance partnerships such as university centers and distance learning—all will allow more individuals to complete degrees and credentials of value, given the existing physical capacity of Michigan's colleges and universities.

It is likely that the aggressive effort to make postsecondary education the expected norm for all, a growing number of better prepared young people, and more motivated adults pursuing higher education will all have implications for the both the physical and human resource capacities of Michigan's colleges and universities. The response will require careful study by each institution and potential revision of their master plans. Academic programs guide the direction of master plans and development of university infrastructure. It follows then that as program realignment is better understood in the context of the commission's report, the infrastructure required to support the realignment and existing capacity relative to required additional capacity of university facilities will become clearer. But regardless of the outcome of such a process, the value of existing college and university infrastructure is significant and the implications for enhancing it based on the commission's report warrant attention.

The work group recommends that a postcommission analysis of the issues and special problems related to capacity be conducted during the next legislative session. It is recommended that this study examine issues such as:

- Assuring that there is space for greater numbers of traditional and nontraditional students coming to Michigan campuses. Unless facilities are expanded, there will be real limitations, depending upon the mix of students, on adequate on-campus experiences. For example, the post-commission study should explore creative ways to deal with housing (e.g., new public/private partnerships).
- Recognizing that twenty-first century learning requires new learning environments for undergraduate and graduate students, and for faculty work critical in a knowledge-driven economy. These raise new challenges for all institutions of higher education.
- Understanding who the faculty of the future will be demographically, and how the state can support strong graduate programs critical to the state's long-term and immediate economic vitality.
- Assessing whether and how Internet and distance learning can be used to assist Michigan in meeting its postsecondary education goals.
- Expanding the use of facilities, including during nontraditional business hours.
- Developing strategies for shared use of facilities.
- Understanding the need to keep Michigan's universities within national competitiveness benchmarks (e.g., student/faculty ratios).
- Recognizing the need to address several years of fiscal belt-tightening that has neglected deferred maintenance and retrofitting of out-of-date facilities.
- Undertaking special analysis related to laboratory environments and nontraditional age groups.

REPORT OF THE COMPLETION WORK GROUP

INTRODUCTION

The work group has reviewed and discussed data and literature on student completion and the factors that influence it. Based on these discussions, the group has identified six main areas in which specific recommendations are to be made.

The work group has reviewed data that indicates:

- There is a demonstrated link between degree attainment and economic prosperity. According to the Economic Policy Institute, the increase in real hourly wages from 1973 to 2001 for people with a college degree was $3.09, while for those with some college but no degree it was just $0.21 (in 2001 dollars).
- Michigan's 179 public and private colleges, universities, and vocational technical centers enroll roughly 632,000 students, yet nearly half of these students will fail to earn a degree or credential.
- Michigan has a significantly larger share than the national average of adults who have taken some college courses and/or have some credits but have failed to complete a degree or obtain another credential of value.
- Michigan's higher education system of public and private two- and four-year institutions is not well aligned to make it easy for learners to move quickly and seamlessly to higher credentials.
- Approximately 42 percent of students enrolling in community college express the intent to earn a bachelor's degree, yet studies have shown that the actual transfer rate to baccalaureate institutions is closer to 22 percent.
- As the cost of a college education continues to rise, community colleges serve as the "steppingstone" to higher education for many students, thus low transfer rates are cause for concern.
- Completion rates for community colleges, universities, and other postsecondary education institutions in Michigan generally are not as good as those of peer states and institutions and significantly lag behind rates of the leading states and institutions.
- Community colleges exhibit much lower graduation rates, but this is due in part to the fact that not all those who enroll intend to complete a degree.
- Stubborn and unacceptable disparities in completion rates exist based on race and income. In Michigan, fewer Hispanics and African Americans possess high school diplomas or a college degree at any level than white citizens, and those enrolled in postsecondary education are dramatically less likely to complete degrees than are white students. In addition, these groups are less likely than white students to graduate from high school with "college-ready" transcripts.
- A number of issues affect degree completion—institutional support systems, challenges faced by working adults, literacy/remediation needs, English language needs, geographic proximity, and access.

- Obstacles to degree completion include student factors (motivation, adjustment, goals, maturity) and institutional factors (degree requirements, transfer and articulation policies, course availability, academic advising).
- Obstacles to degree completion for adult and nontraditional students include family responsibilities or work, finances, access to colleges and universities, and the ability to apply previous course work and credentials toward a degree.
- There are a number of effective institutional strategies to better support adult learners to degree completion.
- Success begets success in higher education, and the "chunking" of degrees by rewarding progress with appropriate degrees at appropriate milestones both motivates and rewards the learner and ensures that higher education translates into specific credentials of value.
- Other states have addressed the completion issue by implementing policies designed to facilitate and streamline course articulation and student transfer. These policies include statewide cooperative agreements among institutions, statewide articulation guides, creation of a "common core" of courses to fulfill graduation requirements, common course numbering systems, and comprehensive data tracking systems.
- Accountability and performance measures also have been adopted in several states. Institutional benchmarks and key indicators are elements of these measures.
- Michigan's autonomous higher education system, while beneficial in many respects, makes implementation of any statewide policy or initiative difficult.

The six main areas identified by the work group in which specific policy recommendations will be made are as follows:

1. A new expectation of postsecondary degree completion for all citizens
2. Institutional completion improvement measures
3. Improved articulation and transfer
4. Community college–based University Center enhancement and applied baccalaureate degree granting
5. Development of a statewide comprehensive education and workforce development performance measurement system (akin to the Florida Education Data Warehouse model)
6. Enhanced participation/completion for adults past the K–16 system

RECOMMENDATION 1

Expect Postsecondary Degree Completion for All Residents

No more important statement can be made about the critical nature of higher education than to set a new expectation of all residents completing some form of postsecondary education. Just as the high school diploma came to define expectations of minimum educational attainment for all in the twentieth century, postsecondary education must be the new minimum standard for all in our time.

Our education system produces many credentials of value: baccalaureate degrees, associate's degrees, certificates, journeyman's cards, and other credentials. They not only constitute the credentials that lead individuals to productive careers and higher incomes, they also are the most important measure of achievement for Michigan's education system as a whole. In the years ahead Michigan needs to support greater numbers of people completing degrees at the highest possible levels, including postbaccalaureate advanced degrees in science and research fields at the state's great universities that serve as the engines of new economic growth. Given the great numbers of Michigan residents who currently begin postsecondary education yet fail to complete degree or certificate programs, Michigan must give students new tools to reach these important education milestones and new incentives to complete their course of study. As the state moves toward expanded participation in higher education, it becomes even more important to institute concrete measures to improve completion rates.

One critical step is to leverage the major investment the state makes in financial aid. Existing scholarship programs, including MERIT scholarships, must continue to give access to higher education but also should be revised to create powerful student incentives for successful completion of a degree if Michigan is to maximize the economic benefit it reaps from its investment in higher education.

RECOMMENDATION 2

Improve Institutional Completion Measures

While keeping our eye on the overall goal of seeing more Michigan residents earn postsecondary credentials of value, the work group acknowledges that successful completion of a degree at one institution is the most efficient and effective route to these credentials of value. The work group is persuaded that there are important factors within an institution's control that can support improved levels of degree completion. These range from institutional commitment to completion as a priority to organizing effective counseling/guidance, information, outreach, and support services/ activities. Setting and meeting completion goals is part of the ongoing process of improvement within each institution and can support accreditation success.

The work group recommends implementing policies to encourage institutional accountability and continuous improvement in the area of degree completion by encouraging each of Michigan's public and private higher education institutions to:

- Set its own success goals and benchmarks for student progress and degree completion that emphasize timely progression to degree, beginning with the 2005–2006 academic year
- Make transparent its goals and benchmarks based on its unique mission and student population, and with attention to the success among important subgroups within the student body, e.g., minorities and women
- Issue annual reports detailing progress toward goals and performance benchmarks

RECOMMENDATION 3

Improve Articulation and Transfer Processes

The work group believes that implementation of policies intended to facilitate transfer between institutions will eliminate some of the institutional roadblocks that impede timely completion of degrees and that frustrate and complicate successful completion for many students/learners. A major impediment to degree completion is lack of course transferability and the repetition of courses individuals face as they navigate between institutions. In addition, the work group believes achievement of important credentials as intermediate steps to additional higher credentials (e.g., an AA on the road to a bachelor's degree) well serves both the individual (by rewarding success, motivating additional achievement, and arming them with a credential of value in the labor market) and the economy (by delivering individuals with skills and credentials recognized by employers).

Currently, transfer and articulation agreements among Michigan colleges are developed on an individual basis. The state's goal should be easy, transparent, and seamless articulation between community colleges and baccalaureate institutions, and among institutions at all levels, in order to reduce or eliminate repetition of basic courses and loss of credit. The work group recommends the following state policy, institutional compacts, and legislative supports for statewide transfer and articulation policies that work together to streamline and accelerate completion of credentials of value.

Recommendations:

- To facilitate clear understanding on the part of the consumer of how credits and courses can and do transfer and connect under Michigan's autonomous, decentralized higher education structure, and to avoid course duplication and dead-ends, the work group recommends that Michigan's higher education leadership bodies (Presidents Council, community college presidents, private college associations) develop by 2006 a statewide transfer and articulation website containing course articulation information for all Michigan institutions (similar to the University of Wisconsin system's "transfer wizard"), clearly identifying what courses are accepted, and where.
- Create the Michigan Milestone Compact. By 2006, have in place a formal compact among Michigan's baccalaureate institutions and community colleges to credit accomplishment toward a baccalaureate or higher degree in appropriate and valuable

terms. Under this compact, a learner transferring from a community college to a four-year degree-granting institution would be rewarded with an associate's degree or other credential/degree by the community college partner following completion of necessary course work conforming to agreed-upon learning outcomes.

- Extend voluntary transfer and articulation compacts. The work group recommends a long-term goal of developing comprehensive articulation compacts that include a growing common core of courses, particularly at the introductory level, as a means to aid student progress toward completion within the higher education system generally. As a major first step, the work group recommends enhanced regional compacts among community colleges, public and private universities, and other postsecondary institutions in a given area (some of which already exist) that would define for their region's education customers a clear set of articulated relationships, potentially including:
  - A common core of 15–18 courses, accepted by all, that are the first steps on a postsecondary path—whether at a community college or other postsecondary institution
  - A "baccalaureate core" of common courses designed for specific baccalaureate majors

RECOMMENDATION 4

Expand Access to Baccalaureate Institutions and Degrees

The work group recognizes the need to accommodate citizens who seek baccalaureate or postbaccalaureate education yet do not have convenient access to a baccalaureate institution. For many students, relocation or extensive commuting are not options. Locally available and accessible institutions that grant baccalaureate and higher degrees can enhance access and motivation to complete degrees. University Centers, in which community colleges partner with four-year degree-granting institutions; extension campuses and services of university and postsecondary institutions (public and private); and multiple learning options (online, etc.) are well-proven methods for enhancing postsecondary access and success and warrant expansion.

In addition, the demands of today's economy and employers are well met by community-based higher education institutions that can flexibly develop and deliver the growing set of baccalaureate degrees and high-end certificates demanded by employers *and* their employees. Applied baccalaureate programs, often designed with regional employer-sector clusters as a demanding partner, lead to customized baccalaureate programs in fields as diverse as construction management, medical records administration, and product design engineering.

The work group recommends that the state aggressively promote and expand the ability of more institutions at more locations (both physical and virtual) to award valued baccalaureate and higher degrees by:

- Promoting development of regional "university centers." University Centers, in which community colleges partner with four-year degree-granting institutions, along with university extension campuses and virtual services, are effective means to bring degrees of value, including applied baccalaureate technical degrees, within the reach of all Michigan residents. The work group calls for the higher education institutions in the state to examine the availability and geographic coverage of these arrangements and put in place the necessary partnerships to ensure that residents in all parts of the state have access to these programs.
- Encouraging additional public and private postsecondary institutions to develop and operate extension campuses, programs, and services; including new institutions and efforts that uniquely serve the education needs of key employer sectors and clusters (Ferris model).
- Strongly encouraging partnerships between community colleges and universities to grant applied baccalaureates. Applied baccalaureate degrees are increasingly demanded by employers seeking a higher threshold of technical education for their workforce. The work group strongly encourages partnerships between community colleges and universities that currently grant applied baccalaureates to expand the scope of their efforts. In addition, the work group calls for enabling legislation to be passed during the next legislative session that defines the criteria and process by which Michigan community colleges may offer applied baccalaureates in response to unmet economic, employer, or community needs in their service regions where partnership arrangements have failed to fill these needs.
- Encouraging collaborations between institutions to complement institutional strengths.
- Promoting and enhancing use of online courses and distance learning to supplement classroom instruction.
- Encouraging expansion of applied baccalaureate degree programs and commit to make these degrees more widely available throughout the state.

RECOMMENDATION 5

Develop a Lifelong Education Tracking System

The work group recognizes that performance measurement is essential to the understanding and improvement of Michigan's K–12, higher education, and workforce job training systems. To meet the governor's goals, the state must be able to monitor progress toward this goal as well as disaggregate information that helps all stakeholders to improve their contributions. The governor, the legislature, and the public all have a stake in understanding issues such as:

- Whether K–12 students graduate from high school and what next steps they take (postsecondary education, work, military)
- The employment and earning status for graduates from postsecondary institutions and programs, and for particular institutions and particular programs
- The effectiveness of job training and state reemployment programs
- Whether graduates from a state postsecondary institution are contributing their talents in state or are leaving

Michigan currently has disconnected data systems tracking K–12, higher education, and adult job training and reemployment programs. The work group believes Michigan can benefit from establishing a system similar to those in other states that can answer both the broad policy questions—Are we successfully educating people and are they employed (and in which jobs or occupations)?—and permit more detailed analysis at the school or program level that can be used to analyze and improve performance.

The work group believes there are several significant reasons why all stakeholders should collaborate on such a system:

- Efficiency: It can be used to consolidate data-reporting efforts for all stakeholders and avoid duplication.
- Effectiveness: It can be used to analyze outcomes from education and training, improve institutional and program effectiveness, and document/justify the contributions of institutions and programs.
- Benchmarking and accreditation: It can be useful in meeting accreditation requirements as well as performance requirements of monitoring agencies/authorities (such as federal agencies).
- Documentation: It can be used by individual learners as well as customers (employers/hirers) as an instant resume/experience record.

The work group recommends that the state:

- Develop a comprehensive education, K–12, higher education, and workforce statewide data system based on best practice state models. Data would include educational history and employment history/wage record tracking as well.
- Develop policy and data-sharing agreements, consistent with federal and state law, that will support the cross-matching of data maintained by the Center for Education Performance and Information (CEPI), higher education, the Michigan Department of Labor and Economic Growth (MDLEG), and others, as appropriate.
- The work group calls on the Michigan Department of Information Technology (MDIT) to develop an interagency data-sharing arrangement that creates a functioning lifelong education tracking system (with information from multiple data sources, including CEPI, MDLEG, and higher education) by 2007. The system would be housed within MDIT. The work group has learned by studying other states' experience that it is possible to develop such a system using relatively modest resources. The work group

believes that if Michigan's system can be developed along similar lines, the resources required will be worth the investment, given the benefits the system brings to policy and program improvement.

- Use data from the system to document "outputs" and institutional impacts on the state's economy and analyze data at the organizational/institutional level to improve performance.

RECOMMENDATION 6

Target Adults Seeking to Complete Higher Education Degrees

The work group recognizes that a significant share of the current and future workforce needed to compete in a knowledge economy is already in the labor market. The work group further understands that slow growth of the traditional school-aged population and the demands of today's high-technology world require aggressive attention to upgrading the skills and credentials of value of all residents. Finally, given the fact that many young Michigan residents leave the state when they complete their degree, it makes strategic sense for the state to concentrate on raising the education levels of adults who have chosen to remain in the state.

The Completion Work Group recognizes the wide variance among adult learners and workers in terms of experience, skills, and barriers to further advancement in the labor market. They include adults without basic literacy, those needing public assistance, new immigrants, those laid-off and suffering economic dislocation, and those working but looking to move up in their careers. These diverse groups will require many different strategies and responses from institutions of higher education to increase their levels of participation.

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The Completion Work Group has initiated discussions over ways to increase the college participation and completion rates of adults in Michigan. The work group has considered the following issues:

- Michigan's 18–24-year-old population is anticipated to grow 0.7 percent in the period from 2000 to 2015, while the percentage increase in the 25+ age group is expected to be 2.7 percent during the same period.
- A significant portion of Michigan adults aged 24–50 do not possess a postsecondary degree, certificate, or any credential of value, such as an apprenticeship.
- According to Census data, 23.3 percent of Michigan residents 25 years of age and older have some college.

- According to the National Center for Public Policy and Higher Education the number of adults participating in postsecondary education declined substantially in Michigan in the past decade from 5.4 percent to 4.5 percent.
- One of the significant means by which Michigan can realize the goal of doubling the number of residents with degrees or credentials of value is to focus strategies on the increasing the participation of working adults and adults who have limited attachment to the labor market and barriers to participation.
- To accomplish this goal, it is important to coordinate adult learning programming that leads to valuable postsecondary degrees and other credentials. A significant opportunity is to integrate postsecondary education and adult learning and job training services. More than half of U.S. community colleges provide adult basic education courses, and in 13 states, adult and basic education is under the management of postsecondary education institutions.
- In addition, Michigan is home to one of the most extensive private sector initiatives to promote higher education participation among working adults: the jointly administered education and training funds. The three funds: UAW-GM, UAW-Ford, and UAW-DaimlerChrysler together offer substantial education tuition benefits to more than 150,000 union members and their families in Michigan. Auto-work employees are eligible for $4,600 each year for degree-related courses or $2,200 each year for job-related courses. Indeed, the tuition benefit programs at these three companies have provided $338 million in tuition assistance to more than 109,000 students. Since 2000, however, the number of employees using the program has declined.
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The work group recommends the development of an aggressive agenda to increase outreach efforts to adult populations not participating in higher education, with the intent to help them aspire to and complete postsecondary education or other training that leads to marketable degrees and credentials. The work group encourages all institutions of higher education, as well as community stakeholders, to pursue efforts that pull adult learners back into education and serve them in ways that meet their needs.

The work group recommends that the state:

Organize a postsecondary participation and completion outreach campaign to encourage adults to return to postsecondary education

Organize a community and local higher education institution–led state outreach campaign to promote strategies to increase the number of adults returning to postsecondary

education, with the goal of at least half of the 1.5 million Michigan adults who currently have some college experience earning a credential of value. Actions should include:

- Ask higher education institutions to promote participation and offer an "amnesty" on stale credits and/or the ability to "test-out" of specific required classes.
- Disseminate information directed to adults that gives evidence of the economic payoff of continued education.
- Target to adults user-friendly educational materials on the availability of financial aid because most existing financial aid is targeted toward traditional college-age students.
- Promote existing employer-initiated tuition plans and, with business organizations and financial service organizations, encourage the development and dissemination of programs that provide tuition assistance to workers. In partnership with the joint-funded auto industry programs and with the major automobile companies and the UAW, establish an effort that encourages workers and their families to use their benefits to complete college.
- Highlight the educational and training opportunities available through current state initiatives such as workforce boards, community colleges, and the regional skills alliances to increase the higher education credentials of the present workforce.

Focus special efforts on linking low-income adult workers to higher education

There are approximately 762,000 workers in Michigan over the age of 18 working in low-wage jobs, according to U.S. Census data. Many of these workers are new Americans emigrating from other nations to live in Michigan. Generally, these adults will need substantial basic education courses to improve their foundation skills so that they can be successful at the postsecondary level. By linking basic education with postsecondary courses, particularly for those adults who have achieved 8th-grade skill competencies, impressive educational gains have been achieved. For Michigan, this means a new approach that does not alter GED efforts, but is directed at Michigan residents who have demonstrated 8th-grade skill levels—whether they possess a GED or not. For these adults, the state should:

- Develop and reinforce community colleges as the gateway to reentry to basic skills education tied to technical training. The specific programs would be developed by the community colleges in connection with their workforce development boards, but common to all programs will be three design elements: (1) credit and noncredit programs are linked so that adults can move seamlessly into college credit programs; (2) curriculum is contextual and relates directly to specific occupational fields; and (3) support services do not stop at a specific literacy level, but instead focus on helping students enter degree programs. Include ESL programs in this approach.
- Develop a "Work First Plus" approach for TANF recipients that combines labor market attachment with training and postsecondary education and support to improve their job retention and advancement. Engage community college leaders in the

Workforce Action Network, especially as it relates to helping identify viable career pathways and linking economically disadvantaged individuals to adult basic education, ESL, and occupational training and education focused on postsecondary degree completion for TANF recipients.

- Develop industry-cluster regional skills alliances (RSAs) as employer-led catalysts for promoting cooperation among employment and training institutions in each region of the state in addressing the workforce needs of local employers. Ensure RSAs are focused on supporting job advancement by low-income adults.

Expand private financial support for all adults returning to college

Encouraging adults to complete postsecondary education has a strong link to the workforce development needs of current state employers. Most companies believe that higher levels of education are good for the productivity and profits of their firms, and all the major firms in Michigan have some form of tuition assistance program. One of the goals of the commission will be to expand and develop these programs to meet the needs of more working adults. Recommended actions include:

- Encourage more small and medium-sized Michigan firms to initiate some form of tuition reimbursement program, making sure that companies are aware of the federal tax advantages of maintaining these plans, as well as the effects upon the firm of an educated workforce.
- Through the Community Reinvestment Act (CRA) statute, organize FDIC-regulated Michigan financial institutions to determine what new programs could be introduced for low-income adults where loans could be made to students who complete their college degree.
- Physically challenged adults constitute one of the most underutilized resources in Michigan. In a knowledge economy that is based less on physical assets, the labor skills of the physically handicapped become even more important to the future of the state. Develop a program with Michigan Rehabilitation Services (MRS) where funds from Perkins and other legislation are used to send qualified MRS clients into internships and work-based education programs.

REPORT OF THE ECONOMIC BENEFITS WORK GROUP

INTRODUCTION

During the twentieth century, Michigan dominated the industrial economy. At the beginning of that century, the state was in the vanguard of innovation and entrepreneurship. Michigan created the auto industry and became a world leader in advanced manufacturing, pharmaceuticals, chemicals, and other industries. Michigan's success attracted migrants from the nation and world to make this "splendid peninsula" home. A decent standard of living was available to many with only basic education.

The foundations of the nation's economy have changed. Michigan residents are facing a fundamental decision about their future. They can ignore this change and accept the slow withering process that has affected many other Rust Belt states historically dependent on manufacturing, or they can have the imagination, discipline, and courage to act, to take their future into their own hands and create a new, vibrant economy and nurture the human capital to drive it. Michigan either actively creates its own future or lets others define it. Michigan is poised to move either way:

- Forward to a future of economic and population growth as a center of higher education-led research and innovation, growing as a corporate R&D center, decision center, and advanced technology development and production center—a talent magnet and immigrant gateway in the new economy; or
- Backward to a future characterized by decaying cities, population flight, closing plant doors, deserted rural communities—a backwater in the world economy.

In today's economy, any metropolitan region in the world can be a locus for knowledge work. In a wired, interdependent global village that allows people to choose where to live and work and where to make goods and provide services, metropolitan regions are now engaged in a pitched battle to identify and nurture their unique economic advantages. Today, job growth occurs in "talent centers"—and Michigan's major population centers must catch up with the best-educated regions on earth in order to thrive.

The work group has found that Michigan is a middling state in today's knowledge economy, and other states are passing Michigan by:

- While Michigan's per capita personal income stood at 114 percent of the national average in 1950, today it is 96 percent of the national average. Over the past 30 years per capita income growth in Michigan has dropped by 12 percent relative to the national average, while that of the best-educated states with the highest shares of knowledge industries saw growth of up to 31 percent relative to the national average.
- Michigan's major metropolitan areas of Detroit and Grand Rapids saw per capita income drops of 10 percent and 8 percent, respectively, over the past 30 years, while

that of metropolitan areas such as Boston and Denver have grown by 20 percent.

What are the reasons?

- Michigan's share of knowledge work and young, well-educated workers lags behind the regions and states that are leading in income growth.
- And metropolitan regions that serve as talent centers in the world economy are accelerating in their growth—meaning that knowledge work and workers are gravitating to communities enjoying this dynamic growth.

To do better, Michigan must capitalize on its assets in a new global knowledge economy. The good news is that Michigan already has the single most important asset required to meet this challenge—its higher education institutions. The work group believes the only way to create a vibrant economy is to make higher education and innovation the top economic priorities for Michigan. It is the only path to higher paying jobs for Michigan's students, workers, and families, and it is the only route to greater prosperity for its communities, its firms, and the state.

There is a strong correlation between the educational level of a state's workforce and its economic vibrancy. States that educate and nurture creative talent and build and maintain the necessary higher education infrastructure to attract venture capital and research dollars will create the multiplier effects that grow and sustain industries in the new economy. These states will be the leaders in the competition for jobs and income growth.

Michigan's economic future is contingent on enhancing Michigan regional communities as centers of decision and management for key industries and as the centers of research and development and incubation of new technologies, products, and services. Michigan today remains the decision and developmental center for automobiles and advanced manufacturing. Michigan must keep this edge, use it to anchor high-skilled jobs in the offices, labs, and production facilities of the future, and grow in playing the same role in other knowledge-based industries in addition to auto manufacturing.

The work group has reviewed and discussed data and literature concerning how Michigan's rich assets of its higher education institutions can best leverage economic growth and opportunity for Michigan's residents. The work group has determined that higher education and a better-educated citizenry contribute to economic growth in four major ways:

- Through **discovery**—finding the new ideas, innovation, and invention that create new goods, services, and whole industries.
- Through building **dynamic, attractive communities**—in an era where quality of place is a major economic determinant, higher education institutions are central to creation of dynamic, creative, and culturally rich communities that keep and attract knowledge workers.
- **By preparing people well to meet the current job needs in the economy and**

with the skills to succeed—providing high-quality education in the professions and in the skills needed in the competitive workplace. This includes training in needed disciplines as diverse as nursing, teaching, and engineering, as well as delivering the entrepreneurial skills, adaptability, and creativity to navigate in a world of career paths that bear greater resemblance to rock climbing than to predictable steps up a ladder, and add value to business enterprise.

- Finally, **higher education helps everyone**—an increase of one percentage point in a state's population that is college educated increases economic growth over ten years by one-half a percentage point, as well as increasing the real wages of non-college-educated state residents by 1.5 percent.

The work group's analysis reveals Michigan's comparative advantages as well as the deficits Michigan must address to maximize the economic benefits of its higher education institutions. The most fundamental task, and at the core of the commission's charge, is to increase the education levels and skills of the population:

- Michigan's share of adults with an associate's or higher degree is 29 percent, compared to 40 percent in leading states
- Michigan's share of adults with a baccalaureate or higher degree is 22 percent, compared to 34 percent in leading states
- Perhaps most significant to higher education's role in new knowledge discovery and job creation—Michigan's share of adults with a postbaccalaureate degree is 8 percent; compared to 13 percent in leading states

The work group believes strategies emerging from the other commission work groups that enhance preparation, participation, and completion of degrees will significantly improve the overall education levels.

In fueling new knowledge discovery, Michigan is fortunate in its well-developed capacity in research and development, production of science and engineering graduates, and patent development—led by its three research-intensive universities and extending across a powerful network of regional universities, private schools, and community colleges. Michigan ranks

- fourth in the nation for total R&D expenditure as a percentage of gross state product (GSP),
- first in industry-supported R&D as a share of GSP,
- seventh in percentage of science and engineering degrees granted, and
- ninth in patents issued.

Compared to the rest of the nation, Michigan scores high on the relative share of occupations that are "high tech" because it has remained the decision, research and development, and design/engineering center for automobiles and related advanced manufacturing industries.

The industrial high-tech share of employment in Michigan exceeds the national norm for employment share by 72 percent. The state also has a huge share of global R&D in autos and related sectors (Michigan is home to 95 out of 100 of the top R&D firms for Tier One auto suppliers), and spillovers from R&D benefit other manufacturing and nonmanufacturing firms.

Despite enjoying these advantages, Michigan ranks in the middle nationally (20th) for university-supported R&D, and toward the bottom nationally for federal R&D (39th), due to the small number of significant federal labs and military bases in Michigan. And despite its areas of research leadership, Michigan does not commercialize and start new businesses as well as it might to capitalize on this brainwork. Michigan lags in:

- Fast-growing companies (32nd in the country) and IPOs (34th)
- Venture capital invested (35th)
- Business incubators (38th)

Once an entrepreneurial hotbed, Michigan's success during the industrial revolution paradoxically leaves the legacy of a social and organizational culture reliant on large institutions and less conducive to personal risk-taking and entrepreneurial activity. Michigan ranks in the third quartile for venture capital per $1,000 of gross state product, which separates it from first quartile-ranked states similar to it in terms of human capital and patent resources.

Michigan also faces serious demographic and migration challenges to becoming a talent magnet. The state is losing some of its best and brightest, and not attracting other talent to Michigan:

- Net out-migration of native Michiganians stands at 11.2 percent overall and is acute among 22–29-year-olds.
- Michigan lost more single, college-educated adults in this age group than it gained between 1995 and 2000.[1] Over this five-year period Michigan saw a net out-migration of 11,665 individuals from this critical population group.
- While Michigan ranks in the first quartile nationally for awarding advanced science and engineering degrees, Michigan ranks in the bottom half of states for the share of the workforce that remains in state with these advanced degrees.
- Michigan ranks 45th in the country in attracting young, educated people.

However, Michigan did see a net in-migration of foreign-born residents (17.3 percent during the 1990s). And unlike Buffalo, Cleveland, or Pittsburgh, Detroit retains larger immigrant populations in absolute terms (the foreign-born population comprises 7.5 percent of the total population). Michigan also benefits from and often retains graduates

[1] Please note the single status is as of 2000 for individuals. Data for married individuals, which may or may not support the trend portrayed by these statistics, are not available.

of its higher education institutions: 79 percent of in-state and 55 percent of graduates from out of state that attended Michigan public universities stayed to live and work.

Finally, although blessed with tremendous physical beauty and recreational amenities (and no colder than Boston or Minneapolis), Michigan has serious liabilities in providing quality of place—the integrated metropolitan economies that are populous, diverse, and tolerant and provide the dynamic urban environment and amenities attractive to knowledge workers:

- Michigan's core cities, except for Grand Rapids and Ann Arbor, experienced continuing depopulation during the 1990s.
- On indices of segregation in housing and education patterns, Michigan communities rate among the highest in the nation. The Detroit region is ranked second nationally in terms of all measures of segregation of African Americans in metropolitan areas.
- On indicators of ease of movement, access to transit, and mobility, Michigan is one of the weakest states. The Detroit metro region ranks ninth among metropolitan areas in terms of travel delays, excess fuel consumption, and congestion costs.

In response to these trends and indicators, the work group suggests that Michigan's higher education system, which already plays a critical role in Michigan's economy, must enhance its role in the dynamics that both create and attract knowledge industries and knowledge workers. The recommendations speak to the dimensions in which Michigan's higher education institutions can and must contribute more to its economic growth:

- *As engines of job creation*: Led by its three research-intensive universities—which anchor centers of excellence linking a powerful network of regional universities and private and public two- and four-year schools—Michigan's higher education system must increase its ability to produce significant new knowledge, business, and job creation.
- *Delivering a competitive workforce by meeting current labor market needs*: preparing the teachers, technicians, engineers, and skilled tradespeople and other key disciplines, and by teaching the skills needed in the new economy: for example, adaptability, problem solving, teamwork, or entrepreneurship.
- *Bringing innovations and applied research* including educational technology to enhance the work and productivity of firms, other education organizations, and public and nonprofit organizations.
- *Providing the higher educational capacity and access* to be extended through recommendations emerging from this commission—to communities across Michigan in order to increase participation and the completion of higher education credentials by more Michigan residents.
- *As anchors and accelerators of community development*: Higher education institutions are linchpins in enhancing the culture, quality of life, and development prospects of their regional communities, serving as talent magnets for well-educated professionals

and fueling the relationships and multiplier effects within the local economy among the private, public, and nonprofit sectors.

The Economic Benefits Work Group makes a number of recommendations to significantly accelerate Michigan's role in the knowledge economy and to improve the delivery of key aspects of higher education's contributions to the economy.

RECOMMENDATION 1

Create an Emerging Economy Initiative

Other states are building excitement and attracting the most talented people within the research and knowledge—creating communities through bold commitments to be the home of next-generation industries (e.g., California's $3 billion commitment to stem cell research, Pennsylvania's $2 billion commitment to life sciences, North Carolina's initiative to create 100,000 new knowledge jobs). One particularly significant strategy being embraced across the nation to leverage higher education assets is sectoral cluster-building-aligning universities, colleges, and employers, large and small, to create an interdependent network.

From Silicon Valley to Boston's Route 128 to the more recent cluster growth of software and new economy firms in communities such as Seattle and Austin, the interaction of research universities and dynamic, attractive urban communities has produced high rates of growth and high-paying jobs. These cluster-based strategies are powerful and occur at the high end of the discovery chain, with top research-intensive universities in the lead in each field of science, putting the best minds among university researchers into contact with employers. This interaction can also be nurtured at the regional level—through research and applied work that serves clusters of firms and supports entrepreneurships and new business startups. Finally, the approach can extend to nonresearch institutions and community colleges that work with industry sectors locally, bringing new learning technologies and job training as well as entrepreneurship education and other skill enhancement efforts. North Carolina's use of community colleges in development of traditional industry clusters in its rural regions demonstrates that such efforts do not capitalize only on the special assets of the research universities but also can involve all higher education institutions to enhance economic activity in many parts of a state.

Michigan has evidence of the success of linking research-intensive universities to key emerging economy sectors. Recent analysis of the life sciences industry in Michigan supported by the life science leg of the Tri-Corridor investment shows employment growth in this industry at five times the state rate, and at wages $16,000 more than the mean wage. In a related vein, the state is also currently using its resources to leverage existing assets and land for the Rare Isotope Accelerator (RIA) project at Michigan State University, which could have significant payoffs. The Tri-Corridor concept could extend to emerging areas like nanotechnology, new energy, and information technology. A recent study of the growing health care industry in Michigan found that more than

40,000 new jobs will be created and there will be an additional 65,000 replacements needed for current health care professionals and technicians.

As part of an emerging economy initiative, the work group recommends that Michigan commit to support emerging economic sectors where there is promise of measurable impact, and where funding is based on performance and outcomes around commercializing new products and processes and new job creation:

- *Boldly invest in the Tri-Corridor concept* with an expanded commitment to support the research, development, and commercialization of those emerging industries and entrepreneurs. The major elements include:
  - Promoting Center of Excellence partnerships in existing Tri-Corridor areas and new, emerging sectors, such as new energy and nanotechnology
  - Organizing and funding public/private partnerships among higher education institutions, private partners, and venture capital funds in emerging economic sectors
  - Focusing peer-reviewed and applied research on projects with commercial potential

- *Create a Michigan's Twenty-first Century Research Fund* that will give state/institutional and private sector researchers improved access to matching funds for major research activities that align with the commission's commercialization strategies. Create the Twenty-first Century Research Fund as a separate fund outside the state appropriations and bureaucratic process of picking "winners and losers." This fund should provide a 10 percent match to every dollar of nonstate research funding secured by Michigan colleges and universities and should be integrated as part of the university/federal Research Institute/Center Matching Grant Program—the MEDC fund that provides matching grants to universities leveraging federal dollars. This strategy could also include focusing Michigan's numerous higher education institutional benefactors to endow the research fund as a prime strategy of institutional support.
- *Establish a Michigan Center of Excellence for Entrepreneurship and Innovation* as the network of Michigan universities and community colleges to promote entrepreneurship and technology transfer best practices. Following the successful model of the Merit Network Inc.—the organization governed by Michigan public universities, that pioneered Internet technology—the center would develop a network to offer services and best practices for technology transfer to other higher education institutions and to the business community, both for-profit and nonprofit. Tap the research universities as the primary source of intellectual capital, working in tandem with regional universities and community colleges as regional/local service centers. Link this work with existing Smart Zones. Use the center to help develop entrepreneurship curricula for schools and colleges, including regional entrepreneurial centers where undergraduates can get specialized hands-on training and certifications to complement their degrees
- *Invest in the R&D infrastructure* to support and expand research capabilities,

particularly in science, engineering, and technology disciplines. The specialized classrooms and laboratories necessary to prepare and equip undergraduate and graduate degree candidates are operating at capacity now, severely limiting the production of talent in the sciences, engineering, and technology fields that can create new industries, jobs, and income in Michigan. Technologically sophisticated facility issues are important to the to twenty-first century positive learning environments for undergraduate and graduate students, and for faculty work critical in a knowledge-driven economy. The work group recommends that Michigan develop a strategy to attend to the physical plant at its universities to make them competitive, attractive, and conducive to expanding the number of professionals conducting research in key disciplines. A strategy can include a means by which current and future state investment is tied to results—so state investments realize maximum leverage and economic impact.

RECOMMENDATION 2
Establish a Higher Education/Higher Pay Compact

There is no more important statement the state can make about the critical nature of postsecondary education in Michigan than to guarantee all students and adults access to meaningful education after they complete high school. Just as the high school diploma came to define Michigan's expectations of minimum educational attainment for all in the twentieth century, postsecondary education must be the new minimum standard for all.

The work group recommends that Michigan establish a new compact with its residents—an expectation and a guarantee of postsecondary education for all that will remove financial and other barriers that keep residents from participating in and completing postsecondary degrees and credentials. The work group calls for state leadership to establish a student- and family-friendly means to organize existing financial resources, and apply new resources, if needed, to deliver on this compact. The compact will send a powerful message to residents and businesses and to those Michigan hopes to attract: Michigan will set and reach the new standard of educational achievement in America.

RECOMMENDATION 3
Commercialize More Research

Michigan has a strong foundation for research and commercialization upon which to build. Actions by the government and the state's research universities have already placed Michigan among the highest-performing states in the nation on many indicators of research and commercialization activity. The concern is that the state is not fully translating that strong research base into business creation, job growth, and innovation retention in the state.

Most universities have a profound economic impact—in particular, those with robust

research activity. The work group challenges the research-intensive universities (and those regional universities engaged in research) to elevate their commercialization activities. There needs to be commitment to innovation disclosure, patenting, licensing, entrepreneurialism, and commercialization. Colleges and universities should better recognize patents and technology transfer disclosures as a mode of publication for decisions in hiring, and establish policies that permit faculty and staff to pursue commercialization activities. Michigan lacks data about the amount of commercialization activity that is retained in the state compared to what is developed elsewhere. The state also needs more data on business activities that are direct or indirect results of university research and commercialization activity, including where businesses locate, number of employees, size, and growth rates.

The state's culture for supporting entrepreneurship complements the commitment and capacity for institutions to engage in commercialization activity. Michigan does not have a robust entrepreneurial culture that encourages people to start businesses and spin off new businesses from existing ones. Michigan lacks a comprehensive plan for assisting the economic development activities of colleges and universities with those of state agencies, as well as a mechanism to connect innovators with developers or with funders and others who could support their work. Finally, while making headway in venture capital availability,[2] new vehicles are necessary to support commercialization. In order to accomplish better commercialization, Michigan must:

- *Make commercialization an institutional priority by embracing it as an important mission and aligning internal practices and performance measures to support it where appropriate.* Leadership at Michigan's public universities needs to embrace commercialization as an important part of institutional strategy and then think strategically and pragmatically about their institution's potential contributions to new business creation and job growth through their basic and applied research, technology transfer activity, and connections with federal and industry research sponsors. Where opportunities exist for colleges and departments to make significant contributions, these should be explored and supported.
- *Establish venture capital funds within its colleges of business, entrepreneurial institutes, or similar institutions.* Modeled after the successful Wolverine Venture Fund at the University of Michigan, these funds would invest with the active involvement of MBA students, faculty, and an advisory board composed of professional venture capitalists and entrepreneurs. This model, along with gap venture fund models that take equity in companies and pay a university to partner with the company, should be aggressively promoted.
- *Create a number of locally managed pre-seed funds* (leveraging the existing Smart Zones and business accelerators) whereby existing and future state funds can be leveraged with local funds (university and private sector) to assist technology-oriented startup companies throughout the state. A local investment committee would be

[2] The Michigan Early-Stage Investment Act of 2003 created a venture capital fund of private dollars for firms that invest in startups and early stage businesses.

established to review and ensure proper due diligence on each investment. The funds could be established either to take equity positions, thereby creating the opportunity for sustainability, or to offer grants or loans, which would require future recapitalization.

- *Leverage Smart Zones and business accelerators by forging partnerships among universities to accelerate applied research and business formation.* Develop shared leadership and marketing networks (business, state, and university) to link industry research needs with research opportunities and capabilities within the university system. One example of the power of this approach is in the current experiment under way in the U-TEAMED project, whereby Michigan Tech, Central, Eastern, and Oakland universities are linking to provide a joint network of expertise, facilities, and technical assistance to spur commercialization, new enterprise development, and support for key economic interests. The goals of this effort would include: identifying key technologies and research that would support Michigan companies; creating collaborations between researchers within the university system and research and development staff in Michigan companies; and serving as a clearinghouse for university-led research with early-stage investors, entrepreneurs, and established businesses. Effort could also focus on the failure of marriage-making between big company ideas, orphan ideas, and commercializable products, as well as managing a data-collection system on current commercialization activity.
- Make prudent state pension, university endowment, and private pension investments in (a) venture capital funds that will invest in and grow promising startups in Michigan, and (b) a regional later-stage expansion fund that will retain fast-growing high-tech companies wherever they may start in Great Lakes/Big Ten Country.
- Create a measurable index of commercialization. A significant gap exists between Michigan's knowledge creation and its successful translation into new products and jobs. Accurately tracking commercialization success can help guide state and institutional policy, as well as assist in another important function—marketing the stories of commercialization and venture capital success that will change the perception of Michigan's business climate over time.

RECOMMENDATION 4
Create a Culture of Entrepreneurship

The work group has discussed the importance of developing and nurturing an "entrepreneurial culture" in Michigan to bridge the gap between its strengths in R&D and patent development and the state's valuable economic development resources. This will improve Michigan's performance in commercialization and producing startup businesses, which, in turn, will drive its economy. Entrepreneurial education is an important method for developing entrepreneurs in the state—both within and outside universities. The work group has recommended a K–16 and lifelong learning approach to cultivate and educate aspiring entrepreneurs. The following policy recommendations, which enhance and extend the emerging efforts to develop an entrepreneurial culture and support the nurturing of more entrepreneurial activity in Michigan, are suggested

for discussion:

- Accelerate the process under way of integrating entrepreneurial skills and education into the K–12 standards, particularly as high school standards are revised to better prepare young adults for life and work.
- Call on all Michigan community colleges and universities to follow the example of some by developing and offering entrepreneurial degree or certificate programs, and enhancing existing degree programs with entrepreneurship skills and training.
- Integrate entrepreneurial skills education into hands-on learning experiences by establishing a Center of Excellence for Entrepreneurship and Innovation as a network supporting entrepreneurial education and activities among Michigan community colleges and universities. The center should support development of local entrepreneurial accelerators, building on well-functioning small business development centers and existing incubator/accelerator programs that would provide free space, shared equipment, peer support networks, and access to entrepreneurial advisors to serve as mentors and coaches. Higher education institutions should examine how to leverage existing educational assets and environments, including the existing 18 M-TEC (Michigan Technical Education Centers) training facilities, and determine whether they could be effectively redeployed to support an entrepreneurial mission.
- Fully develop the current Michigan Department of Labor and Economic Policy (MDLEG) demonstration initiative to realize 75–100 K–12/community college partnership programs that put in place an entrepreneurial curriculum that leads to certificates and degrees. Demonstration funds are currently incubating entrepreneurship program development through the state's Tech-Prep partnerships.
- Create a measurable index of entrepreneurial activity and culture. Tracking progress in changing Michigan's culture and climate can both focus attention on this important feature of Michigan's economic landscape and support ongoing efforts to increase the number of entrepreneurial ventures.

RECOMMENDATION 5

Expand the Role of Higher Education Institutions in Community Development

Quality of place is an increasingly important part of successful economic development strategies. Spin-offs and R&D are enhanced by geographic proximity, and clusters of firms, researchers, universities, and design/production capability congregate in communities with high quality of life. As Rise of the Creative Class author Richard Florida notes, "amenities of value in marketing and attraction include culture, the environment, the physical, aesthetic, and natural assets." University "districts" and leveraging higher education assets are central to a new era's mission of economic development. Walkable communities, mixed-use developments and neighborhoods, venues for accidental encounters—all are central to vibrant communities. The ultimate test is whether people live and work in communities. Michigan has seen several recent examples of aggressive college/university partnerships for community development: Grand Valley State University locating a secondary campus and services in downtown

Grand Rapids, and Wayne State University's multidimensional role in revitalizing its Detroit environs.

There are numerous ways that higher education institutions contribute to the overall community development dynamic in addition to the economic implications of research. Colleges and universities contribute to the physical and aesthetic appeal of a community; the population and diversity of population; the arts, culture, entertainment, and education milieu; and the community culture—its norms and values. They help foster an atmosphere of tolerance that welcomes diverse races, cultures, ideas, and social values. In short, they can help develop the ethos of a "cool city." Colleges and universities also contribute directly to communities through the basic activities of purchasing goods and services, employment, developing real estate, incubating businesses, advising business and building networks, and developing the workforce.

In Michigan, the governor's cool cities agenda has articulated well the attributes communities can nurture to improve the important quality of place. Strategies that can be added or enhanced to further develop the role of institutions of higher education in community development include:

- Aggressively develop private sector uses of college/university physical assets, e.g., college/university buildings used as business incubators; creative uses of college/university buildings and tax status to nurture private sector enterprise
- Focus higher education presence and services in developed communities and as part of community planning processes
- Participate in and promote mixed-use developments
- Develop community gathering and meeting places
- Participate as an active partner and bring institutional expertise to bear in community planning and development issues
- Provide additional spaces that concentrate businesses near college/university R&D activities across the state
- Enhance, market, and host arts and cultural education activities in conjunction with community partners
- Enhance institutional presence and outreach in local immigrant, ethnic, artistic, and cultural communities
- Develop additional student and nonstudent housing opportunities; populate research university areas by leveraging housing using college/university, community, and MDLEG assets (including MSHDA programs and services)

RECOMMENDATION 6

Align Higher Education with Economic Needs and Opportunities

Increase the number of postbaccalaureate professionals living and working in Michigan.

Michigan must be a home to, and its higher education institutions must help produce, more capable people in such core business, service, and community roles as teachers, engineers, social workers, and accountants, but it also needs those who are pioneers in the creation of new knowledge.

Such individuals usually hold advanced degrees and are a critical element to long-term vitality for the state. For decades, the bachelor's degree has been the minimum expectation for many careers. In the new economy, the master's degree is likely to become the new minimum for many occupations, and even higher levels of education will be desired and pursued by knowledge workers. This is where the multiplier effect accelerates, in the creative, sophisticated work of highly educated, highly skilled advanced degree holders in the sciences, engineering, business, medicine. Their work—and their networks—will drive the development of Michigan's new economy. Their research and development and talent at technology transfer will launch new industries and businesses. Michigan must concentrate on developing a strong cohort of graduate and professional students to take on this key economic role.

The state also needs to attract the next generation of university professors who will teach the next generation of degree seekers. It needs top-quality research faculty in its classrooms and labs, teaching and directing undergraduate and graduate students and conducting key research. In the new economy, Michigan's universities will serve as the catalysts for generating new knowledge—knowledge that will inevitably spur new businesses and new jobs. To accomplish this goal the work group recommends that Michigan's higher education institutions:

- Consider, in future expansions of financial aid, the inclusion of stipends for graduate students in critical fields such as alternative energy and life sciences. Relatively few awards could prove to be a significant catalyst to nationally prominent doctoral and postdoctoral programs.
- Tap Michigan businesses and foundations to create a significant endowment to pay for scholarships for Michigan students to pursue postbaccalaureate degrees at Michigan higher education institutions. Scholarships should be weighted toward new economy-related degrees such as science, technology, engineering, and business. The program could offer postgraduation awards or rebates for students who earn advanced degrees and who choose to live in Michigan.
- Promote internships for undergraduate and graduate students across the state and nationally to provide local R&D businesses with talented workers and to encourage these interns to remain in the state after they graduate, and expand faculty internships in the private sector that extend application and shared learning and benefits.
- Expand dual enrollment programs to baccalaureate and postbaccalaureate degrees.

Expand current promising practice of some institutions that extend the benefits accrued from accelerating postsecondary attainment to more dual enrollment programs that award associate's, bachelor's, master's, and other postbaccalaureate degrees.

- Aggressively recruit the best in- and out-of-state candidates to Michigan doctoral programs. With the help of the Michigan congressional delegation, tackle visa issues to enroll the best doctoral candidates worldwide. Work with ethnic/immigrant professional and civic organizations to facilitate marketing to immigrants abroad and ease of immigration to assist immigrants and their families and friends.
- Expect a higher institutional commitment to support the completion rate among doctoral and master's candidates. Institutional attention to poor relative completion rates in postsecondary education must extend to the postbaccalaureate level.

Develop a more powerful and user-friendly system for use of state labor market information (LMI) data to inform individual career navigation and labor market exchange.

One powerful, Web-based effort is New Jersey's Next Step, which combines user-friendly packaging of state labor market information (LMI) data with job descriptions, educational and skill requirements, and information on where to turn for education and training as well as employment. The work group recommends integrating this approach with a job-posting clearinghouse and labor exchange function. Michigan has elements of this but the system is not yet organized into a powerful and useful whole. Michigan's Career Portal, Consumer Education/Consumer Report, and Talent Bank do not yet provide robust, user-friendly LMI data that informs decision making and next steps. They are building blocks for the kind of system desired.

The work group calls on MDLEG to develop and make available by 2006 a more powerful and user-friendly system for linking job and occupational data with job/career information and guidance at the community level. This Web-based system should be marketed through Michigan Works! agencies, colleges, universities, high school guidance counselors, and others to assure that those who need the information it provides will be well aware of how to access it.

Link the current occupational needs in the economy with the planning processes and graduates of Michigan's public and private postsecondary education and training institutions.

In new state efforts (under the MDLEG) to organize a more strategic labor market information function, MDLEG should establish communication and coordination with college and university administrators and faculty responsible for curricular design and degree requirements to strategically use LMI data and encourage attention to meeting labor market needs. Michigan currently collects quarterly wage records and a variety of other information from virtually all employers, using it to estimate unemployment rates and other statistics. Annual reporting from both sides—state analysis of key occupations

and emerging sectoral employment needs and institutional reporting of efforts and outcomes to meet those needs—can facilitate focus on meeting current employment needs in Michigan's industry sectors. This information, along with other data from the U.S. Census Bureau, can also be used more strategically to inform top-level policy makers and others about changes in the shape and trajectory of Michigan's economy and workforce. An annual conference may also promote greater communication among groups. Community colleges can play a proactive role in using LMI to identify emerging knowledge technologies and trends that impact regional markets, jobs, and training programs and connect this research to local businesses and industries. Used in these ways, information already collected can have far more value and can position Michigan to make wiser choices about its future. Michigan should:

- Enlist MDLEG to organize (with the higher education community) a process for communicating and reporting annually the match between current and emerging job and occupation needs, and the efforts and outcomes of higher education institutions to meet those needs.
- Promote useful analysis of labor markets by participating in the Local Employment Dynamics (LED) system of the U.S. Census. Michigan is one of only 15 states not participating in this tool for assessing economic change. (An amendment to the Michigan Employment Security Commission (MESC) Act would be required to permit the data sharing required for participation.)
- Coordinate career placement offices at colleges and universities across the state with the MDLEG and Michigan Economic Development Corporation (MEDC) to promote best practices and market career and job opportunities within the state to students.