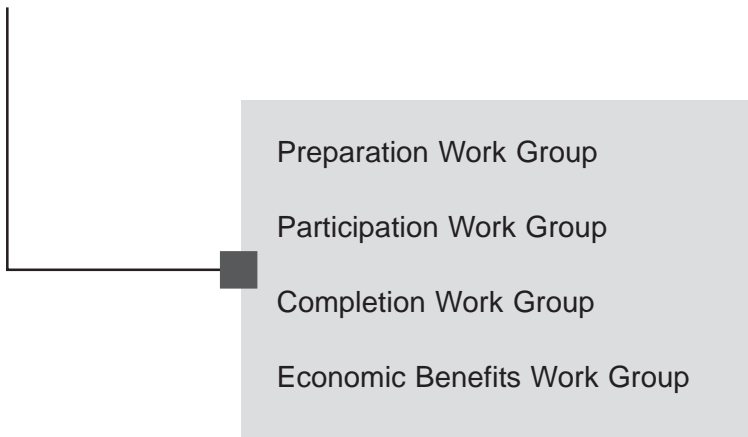


## APPENDIX D: REPORTS OF THE WORK GROUPS





# 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 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.,  $(3 \cdot 2 + 5) - 8$ ,  $22 + 32$ ).
- Use properties to reorder and rearrange expressions to compute more efficiently. [RL]



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

<b>English</b>	4 Credits
<b>Math</b>	4 Credits Specific recommendations: - 2 credits of Algebra (Algebra I and Algebra II) - 1 credit of Geometry - 1 credit of Pre-calculus
<b>Science</b>	4 Credits Specific recommendations: - 1 credit of Biological Science - 1 credit of Physical Science - 1 credit of Chemistry
<b>Social Studies</b>	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)
<b>Foreign Language</b>	3 Credits
<b>Total Credits</b>	<b>19</b>

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



# REPORT OF THE PARTICIPATION WORK GROUP

## INTRODUCTION

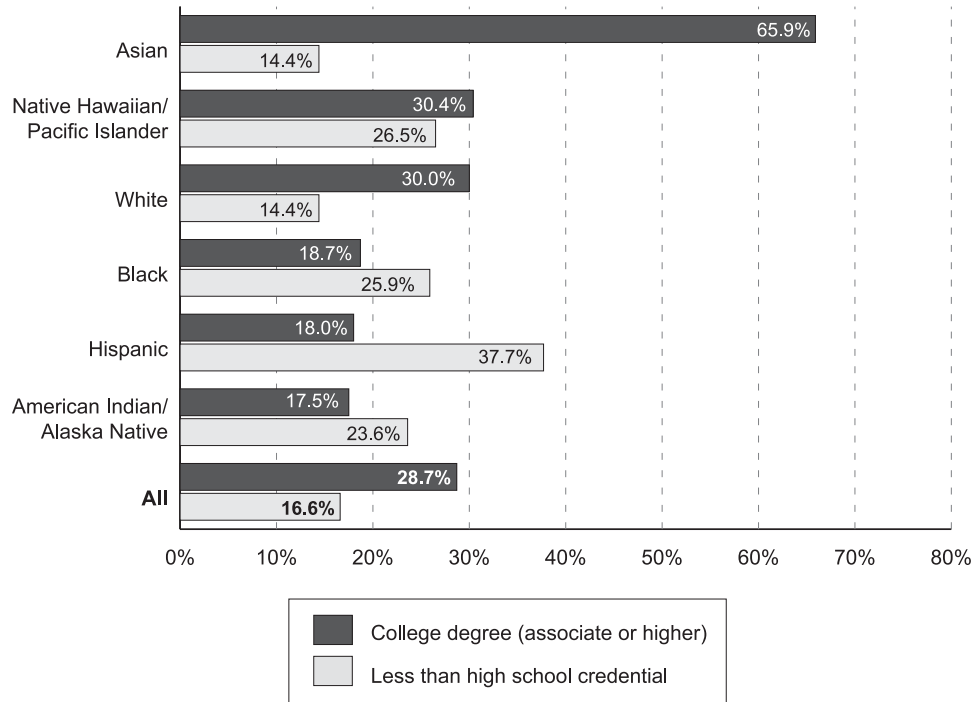
Meeting the governor's challenge to double the number of residents with postsecondary degrees or other credentials of value will require a significant increase in the number of young people and adults pursuing postsecondary education.

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

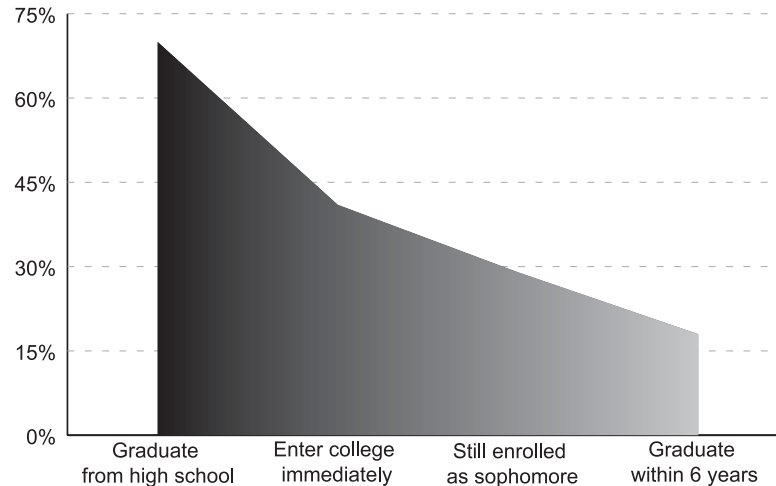
### Highest Level of Educational Attainment, Michigan Age 25+, by Race/Ethnicity



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.

## 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.

The Completion 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 collective challenge is to ensure that they achieve or advance in attaining degrees and credentials of value.

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.
- 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 it 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 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 Michiganders 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.<sup>1</sup> 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

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<sup>1</sup> 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 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,<sup>2</sup> 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

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<sup>2</sup> 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 (MESCC) 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.