



RACE TO THE TOP II

ACCELERATE MICHIGAN

Section V

Michigan's
Students

Michigan's
Future

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Lansing, MI 48933
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V. COMPETITION PRIORITIES

Priority 1: Absolute Priority -- Comprehensive Approach to Education Reform

To meet this priority, the State's application must comprehensively and coherently address all of the four education reform areas specified in the ARRA as well as the State Success Factors Criteria in order to demonstrate that the State and its participating Local Education Agencies are taking a systemic approach to education reform. The State must demonstrate in its application sufficient Local Education Agency participation and commitment to successfully implement and achieve the goals in its plans; and it must describe how the State, in collaboration with its participating Local Education Agencies, will use Race to the Top and other funds to increase student achievement, decrease the achievement gaps across student subgroups, and increase the rates at which students graduate from high school prepared for college and careers.

The absolute priority cuts across the entire application and should not be addressed separately. It is assessed, after the proposal has been fully reviewed and evaluated, to ensure that the application has met the priority.

Priority 2: Competitive Preference Priority -- Emphasis on Science, Technology, Engineering, and Mathematics (STEM). (15 points, all or nothing)

To meet this priority, the State's application must have a high-quality plan to address the need to (i) offer a rigorous course of study in mathematics, the sciences, technology, and engineering; (ii) cooperate with industry experts, museums, universities, research centers, or other STEM-capable community partners to prepare and assist teachers in integrating STEM content across grades and disciplines, in promoting effective and relevant instruction, and in offering applied learning opportunities for students; and (iii) prepare more students for advanced study and careers in the sciences, technology, engineering, and mathematics, including by addressing the needs of underrepresented groups and of women and girls in the areas of science, technology, engineering, and mathematics.

The competitive preference priority will be evaluated in the context of the State's entire application. Therefore, a State that is responding to this priority should address it throughout the application, as appropriate, and provide a summary of its approach to addressing the priority in the text box below. The reviewers will assess the priority as part of their review of a State's application and determine whether it has been met.

Recommended maximum response length, if any: One page

(i) Offering rigorous course of study in STEM

Michigan has been a leader in raising expectations for student performance in the sciences, technology, engineering, and mathematics (STEM). In 2006, the State enacted the Michigan Merit Curriculum, which requires all high school students to take three years of science, including either chemistry or physics, and four years of mathematics, including geometry and Algebra 1 and 2. With the adoption of the Common Core Standards, the State will continue this work.

Since 1988, Michigan has invested in a Mathematics and Science Centers Network (MSCN) to support the improvement of STEM education for students and teachers. The 33 regional Math and Science Centers in the network stimulate and sustain K–12 student interest in STEM through leadership, curriculum support, professional development, and student services. The centers also serve as a resource clearinghouse for educational materials and information, and work to foster community involvement in STEM. As Michigan adopts and implements the Common Core Standards, the Mathematics and Science Centers Network will be used to roll out mathematics standards through the development of companion documents, the redesign of a formative assessment item bank, and the development of professional development sessions for math educators to increase buy-in and understanding of the new standards. The Mathematics and Science Centers Network served a similar purpose as the State moved to the Michigan Merit Curriculum; it can apply a comparable strategy after incorporating lessons learned to the implementation of the Common Core.

The State’s Career and Technical Education (CTE) program includes STEM as one of 16 career clusters approved by the State Board of Education. The STEM cluster includes programming focused on the State’s economic development in biotechnology, advanced manufacturing, alternative energy, and homeland security.

(ii) Cooperating with STEM-capable partners to help with integration of STEM content

Alternative routes to certification will enable the use of Michigan’s STEM-rich labor force to bring content expertise to math and science classrooms. Oakland University and Wayne State

University already have begun implementing programs to prepare engineers for the classroom. Through the support of the Kellogg Foundation, the Woodrow Wilson Michigan Teaching Fellowship program will increase the quantity and strengthen the quality of Michigan teachers in STEM. The Woodrow Wilson Michigan Teaching Fellowship offers recent graduates and career changers in STEM a stipend of \$30,000 to complete a specially designed, cutting-edge master's degree program at one of six Michigan universities, in exchange for a commitment to teach for three years in a high-need secondary urban or rural school. Not only will these efforts attract new talent to the teaching force, they will enable Michigan to address teacher shortage areas in mathematics and science with teachers who have substantive content knowledge.

The State has capitalized on existing infrastructure to bring professional development programming to the existing teaching force through the Mathematics and Science Centers Network and Michigan Virtual University (MVU). Currently, the Mathematics and Science Centers Network provides professional development in science and mathematics for high school teachers across the state. In addition, the State has partnered with Michigan Virtual University in providing professional development on Algebra for All to prepare teachers for changes in the Michigan Merit Curriculum. Given the state's geographic diversity, the provision of online training increases the equal distribution of prepared teachers across schools in Michigan. Finally, the State uses the Survey of Enacted Curriculum to identify gaps in teaching practices and to target professional development to those areas.

Externally funded programs have added to the State's efforts to increase professional development in STEM and learning opportunities for students while leveraging opportunities for collaboration with universities and businesses. For example, Project Lead the Way (PLTW) connects universities and middle and high school teachers to engage students in a hands-on STEM curriculum that encourages the development of problem-solving skills, critical thinking, creative and innovative reasoning, and a love of learning. In the 2009–10 school year, Project Lead the Way is active in 70 schools in Michigan. Automation Alley operates a STEM portal for educators in Southeastern Michigan to support them with links to STEM resources that can be used in the classroom. The Engineering Society of Detroit has partnered with corporate funders to open the Lean Green Charter School currently serving students in Grades K–8, with plans to

expand to high school. The IDEA Institute works with over 4,000 STEM teachers in Michigan to improve teacher education in STEM and break down barriers between STEM disciplines and teacher preparation.

(iii) Preparing more students—including underrepresented groups of females—for advanced study and careers in STEM

Programming through the Mathematics and Science Centers Network and Career and Technical Education provides hands-on activities and competitions designed to attract underrepresented groups into STEM career paths. First Robotics, the Real World Design Challenge, You Be the Chemist, the Girls Math Science Conference, a mentoring program with the Girl Scouts, and weekly sessions with rural students are examples of student services provided through the Mathematics and Science Centers Network and Career and Technical Education to increase STEM participation.

In addition, the State participates in efforts with external funders to provide STEM-rich activities to students. For example, currently, 4,800 students in 80 sites across Michigan participate in the Ford Partnership for Advanced Studies (Ford PAS). Ford Partnership for Advances Studies is an academically rigorous, interdisciplinary curriculum and program that provides students with content knowledge and skills necessary for future success—in such areas as business, economics, engineering, and technology—and helps students make decisions about future STEM education and careers.

While Michigan builds on current efforts to prepare students and teachers in STEM, the expansion of the State Longitudinal Data System (SLDS) will allow for an examination of the results of those efforts. Through the research collaborative, researchers can examine issues and track State progress in STEM participation and learning such as access to STEM coursework across schools, equity in student achievement in STEM across subgroups; and the movement of underrepresented populations into STEM in postsecondary.

Priority 3: Invitational Priority – Innovations for Improving Early Learning Outcomes *(not scored)*

The Secretary is particularly interested in applications that include practices, strategies, or programs to improve educational outcomes for high-need students who are young children

(prekindergarten through third grade) by enhancing the quality of preschool programs. Of particular interest are proposals that support practices that (i) improve school readiness (including social, emotional, and cognitive); and (ii) improve the transition between preschool and kindergarten.

The State is invited to provide a discussion of this priority in the text box below, but such description is optional. Any supporting evidence the State believes will be helpful must be described and, where relevant, included in the Appendix. For attachments included in the Appendix, note in the narrative the location where the attachments can be found.

Recommended maximum response length, if any: Two pages

Michigan has been a leader in early childhood endeavors for the last 15 years. In 1992, the state adopted the Early Childhood Standards of Quality for Prekindergarten through Second Grade and is now piloting a new Quality Rating and Improvement System. In 1999, the Ready to Succeed Partnership developed the Great Start System that represents and serves nearly every community in the state through the Great Start Collaborative, Great Start Parent Coalition, Great Start Readiness Program, and the most recent addition of the Great Start Child Care Quality Project. In 2005, Governor Granholm launched the Early Childhood Investment Corporation (ECIC) to provide statewide public-private governance and local infrastructure. In 2009, the Early Childhood Investment Corporation joined as a key partner to support Project Re-Imagine, which selected 14 communities to make bold and dramatic reform that includes a focus on early childhood.

A pioneer in adopting early learning standards for preschool children, Michigan has used its comprehensive learning and development standards for State-funded early childhood programs as the basis for a strong accountability system. *Early Childhood Standards of Quality for Prekindergarten through Second Grade*, adopted by the State Board of Education in 1992, were recently expanded and revised into two documents: *Early Childhood Standards of Quality for Infant and Toddler Programs (ECSQ-IT)* for children from birth to age 3 and *Early Childhood Standards of Quality for Prekindergarten (ECSQ-PK)* for children from age 3 to kindergarten. Each document describes comprehensive expectations for children's learning and development and for program characteristics that enable children to learn and develop in optimum ways. These characteristics have been incorporated in the statewide Quality Rating and Improvement System currently being piloted. The Early Learning Expectations for Three- and Four-Year-Old Children

have been aligned to the State’s Grade-Level Content Expectations for Kindergarten and will be realigned when Michigan adopts the Common Core Standards for Kindergarten. This systemic and intentional vertical alignment of learning expectations serves as the foundation for curriculum development and provides statewide leadership for local transition efforts.

In 1999, leaders in state and local government and advocacy groups organized the Ready to Succeed Partnership, a public-private group whose focus was “A Great Start for every child in Michigan: Safe, healthy, and eager to succeed in school and in life.” The Great Start System was created to address five critical early childhood needs: pediatric and family health, social and emotional health, child care and early education, parenting leadership, and family support. By focusing attention and efforts on these Great Start components, Michigan’s early childhood community worked on system change to ensure improved outcomes for young children and their families.

The Great Start system envisions a single, interconnected and intertwined network of public and private services and supports working together in a community to accomplish better results for young children and families. As with any system, there are both key programmatic components and infrastructure elements that ensure coordination and sustainability. Today, thanks to leadership and support from the state’s administration and legislature, every Michigan community is represented by a Great Start Collaborative and Great Start Parent Coalition, thus a statewide system of local infrastructure for the State’s Great Start system is in place. A key programmatic element of this program is the Great Start Readiness Program, a state-funded early education program for children considered to be educationally disadvantaged.

Great Start Collaboratives (GSCs) serve as the local infrastructure for governance, planning, investment, advocacy, and innovation for the Great Start system. Great Start Collaboratives focus on assessing the needs of young children and families in their communities; identifying community assets for addressing those needs; planning for systemic change and implementation of efforts to address any gaps; and strengthening effective innovations while ameliorating conditions that impede young children from arriving at kindergarten ready to learn. GSC work is informed by the community leaders and partners at

the collaborative table such as parents of young children, members of the faith and business communities, local philanthropic organizations, community leaders, educators, and leaders of the local public agencies providing the majority of early childhood services in the community.

Great Start Parent Coalitions are another integral piece to the local infrastructure afforded by the Great Start system. The membership of the Great Start Parent Coalitions is open to anyone serving in the parenting role for a child under the age of 12 years who is interested in helping to assure that all children enter kindergarten safe, healthy, and ready to succeed in school and in life. The purpose of the Great Start Parent Coalition is to serve as a referent and constituency group for parents on the Great Start Collaborative, giving them a means to better understand the desires and needs of parents in the community; assist in building public support and will for early childhood investment through advocacy and education activities at the local and state level; support and engage in the work of the Great Start Collaborative; strengthen the engagement of parents in the education of their children; and educate policymakers on the importance of investing in the first five years of life.

Michigan's Great Start Readiness Program (GSRP), a state-funded early education program for children considered to be educationally disadvantaged, served nearly 25,000 four-year-old children in 2008-2009. The Great Start Readiness Program has been extensively evaluated by the High Scope Educational Research Foundation. Results come from data collected from a cohort of 596 children (338 Great Start Readiness Program graduates; 258 non-Great Start Readiness Program) from six districts followed from kindergarten through 8th grade and from a sample of 865 children (384 Great Start Readiness Program; 481 non-Great Start Readiness Program) assessed in preschool or kindergarten. The data provide evidence of both short- and long-term impacts of Great Start Readiness Program attendance on student outcomes:

- Great Start Readiness Program graduates have had a significantly lower rate of grade retention than the non-GSRP students.
- At kindergarten entry, Great Start Readiness Program attendance produced statistically significant positive effects on early mathematics and print awareness scores.

- Second grade teachers rated Great Start Readiness Program graduates higher on being ready to learn, retaining learning, maintaining good attendance, and having an interest in school.
- A higher percentage of fourth grade Great Start Readiness Program students passed the MEAP as compared to non- Great Start Readiness Program students (55.1 percent versus 47.4 percent for mathematics and 44 percent versus 35.35 percent for reading).
- Great Start Readiness Program boys were less likely to be retained in grade and took more 7th grade mathematics courses than non- Great Start Readiness Program boys.
- Great Start Readiness Program children of color were less likely to be retained than their peers who did not attend Great Start Readiness Program and took more mathematics courses in 8th grade.

With an array of early childhood supports and services, including the Great Start School Readiness Program, and 55 Great Start Collaboratives and Parent Coalitions representing all 83 counties, Michigan is well on our way to implementing systemic changes and improvements that will lay the foundation for long-term educational success for all children.

In 2009, the Michigan State Board of Education adopted revised program eligibility criteria and enrollment guidelines resulting in greater prioritization of the most vulnerable children for participation in the Great Start Readiness.

In 2005, Governor Granholm launched the Early Childhood Investment Corporation (ECIC) to provide statewide public-private governance and local infrastructure. Through the ECIC, 55 Great Start Collaboratives, covering every county in the state, have been established to build local infrastructure. To support these local efforts, the Early Childhood Investment Corporation has established a professional development system for caregivers, standards for quality improvement in child care programs, and a searchable database of licensed/registered early learning settings. In cooperation with their partners, Great Start Collaboratives are collaborating on recruitment, enrollment, and data collection. In 2009, the Early Childhood Investment Corporation launched the Great Start Child Care Quality Project to refocus state and

local efforts to improve the early learning experiences of Michigan’s children, with a specific focus on the most vulnerable children. Regional resource centers across the state support those who care for young children and assist in coordinating early learning initiatives. Mental health consultation to preschool and child care programs ensures that children with social and emotional development problems are recognized and receive additional services. Public health services focus on developmental screening at well-child check-ups, pediatric medical home pilots, and connections to appropriate service referrals. All activities are focused on children’s readiness for school in all domains of development.

Michigan’s Great Start Readiness Program, the State-funded, high-quality, mixed-delivery prekindergarten program, annually enrolls nearly 20 percent of all the State’s four-year-olds. To focus on the most vulnerable children, Great Start Readiness Program eligibility criteria and program enrollment guidelines were recently revised to ensure those children are the first to be served. In addition, each Great Start Readiness Program district and agency is required to implement strategies to ease children’s transition from preschool to kindergarten. The Great Start Readiness Program is based on *Early Childhood Standards of Quality for Prekindergarten* and has longitudinal data through evaluations conducted by the HighScope Educational Research Foundation. The data show that the Great Start Readiness Program attendees are less likely than similarly at-risk children to be retained through Grade 8 and more likely to be on the path to school success.

Numerous nonprofit organizations and foundations have come together to support the work of the Early Childhood Investment Corporation. The Governor’s Cabinet includes a “foundation liaison” to ensure coordination of private efforts at the state level. The Kellogg Foundation has funded Michigan’s Children to organize and provide a collaborative technical assistance day for communities interested in applying for grant opportunities focused on the PK–3 continuum. The Early Childhood Investment Corporation, with Kellogg Foundation support, is a key partner in the Michigan Department of Education’s Project Re-Imagine, which selected 14 communities to make bold and dramatic reform that includes a focus on early childhood.

In an effort to strengthen the bridge between Michigan’s Great Start and K–12 systems, a

critical part of creating a successful educational pathway from birth to college for all Michigan children, the Early Childhood Investment Corporation and the Michigan Department of Education are collaborating to support the efforts of Project ReImagine sites in their efforts to ensure that all young children are ready for school and that schools are ready for all children. Through the financial assistance of the W. K. Kellogg Foundation, supports to all members of the Project ReImagine learning community will include access to technical assistance, professional development, and other tools that strengthen the connection between early childhood and K-12 systems and promote greater school success for Michigan children.

In addition, the Early Childhood Investment Corporation/Kellogg Foundation funds will support seven to eight ReImagine sites in their Early Years (prenatal through age 8) initiatives that serve to address gaps and inconsistencies in community efforts supporting comprehensive development and learning of all children in preparation of, as well as after, kindergarten entrance; persistent disparities in school readiness and subsequent student achievement among student populations; and inequity in educational experiences and opportunities, especially in connection to race, social class, language, and gender.