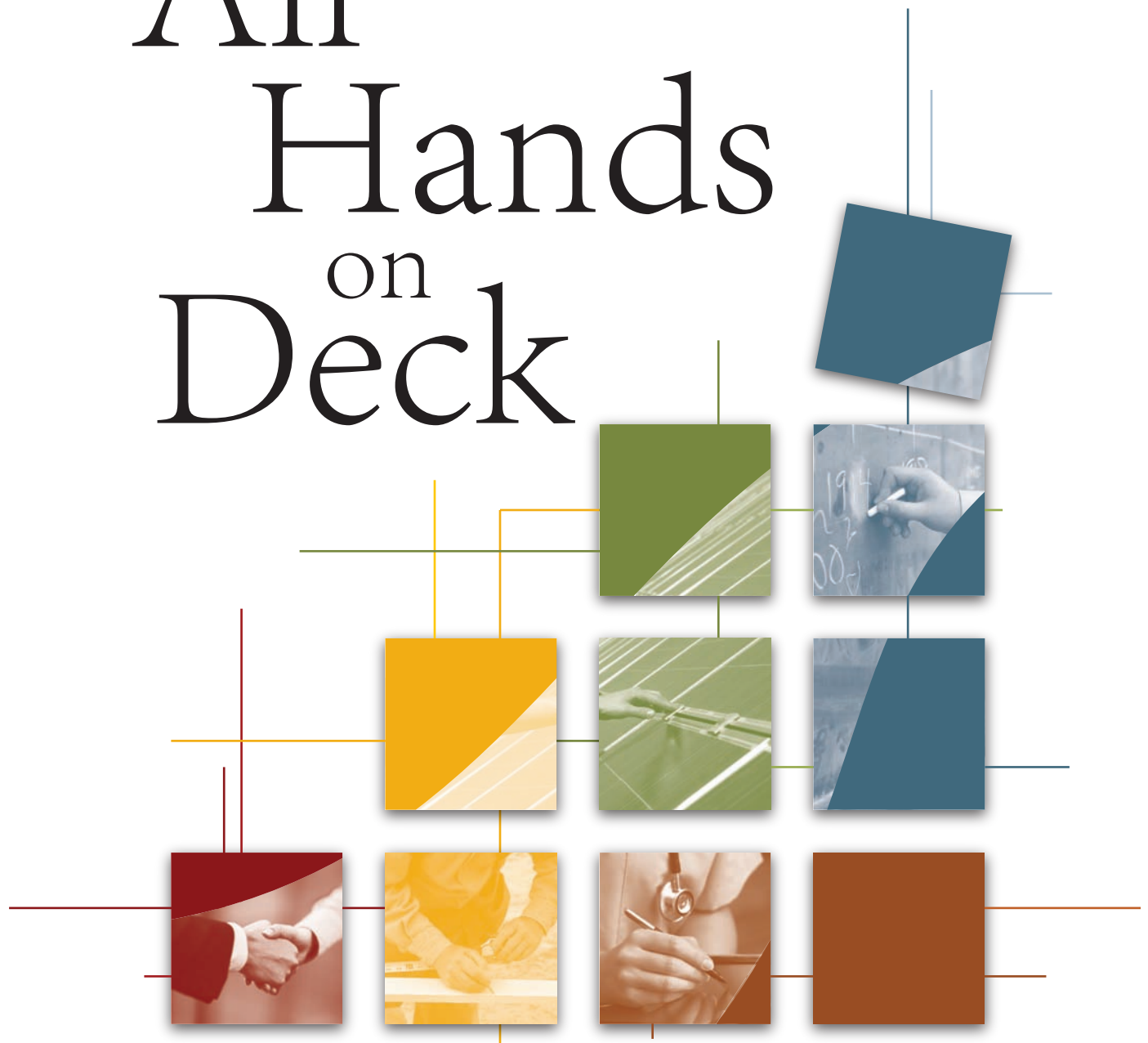


All Hands on Deck



Sixteen Ideas for Strengthening Minnesota's Workforce



Governor's Workforce Development Council

The GWDC's mission is to analyze and recommend workforce development policy to the Governor and Legislature toward talent development, resource alignment, and system effectiveness to ensure a globally competitive workforce for Minnesota.

The GWDC unanimously approved the 2011 policy recommendations on August 10, 2010.

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Mandate and Membership

As Minnesota's state Workforce Investment Board, the GWDC is mandated and funded by Section 111 of the federal Workforce Investment Act of 1998 and further defined by *Minnesota Statutes*, section 116L.665. The 2011 Policy Advisory fulfills the GWDC's legislative responsibilities listed in *Minnesota Statutes*, section 116L.665, subdivision 3a-m.

Council membership is dictated by state statute to include the following sectors: business and industry, community-based organizations, education, local government, organized labor, state agencies, and the state Legislature. Twenty-seven GWDC members are appointed by the governor and serve terms three years in length. Two State Representatives and two State Senators are appointed to the GWDC by their majority and minority leaders.

Meetings

The GWDC meets quarterly. All meetings are open to the public. More information can be found at www.gwdc.org.

The GWDC engages stakeholders to develop recommendations

The 2011 Policy Advisory is the collaborative work of the GWDC, GWDC policy committees, and GWDC staff that began in 2009. The GWDC acknowledges the following committee chairs and members, in addition to countless other stakeholders, who contributed their time and expertise to the policy development process.

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ALL HANDS ON DECK

Sixteen Ideas to Strengthen Minnesota's Workforce

We need your support!

To sign on as a supporter of the GWDC's recommendations or to download a copy of this report in .pdf or accessible .doc format, visit www.gwdc.org



Governor's Workforce Development Council

Policy Solutions that Work for Minnesota

Dear Governor-Elect and Members of the Minnesota Legislature,

We are pleased to present you with sixteen pragmatic and cost-effective ideas to strengthen Minnesota's most important resource — its people. On behalf of the Governor's Workforce Development Council, please accept these policy solutions for 2011 and beyond.

Forged through consensus during a year-long process that engaged hundreds of stakeholders, these recommendations take into account the economic challenges and political realities facing our state. Each legislative option we offer will improve Minnesota's education and training system and help meet our state's increasing demand for skilled workers.

The recommendations coalesce around the theme of *All Hands on Deck* because of three realities in the new economy:

- » The growing demand for skilled workers requires that we strengthen the skills of all Minnesotans, especially those underrepresented in the workforce.
- » Solving complex problems like skill shortages and unemployment requires collaboration and partnership.
- » Engaging diverse stakeholders is the only way organizations like the GWDC can develop inclusive workforce strategies.

The Council stands ready to help you implement these recommendations for a competitive and prosperous Minnesota.

Sincerely,

Cynthia Lesher, Chair

Bryan F. Lindsley, Executive Director

November 2010

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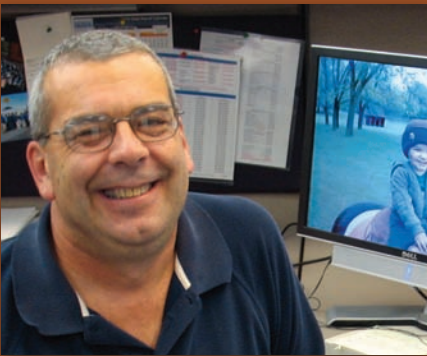
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cultivating our most precious resource —
our people.*

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Introduction

Minnesota faces a growing skills gap.

Just seven years from now, 70 percent of Minnesota jobs will require education beyond high school.¹ Our growing need for a highly-skilled workforce, which is among the greatest in the country, has been brought on by an increasingly competitive global economy and rapidly evolving technologies.² Yet today, only 40 percent of working-age adults in Minnesota have a postsecondary degree, such as associate's or bachelor's degree.³ This growing skills gap has enormous implications for Minnesota's economic competitiveness and the ability of its citizens to secure a middle-class lifestyle.

Shifts in demographics exacerbate the problem.

As the highly-educated baby boomer generation reaches retirement, employers will begin to see a worker shortage, particularly in occupations requiring higher levels of skill. The younger generations that will replace the baby boomers will be smaller, more diverse, and generally less educated. For the first time since the government started keeping track, the average education of American workers is expected to decline.⁴

The recession has hastened the move toward higher-skill jobs.

While unemployment rates remain high, a longer-term consequence of the current recession is a shift toward higher-skill jobs. Fully 71 percent of American workers are in jobs for

70%
*of Minnesota jobs will require
education beyond high school by 2018.*

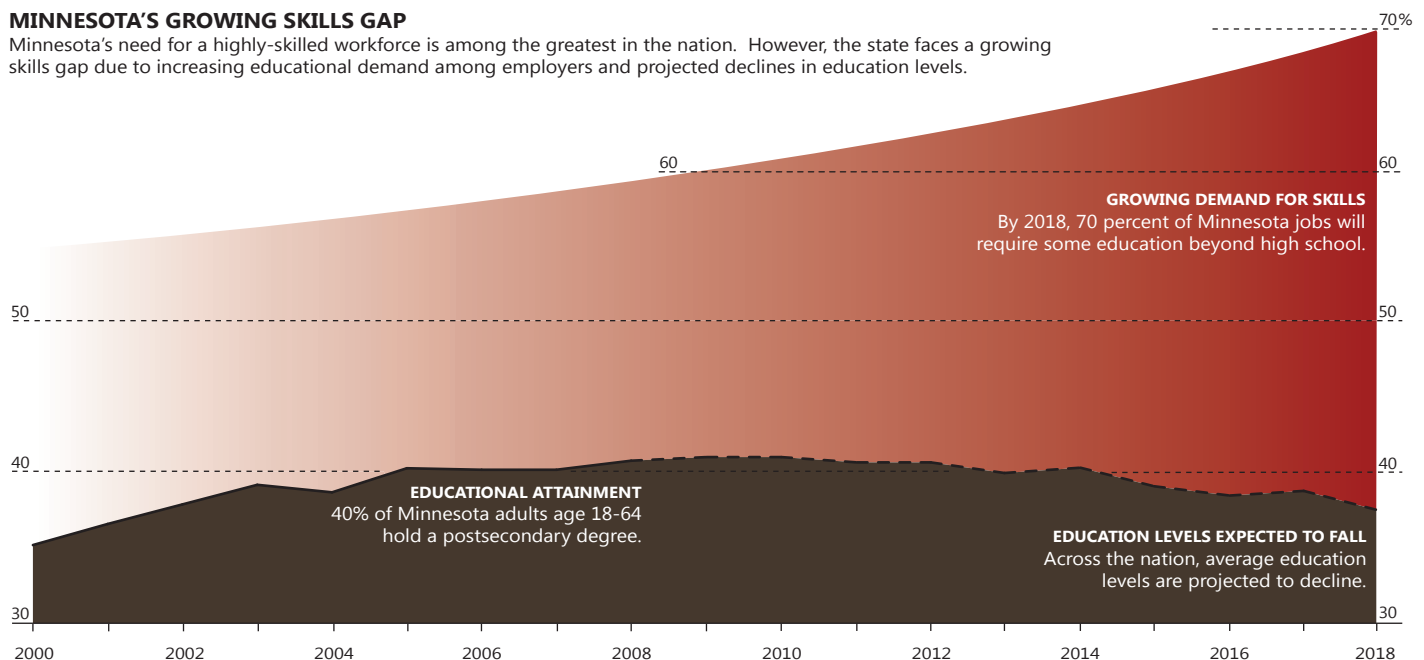
which there is low demand or an oversupply of eligible workers.⁵ Projections show that many of these low-demand, often low-skill jobs will not survive the recession and that the recovery will be based largely on new jobs that require higher skills.⁶

Education and training are the best ways to remain competitive.

Minnesota has long recognized that the key to opportunity and shared prosperity rests in the quality of its workforce, and this has been a driving force behind our investments in education and training. Recognizing our talents, many businesses have set up shop here, creating new jobs and making our state home to more Fortune 500 companies per capita than any other. In turn, job opportunities in Minnesota have made it a great place to live, work, and raise a family.

MINNESOTA'S GROWING SKILLS GAP

Minnesota's need for a highly-skilled workforce is among the greatest in the nation. However, the state faces a growing skills gap due to increasing educational demand among employers and projected declines in education levels.

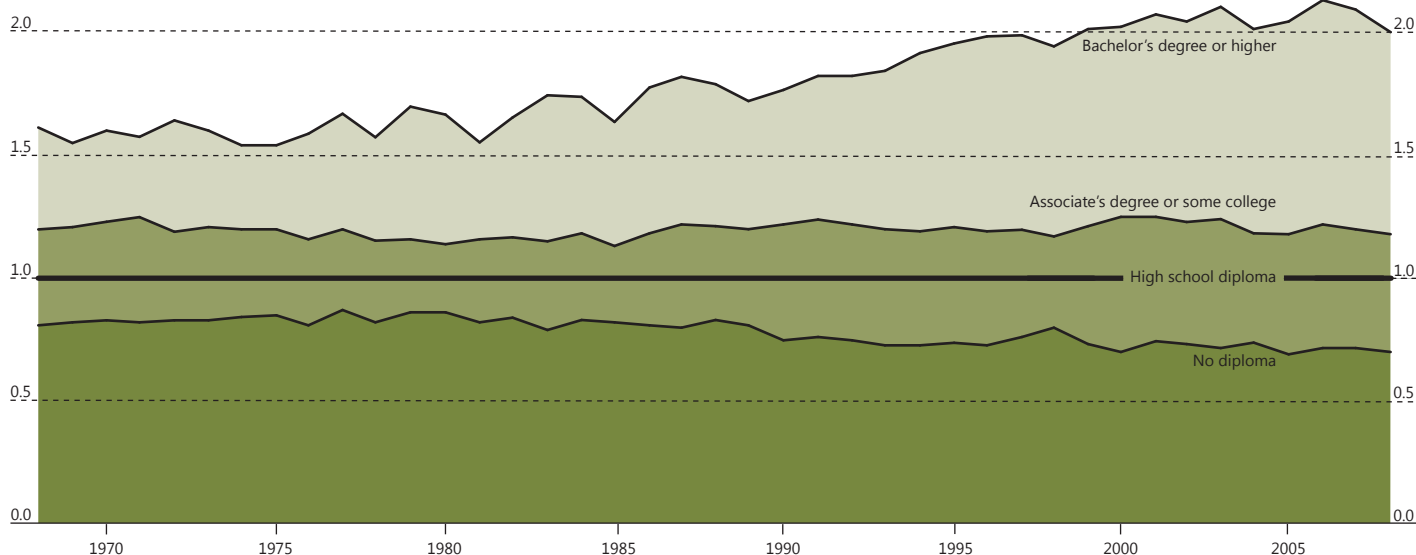


Sources: American Community Survey, U.S. Census Bureau; Help Wanted, Georgetown University Center on Education and the Workforce; National Center for Higher Education Management Systems. Trendlines beyond 2008 are based on single-point-in-time estimates.

The state's leaders must set a bold vision to bring all hands on deck.

THE INCREASING IMPACT OF EDUCATION ON INCOME

Relative to the wages of high school graduates, wages for those with at least some postsecondary education have increased, while wages for those who lack a diploma have fallen.



Source: Current Population Survey, U.S. Census Bureau. Data are for entire U.S. Earnings data have been scaled so that average wages for a high school graduate equals one.

Education and training are key to our state's overall prosperity

Economic growth and innovation. Educational advances account for ten to 25 percent of economic growth, and regions with higher levels of education have more productivity growth and higher incomes.⁷

Higher wages. Individuals with an associate's degree earn 29 percent more than those with only a high school degree, and those with a bachelor's degree earn 62 percent more.⁸ Studies have also shown that adult students who earn two semesters of postsecondary credit and a credential have a significant earnings advantage over those who earn fewer than ten credits.⁹

Benefits for children. Children whose parents have higher levels of educational attainment are more likely to be better prepared for school, healthier, and more engaged in extracurricular activities. Parental education affects children's future income more than any other factor, helping break the cycle of poverty.¹⁰

Return on investment. Many studies have shown that the public costs of workforce education and training programs are far outweighed by the monetary benefits from increased tax receipts, increased productivity, and reduced reliance on public assistance.¹¹

To close the skills gap, we need all hands on deck.

In spite of our strengths, new challenges require a renewed focus on cultivating our most precious resource — our people.

The state's leaders must set a bold vision to bring all hands on deck — a commitment from students, workers, legislators, educators, and businesses — to meet the call of tomorrow's economy. The many organizations and systems concerned with education and workforce development must re-think and redouble their efforts. And since no one system can do it all, these systems must collaborate in innovative, meaningful ways.

With all hands on deck, we can build the skills of every individual. The following recommendations aim to do this by:

- » Strengthening the skills of our current workforce (see page 6)
- » Creating work and lifetime learning options for Minnesota's aging workers (see page 16)
- » Expanding work opportunities for Minnesotans with disabilities (see page 22)
- » Ensuring all high school graduates are ready for career and postsecondary success (see page 28)

Strengthening the Skills of Our Current Workforce

Minnesota cannot address its skilled worker shortage without focusing on the current labor force.

By 2018, seventy percent of Minnesota's jobs will require some sort of postsecondary education or training.¹² Because one-third of the state's 2035 labor force is already of working age, it is impossible to reach this demand for skills by focusing only on new entrants to the workforce.¹³ Accordingly, Minnesota must focus on helping more adults pursue additional education and training.

Minnesota is home to 1.2 million potential working learners — individuals that lack postsecondary credentials who are wage-earners for themselves or their family — which comprises 60 percent of Minnesota adults ages 18 to 64.¹⁴ Serving this population — which includes a wide array of individuals from English language learners to ex-offenders — requires rethinking the way Minnesota delivers education and training programs.

Working learners struggle in traditional postsecondary education and training programs.

From raising a family to working full-time, most working learners must balance their school work with other responsibilities. This balancing act can be tricky, making success at school a challenge. Among those with a degree goal, it is estimated that one-third of "workers who study" leave school in their first year without any credentials (compared to only seven percent among "students who work"). And after six years, nearly two-thirds of "workers who study" do not have a degree or certificate and are no longer enrolled.¹⁵

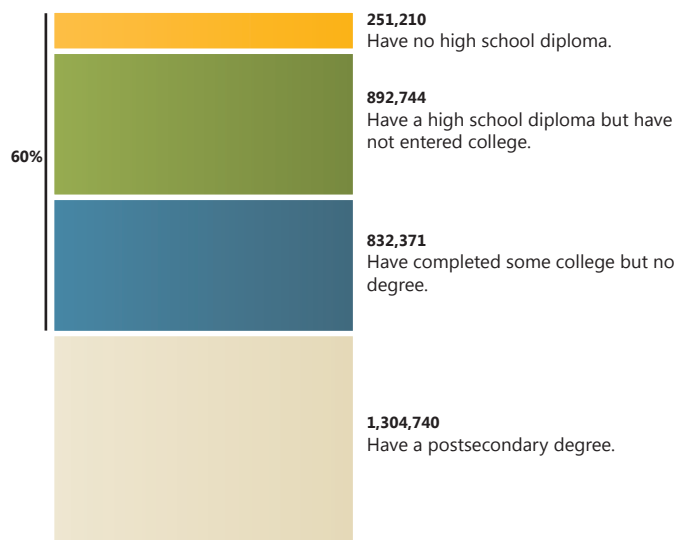
For those working learners who lack basic skills, the uphill climb can be even more challenging: of individuals who need to take nine or more credit hours in postsecondary remedial courses, only about 25 percent complete all of their remedial courses and only about four percent complete a degree or certificate within five years of enrollment.¹⁶

Flexibility, support, and guidance help working learners succeed.

In a national study of adult learners who left school without completing a degree, roughly eight in ten said that each of the following would have helped them stay in school: more financial aid for part-time students, help with childcare, more evening and weekend classes, and more programs focused on hands-on learning.¹⁷ Other studies suggest that intensive career coaching helps working learners complete postsecondary credentials.¹⁸ Education and training programs in Minnesota must take these needs into account to effectively serve working learners.

WORKING LEARNERS IN MINNESOTA

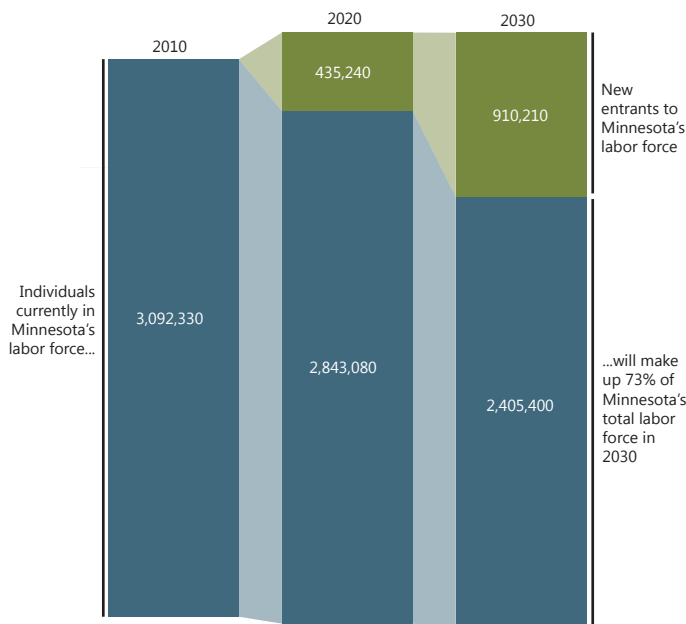
Among individuals 18 to 64 years old, six in ten lack a postsecondary degree.



Source: American Community Survey 2008, U.S. Census Bureau

MINNESOTA'S LABOR FORCE: 2010 to 2030

Two decades from now, Minnesota's labor force will be made up of largely the same individuals as now. Nearly three-quarters of Minnesota's workers in 2030 are currently in the labor force.



Source: Labor Market Information Office, Minnesota Department of Employment and Economic Development

Earning two semesters of postsecondary credit and a credential leads to a significant earnings advantage for adult learners.

Career pathway models meet the needs of working learners, helping them attain credentials that lead to well-paying jobs in high-demand fields.

A relatively new strategy, known as a career pathway, has garnered national attention for helping working learners reach a meaningful educational outcome: two semesters of credit and a postsecondary credential. Studies have shown that reaching this threshold leads to a significant earnings advantage over those who earn fewer than ten quarter credits: an average of \$8,500 in increased annual income for those who started in adult basic education, \$2,700 for those who started with a GED, and \$1,700 for those who started school with a high school diploma.¹⁹

A career pathway is a series of connected educational and training programs that allow students to advance over time to successively higher levels of education and employment in a given sector. Each step along the way is designed to prepare the student for the next level of education and employment. Career pathways target jobs in industries that are important to local and regional economies, thereby ensuring the student good job prospects and serving as an effective supply chain for employers seeking skilled labor. They involve collaborations among local educators, workforce development professionals, employers,

and community-based organizations to design and implement programs and provide support services that address the needs of working learners.²⁰ The Minnesota FastTRAC (Training, Resources, and Credentialing) Initiative is an example of a career pathway model at work in Minnesota (see page 8).

Sustained coordination is required to increase the skill level of working learners.

No single agency or organization has the resources and know-how to construct effective career pathways. Content and instruction must be aligned among Adult Basic Education and higher education institutions. Education and training providers need to work with employers and labor market analysts to identify high-demand careers and the skills they require, and with community-based organizations to provide crucial support services. The data systems that the various systems use need to talk to one another to better track students between systems and to permit the types of analyses that help improve programs. Lastly, highly compartmentalized federal funding streams must be aligned in innovative ways to coordinate and sustain these efforts.

Working together, we can commit to building the skills of every adult. The following policies aim to do this by:

- » Expanding the Minnesota FastTRAC Initiative (see page 8)
- » Setting goals and developing plans for increasing adult credential attainment (see page 10)
- » Integrating state data systems to better understand and serve working learners (see page 12)
- » Reducing cost barriers to credential attainment (see page 14)

FASTTRAC: A CAREER PATHWAY FOR MINNESOTA

FastTRAC (Training, Resources, Credentialing) helps educationally underprepared adults achieve success in high-demand careers that pay family sustaining wages by integrating basic skills and career and technical education along a pathway from pre-literacy to a postsecondary credential.

ADDITIONAL SUPPORT FOR ADULT LEARNERS

All along the pathway, support services, career advising, work experiences, and skill assessments are provided by workforce development professionals, employers, community-based organizations, and human services providers.

BRIDGE PREP

Intentional focus on work by embedding work skills into beginning adult basic education.

BRIDGE I

Low intermediate reading, writing, speaking, and math skills taught in the context of a variety of occupational sectors.

BRIDGE II

High intermediate basic skills and focused preparation for targeted postsecondary occupational courses in the context of a specific occupational sector.

INTEGRATED ADULT BASIC EDUCATION

Integrated courses developed and taught by Career and Technical Education program faculty and Adult Basic Education instructors.

POSTSECONDARY CREDENTIAL

Studies suggest that students in programs like FastTRAC are 29 to 35 percent more likely to earn a college credential than students in more traditional programs.

Recommendation 1: Expanding the Minnesota FastTRAC Initiative

An innovative career pathways strategy called FastTRAC can help Minnesota's low wage workers successfully upgrade their skills and attain postsecondary credentials.

Minnesota FastTRAC (Training, Resources, and Credentialing) helps educationally underprepared adults achieve success in well-paying careers by integrating basic skills and career-specific training in formats that are convenient and manageable for working adults. A collaboration between the Minnesota State Colleges and Universities (MnSCU), Adult Basic Education (ABE), the Department of Employment and Economic Development (DEED) and local workforce development partners, human services, and community-based organizations, FastTRAC is beginning to change the way Minnesota approaches talent development for adults. The FastTRAC approach is grounded in principles that have proven effective in improving educational outcomes:

- » **Blending career training and basic skills education to get the most out of each.** Many adults need help with basic academic skills, general workplace competencies, and training for a specific career. Traditionally, these services are offered separately with a number of limitations: doing them separately takes longer and is more costly, basic skills courses often lack the workplace relevance needed to keep students engaged, and career training often assumes a level of academic readiness that many students do not have. FastTRAC programming combines all three aspects of skill development by putting ABE/English as a Second Language (ESL) and career and technical instructors together in the same classroom. And in contrast to similar strategies in other states, FastTRAC aims to serve adults regardless of their skill level, all the way from pre-literacy to a postsecondary credential.
- » **Ensuring students get what really matters: new skills and a credential.** The explicit goal of the FastTRAC approach is to ensure students receive a credential, not just credits. Research shows that one year of postsecondary credit and the completion of a credential leads to significantly increased wages: \$8,500 more annually for students starting in ABE and \$1,700 or \$2,700 more for students starting with a high school diploma or GED, respectively.²¹ This is an important threshold: evidence shows that students who earn less than a year's worth of credits and no credential tend to receive negligible economic benefits.²²
- » **Targeting occupations that are in high demand locally and offer family-sustaining wages.**²³ By being attuned to the needs of the local economy, FastTRAC acts as an effective supply chain for local businesses seeking skilled labor. This helps FastTRAC students find jobs that pay well and offer room for advancement.
- » **Offering programs that are tailored to the needs of working learners.** To a student with significant work and family responsibilities, a one-, two-, or four-year program may seem daunting, particularly if classes are offered during typical work hours. FastTRAC breaks up the long voyage from basic skills to a degree into a series of smaller steps,

each building off the one before and each culminating in a "stackable" credential. Courses can be offered on evenings and weekends and can incorporate on-line learning. This allows working learners to move through training programs at their own pace, while reaping on-the-job benefits at each step. Moreover, FastTRAC guides adults from step to step through intensive career and academic advising, and offers support services like child care and transportation that help students succeed.²⁴

- » **Using data to measure performance and improve programming.** By linking data from K-12, higher education, ABE, and the workforce development system, managers and providers are able to identify gaps in student achievement, evaluate programs, and determine ways to strengthen services.

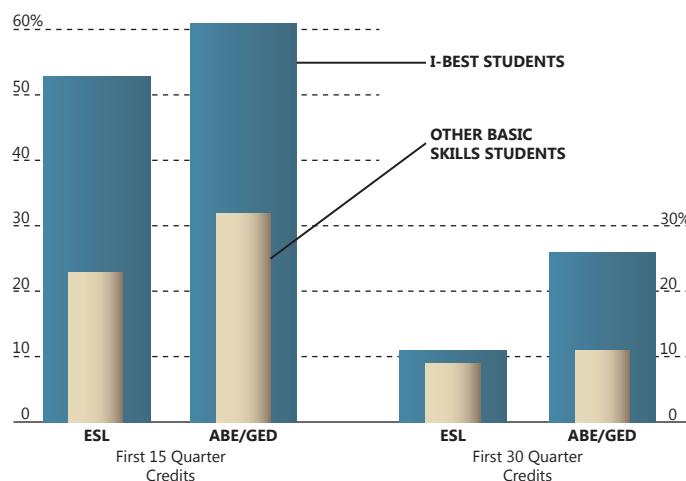
Programs like FastTRAC have been successful in other states, spurring a national movement.

Models similar to FastTRAC are underway in at least seven states, and such models have been endorsed by a number of national organizations, including the National Governors Association, the Joyce and Lumina Foundations, the National Fund for Workforce Solutions, and the U.S. Departments of Labor and Education.²⁵

Washington state's program, I-BEST, is perhaps the best known and most studied of these models.²⁶ Evaluations of the I-BEST model have documented its effectiveness. I-BEST students earn an average of 14 to 18 more college credits than non-I-BEST students, and they are 29 to 35 percent more likely to earn a postsecondary credential.²⁷ I-BEST students also make higher average gains on basic skills tests and have been 15 times more likely to complete workforce training.²⁸

WASHINGTON I-BEST: INCREASING ADULT LEARNER SUCCESS

The percentage of students earning college credits is significantly greater within I-BEST, a career pathway program similar to FastTRAC.



Source: Washington State Board for Community and Technical Colleges

FastTRAC aims to serve adults regardless of their skill level, all the way from pre-literacy to a postsecondary credential.

FastTRAC is improving the way workforce development partners do business in fundamental ways.

Since no one organization or system can meet the needs of working learners on its own, the FastTRAC approach involves significant collaboration. Since its inception, FastTRAC has led to a significant change in the culture of the organizations involved, most notably among ABE and at MnSCU. Program providers have started to change the way they deliver services, focusing more on long-term outcomes. The larger systems involved have begun to create a shared vision for success, learning how to align their limited resources rather than compete for them. Plainly put, FastTRAC is helping systems to focus less on helping themselves and more on helping the working learners they serve.

The FastTRAC strategy is underway in many Minnesota communities, and with additional funding could expand statewide.

In 2007, the Joyce Foundation's Shifting Gears initiative and the Bremer Foundation awarded planning grants to Minnesota because the state lacked a collaborative strategy for training working learners but had the dedication to develop one. After laying the groundwork for the FastTRAC strategy, the Joyce Foundation awarded Minnesota with additional grants to develop seven pilot projects to test the new strategy. Based on the successes and lessons learned from these pilots, the Joyce Foundation provided additional funding to implement further programming and to begin aligning the workforce development, ABE, higher education, and human services systems, including traditionally siloed funding streams like federal Workforce Investment Act (WIA) Title I and Title II dollars. This has led to 12 *program design and implementation* projects and ten programs offering the *integrated and bridge* portions of the FastTRAC model.

The support of the Joyce and Bremer Foundations, along with funding, staff, and support from state and local partners, has been integral to building a foundation for FastTRAC across the state. However, sustaining and expanding local collaborations and further aligning state policies and resources will require more reliable funding and support.

Spotlight: Antoinette McCarthy and FastTRAC



"I had attempted to pursue college before," says Antoinette McCarthy, a young and vivacious mother of three, "but I wasn't as successful as I had hoped. I had been diagnosed with a learning disability." Antoinette had struggled to find a career in today's competitive job market. For many years, she was unsure about the career she wanted to pursue — she knew that she wanted to be in the medical field, she just wasn't sure where.

Now, Antoinette is poised for success. She just completed a FastTRAC program at Inver Hills Community College, receiving her certificate as a nursing assistant (CNA) after just one month of intensive, hands-on study. Individuals with a CNA certificate earn, on average, nearly double what someone would at a minimum-wage job in the medical field in Minnesota.

Antoinette chose the program at Inver Hills initially because it offered her the chance to get a certificate quickly, it prepped students for the state certification exam, and it was free. Once she was enrolled, she saw even more benefits to the program.

"I felt like it was designed for me," Antoinette explained.

In the program, Antoinette attended a month of full-day sessions. The first half of the day focused on the academic work that prepared her for the state exam, including practice tests, lectures, workbook exercises and academic tutoring. This portion was taught in partnership with academic instructors and registered nurses that had first-hand knowledge of the field.

The second part of the day was hands-on work in Inver Hills' state-of-the-art nursing lab, handling real medical equipment and modeling situations that nurses deal with every day.

"This program changed my life," she said with a huge grin. "I actually got the experience I need in the workforce."

Antoinette completed the CNA program with flying colors, which gave her the drive to continue her schooling. This fall, Antoinette plans to enroll in the registered nursing program at Inver Hills.

"Even with a learning disability, there's nothing you can't accomplish if you're determined to make the change in your life," she said as she looked around her old classroom. "I'm the biggest example of that. There was a point in my life I didn't know what direction to go and there weren't many resources for me. Now I have everything I need to be successful."

Recommendation 1

Within three years, the Department of Employment and Economic Development (DEED), the Minnesota State Colleges and Universities system (MnSCU), and Minnesota Department of Education (MDE) - Adult Basic Education (ABE) should collaborate with workforce development and community-based organizations and other service providers to provide one or more Minnesota FastTRAC (Training, Resources, and Credentialing) career and technical education programs at each of the 25 Minnesota State Colleges. These programs should be required to offer a stackable credential or an industry-recognized credential to successful participants.

To support ongoing coordination and the sustainability of the FastTRAC Initiative, funding sources should be identified and formalized. State funds, along with focused professional development, should be used to incent coordination and to leverage and align the financial resources of local partners.

Recommendation 2: Setting goals and developing plans for increasing adult credential attainment

Minnesota's workforce development partners should make an explicit commitment to increasing credential attainment among working learners.

Given the enormous challenge of boosting educational attainment among working adults, Minnesota's workforce and education partners — including the Minnesota State Colleges and Universities (MnSCU), Adult Basic Education (ABE), the Minnesota Department of Employment and Economic Development (DEED), and their local partners — must build a shared vision for increasing skills and credential attainment among adults.

These partners should set a goal, devise a plan to reach it, and measure progress over time. This will ensure that the relevant systems align their core missions and services with one another toward the outcome of increased adult credential attainment, which has a well-documented positive impact for educationally underprepared adults.

Setting measurable goals and developing a plan will not only ensure that MnSCU and its partners make broad system changes; it will also incent the replication of strategies like FastTRAC that successfully help educationally underprepared adults through to completion.

MnSCU and ABE have already taken steps to support adult learners.

MnSCU's strategic plan for 2010-2014 details the system's commitment to increasing access, opportunity, and success among a diverse array of students, including adult learners. The

strategic plan also includes using data on student outcomes to drive accountability and continuous improvement.

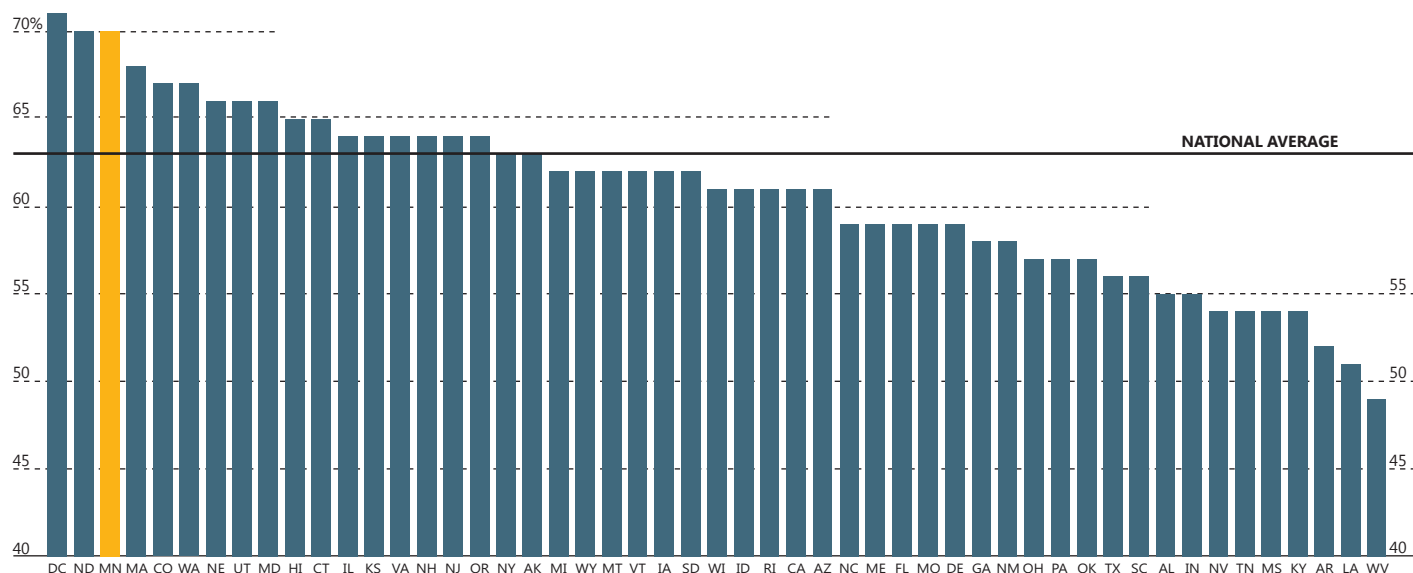
In 2008, MnSCU created the Board of Trustees Accountability Dashboard to track performance of the system and its 32 colleges and universities. The dashboard, which is available online, incorporates ten indicators including student persistence and completion, employment outcomes for graduates, and tuition costs. For the past six years, MnSCU has also engaged in an Access, Opportunity and Success initiative, which has supported the development of local programs that recruit and retain underrepresented students. More recently, MnSCU was awarded a grant by the Lumina Foundation to create a program to increase re-enrollment, degree progress and degree completion among adult students who previously enrolled in MnSCU institutions but did not earn a degree. Lastly, MnSCU's policy on credit for prior learning provides an avenue for working learners to earn college credit for past work and non-credit learning experiences.

The ABE system has formally expanded its core mission to include transition to postsecondary goals for adult learners. In addition, the system has established a multi-year transition to postsecondary priority which includes a re-direction of existing resources to focus on transition strategies, including Minnesota FastTRAC.

Taken together, these initiatives provide a strong foundation on which MnSCU and its partners can build further efforts to help adult learners achieve postsecondary credentials.

MINNESOTA'S DEMAND FOR POSTSECONDARY EDUCATION

Seventy percent of Minnesota jobs in 2018 will require a postsecondary education. Minnesota's demand for education is significantly higher than the national average of 63 percent, and second only to the District of Columbia.



Source: *Hein Wanted*. Georgetown University Center for Education and the Workforce

Minnesota's workforce and education partners must build a shared vision for increasing skills and postsecondary credential attainment among adults.

Other states can provide useful best practices for MnSCU and its partners.

A number of states have started to measure working learner progress and outcomes, set goals, and develop ways to link institutional behavior to those goals. In particular, momentum points and performance funding merit additional consideration in Minnesota.

» **Measuring Outcomes.** A handful of states have started to measure student progress through momentum points — milestones that are significant to student success because they build momentum toward completion of a degree.²⁹ Through its *Complete to Compete* initiative, the National Governors Association has defined a set of metrics that it believes all states should measure and report publicly.³⁰ This includes outcome measures (such as degrees and certificates awarded and graduation rates) and progress measures (such as success beyond remedial education, and success in credit accumulation). The development of momentum points should depend on the nature of the institution and the students it serves. For instance, the FastTRAC team has identified a set of leading indicators of success for low-skill adults.

Importantly, these metrics measure not only how many students make it to degree or certificate completion, but also how students advance on their journey to that point. This helps higher education systems understand where students are getting stuck and develop strategies for relieving those barriers. Moreover, putting weight on progress ensures that colleges focus not only on those students who are most likely to graduate, but also those students who may need more support along the way.

» **Funding Outcomes.** While student outcomes are the most important thing that colleges produce, most states base their funding of public higher education on enrollments. This can create little incentive for these systems to ensure that students earn credentials. Around the country, however, states are reconsidering these policies to better incentivize positive student outcomes and increase educational efficiency.

At least ten states have reconfigured higher education spending so that a relatively small portion of funding (often close to five percent) is apportioned based on key performance outcomes like degree completion.³¹ Notably, Washington state has linked performance funding and momentum points, creating a performance funding system that accounts for both student outcomes *and* progress. Washington's system, part of its Student Achievement Initiative, has been designed so colleges compete with their own performance over time, and it ensures that year-to-year funding is stable.³² The results are encouraging: from the 2006-2007 baseline to 2008-2009, the average number of momentum points per student increased by 12 percent.³³

Recommendation 2

Minnesota State Colleges and Universities (MnSCU), in partnership with the Department of Employment and Economic Development (DEED) and Minnesota's Adult Basic Education (ABE) system, should set a broad strategic goal for increasing the number of low-skill adults that earn credentials leading to high-demand occupations that provide family-sustaining wages, and should develop a plan to reach that goal. The plan should be submitted to those committees in the Minnesota Legislature that oversee MnSCU and its partners. The plan should address how MnSCU set its goal and how the plan will be implemented to meet that goal. Further, the Legislature should require that MnSCU and its partners report on their progress toward the goal on a yearly basis.

In addition:

- » The plan should involve expanding collaborations with ABE, workforce development partners, and human services providers to develop and expand access to academic programs, including career, technical, and general education programs, and student support services that support the success of low-skill adult learners.
- » The plan could include setting goals for helping students meet momentum points for student success that fall along a continuum, from basic academic skills through postsecondary credential attainment. These "momentum points" should be evidence-based and linked to student labor market success. These momentum points should include, but not be limited to, the completion of stackable credentials, including certificates, diplomas, and degrees.
- » These momentum points could be integrated into the accountability dashboard framework currently used by MnSCU so that colleges are able to track their progress in helping students meet momentum points along the continuum from enrollment to completion of credentials.

Recommendation 3: Integrating state data systems to better understand and serve working learners

Data is a powerful tool for better serving working learners.

Increasingly, states are using data to inform decision-making, better understand customers, and improve the services they deliver. Minnesota agencies concerned with workforce development — including the Department of Employment and Economic Development (DEED), the Minnesota State Colleges and Universities (MnSCU), Adult Basic Education (ABE), the Minnesota Department of Education (MDE), the Office of Higher Education (OHE), and the Department of Human Services (DHS) — are increasingly partnering to meet the needs of adult learners. As these collaborations have grown, a data framework that can track customer outcomes and program performance across systems is increasingly needed.

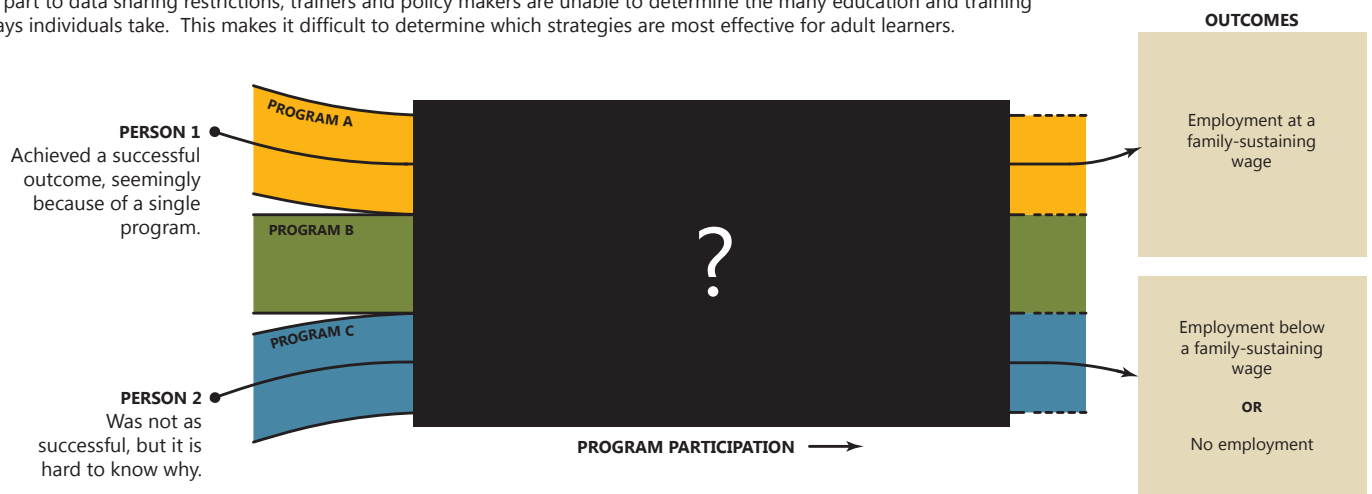
Minnesota's existing information systems are inadequate for fully understanding working learner success.

While individual programs and agencies are able to track the immediate outcomes of their participants, their data systems do not talk to one another in a comprehensive fashion. Because most participants use multiple systems and often transition between them, the insights these separate information systems yield are inadequate. A fuller picture would allow policy makers to understand participant success (or failure) from any entry point (e.g. ABE, the K-12 system, various workforce development programs) all the way through to eventual labor market outcomes.

INTEGRATING DATA ON ADULT LEARNERS: CREATING A CLEARER PICTURE

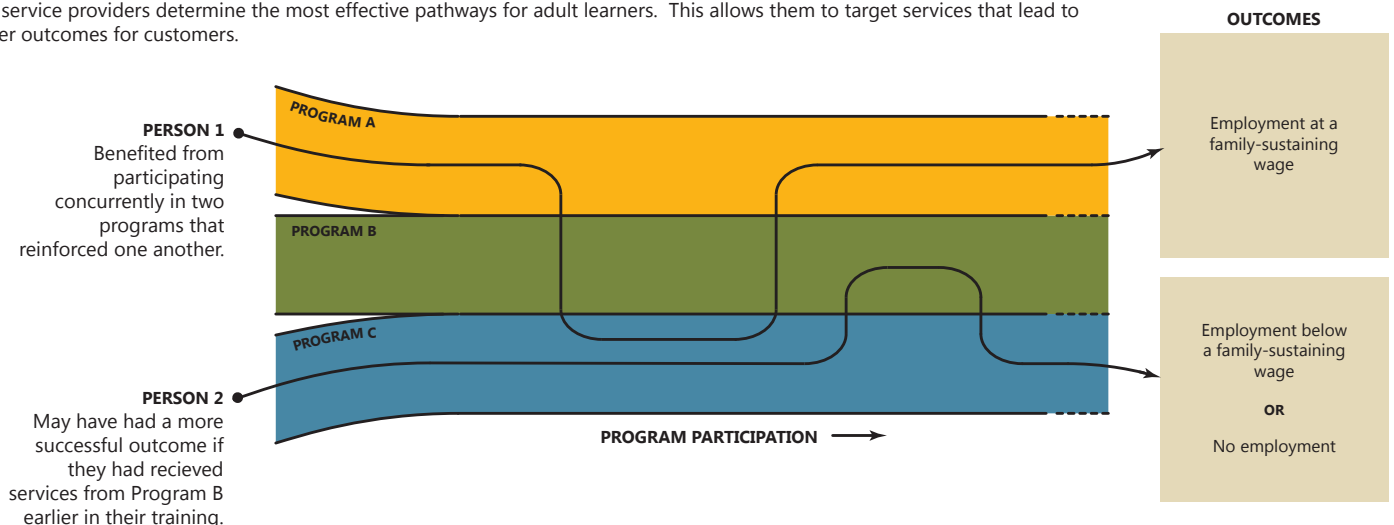
COMPARTMENTALIZED DATA: A BARRIER TO SERVING ADULT LEARNERS

Due in part to data sharing restrictions, trainers and policy makers are unable to determine the many education and training pathways individuals take. This makes it difficult to determine which strategies are most effective for adult learners.



INTEGRATED DATA: MAKING BETTER DECISIONS

After observing a significant number of common participants in multiple data systems, patterns emerge that help policy makers and service providers determine the most effective pathways for adult learners. This allows them to target services that lead to better outcomes for customers.



Linking the state's data systems will help managers and policy makers make better-informed decisions and investments.

An integrated data system would enable better-informed decisions.

A comprehensive system would answer a number of important questions: Which programs and educational pathways are most effective at achieving the desired labor market outcomes? Which transition points are most problematic for students, and how can we better align programming to smooth these transitions? Why do some working learners succeed while others flounder?

More generally, linking the state's data systems will help to create a culture of evidence among program managers and policy makers, allowing them to make better-informed decisions and more strategic investments. In addition, allowing various data systems to talk to one another will improve overall informational efficiencies, eliminate duplicative efforts, and lower long-term costs.

Lastly, an integrated data system would produce focused research that could further our understanding of the state's workforce challenges and build a case for effective solutions. For instance, in Washington state, research led to the identification of a "tipping point" — a distinct educational outcome for low-skill adults that translated into significant wage gains — that has helped to fundamentally improve the state's capacity to serve this population.³⁴

A number of efforts are underway to create a more robust data framework in Minnesota.

These efforts should work together to better understand and serve working learners:

- » The **State Longitudinal Education Data System (SLEDs)** is being developed through a grant from the U.S. Department of Education. Through this grant, Minnesota will develop a statewide longitudinal data system that allows student data to be linked from pre-kindergarten to postsecondary education and on into the workforce. This will allow the state to identify predictors of long-term student success and drive policy decisions about particular programs and the overall system.
- » The **FastTRAC Data Management Plan** seeks to pilot components of the SLEDs to assess and improve FastTRAC programming, tracking ABE students through MnSCU and into the workforce.
- » **Action Analytics** is a set of capacities being developed by MnSCU to monitor and improve performance at the system and institution level. Notably, MnSCU is working to develop predictive models that would permit targeted interventions to improve student success.
- » The **Workforce Data Quality Initiative** refers to a grant Minnesota recently received from the U.S. Department of Labor's Workforce Data Quality Initiative. This grant will help DEED to streamline its many data capacities and augment the SLEDs by helping DEED to link information on wages to postsecondary student information from OHE, MnSCU, and ABE.

Recommendation 3

The State of Minnesota should use data systems currently in place or under development, such as the State Longitudinal Education Data System (SLEDs), the FastTRAC data management plan, and Action Analytics, to enrich policy makers' and program managers' understanding of the educational pathways working learners use to move through and across these systems, why some go on to succeed in the labor market and others do not, and how we can better serve all customers.

Staff from the Department of Employment and Economic Development (DEED) and FastTRAC should convene the representatives from the relevant data systems and initiatives, including those listed above, to establish shared goals pertaining to understanding working learners. These partners should meet on an ongoing basis to ensure integration between systems.

Recommendation 4: Reducing cost barriers to credential attainment

The cost of postsecondary education is a significant barrier for low-income, low-skill adults.

The total annual cost of tuition and fees at public two-year colleges in Minnesota is twice the national average, and net costs (after accounting for financial aid) are three times higher than the national average.³⁵ Historically, two-year public college tuition rates have increased by about 4.7 percent per year.³⁶ At this rate, the cost increases faster than inflation, doubling roughly every 15 years. At the same time, wages for low-skill workers have stagnated in the last 30 years, leading to a growing affordability problem.

In a national survey of adults who did not complete their postsecondary education, 80 percent of respondents said that allowing part-time students to have greater access to financial aid would have made college graduation feasible.³⁷

While federal Pell Grants and Minnesota State Grants help many students afford a postsecondary education, these programs are limited in their ability to help most working learners since they target more traditional students and have minimum requirements for the number of credits a student takes over a school year.

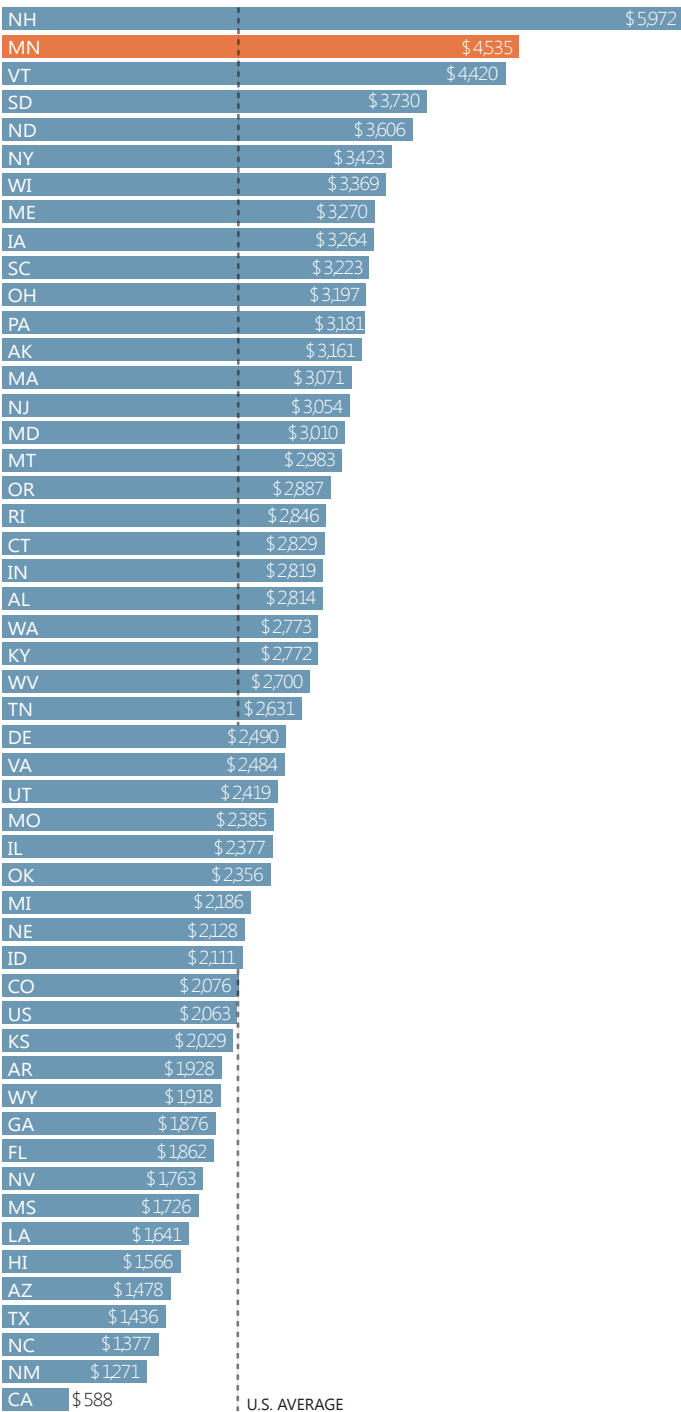
Minnesota should take steps to address the affordability problem.

To complement other reforms to Minnesota’s education and training systems, the state should create targeted incentives that will enable working learners to get the education they need in high demand fields. Targeting funds to individuals increases educational choice and rewards self-determination.

Tuition at public two-year colleges in Minnesota has increased faster than inflation, doubling roughly every 15 years. At the same time, wages for low-skill workers have stagnated in the last 30 years, leading to a growing affordability problem.

TUITION AND FEES AT PUBLIC TWO-YEAR COLLEGES

Minnesota is the second most expensive state in the nation, with tuition and fees double the national average.



Source: National Center for Education Statistics, U.S. Department of Education. Figures are for 2007-2008 school year.



Spotlight: Washington State's Opportunity Grant Program

Washington's Opportunity Grant program helps low-income adults train for high-wage, high-demand careers by helping to pay for up to 45 quarter credits (equivalent to one year of full-time study) over three years.³⁸ The program funds up to a year of credits because this threshold is linked with significantly increased wages.³⁹ In addition to covering tuition and fees, up to \$1,000 can be used for books and supplies. The program also links students to tutoring, career advising, college success classes, emergency child care, and transportation. In most cases, students are served by a single contact who coordinates both financial and overall support services for the entire duration of the student's time in school.

The program started in 2006 as a pilot funded by a \$4 million appropriation to the state's community and technical colleges system, serving 843 students in 130 high-demand, high-wage career fields. In 2007, the Legislature expanded the program by \$7.5 million, investing a total of \$11.5 million per year at all community and technical colleges in the state. This expansion has allowed the program to serve several thousand students each year.

Opportunity Grants have boosted student retention and completion rates in Washington. In 2007-2008, 81 percent of Opportunity Grant students who enrolled in the fall were still enrolled in the spring or left having reached the completion threshold. This surpassed the overall rates for two comparison groups: Pell Grant recipients (73 percent) and low socioeconomic status students (54 percent) who were enrolled in the same programs.

Many states have programs similar to Washington's Opportunity Grant program. These include:

- » Illinois' Monetary Award Program and Student Success Grants
- » Kentucky's Go Higher Grants and Ready to Work Initiative
- » Vermont's Part-Time Grant Program
- » West Virginia's Higher Education Adult Part-Time Student (HEAPS) Grant Program

Recommendation 4

The Legislature should target grant and loan forgiveness programs to low-income adults who pursue and complete education and training in regionally high-demand career fields that provide family-sustaining wages. This could be accomplished by modifying existing grant programs or by creating a new grant program to provide financial support to low-income adults who are training for high-wage, high-demand careers. In either case, resources should incentivize program completion and credential attainment. In addition, these newly-targeted grant or loan forgiveness programs should have specific goals around student outcomes, including job placement, and should be required to collect data and report on these outcomes. Such a program could be modeled after Washington state's successful Opportunity Grant program.

Creating Work and Lifetime Learning Options for Minnesota's Aging Workers

Minnesota will struggle to replace retiring workers with new workers.

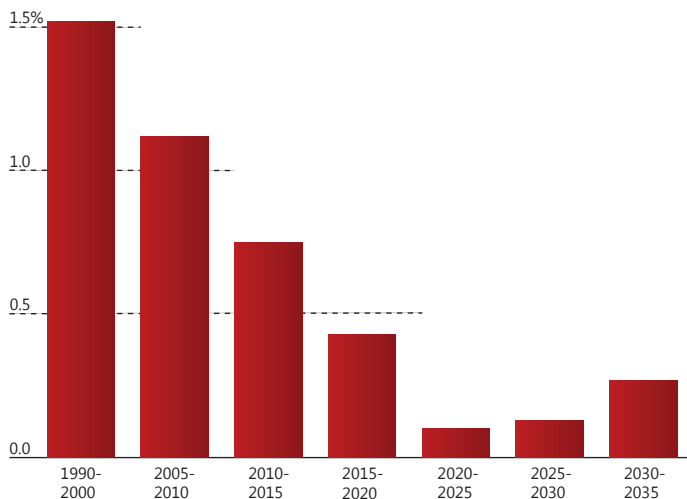
In 2011, the older edge of the baby boomer generation will hit age 65.⁴⁰ Making up roughly one-quarter of Minnesota's population (1.4 million individuals), the baby boomers are the biggest age cohort in Minnesota. As a consequence, population growth in Minnesota is projected to be greatest among people over the age of 65 for the next quarter century, while the number of individuals ages 25 to 44 is expected to stay roughly flat.⁴¹

Since upcoming generations are smaller and net migration to Minnesota is projected to stay low, replacing retiring workers will be a challenge.⁴² In the past five years, our economy has benefited from 30,000 new workers each year. By 2025, this annual inflow of new workers is expected to decrease to 3,000.⁴³ The Twin Cities metro alone stands to lose over three-quarters of a million workers between now and 2029.⁴⁴ Since economic output is tied to size of our labor force, our dwindling supply of new workers will likely mean that Minnesota's economic growth will be severely limited.⁴⁵ It is projected that Minnesota's economy will grow at merely one-tenth of its 2008 rate over the next 15 years.⁴⁶

This trend is likely to hit rural areas hardest, as young adults migrate into metro areas.⁴⁷ Industries with higher proportions of older workers are also likely to bear the brunt.

DWINDLING LABOR FORCE GROWTH

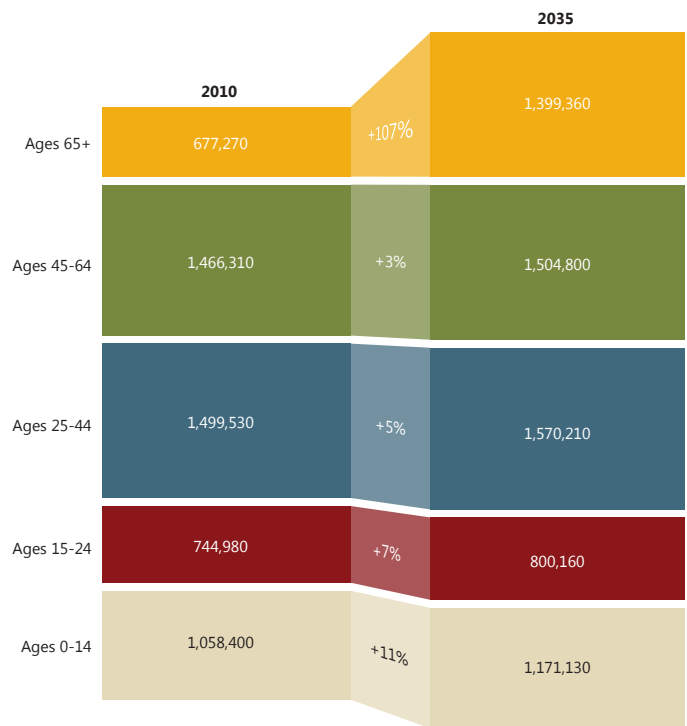
Slowing labor force growth in Minnesota means that economic growth will rely increasingly on productivity gains. Education and training are key contributors to increased productivity.



Source: U.S. Census Bureau; Minnesota Department of Employment and Economic Development; Minnesota State Demographic Center projections

MINNESOTA'S AGING POPULATION

The number of Minnesotans ages 65 and up will nearly double between now and 2035, while other age groups grow by an average of just six percent.



Source: Minnesota Population Projections 2005-2035, Minnesota State Demographic Center

Minnesota needs to build and retain the skills of aging workers to sustain economic growth.

Upcoming generations are not only smaller than the baby boomers — they are also less educated on average. As a result, the average education level of U.S. workers is expected to decline in coming years — an unprecedented trend in the many years these data have been collected.⁴⁸ Accordingly, it has become increasingly vital to Minnesota's economy to build and retain the skills of aging workers so they continue to be a driver of growth across the state.

Aging workers have many reasons to remain employed.

Keeping aging workers engaged in work will benefit Minnesota's economy, but it will also be a benefit to aging workers themselves. The recession has diminished many workers' retirement savings, increasing the likelihood of retirement insecurity.⁴⁹ Even before the recession, nearly one-quarter of baby boomers were projected to have insufficient retirement savings.⁵⁰ Continuing to work can

Since population growth cannot be relied on to fuel economic growth in coming decades, Minnesota's prosperity must come from the increased productivity of its workers.

help aging workers rebuild their nest eggs: five additional years of work has been shown to increase an individual's retirement income by over 50 percent.⁵¹ In addition, staying employed helps aging workers better cope with rising healthcare costs.

For many aging workers, working is a way to maintain meaningful relationships and retain a sense of purpose. Studies have shown that aging workers often want to keep working, and that doing so contributes to higher levels of satisfaction in life.⁵² Working, whether paid or unpaid, leads to increased activity and social engagement, generating positive effects on physical and mental health.⁵³

Aging workers face barriers to employment.

Despite the growing need to build and retain the skills of our aging workforce, most employers lack specific strategies for supporting these individuals. Many aging workers would benefit from more flexibility in the workplace as they transition into partial retirement or take care of aging family members. State and federal policies do not provide strong incentives for continued work, whether through restrictive pension policies or through a lack of programs to help aging workers retrain or re-engage in the workforce. In addition, discrimination on the basis of age remains pervasive.

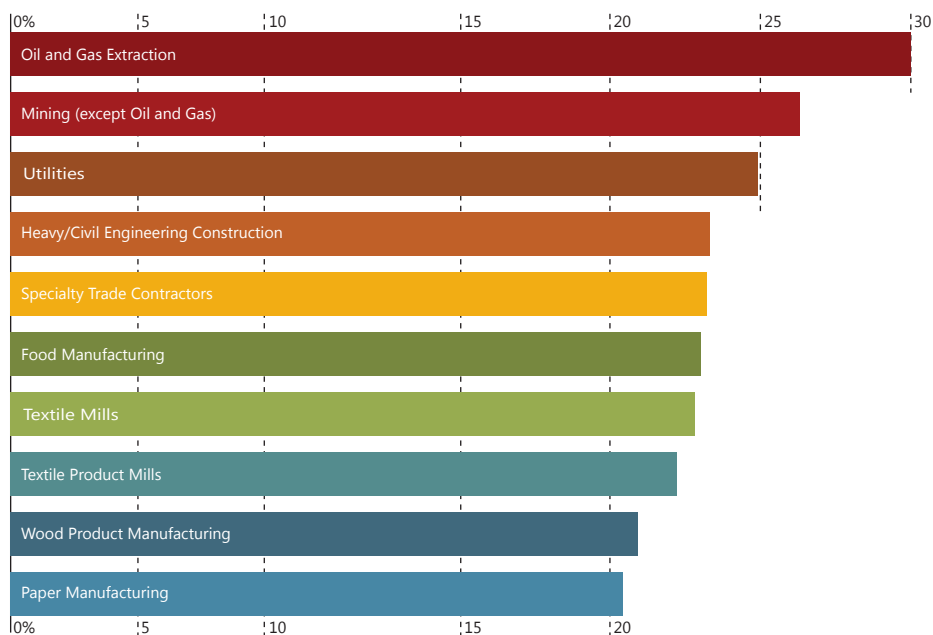
The barriers aging workers face are evidenced in the gap between work expectations and reality. While three-quarters of today's workers expect to continue working past retirement, fewer than 35 percent of retirees actually report working for pay.⁵⁴

The State of Minnesota should take an active role in addressing the barriers aging workers face and ensuring our economy benefits from this tremendous source of human capital. The following recommendations help do this by:

- » Ensuring that Minnesota's workforce development system has the capacity to handle the state's looming demographic shifts outlined above (page 18)
- » Developing a state plan to extend the work life of aging workers (page 19)
- » Establishing Lifelong Learning Accounts to help aging workers finance continuous learning opportunities (page 20)
- » Supporting entrepreneurship and small business development among aging workers (page 20)

AGING WORKERS AND MINNESOTA INDUSTRIES

These industries have the highest proportion of workers age 55 and older in Minnesota:



Sources: Labor Market Information Office, Minnesota Department of Employment and Economic Development; U.S. Census Bureau. Figures describe average quarterly employment in 2008 for industries employing 5,000 or more workers.

Recommendation 5: Ensuring that Minnesota's workforce development system has the capacity to handle the state's looming demographic and economic shifts

Now more than ever, older workers need the services provided by Minnesota's workforce development partners.

The recession and slow recovery have taken their toll on aging workers. Workers over age 55 have been hit hardest by lay-offs and long-term employment. In February 2010, nearly half of unemployed workers over age 55 had been out of work 27 weeks or more. The average duration of unemployment for workers over age 55 was 35.5 weeks, versus 30.6 weeks for those 25 to 44.⁵⁵

In addition, the proportion of displaced workers 45 years old and older is growing. In 2007 and 2008, about 52 percent of Minnesota's dislocated workers were over 45. In 2009, 62 percent were over 45. During the same period, the total number of unemployed Minnesotans over age 45 more than doubled, from 37,000 to 76,000.⁵⁶

The state needs to ensure that the WorkForce Center system is ready for an increased demand in services from aging workers.

As a consequence of demographic and economic factors, aging workers are likely to turn increasingly to the state's workforce development system for training and support, and WorkForce Centers in particular. Since 2007, the proportion of WorkForce Center customers over 45 has increased by nine percentage points to a total of 43,088 in 2010.⁵⁷

Many of these customers seek basic services, such as help with a job search and career planning, assistance with résumés and interview skills, and referrals to more intensive services.

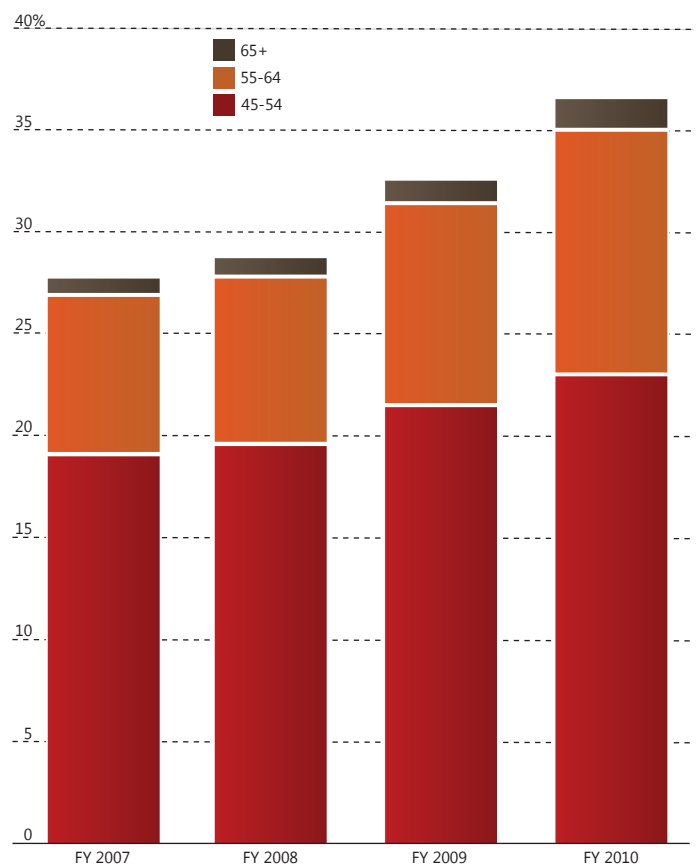
Though these services can help older adults achieve success, the system lacks resources and specific training as a result of years of dwindling funding. Moreover, WorkForce Centers are evaluated on placement rates, client job retention, and client earnings levels, all of which may create disincentives to helping older workers, who are often more difficult to place and more likely to take lower-paying work.⁵⁸

As the first line of support to older workers, the state's workforce development system, and WorkForce Centers in particular, need to be fully prepared.

WORKFORCE CENTERS AND OLDER WORKERS

More and more WorkForce Center customers are 45 and older. Since 2007, the proportion of customers over 45 increased by nine percentage points.

In 2007, Minnesota's WorkForce Centers served 26,150 customers 45 and older, a number that increased to 43,088 in 2010.



Source: WorkForce Center Customer Registration System, Minnesota Department of Employment and Economic Development

Recommendation 5

In preparation for the demographic shifts now underway, the Department of Employment and Economic Development (DEED) should examine the state's workforce development system and recommend ways to ensure that the system has the capacity to meet the needs of an aging workforce in the coming decade. In particular, DEED should examine the capacity of the state's WorkForce Centers to provide services to customers who need help re-entering the workforce or transitioning into new careers.

Recommendation 6: Developing a state plan to extend the work life of aging workers

Public and private leaders should come together to ensure that Minnesota thrives through the coming demographic changes.

As our workforce ages, employers increasingly need strategies for engaging, supporting, and retaining aging workers. A recent survey found that half of aging workers have altered their expectations about retirement and are now planning to work longer, while three-quarters of today's workers expect to continue working past retirement.⁵⁹ These workers need flexibility, support, and opportunities to update their skills.

In response, key leaders from government, business, labor, and higher education should come together to develop a plan that meets the needs of aging workers and supports our state's economic growth. By bringing a diversity of strengths and expertise to the table, such a group can help the state determine how to harness the abilities of aging workers.

Aging workers need flexibility, support, and opportunities to update their skills.

Recommendation 6

The Legislature should establish a Mature Worker Taskforce to develop and recommend a state plan that includes action-oriented recommendations to extend the work-life of Minnesota's aging labor force. Composition of the Mature Worker Taskforce should include legislators as well as key leaders from business, labor, higher education, the state workforce system, academic institutions, and the state's aging network. In addition, the Taskforce should include citizen representatives who are older adults.

The Taskforce should develop action-oriented recommendations for state policy that promote and recognize employer efforts to support and train older workers in ways such as:

- » Adopting flexible human resource policies such as job-sharing, phased retirement, progressive part-time work arrangements, and sabbaticals
- » Establishing caregiver support programs for employees actively caring for aging parents, spouses, or other older adults
- » Offering skill-building opportunities to incumbent workers to prevent/divert dislocation and increase retention, such as loaned-executive or snow-bird programs or allowing workers to explore alternative or complementary careers through on-the-job experiential learning opportunities such as skills mentoring programs or "midternships"⁶⁰

In addition, the Taskforce should consider recommendations to:

- » Promote and expand upon existing opportunities for continuous learning and training for aging workers
- » Promote and encourage post-retirement work and paid volunteer opportunities, including encore service models that draw on older workers' skills⁶¹
- » Address pension and retirement income policies that deter returning or continuing to work
- » Promote awareness among aging workers and others of the opportunities and benefits of continuing or returning to work

Recommendation 7:

Establishing Lifelong Learning Accounts to help aging workers finance continuous learning opportunities

Lifelong learning is vital to individual success and our shared economic prosperity.

Since population growth cannot be relied on to fuel economic growth in coming decades, Minnesota's prosperity must come from the increased productivity of its workers. Moreover, as new technologies are developed and new industries form, it will be essential for Minnesota's workers to actively pursue lifelong learning opportunities.

The costs of education often make lifelong learning prohibitive.

The total annual cost of tuition and fees at public two-year colleges in Minnesota is twice the national average, and net costs (after accounting for financial aid) are three times higher than the national average.⁶² In addition, current sources of financial aid for working adults are limited since federal Pell Grants and Minnesota State Grants are generally targeted to traditional, full-time students.

Lifelong Learning Accounts are a practical, market-based approach to making higher education attainable.

Lifelong Learning Accounts (LiLAs) encourage workers and employers to work together to invest in skill development that furthers personal career goals and supports the needs of business. Similar to a 401(k), individual contributions to a LiLA are portable and subject to certain tax benefits, and they can be matched by an employer. LiLAs are voluntary, so individual employees and employers can choose whether to participate. Additionally, LiLAs can be designed strategically to target certain populations and high-demand, high-wage career fields. They can be designed to cover many types of educational expenses, including tuition, fees, books, and other materials.

Bills to create LiLA programs have been introduced at the federal level and in a handful of states, including Minnesota.⁶³ LiLA programs are currently operating in Maine, Illinois, Washington state, San Francisco, and Kansas City.⁶⁴



Recommendation 7

The Legislature should amend the state's tax code to establish demonstration Lifelong Learning Account (LiLA) programs to help individuals access and pay for additional training and continuing education. LiLAs should be available for use with both traditional training programs and programs offered by employers, and could be supported by individual contributions, employer matches, and state income tax incentives.

Recommendation 8:

Supporting entrepreneurship and small business development among aging workers

Entrepreneurship can help invigorate Minnesota's economy while engaging aging workers in meaningful new enterprises.

Entrepreneurs are an engine of job creation, and recent research shows that the majority of jobs they create have a lasting economic impact.⁶⁵ While entrepreneurship activity has traditionally been thought to decline around age 65, recent trends suggest otherwise. Between 2000 and 2007, self-employment of individuals 55-64 grew by 53 percent. In 2008 alone, the entrepreneurship activity rates for individuals 18-44 declined by around nine percent but increased a similar amount for those over age 45.⁶⁶

Many aging workers are eager to apply their talents and abilities in new ways. While the thought of a new job may not be very enticing, the idea of following a lifelong dream and being one's own boss is appealing to many aging workers. This may explain why individuals 55 to 64 have held a rate of entrepreneurial activity one-third greater than their younger counterparts.⁶⁷ At the same time, older workers have significant professional experience and are generally highly skilled, making them distinctly qualified for entrepreneurial activities. Minnesota should maximize this potential by supporting individuals who want to contribute to our economy through entrepreneurship.

A number of programs already serve aging entrepreneurs, but their work could be better coordinated.

Minnesota is one of only four states to pilot the federally-funded Project GATE II (Growing America Through Entrepreneurship) between January 2009 and 2011. This program provides training and one-on-one consulting services to dislocated workers at least 45 years of age who want to pursue self-employment or business ownership. Project GATE II works in partnership with the regional Small Business Development Centers. Additionally, regional economic development foundations (including the Southern Minnesota Initiative Foundation and the Southwest Initiative Foundation) have initiated efforts to provide technical assistance to aspiring older entrepreneurs and engage aging workers as leaders and mentors in their communities.

Through the Department of Employment and Economic Development (DEED) Urban Initiative Loan Program, DEED partners with nonprofit organizations that go on to provide loans and technical assistance to startups and expanding businesses. To receive funding, projects must demonstrate a potential to succeed and create jobs for low-income individuals, and they must have been unable to obtain funding from traditional lenders.



Creating new opportunities through entrepreneurship

Tim Gulden has been very busy. His company, Winona Renewable Energy LLC, sells and installs commercial and residential solar power systems and has made almost \$400,000 in sales so far this year.

It's hard to believe that just last year, Tim was unemployed.

After 11 years working as a senior electrical technician, Tim was laid off in December of 2008. The event was traumatic for Tim and his family — he had planned to retire with the company. "It took me months to wrap my mind around the intensity and impact of the situation."

Tim was referred to the Winona County WorkForce Center, where he began working with a counselor from the Dislocated Worker program, which helps laid-off workers. Tim planned to find another job in the same industry, but was dismayed to find very few job opportunities. Nothing was panning out.

At a solar energy workshop sponsored by Winona County Environmental Services, Tim had a "light bulb moment." Having had some experience as a small business owner, he thought, "why not go into business for myself?"

Tim's counselor enrolled him in Project GATE II, a pilot program designed to help dislocated workers over the age of 45 launch or grow their own business. Through Project GATE II, Tim worked with the local Small Business Development Center (SBDC), which helped him focus on developing his new business.

The Project GATE II program helped Tim identify and navigate the steps required to develop a successful business, from writing a business plan to

filing legal paperwork to finding sources of financing. SBDC staff provided a sounding board for ideas, helped Tim stay on track, and constantly asked questions that helped Tim strengthen his business ideas.

In January 2010, Tim and his business partner celebrated when their legal paperwork was accepted and they were permitted to do business in Minnesota.

Without the help, Tim says that he would not have met all his deadlines and his business would have developed more slowly. Staying on track was crucial for Tim, who needed to meet deadlines associated with this year's state Renewable Energy Credit, which helps make his business model feasible.

Winona Renewable Energy's outlook is good. Tim is expecting to double his sales in 2011, which will allow him to hire two additional employees. In addition, Tim is considering becoming a manufacturer of the solar modules he produces, which would further expand his business and lower his costs.

Tim hopes that more people like him can take advantage of the services he received. He suggests that WorkForce Centers screen individuals for their interest and ability to start their own business, directing them to programs like Project GATE II early in the process.

"It's a win-win," says Tim, "my customers get a five-year payback on their solar systems, and I do well for myself too."

Recommendation 8

The state Legislature should ensure the coordination of current federal, state, and local business development resources that help all individuals, aging individuals in particular, become successful entrepreneurs. The result of this coordination should be a more comprehensive set of assistance programs for entrepreneurs that builds on best practice efforts — including Project GATE II, the Department of Employment and Economic Development (DEED) Urban Initiative Loan Program, and the work of the Minnesota Initiative Foundations — and responds to the unique skills and needs of aging entrepreneurs. Programs should also establish partnerships (service, financial, or other) with local area foundations, education institutions, aging network organizations, and other aging advocacy or leadership groups. Services to be coordinated are currently provided by the Small Business Development Centers, ISEEK, other DEED programs, regional economic development leaders, and the U.S. Small Business Administration.

Expanding Work Opportunities for Minnesotans with Disabilities

Despite Minnesota's growing need for skilled workers, the talents and abilities of people with disabilities remain underutilized.

This year marks the 20th anniversary of the Americans with Disabilities Act (ADA), which was intended to break down barriers to employment, transportation, public accommodations and services, and telecommunications for people with disabilities. While a recent survey of Minnesota businesses found that the ADA has helped to make workplaces more accessible, more welcoming, and more productive for people with disabilities, much more still needs to be done to ensure that our state benefits from the skills and talents of people with disabilities and the impacts of their economic empowerment.⁶⁸

Nationally, the unemployment rate for people with disabilities stands at 14.8 percent, while the rate for those without a disability is nine percent.⁶⁹ The difference among labor force participation rates, which measure the proportion of working-age individuals who are either working or actively seeking work, is much greater. The labor force participation rate for people without disabilities is currently 69.9 percent, but for those with a disability the rate is a meager 21.6 percent.⁷⁰

People with disabilities have much to offer Minnesota and its employers.

In a survey of Minnesota employers in 2005, employers of individuals with disabilities rated those employees equal to or higher than their other employees in similar positions in all areas of performance — work quality, consistency, attitude, overall satisfaction, and so on — apart from work speed.⁷¹ In addition, the majority of employers seldom or never found it necessary to assist their employees with disabilities with basic functions such as performing job tasks, managing the work day, making decisions, mobility, communication, or grooming.

Employment has much to offer people with disabilities.

The opportunity to work helps people with disabilities truly become a part of their community, helping them to build relationships and contribute their talents. By working, individuals gain dignity, self-reliance, and economic independence, thereby reducing dependence on public assistance and changing public perceptions about disability.

By working, individuals gain dignity, self-reliance, and economic independence, thereby reducing dependence on public assistance and changing public perceptions about disability.

The Business Case for Hiring People with Disabilities

Increased revenues. Employing people with disabilities can expand markets and increase business revenues. According to a national survey, 87 percent of Americans would prefer to give their business to companies that hire people with disabilities.⁷² Furthermore, nearly 30 percent of American families have at least one member with a disability, representing one trillion dollars in discretionary spending.⁷³ It makes business sense to have a workplace that reflects this huge market. Furthermore, in a recent survey of employers who have hired people with disabilities, a majority said that dollar benefits far outweighed the costs of accommodations.⁷⁴

Reduced costs. Evidence suggests that people with disabilities tend to stay with their employers longer than other individuals.⁷⁵ Hiring people with disabilities can help businesses avoid turnover costs, which typically range from 93 to 200 percent of an employee's annual salary. In a recent survey, 39 percent of employers who had hired people with disabilities said they were able to reduce workers' compensation and insurance costs.⁷⁶

Increased productivity, innovation, and morale. A diverse workplace has been shown to lift morale and enhance productivity.⁷⁷ A recent survey of employers supports this finding, showing that 56 percent of employers who hire people with disabilities experienced increased productivity from all employees.⁷⁸ Diverse work teams that include people with disabilities have been shown to have increased synergies, allowing them to develop more efficient business processes.⁷⁹

Doing the right thing. Finally, many businesses are compelled to employ people with disabilities because they feel it is the right thing to do. At the same time, a recent survey of CEOs showed that 95 percent think the public has higher expectations for businesses to be socially responsible than it did five years prior.⁸⁰ Even doing the right thing makes business sense.

The State of Minnesota can take a number of steps to increase employment opportunities for people with disabilities.

There is much that can be done to bring people with disabilities into the workforce. In the short term, there are two strategies the state can pursue to make a difference. First, as one of the state's largest employers, the State of Minnesota can make strides to become a model employer of people with disabilities (page 24). Second, it can ensure that employment services offered through the state's WorkForce Centers are accessible and usable to people with disabilities (page 26).

Note: An accessible .doc version of this entire report is available at www.gwdc.org



Putting talent to work

As Bryce Larson moves from one copier to the next, restocking paper and clearing out recycling bins at Kraus-Anderson's Circle Pines office, he warmly greets his colleagues and often fills the hallway with his infectious laugh. "You can't walk down the hallway without seeing Bryce and smiling," says Diane Duguay, who coordinates human resources and diversity initiatives for Kraus-Anderson.

For Bryce, who has Down syndrome, working at Kraus-Anderson is a big step up from his old job in food service. "I like everything I do," he says, adding that his favorite task is lifting heavy things for people. He clearly takes pride in helping out his colleagues. Being paid a competitive wage doesn't hurt, either.

Bryce handles many support functions around the office, a role that was tailored just for him. The arrangement makes good business sense for Kraus-Anderson because it frees up time for staff to work on other tasks. Colleagues attest to Bryce's productivity and diligence, and they describe how he has exceeded expectations. Soon after Bryce was hired, his supervisor had to identify additional tasks for him because he had mastered those he was initially given.

Bryce's friendly and upbeat character has led to a culture shift at Kraus-Anderson. He brightens the day at the office and has helped affirm and extend Kraus-Anderson's commitment to diversity. Since hiring Bryce, Kraus-Anderson has hired several people with disabilities, including two individuals in office support roles and others that have performed final clean-up work at construction sites. In 2006, Kraus-Anderson was named "Large Metro Employer of the Year" by the Minnesota Rehabilitation Association.

In Bryce's five years with the company, he and Diane have become outspoken champions for creating employment opportunities for people with disabilities. Their many speaking engagements include luncheons with metro businesses, a presentation at the Joey Hebert Golf Classic, and a keynote address at the Down Syndrome Association of Minnesota 2010 Regional Conference. Diane has also educated the broader public as a guest on the KFAI radio show "Disabled and Proud." At Kraus-Anderson, Bryce has organized staff to participate in the Step Up for Down Syndrome walk and has raised money for a local food shelf.

Diane says that many employers are afraid or unsure about how to work with people with disabilities, and she acknowledges that it takes commitment and time at the start. In Bryce's case, this included educating staff on working effectively with him, helping him feel at home, and creating visual aids and checklists that help him complete his work. A local nonprofit helped facilitate the seminar and guided Kraus-Anderson during Bryce's first few weeks with the company.

When it comes to employing people with disabilities, Diane's advice to employers is to simply "step up and do it." She says that businesses are often unaware of the many resources available to help them create opportunities for people with disabilities.

The small amount of effort required to bring Bryce on board at Kraus-Anderson has paid large dividends. According to Diane, "such efforts are worth it when you consider the rewards and see how Bryce interacts with the rest of the staff. He adds a lot of value to the office and we are very proud to have him as a part of the team."

Recommendation 9: Establishing the State of Minnesota as a model employer of people with disabilities

Minnesota's executive branch agencies can benefit from the skills and talents of people with disabilities.

The State of Minnesota has a duty to lead the way in the employment of people with disabilities. But the state also has a very practical reason to harness the abilities of Minnesotans with disabilities: in the last decade, roughly one-third of state employees reached the median retirement age of 60.⁸¹ As government agencies start to face a wave of retirements, the State of Minnesota cannot afford to overlook this pool of talent.

People with disabilities represent a largely untapped source of high quality state employees.

Despite a looming need for new talent, the proportion of state employees with a self-reported disability dropped from 7.8 percent to 5.1 percent between 2001 and 2009.⁸² This is in contrast to Minnesota's entire workforce, of which 14.6 percent reports a disability.⁸³ People with disabilities face a number of hurdles in seeking state employment, including the application process and the online employment application system. Managers encounter their own barriers, such as a lack of awareness about how to work with and accommodate people with disabilities.

The State of Minnesota has made efforts to accommodate and hire people with disabilities, but more can be done.

In recent years, the state hiring process has changed dramatically. Applicants are no longer required to submit a six-page application or take placement tests on Saturdays, and applicants can now apply for jobs through multiple channels.

Started in 2007, an interagency Accessibility and Usability of E-Government Services Team has addressed some accessibility issues related to the online application system, and in 2009 a new state law set standards for web and technology accessibility.⁸⁴ In

addition, Minnesota Management and Budget has updated the state's ADA toolkit.⁸⁵

Perhaps most significantly, Minnesota's Pathways to Employment Initiative has pursued a "State as a Model Employer" initiative.⁸⁶ This initiative has created internship and work opportunities, recruited candidates and helped them apply for jobs, and facilitated the hiring of people with disabilities at state agencies. Still, the following issues require more attention.

There is currently an accountability gap with regards to the state's hiring of people with disabilities.

State agencies are required to set hiring goals for protected classes, and the state is required to submit a biannual report on affirmative action progress statewide and at each agency.⁸⁷ Despite these requirements, agency goals are not currently included in the affirmative action report. Doing so would increase accountability for the state's employment outcomes.

Using the state's online job application system can be a challenge, and it is difficult to get assistance.

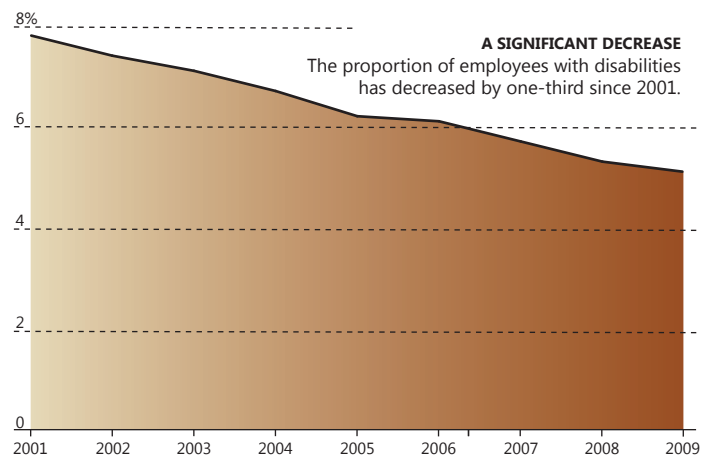
In 2009, a survey by the Minnesota Governor's Council on Developmental Disabilities found that households having people with developmental disabilities encountered greater challenges than others in using Minnesota government websites.⁸⁸ In particular, these households were less likely to find web search functions and web forms, such as the state's online job application, to be accessible and easy to use, and they were more likely to report that website designs and font sizes made pages harder to read. In addition, the GWDC's Disability Employment Workgroup heard anecdotal evidence that the state's online job application was sometimes incompatible with screen readers and that it has been difficult to get assistance or find a paper application online.⁸⁹

Hiring managers face barriers and disincentives to hiring people with disabilities.

Hiring managers are not always aware of the benefits of hiring people with disabilities. In addition, hiring managers often face a disincentive to hire people who require accommodations — particularly at smaller agencies with smaller budgets — because funds for accommodations are taken from a manager's operating budget. Training managers on the benefits of hiring people with disabilities can help change perceptions and break down barriers, and a centralized fund for accommodations could remove unintended hiring disincentives. Such a fund would simply pool the money state agencies spend individually and would therefore be budget neutral. A similar fund was piloted in 2008 by the Pathways to Employment Initiative for public, nonprofit, and private employers.⁹⁰ The pilot has been popular: employers who used the fund were pleased with the service, and expansion of the fund was overwhelmingly supported at a recent listening session hosted by the Commission of Deaf, DeafBlind, and Hard of Hearing Minnesotans.⁹¹ Both Utah and Washington state have implemented such funds.⁹²

STATE EMPLOYEES WITH DISABILITIES

The proportion of executive branch employees with a self-reported disability has steadily declined over the past nine years, from 7.8 percent in 2001 to 5.1 percent in 2009.



Source: Annual Workforce Planning Reports, Minnesota Department of Employee Relations. Figures represent all executive branch agencies, excluding MnSCU. Since disability status is self-reported, these figures likely understate actual percentages. Chart taken from the

Internships and work experience programs can help expand opportunities for people with disabilities.

Such programs allow people with disabilities to gain skills and make professional connections. At the same time, they help the state meet its personnel needs and promote the value of people with disabilities in the workplace. The state offers a number of these programs to a limited degree, including the joint Department of Transportation (Mn/DOT)-Pathways to Employment Seeds/Pathways program and the WorkForce Center Resource Area Internship Program.

"Seeds/Pathways is like the Twins farm team," says Michael Ligday, who graduated from the internship program last spring. Since its inception 17 years ago, the program has helped Mn/DOT to "grow its own" talent by recruiting talented underrepresented individuals for internships and full-time employment opportunities.

Fully one-quarter of Mn/DOT's diversity has its roots in Seeds/Pathways, which expanded its mission to include individuals with disabilities three years ago with the support of Minnesota's Pathways to Employment program. Seeds/Pathways recruits college students, and typically 85 percent of interns are offered full-time positions upon graduation.

For Mike, who was diagnosed with multiple sclerosis in 2004, Seeds/Pathways was an opportunity for a fresh start. After 29 years with one employer, Mike was shocked when he was called an "inconvenience" by his longtime boss. Mike left his job in search of a new career and settled on a two-year computer-aided design (CAD) technology degree program at Century College.

As an intern, Mike used AutoCAD software to catalog Mn/DOT facilities so they could be managed more efficiently. Mike received college credit for the internship, graduating in 2010 as Century College's "Outstanding CAD Student of the Year."

Like many people with disabilities, Mike feared that disclosing his disability would jeopardize his chances of getting and keeping a job. Seeds/Pathways helped create an open, supportive environment where Mike felt comfortable telling others about his disability. His internship experience increased his on-the-job skills and helped him get accustomed to working in an office. "In addition," Mike says, "having a community of other Seeds/Pathways interns was really nice."

Mike loves his position with Mn/DOT, where his responsibilities have expanded to include training facility supervisors, data management, and occasional design work. He says that Seeds/Pathways benefits Mn/DOT by adding diversity to the organization, which helps generate better solutions to business problems. He hopes to eventually get the opportunity to mentor new Seeds/Pathways interns.

Without the Seeds/Pathways program, Mike says that he would probably be out of work and relying on Social Security Disability Insurance. "I'm so happy to be working," says Mike, "it makes me feel better to contribute."



Recommendation 9

9.1 Accountability. The state's Executive Branch Agencies should be held accountable for the employment goals for people with disabilities (and all other protected classes) set forth in each agency's affirmative action plan. These goals should be a required part of the state's Affirmative Action Progress Report, along with current levels of employment for protected classes and a description of each agency's efforts to reach its stated goal.

9.2 Technology Accessibility. Minnesota Management and Budget should ensure that the state's online job application system meets the standards set by the 2009 Technology Accessibility law⁹³ (Chapter 131, H.F. 1744), that the system makes end-user feedback opportunities readily apparent and available to all, and that the system provides easy access to assistance via a phone/TDD/web help line. Furthermore, as Management and Budget looks to replace the current system, it should consider using a platform like MinnesotaWorks, DEED's online jobs site.

9.3 Staff Training. Minnesota Management and Budget should ensure that training programs for state hiring managers address the benefits and opportunities associated with hiring people with disabilities, in addition to covering legal compliance issues. The State of Minnesota should include people with disabilities as facilitators of staff training modules whenever possible, and training curricula should be reviewed and updated regularly, with the input of relevant stakeholder groups.

9.4 Accommodation Funding. The State of Minnesota should create a centralized fund, available to all agencies, to help pay for costs associated with providing reasonable accommodations for employees with disabilities. Since funding accommodations can be more difficult for smaller agencies with smaller operating budgets, the centralized fund should be targeted to serve these agencies. The design of the fund should explore the merits of allowing agencies to opt in to the fund, whether or not monies contributed to the fund should be returned if not used, and the feasibility of using a revolving loan fund. In any case, the centralized fund should be derived from state general funds, and should be designed to be cost-effective with minimal administrative costs. In addition, the state should keep a centralized list, available on the state intranet, of equipment purchased for accommodations but no longer used as a way to save money on future accommodations.

9.5 Internship and Work Opportunities. The State of Minnesota should expand its current efforts to offer people with disabilities pathways and incentives for working for the state. In particular, Minnesota Management and Budget should work with all state agencies to develop and implement a plan to expand internship and work experience initiatives. Promising examples might include the Minnesota Department of Transportation's Seeds/Pathways program, the WorkForce Center Resource Area Internship program, and the Minnesota Capitol Fellowship program.

Recommendation 10: Ensuring that Minnesota's WorkForce Centers and the services they provide are accessible and usable by people with disabilities

WorkForce Centers are a critical component of the state's employment and training system.

In 2009, Minnesota's 49 WorkForce Centers logged 80,000 new customers, 4,700 of which reported a disability.⁹⁴ Many of these customers seek basic services, such as help with a job search and career planning, assistance with résumés and interview skills, and referrals to other, more intensive services. Now more than ever, it is crucial that the services WorkForce Centers provide are accessible and usable for all clients, including those with disabilities.⁹⁵

Ensuring WorkForce Centers are accessible and usable to all customers is a challenge.

Numerous state and federal laws provide for equal access and opportunity and prohibit discrimination at the state's WorkForce Centers.⁹⁶ Staff from the Department of Employment of Economic Development (DEED) are responsible for ensuring high standards and legal compliance at every WorkForce Center across the state — no small task, especially as funding for WorkForce Centers has dwindled in recent years. DEED staff certify and recertify WorkForce Centers when they are created, moved, or remodeled. In addition, DEED has taken additional steps to address customer service for people with disabilities by developing and implementing universal design⁹⁷ principles for WorkForce Centers and marshalling the expertise of a handful of Disability Program Navigators⁹⁸ across the state.

The WorkForce Center Certification process should continue to be strengthened.

According to DEED, a majority of WorkForce Centers have not been recertified in the past five years, and in response DEED has issued a new policy to prioritize those sites that have not been recertified in the last three years.⁹⁹ The GWDC applauds this new policy and supports DEED's efforts to recertify WorkForce Centers on a three-year basis.

Additional measures can augment the recertification process.

To ensure that access and usability issues are addressed between certifications, additional steps can be taken to make sure that feedback is generated when problems arise. DEED and WorkForce Center staff have expressed a desire to be aware of accessibility issues in WorkForce Centers, and DEED Policy requires that "customer satisfaction tools and feedback mechanisms are used to improve services."¹⁰⁰ By increasing opportunities for customer feedback and incorporating accessibility and usability concerns into the Minnesota Workforce Council Association's yearly "Mystery Shopper" program,¹⁰¹ DEED and its local partners will be better equipped to address problems as they arise.

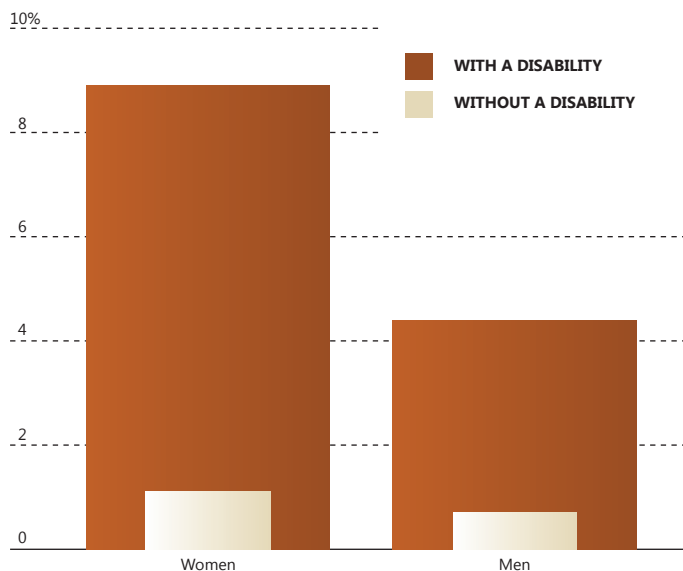
To ensure the best possible customer service, all WorkForce Center staff should be trained on disability and accessibility issues.

A lack of adequate staff training at one-stop career centers can lead to lower-quality service. A recent study of one-stop career centers in Kansas (one-stops in other states are analogous to Minnesota's WorkForce Centers) describes how job seekers with disabilities often experience low self-esteem, and how staff are often not well-prepared to address their particular needs.¹⁰² This reinforces the customer's feelings of disempowerment, limiting the positive impact that can be made. In the study, staff expressed a level of discomfort working with people with disabilities, but they also indicated a desire for training to better assist customers with disabilities.

In Minnesota, WorkForce Centers house a wide array of programs and services for job seekers, often run by multiple governmental and non-governmental organizations. DEED staff in WorkForce Centers are required to receive training on accessibility and serving customers with disabilities, but currently employees of partner organizations are not. All employees should undergo the same high training standards in this area.

UNEMPLOYMENT HAS INCREASED MORE FOR PEOPLE WITH DISABILITIES

From April 2009 to April 2010, the number of unemployed people grew by a significantly larger percentage for people with disabilities compared to those without.



Source: Bureau of Labor Statistics, Table A-6; data are for entire U.S.



Now more than ever, it is crucial that WorkForce Center services are accessible and usable for all clients, including those with disabilities.

Recommendation 10

10.1 Recertification Periods. The Department of Employment and Economic Development (DEED) should set three years as the maximum time between recertifications for a given WorkForce Center. In addition, DEED should ensure that staff responsible for recertifying WorkForce Centers receive ongoing training that helps them understand accessibility and usability issues from the perspective of people with disabilities.

10.2 Customer Feedback. DEED should require that all WorkForce Centers publicize multiple avenues for submitting complaints (phone, email, web, etc.), along with information that clearly explains the complaint resolution process and identifies the on-site manager or designee in charge of handling complaints. This information should be easy to find, both on-line and at the WorkForce Center. In appropriate instances when confidentiality is not a concern, each WorkForce Center's on-site manager or designee should also be responsible for notifying complainants when their issue has been resolved.

10.3 Mystery Shoppers. The Minnesota Workforce Council Association (MWCA) should include accessibility and usability criteria in its Mystery Shopper program. The MWCA could work with the State of Minnesota's disability organizations and DEED staff to develop these criteria, train mystery shoppers, and recruit volunteers from the disability community to participate in the reviews.

10.4 Staff Training. Non-DEED staff should receive training on physical and programmatic accessibility and on serving people with all types of disabilities. DEED should develop policy guidelines for training all WorkForce Center staff during their orientation, and require WorkForce Center managers to report on which staff have and have not received training. The GWDC supports DEED's current inclusion of people with disabilities as facilitators of staff training programs and encourages the expansion of these practices. In particular, DEED should continue to include people with disabilities in staff training modules to demonstrate the use of assistive technology and to provide insights on accessibility and usability. Additionally, training curricula should be reviewed and updated regularly, with the input of relevant stakeholder groups.

Ensuring All High School Graduates are Ready for Success

A high school diploma alone no longer guarantees upward mobility.

In years past, a high school diploma opened the doors to the American dream, helping individuals secure a lifelong career that could support a family.¹⁰³ Times have changed, and a high school education is no longer enough to ensure upward mobility. The nation's middle class is dispersing into two different camps: those with a postsecondary credential who have upward mobility, and those with a high school diploma or less whose incomes have been on a downward trajectory. Forty years ago, almost half of high school dropouts were in the middle class; today only 33 percent remain there.¹⁰⁴

To earn a ticket to the American dream, today's students must secure a postsecondary education, whether at a two- or four-year college, a technical school, or through a certificate program.¹⁰⁵ The need for postsecondary education is especially pronounced in Minnesota. Between 2008 and 2018, 70 percent of all job openings will require some postsecondary education, including 85 percent of all new jobs.¹⁰⁶ This ranks Minnesota third in the nation in its need for a highly-trained workforce. In comparison, Minnesota will produce fewer jobs for high school graduates and dropouts than all but two states.¹⁰⁷

Minnesota's students do relatively well, but the state's achievement gap is one of the worst in the country.

While Minnesota has long been one of the best states for high school graduation rates, standardized test scores, and college enrollment after high school, current levels of achievement are not sufficient to meet the skill needs of Minnesota businesses in the coming years. This reality is exacerbated by the achievement gap, which is expected to grow as Minnesota's K-12 students become increasingly diverse. By 2015, the state anticipates a 40 percent increase in the number of high school graduates of color and a 17 percent decrease in the number of white graduates.¹⁰⁸ Many factors outside of school contribute to the achievement gap, but schools are in the best position to lead the way in addressing the problem.

The costs associated with underprepared students and high school dropouts are staggering.

Since education fuels up to one-quarter of an economy's overall growth, an under-skilled workforce is likely to threaten Minnesota's economic competitiveness.¹⁰⁹ An under-skilled workforce leads to other direct costs to individuals and the state as a whole. A recent analysis estimates that reducing the dropout rate by 50 percent in the Twin Cities metro for just one year would result in \$86 million in increased earnings over one year. In turn, this would lead to an additional \$57 million in spending, the creation of 650 new jobs, and an increase of \$14 million in state and local tax revenues.¹¹⁰ Another analysis has shown that, over the course

of a lifetime, the average high school dropout results in \$40,500 in increased public health costs, \$26,600 in costs associated with crime, and \$3,000 in increased welfare costs.¹¹¹

There are also significant costs associated with remedial and developmental education. In 2005, 38 percent of Minnesota high school graduates who enrolled in two- or four-year colleges

Where Minnesota Stands

College readiness. While Minnesota students have the highest composite score on the ACT test in the nation, only 31 percent of test-takers in Minnesota met the college-readiness benchmarks set by ACT. A mere five percent of African American students met this benchmark, as well as only 17 percent of Hispanic students.¹¹⁷ During the 2005-2006 school year, Minnesota was one of the lowest performing states in the proportion of high school students taking an upper-level math course, at only 42 percent.¹¹⁸ This is alarming because student performance in high school mathematics is a key predictor of success in college, and because the "tipping point" toward college success is now firmly above Algebra 2.¹¹⁹

Graduation rates. While Minnesota has one of the highest high school graduation rates in the country, it also has one of the largest achievement gaps. According to the Minnesota Department of Education, 73 percent of high school students graduate in four years. The four year graduation rate is 80 percent for white students, 68 percent for Asian students, and only 40 percent among African American, American Indian, and Hispanic students.¹²⁰

College enrollment. Minnesota ranks as one of the top states in the nation in the percentage of students who enroll in college within four years of high school graduation.¹²¹ In 2006, 68.4 percent of high school graduates went directly to college from high school — 81 percent among white students, but only 62 percent among African American students.¹²²

College retention. At four-year institutions, Minnesota students' first-to-second year retention rate is one of the best in the nation, at 81 percent in 2007. The first-to-second year retention rate at two-year schools improved over the past three years, but at 58 percent it is still below the national average.¹²³

College graduation. Graduation rates at four-year colleges in Minnesota were higher than the national average in 2007, with 36.7 percent and 60 percent of students completing degrees within four and six years, respectively. Six years after enrollment, 31 percent of white students have not graduated or transferred, compared with 42 percent among Asians and 56 percent among African Americans. At two-year institutions, the three-year graduation and transfer rates (30 and 24 percent, respectively) were above the national average. At these institutions, 43 percent of white students and 55 percent of Asian and African American students do not graduate or transfer within three years.¹²⁴

required at least one developmental course to help them achieve college-level competency in reading, writing, math, or English for Speakers of Other Languages. Though credit-bearing, these courses do not count toward a credential, and for many students they add to the cost and time it takes to complete a degree.¹¹² In turn, this can lead to lower completion rates: studies show that students who need nine or more credit hours in remedial courses go on to complete a degree in five years only four percent of the time.¹¹³

Minnesota loses an estimated \$89 million each year to costs associated with remediation, nearly \$50 million of which represents direct costs to public colleges and universities.¹¹⁴ The remainder represents losses to individuals and the economy from lower earnings, in part because the need for remediation is a leading predictor that a student will drop out of college.¹¹⁵ By helping students plan their high school education in preparation for postsecondary education, some of the costs of remediation can be avoided.

Fortunately, policy makers have turned their attention to career and postsecondary readiness.

Nationally, there has been a movement to define career and postsecondary readiness and to align standards to that definition. New definitions of career and postsecondary readiness extend beyond purely academic standards; in fact, more and more educators argue that postsecondary readiness and workplace readiness are one and the same, and that both include “soft skills” like the ability to work collaboratively and communicate effectively.

In Minnesota, the following definition has been proposed:

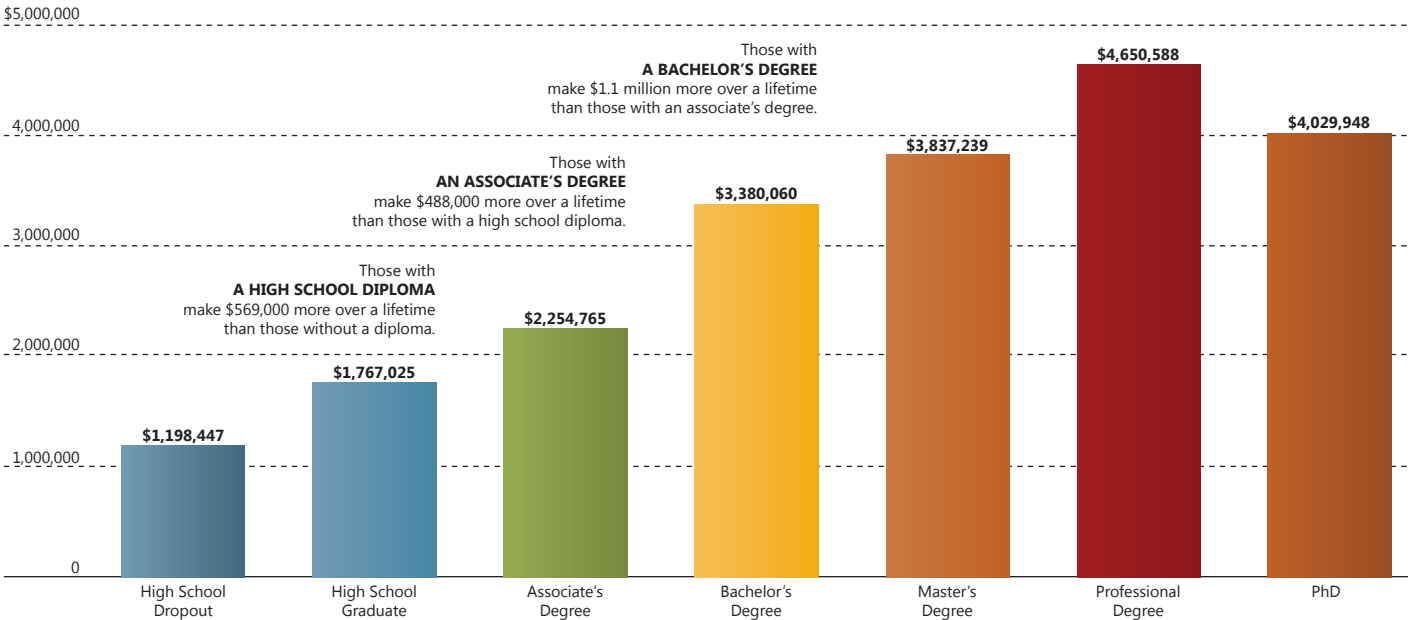
***Postsecondary and Workforce Readiness** includes the knowledge and skills that high school graduates need in order to do credit bearing coursework at a [two-or four year] college or university and/or to embark successfully on a career-track employment position (that pays a living wage, provides benefits, and offers clear pathways for advancement through further education and training).*¹¹⁶

Of course, defining career and postsecondary readiness is just the first step. As a state, we need policies that ensure all students have the tools, supports, and guidance required to graduate high school ready for success. The following policies aim to do this by:

- » Helping students navigate the challenges and opportunities they encounter on their way to career and postsecondary readiness (page 30)
- » Increasing opportunities for high school students to pursue postsecondary credit in high school (page 32)
- » Strengthening assessments and supports to identify off-track students and bring them back on track (page 34)
- » Further aligning state academic standards and teacher preparation with real-world learning (page 35)
- » Supporting effective pathways to teacher licensure (page 36)
- » Encouraging schools and districts to take innovative, comprehensive approaches to preparing students (page 38)

POSTSECONDARY EDUCATION AND LIFETIME EARNINGS

Average lifetime earnings for those with a postsecondary education are much higher than for those without.



Sources: Current Population Survey, U.S. Census Bureau; Help Wanted, The Georgetown University Center on Education and the Workforce. Figures are in 2008 dollars.

Recommendation 11: Helping students navigate the challenges and opportunities they encounter on their way to career and postsecondary success

Success after graduation requires good decision-making in high school.

Since 70 percent Minnesota jobs will require postsecondary education by 2018, it is more important than ever to successfully navigate and prepare for the variety of available postsecondary options. Today's students and their parents have many questions: What are my interests, and which type of program is the best fit for me? What classes should I take in high school, and what else should I do to prepare? How much will school cost and how will I pay for it? Knowing the answers to these types of questions and preparing accordingly are essential, especially for those students and families that lack awareness about postsecondary options.

Career and postsecondary planning is a cost-effective way to help all students succeed.

To help students on their journey to postsecondary education and training, the educational experience needs to be personalized, more engaging, and more focused on preparing for life after high school. While there are many strategies to achieve this, few are as straightforward, practical, and cost-effective as career and postsecondary planning. Perhaps that is why both the Governor's Education Council and the U.S. Department of Education's Institute for Educational Sciences have recommended that all students complete career and postsecondary readiness plans.¹²⁵

Effective career and postsecondary plans help in a number of ways:

- » **Increasing relevance and engagement.** Career and postsecondary plans help to personalize a student's education, making it more relevant to his or her interests and aspirations. This, in turn, motivates students to stay in school and stay engaged. Moreover, students with the ability to reflect on their career aspirations and the capacity to continually adapt and improve their skills will be more likely to succeed in school and work.
- » **Improving decision-making.** Students are often unaware of the high school courses required by particular postsecondary programs. This can lead to lost time and money when students end up taking remedial courses in college that do not count toward a degree. By simply being more attuned to postsecondary requirements, students who use career and postsecondary plans can make better decisions about which courses they take in high school. This can aid the transition to postsecondary education: while the need to take remedial courses in college is closely linked to failure finishing a degree, studies also show that the best predictor of postsecondary success is a strong academic curriculum in high school.¹²⁶
- » **Overcoming obstacles and identifying opportunities.** Through planning, students and families identify and remove barriers to future achievement and learn how to access available career and educational opportunities. In addition, planning helps build student aspirations and self-confidence.

» **Increasing interaction with parents and teachers.**

Technology has opened up new ways for planning tools to engage students, parents, and school staff. Web-based planning platforms make readiness plans interactive and more helpful to students, and they allow parents and teachers to see their student's progress over time. This can facilitate student-parent-teacher interaction that strengthens the learning experience and student decision-making.

- » **Generating useful data.** Electronic planning platforms are a source for useful data on student progress, generating a more complete profile of a student beyond grades and test scores. This can help staff identify where additional support might be needed and determine which supports are most effective.¹²⁷

Many Minnesota schools already help their students plan for life after graduation.

While Minnesota lacks a comprehensive strategy for informing all high school students about the array of opportunities available after graduation, there is a growing movement to expand career and postsecondary planning across the state. In 2008, Minnesota received a federal college readiness grant that helped 135 schools purchase Naviance's Succeed software and train school counselors in career and postsecondary planning. Currently, 237 schools in Minnesota use the Naviance platform for postsecondary planning and dropout prevention. Nationally, 21 states have implemented statewide career and postsecondary planning programs.¹²⁸

The Minneapolis Public Schools' My Life Plan is an example of a fully developed career and postsecondary exploration and planning program in Minnesota. Starting with the class of 2010, My Life Plan is a requirement for all Minneapolis Public Schools students. It was developed by Minneapolis Public School counselors in conjunction with AchieveMpls and uses an internet-based platform, which allows students, parents, and school staff to access the plans from school, home, or work. Minneapolis Public Schools counselors are in charge of the implementation of My Life Plan, and they work with teachers and Career and College Center Coordinators provided by AchieveMpls to help all students reach their milestones.

In 9th and 10th grade, My Life Plan focuses on the transition to high school and addresses a number of questions: Who am I and what am I interested in? What courses should I take? What other experiences can I pursue? What is college? In 11th and 12th grade, My Life Plan helps students create and execute their plan, including identifying the postsecondary programs and careers they are interested in and the high school courses and other requirements they need to pursue. My Life Plan also helps students successfully submit applications for jobs, postsecondary education, and financial aid. The program has been a success in Minneapolis high schools, and a middle school component is currently under development.



Planning for success

After a recent tour of North Hennepin Community College, Derrick Charleston took some time to reflect. "I felt like I fit in there. It was such a bright place, and that's how I felt when I was there — bright."

When he was younger, Derrick was a self-described troublemaker who dreamed of being a star football player. After moving from St. Louis, Missouri in middle school, he bounced from school to school until he enrolled in The City, Inc., an alternative high school in north Minneapolis. As a Minneapolis Public Schools student, Derrick was required to develop a career and postsecondary plan through My Life Plan.

School staff helped Derrick understand careers and identify his interests, complete academic prerequisites for college, and learn how to manage his finances. He was urged to apply to the STEP-UP program, which helped him secure an internship with Nilan Johnson Lewis, a law firm in downtown Minneapolis.

At his internship, Derrick assists the paralegals by writing letters to clients, making phone calls, and providing administrative support. The job has helped him improve his writing and his ability to work on

teams and stay organized. The experience has helped him envision himself in a professional environment, and he now understands the importance of a good career: "If you don't have a good job, then you can't depend on yourself."

Through the support and guidance Derrick has received in high school, he is committed to earning a postsecondary degree and plans to enroll in North Hennepin's paralegal program. He would still love to be a football star, but he now wants to focus on what was once his back-up plan: his education. Derrick says the most helpful thing he gained from planning for his future was confidence that he could succeed. Without the support, he says he would still be hanging out in the streets, wasting time.

On the way to his internship, Derrick wastes no time. He practices math problems on the bus and reads from a book called *From Intern to President*. As he prepares for the Accuplacer test and some of his final high school exams, he feels confident about his future: "I may be stumbling when I enter college, but when I get out of there I'll be walking."

Recommendation 11

All students, no later than 9th grade, should have a Career and Postsecondary Plan (CPP) that helps them prepare for success in a range of postsecondary education and career opportunities.

Career and Postsecondary Plans (CPP) should:

- » Help students explore personal interests and learning styles and their implications for a range of career and postsecondary options.
- » Help students identify actions required to successfully access postsecondary options, including making informed choices about selecting high school courses and developing personal, social, and work readiness skills that promote success on the job. CPPs should also help each student find opportunities that promote access to postsecondary options, such as college visits and internships.
- » Allow school districts, school staff, and parents to assess and monitor student academic progress and participation in work-based or experiential learning opportunities. Schools districts, school staff, and parents should review student progress on at least an annual basis.

To achieve this, the Department of Education (MDE) should require all school districts to implement CPPs, with the following parameters:

- » Local school districts should control how transition planning is implemented.
- » CPPs may be implemented gradually, starting at least by 9th grade, and should be a graduation requirement for the class of 2015. Minnesota should set a goal that eventually all students no later than 6th grade have CPPs.
- » CPPs should build off current tools available, including the MDE/Minnesota State College and Universities Career Fields, Clusters and Pathways model; the Minnesota Career Information System; and ISEEK and its MnCareers Magazine.

Recommendation 12: Increasing opportunities for students to pursue postsecondary credit while in high school

More students should be participating in dual enrollment programs.

Dual enrollment programs allow high school students to earn high school and college credits at the same time, promoting career and postsecondary readiness by giving students the opportunity to get accustomed to college-level work while still in high school. Moreover, they help students get a jumpstart on their postsecondary education without having to pay tuition, which has been shown to boost enrollment, persistence, and the completion of postsecondary credentials.¹²⁹

Too many students who are capable of successfully participating in dual enrollment programs do not. These students need greater support so they are prepared to take advantage of such programs. In addition, the impact of dual enrollment programs can be expanded by improving how dual enrollment — particularly PSEO (see below) — is funded and how college credits transfer from institution to institution.

Minnesota students have a wide array of dual credit options.

Dual enrollment programs are prevalent in Minnesota. In 1985, Minnesota initiated the Postsecondary Enrollment Options (PSEO) program, which allows 11th and 12th graders to take up to four semesters of classes at a postsecondary institution, either full- or part-time. PSEO evolved to include concurrent enrollment courses, which are offered in high schools and taught by high school instructors who are paired with a postsecondary mentor. In recent years, PSEO and concurrent enrollment have served roughly 7,500 and 17,500 students each year respectively, and nearly 200 students each year have received a high school diploma and two-year college degree simultaneously.¹³⁰

In addition, Minnesota hosts the Advanced Placement (AP) and International Baccalaureate (IB) programs, which offer high school courses that can qualify students for college credit upon successful completion. In recent years, 53 percent of Minnesota high schools (284 schools) offered AP classes and exams and 33 schools offered IB programming. Students who successfully complete Career and Technical Education courses are also able to earn college credit in high school.

Traditional PSEO funding arrangements may unintentionally limit student access.

Typical funding arrangements can create disincentives for offering PSEO programs because high schools lose state funding when students participate. This can make it especially difficult for poorer school districts to offer PSEO. In addition, administrative costs incurred by the Minnesota Department of Education reduce the amount of dollars that can be spent on programming. Together, these two realities limit student access to PSEO.

Credit transfer in Minnesota works well, but it could be improved.

The value of a college credit is limited if that credit cannot be easily transferred to another institution. For students who wish to carry their PSEO credits to another institution, this can be a problem.

The Minnesota State Colleges and Universities (MnSCU) system has taken some significant steps to smooth the process of transferring credits between institutions. Minnesota law requires that the MnSCU Board of Trustees prioritize credit transfer, and in the 1990s MnSCU developed the Minnesota Transfer Curriculum — a set of courses that satisfies general education requirements at other MnSCU institutions. MnSCU has also developed a Bachelor of Applied Science (BAS) degree, whereby four-year institutions agree to accept credits from related associate's degrees. Finally, the Degree Audit Reporting System and the Course Applicability System have been developed to help students and staff navigate credit transfer.

However, the transfer of credits between MnSCU institutions could be further improved. For instance, whether credits transfer is not automatic, and an institution may choose not to accept the course based on its content or the qualifications of the instructor. According to a survey by the Office of the Legislative Auditor, half of MnSCU college presidents said that MnSCU had not developed effective, efficient mechanisms for credit transfer.¹³¹ In addition, MnSCU student groups have reported concerns about credit transfer, including difficulty navigating the many different agreements that exist between individual institutions.¹³²

Too many students who are capable of successfully participating in dual enrollment programs do not.

Spotlight: The CARE Funding Arrangement for PSEO

Communities in southeastern Minnesota have negotiated their own arrangement for funding PSEO, known as Collaboration Among Rochester Educators (CARE). Under the CARE arrangement, 13 school districts in southeastern Minnesota keep their full state funding and pay Rochester Community and Technical College (RCTC) directly for any students that enroll in PSEO there.

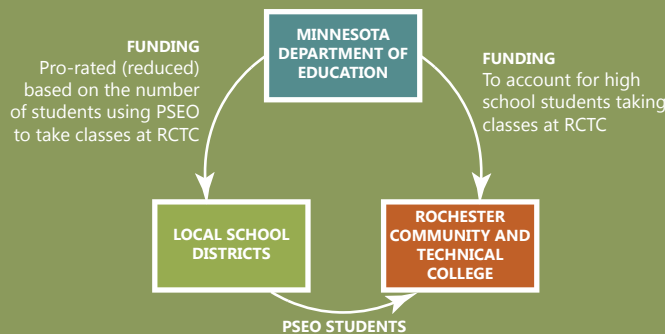
The Minnesota Department of Education does not administer the funds or the reimbursements to RCTC, and this has resulted in \$1.6 million in administrative savings over the past seven years. The school districts and RCTC each keep 35 percent of these savings, reducing disincentives to offer the programming. Just as importantly, the remaining 30 percent of the savings (roughly \$500,000 thus far) has been used to fund a summer program for students who need additional academic support. Such a model could be replicated elsewhere.

FUNDING PSEO: TRADITIONAL MODELS VS. THE CARE ARRANGEMENT

By cutting administrative costs, the Collaboration Among Rochester Educators (CARE) funding arrangement saves money and allows for additional investments in student support programs.

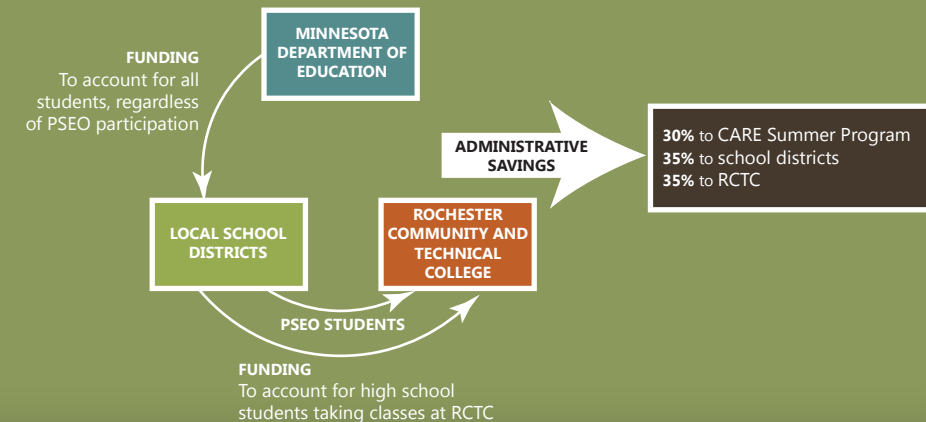
TRADITIONAL PSEO FUNDING

The Department of Education incurs administrative costs by accounting for local PSEO students.



THE CARE FUNDING ARRANGEMENT: CREATING VALUE FOR STUDENTS

Administrative savings are realized by letting school districts handle reimbursements to RCTC. These savings are used to offset costs to school districts and RCTC, and to fund summer programs for students needing additional academic support.



Recommendation 12

School districts and postsecondary institutions should collaborate to provide increased options for all high school students to earn up to two years of postsecondary credit that is transferable to all Minnesota public postsecondary institutions that can lead to jobs earning family-sustaining wages. In particular:

12.1 Dual Credit Funding. The Legislature should examine innovative dual credit funding arrangements that ensure adequate, efficient, and equitable funding and proper incentives for providing dual credit options for all students.

12.2 Credit Transfer. MnSCU, the University of Minnesota, and the Department of Education should develop MOUs to allow for greater credit transfer among all public postsecondary institutions, and to standardize how postsecondary institutions award credits (i.e. standardize requirements for receiving credit across all institutions).

12.3 Dual Credit Advisory Board. Minnesota's P-20 Education Partnership should create a Dual Credit Advisory Board, as described by the Minnesota Department of Education's College and Career Readiness Policy Institute, to provide oversight and guidance to local secondary and postsecondary partners on a wide array of issues, including those outlined above.¹³³

Recommendation 13: Identifying off-track students and bringing them back on track

Minnesota's schools need a way to identify and support students who are off-track to career and postsecondary readiness.

For students who are off-track to graduation and career and postsecondary readiness, it can be all too easy to slip through the cracks. Programs that support students who are behind academically often lack a way to identify the most at-risk students, limiting their impact and leading to inefficiencies. For example, the federal School Dropout Demonstration Assistance Program showed discouraging results despite a federal investment of \$214 million, in large part because the program was unable to accurately identify off-track students.¹³⁴ The capacity to systematically identify those students who need extra support must therefore be a first step in Minnesota's strategy to ensure all students graduate high school ready for career and postsecondary success.

As a second step, supports and interventions must be developed statewide and targeted to meet specific student needs once they have been identified. These programs should focus on career and postsecondary readiness, including helping all high school students to take advantage of dual credit opportunities, regardless of student levels of preparation.

By linking the systematic identification of student needs to the development and delivery of targeted support services, schools will be better equipped to help all students attain success during and after high school.

Currently under development, the Minnesota Early Indicator Response System can form the foundation of Minnesota's assess-and-support strategy.

Minnesota's current approaches for measuring K-12 student progress do not measure postsecondary readiness systematically. Statewide assessments currently measure grade-level proficiency in core academic subjects, and tests that measure particular aspects of postsecondary readiness (e.g. SAT, ACT, Accuplacer) are not taken universally by Minnesota students.

The Minnesota Early Indicator Response System (MEIRS) is an assessment and information system currently under development that will allow school districts to comprehensively identify students

early on who may be off-track to graduation and postsecondary readiness. MEIRS will help educators match students with interventions that meet their specific needs, and it will give educators and administrators a better understanding of readiness in individual schools, districts, and across the state.

MEIRS is being implemented by the Minnesota Office of Higher Education in roughly 130 middle and high schools across the state, particularly those with large populations of economically disadvantaged students. MEIRS uses Naviance Succeed online counseling software, which is now used by over 230 schools across the state to aid in career planning and dropout prevention. The implementation of MEIRS is funded by a College Access Challenge Grant from the U.S. Department of Education.

On Ramp programs can complement assessment systems like MEIRS by helping students get back on track.

"On Ramps" are strategies and supports that help students get back on track to high school graduation and postsecondary readiness, and that allow students to take advantage of dual credit opportunities in high school. Students who are identified as off-track by MEIRS can be matched to the appropriate On Ramps to meet their specific needs, providing additional support with academic skills and broader "college knowledge" including academic and career counseling, help with financial aid applications, and college visits.¹³⁵ Students should have multiple entry points to On Ramp programs, starting in 3rd grade or earlier.

Effective On Ramps are modeled after promising practices identified by research, and the outcome data they produce is used to drive their continuous improvement. They involve a coordinated approach among K-12 and postsecondary educators, business, and community organizations.

There are currently no state-level On Ramp programs as defined above. There are, however, many local programs that could be broadly defined as On Ramps. These include the Preparing to Achieve College Education (PACE) programs at Century College and Inver Hills Community College, the College in the Schools Entry Project (eCIS) at the University of Minnesota-Twin Cities, and non-profit programs like Advancement via Individual Determination (AVID) and Admission Possible.

Recommendation 13

13.1 Assessments. The Minnesota Department of Education (MDE), in collaboration with representatives from business, school districts, and career and technical education, should develop and implement assessments for demonstrating college and career readiness skills and outcomes, including the Minnesota Early Indicator Response System (MEIRS). MDE should require all districts to use such assessment systems to identify students who may be off-track for graduation and career and postsecondary readiness and to inform supports and interventions that meet student needs.

13.2 Supports and Interventions. The Minnesota Department of Education should require school districts and/or postsecondary institutions to develop appropriate supports and provide plans indicating how they will institute supports for students identified through systems like MEIRS and Career and Postsecondary Plans. Supports and interventions should be focused to help ALL students (including but not limited to at-risk, underrepresented, economically disadvantaged, and first generation college students) prepare for, understand, and take advantage of a variety of dual credit opportunities. Supports and interventions may include tutoring, summer bridge programs, AVID (Advancement Via Individual Determination), distance learning, mentoring, work-based learning, experiential learning, or collaboration among school districts and postsecondary institutions to align curricula and expectations.

Recommendation 14: Further aligning state academic standards and teacher preparation with real-world learning

Connecting the classroom to the real world improves student outcomes and strengthens our workforce.

As many parents and teachers know, students like to ask the question, “Why do I need to learn this?” This question hints at a troubling reality: a perceived lack of relevance contributes to boredom and disengagement in the classroom. This, in turn, leads to reduced student achievement and an increased likelihood that a student will drop out of school.

In a national survey of dropouts, more than half said they left school because they did not see the relevance of their classes and were therefore unmotivated to learn. Another national survey reported that students are often bored in class and looking for school work that connects to what they want to do after high school: “We should be able to take classes that would actually help us in what we want our career to be.”¹³⁶ Research also suggests that increased student engagement is linked with higher levels of student persistence and achievement.¹³⁷

Teachers should ensure that their curricula are relevant, and Minnesota should give them the tools and guidelines to encourage it. Doing so will increase engagement and interest in learning, producing more graduates who can apply what they have learned on the job.

Minnesota has taken some steps to make curricula and instruction more relevant, but more should be done.

Broadly speaking, building direct connections between the classroom and the real world involve two strategies: updating learning expectations and changing how content is taught in the classroom. In both areas, Minnesota has taken some initial steps.

To strengthen learning expectations, the Minnesota Legislature required in 2006 that state academic standards in all subject areas be revised to reflect “college readiness and advanced work.”¹³⁸ To influence classroom instruction, a number of localities, including Brainerd (see inset), Mankato, and Rochester, have developed voluntary programs that offer teachers workplace-related experiences. These programs give teachers the opportunity to spend time at a workplace related to their field of instruction in order to better understand how academic content is used on the job and how to better align their course content to relevant, real-world applications.

Updating and improving state standards and linking teachers to the workplace are both promising ways to make K-12 education more relevant, and both strategies should be built upon statewide.

Spotlight: Central Lakes Educator in the Workplace Summer Institute

The Educator in the Workplace Summer Institute helps teachers align their curricula to the needs of local businesses by giving teachers an opportunity to meet with employers in the area. Started in 1999, the program is run by Pat Swarthout, a faculty member at Central Lakes College in Brainerd. The program has served roughly 120 teachers from 22 districts in the Brainerd-Lakes region since its inception. Teachers come from a wide array of fields, from math to social studies to business education.

According to one teacher, “[the program helped me] gain insight into the needs of local businesses and how I can better prepare my students to fit those needs. I want to be sure that I am aligning my assignments to realistic, current, job-related expectations.”

For two days in mid-June, teachers tour a handful of local businesses in a variety of industries. The teachers choose which businesses they will visit and provide a description of what they hope to learn beforehand. This helps the businesses plan their tours and explain their workforce needs. After the tours, each teacher writes a paper reflecting on what they learned and describing ways they plan to use the experience to improve their classroom instruction. Teachers who successfully complete the program receive Continuing Education Credits (CEUs), which contribute to their re-licensure requirements.

Area businesses have embraced the program. They appreciate the chance to help build a connection between their workplace needs and what students learn in the classroom.

The program is supported by local Perkins Act funds that are allocated by the area’s Perkins Consortium. This funding has become more restrictive, limiting the number of teachers who can take advantage of the program. In response, the program is looking for ways to work with the Brainerd Lakes Chamber of Commerce to self-fund the program, with a goal to reach more teachers, including those teaching grades K-8.

Recommendation 14

At the state and local levels, academic standards and classroom instruction should be integrated with relevant, work-based applications that promote college and career readiness.

14.1 Academic Standards. The Minnesota Department of Education, in collaboration with representatives from business, school districts, and career and technical education, should embed requirements that link classroom learning to real-world applications into state academic standards. At the same time, school districts should work with local businesses and community organizations to provide opportunities for students and teachers to meet the updated state standards through real world applications.

14.2 Teachers in the Workplace. The state should require teachers seeking licensure or re-licensure to participate in workplace-related experiences that inform and enhance their curriculum and instruction practices. These workplace experiences should count toward re-licensure requirements by earning teachers Continuing Education Units (CEUs).

Recommendation 15: Supporting effective pathways to teacher licensure

Minnesota is facing a shortage of qualified teachers in many areas.

In a recent survey by the Minnesota Department of Education, roughly one-third of school districts reported considerable teacher shortages in math, science, and special education.¹³⁹ In science and math, demand for teachers has increased because of job growth in these fields. At the same time, growing opportunities for individuals with math and science skills have reduced the pool of potential science and math teachers, as the expanding high-tech sector increasingly pays top-dollar for such individuals.

From 2002 to 2008, the number of new teacher licenses granted dropped by 10.4 percent, while the annual retirement rate spiked to 4.8 percent — a 52 percent increase from 2007.¹⁴⁰ A growing wave of retirements among teachers is expected in coming years, and it is projected to hit rural districts hardest.¹⁴¹

High levels of turnover also threaten the supply of high quality teachers in Minnesota. From 2001 to 2008, roughly 14 percent of new teachers left the profession after their first year.¹⁴² Nationally, more than half of teachers change school or leave the profession altogether in their first five years, often citing poor facilities and working conditions, stress, and professional isolation.¹⁴³ These high levels of turnover are expensive: recruiting, hiring, administrative processing and professional development costs range from \$4,366 in rural New Mexico to \$17,872 in Chicago.¹⁴⁴

Great teachers are integral to the success of Minnesota students.

There is a growing consensus among experts that teacher effectiveness is the single most important determinant of student success.¹⁴⁵ The importance of effective teaching is so powerful that researchers studying high schools in North Carolina found that a strong teacher had an impact 14 times greater than having a class with five fewer students.¹⁴⁶ Another study showed that the average student in an effective teacher's class moved up ten percentage points relative to the average student in an ineffective teacher's class—an amount equal to one-quarter of the achievement gap between African-American and white students.¹⁴⁷ Indeed, of all the educational interventions to serve poor and minority children, the one with the strongest evidence behind it is effective teaching.¹⁴⁸

In light of growing evidence that teachers have profound impacts on their students, Minnesota must take steps to address its shortage of high-quality teachers.

Spotlight: The Teacher Preparation Collaborative at Winona State University – Rochester.

The Teacher Preparation Collaborative (TPC) is a pathway to teaching geared toward individuals with professional experience in specific content areas. Originally created in 2004 with the collaboration of local teachers, the program was devised to fill shortages in math and science teachers — particularly in rural school districts. The program actively recruits individuals who already hold a bachelor's degree and have a wide variety of professional experiences, from IBM engineers to Mayo Clinic microbiologists. Participants are often looking for a career change and hoping to contribute their knowledge and skills in the classroom.

Each summer, roughly ten individuals enter the TPC, completing coursework toward teacher licensure. In the fall, they join a classroom with the guidance of a mentor teacher. Over the course of the semester, the teacher-in-training is given increasing responsibility in the classroom. In the spring, the new teachers are granted a temporary teaching license, which allows them to act as the lead teacher in a classroom.

A number of features help the TPC train high-quality teachers. TPC students spend a full year in the classroom, receiving more supported practice than a typical undergraduate teaching student. Research from Teach for America and the New Teacher Project suggests that this type of “situated learning” is key to creating effective teachers, and that it may also help improve retention in the field. Mentor teachers receive intensive training on supporting new teachers, earning graduate-level credit and a stipend in the process. TPC students attend seminars on the Minnesota Standards for Effective Practice, and are required to submit a portfolio that demonstrates how they meet the standards and how they plan to improve their teaching over time. Lastly, the program works to build communities of practice, where teachers work together to hone their craft, learning from one another and sharing good ideas.

The TPC is currently working in collaboration with the Bush Foundation's Teacher Effectiveness Initiative to better link trainees' coursework and classroom experience, and to ensure the sustainability of the program.

Innovative, evidence-based teacher licensure programs remove barriers to the teaching profession by streamlining teacher licensure requirements while ensuring high standards for teacher preparation.

Minnesota can increase its supply of high-quality teachers by creating new ways to achieve licensure.

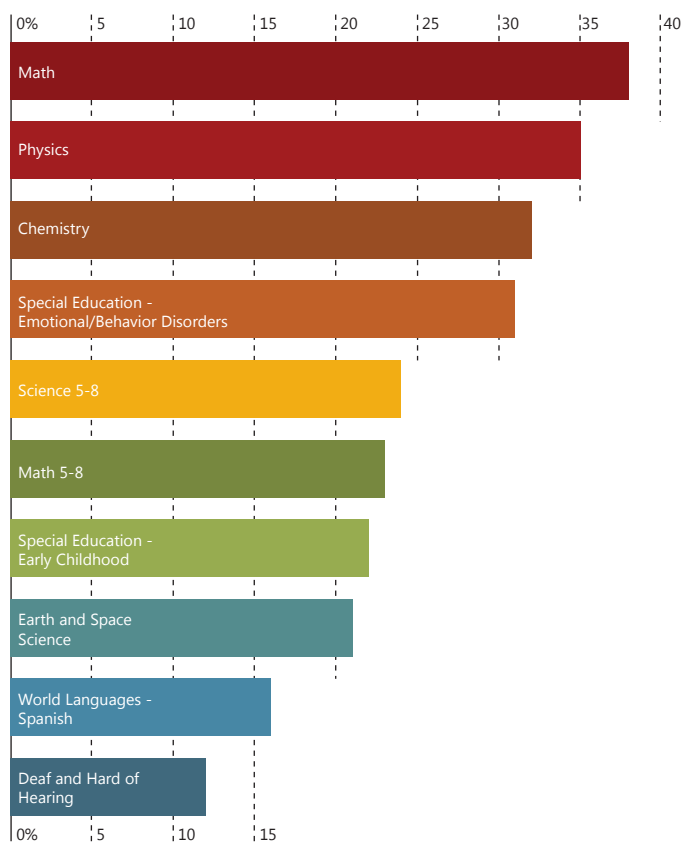
Innovative, evidence-based teacher licensure programs have helped to remove barriers to the teaching profession by streamlining teacher licensure requirements while ensuring high standards for teacher preparation. For example, some programs require shorter but more intensive practice teaching assignments or more targeted teaching and learning experiences. Many include strong teacher induction and mentoring components, which have been shown to boost five-year teacher retention by 30 percentage points.¹⁴⁹ Often, these programs cater to non-traditional teaching candidates, such as mid-career individuals who have demonstrated mastery of the subjects they hope to teach.

Currently, urban schools are more likely to draw new teachers from such programs, and more than half of urban school principals say that such programs have been a “very effective” strategy.¹⁵⁰ At both rural and urban schools, a wide majority of principals agree that such programs boost retention rates.¹⁵¹

Nearly every state, including Minnesota, offers expanded options for teacher training (perhaps the most well-known nationally is Teach for America), and more should be approved to meet the projected need. Recognizing the importance of teacher preparation to Minnesota’s prosperity, the Bush Foundation is putting a focus on improving teacher effectiveness in the next decade. Similarly, the Minnesota Board of Teaching has made it a goal to address Minnesota’s teacher shortage areas and to increase high-quality licensure options.

TEACHER SHORTAGE AREAS IN MINNESOTA

Significant percentages of school districts report teacher shortages, primarily in math, sciences, and special education.



Source: Report to the Legislature, Minnesota Department of Education, 2008

Recommendation 15

The Minnesota Board of Teaching should, whenever possible, approve alternative teacher preparation programs that offer pathways to full licensure. Alternative licensure programs should maintain high standards, integrate training with high-quality mentoring and induction programs, and assure accountability by measuring teacher effectiveness. Alternative licensure programs should be designed and implemented by postsecondary institutions with board-approved teacher preparation programs or nonprofit organizations with educational missions that partner with such postsecondary institutions.

Alternative licensure programs can take many forms but generally refer to alternatives to traditional four-year baccalaureate programs or “fifth year” post-baccalaureate programs for those earning both a degree and simultaneous licensure. Alternative programs can include:

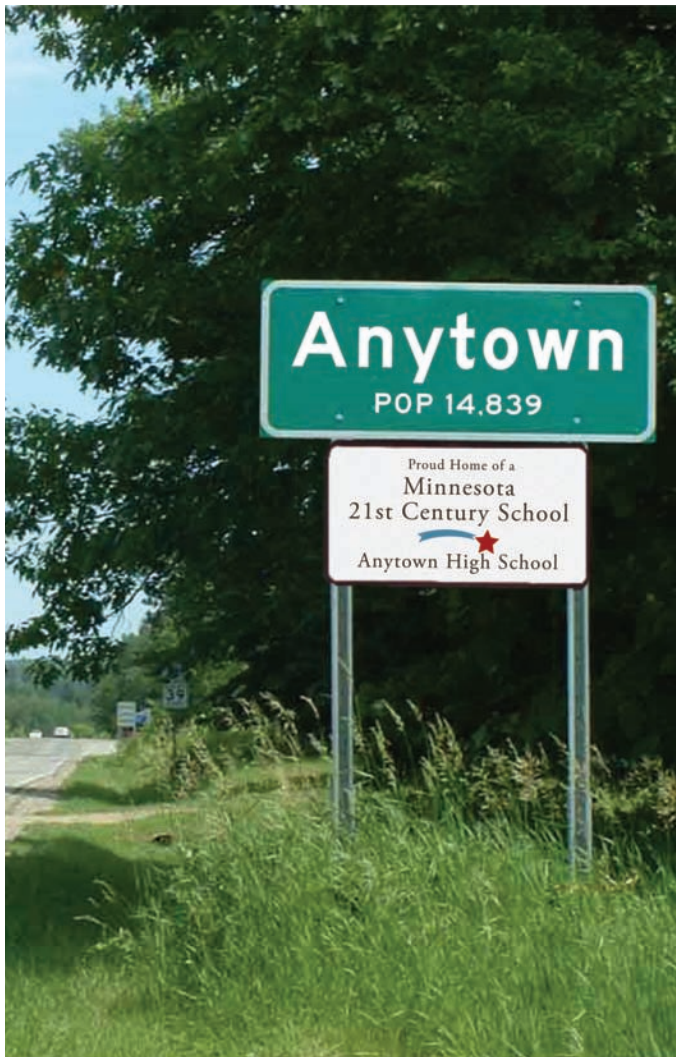
- » Expedited programs that allow experienced professionals and other individuals who are already employed full-time to complete requirements through evening and weekend courses
- » Programs delivered entirely or partially online, providing access to programs to anyone regardless of where they live
- » Programs that allow individuals who hold baccalaureate or higher degrees to complete licensure requirements while they are teaching, including Teach for America and other “teaching fellows” programs

To ensure that teacher licensure programs produce high-quality teachers, accountability must be strengthened for all preparation programs. Such accountability requires a robust state educational data system, the creation of which is underway with the implementation of Minnesota’s State Longitudinal Educational Data Systems (SLEDs) grant from the U.S. Department of Education. In addition, all teacher preparation programs should include mentoring and induction programs, which research has shown improve teacher retention.

Recommendation 16: Encouraging schools to take innovative, comprehensive approaches to preparing students

Minnesota should support and recognize schools that use holistic strategies to prepare students for success after high school.

While individual strategies may prove successful in helping all students prepare for career and postsecondary success, schools and districts that combine multiple complementary strategies are more likely to achieve deep, sustained results.



A “21st Century School” — one that uses comprehensive, innovative approaches that contribute to the postsecondary and career readiness of all students — may marshal a combination of the following strategies:

- » Significant collaboration with local businesses and community organizations to provide students with experiential learning opportunities
- » Significant collaboration with postsecondary institutions to ensure the alignment of secondary and postsecondary expectations and curricula
- » Flexible scheduling and funding models
- » Use of assessments to demonstrate student college and career readiness skills and outcomes and to identify students who are not on track for readiness
- » “On Ramp” supports to help all students achieve readiness
- » Opportunities for all high school students to earn up to two years of postsecondary credit
- » Curricula that integrate relevant, real-world applications and experiences
- » Career and Postsecondary Plans for all students
- » Professional development that promotes continual improvement of instruction and helps teachers link instructional practices to the world of work
- » Integration of technology into the classroom to expose students to the world around them and to facilitate student learning with and about technology
- » Leveraging financial and non-financial support of local community partners

To incentivize the local development of comprehensive strategies to prepare students for success in careers and postsecondary studies, Minnesota should develop a “21st Century Schools” program that awards schools undertaking most or all of the strategies outlined above.

Similar incentive programs have been successful in Minnesota. For example, the “Star City” program, which encouraged cities to complete 11 important economic development tasks — including developing a five-year plan and creating a local development corporation — produced 200 “Star Cities” around the state. Such programs spur collaborative action, build pride for locally-developed solutions, and are low-cost.

Recommendation 16

The Minnesota Department of Education (MDE) should create a “21st Century” designation for K-12 schools that take comprehensive and innovative approaches to preparing their students for college and careers. MDE should work with partners in business, workforce development, postsecondary education, and K-12 to develop the requirements for the “21st Century” designation. MDE should award “21st Century” status to districts and schools that develop and implement comprehensive plans that meet the established requirements. Awardees and their home cities should be provided with plaques, banners, and road signs to publicize their accomplishments. The designation could also be printed on student diplomas.

Endnotes

- ¹ Carnevale, A. P. et al. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Georgetown University Center on Education and the Workforce. Available at <http://www.cew.georgetown.edu/jobs2018>.
- ² Ibid.
- ³ *Minnesota Measures: 2009 Report on Higher Education Performance*. (2009). Minnesota Office of Higher Education. Available at <http://www.ohe.state.mn.us/pdf/MinnesotaMeasures2009.pdf>.
- ⁴ Kelly, P. J. (2005). *As America Becomes More Diverse: The Impact of State Higher Education Inequality*. National Center for Higher Education Management Systems. Available at <http://www.nchems.org/pubs/docs/Inequality%20Paper%20Jan2006.pdf>.
- ⁵ *Changing the Fortunes of America's Workforce: A Human Capital Challenge*. (2009). McKinsey Global Institute. Available at http://www.mckinsey.com/mgi/publications/changing_fortunes/.
- ⁶ Carnevale, A. P. et al. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Georgetown University Center on Education and the Workforce. Available at <http://www.cew.georgetown.edu/jobs2018>.
- ⁷ *Investment in Education: Private and Public Returns*. (2000). Joint Economic Committee Study, U.S. Congress. Available at <http://www.house.gov/jec/educ.htm>.
- See also Gordon, Robert J. (2000). *Interpreting the 'One Big Wave' in U.S. Long-Term Productivity Growth*. National Bureau of Economic Research Working Paper No. 7752.
- See also DeLong, J. Bradford et al. (2003). "Sustaining U.S. Economic Growth" in *Agenda for the Nation*. Henry J. Aaron et al., editors. Brookings Institution Press.
- ⁸ Baum, S. and Ma, J. (2007). *Education Pays: The Benefits of Higher Education for Individuals and Society*. Trends in Higher Education Series 2007. College Board. Available at http://www.collegeboard.com/prod_downloads/about/news_info/trends/ed_pays_2007.pdf.
- ⁹ Prince, D. and Jenkins, D. (2005). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study (The "Tipping Point" Research)*. Community College Research Center, Teachers College, Columbia University. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=204>.
- ¹⁰ Baum, S. and Ma, J. (2007). *Education Pays: The Benefits of Higher Education for Individuals and Society*. Trends in Higher Education Series 2007. College Board. Available at http://www.collegeboard.com/prod_downloads/about/news_info/trends/ed_pays_2007.pdf.
- ¹¹ Heinrich, C. J. et al. (2008). *Workforce Investment Act Non-Experimental Net Impact Evaluation: Final Report*. IMPAQ International. Available at http://wdr.doleta.gov/research/FullText_Documents/Workforce%20Investment%20Act%20Non-Experimental%20Net%20Impact%20Evaluation%20-%20Final%20Report.pdf.
- See also Prince, D. and Jenkins, D. (2005). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study (The "Tipping Point" Research)*. Community College Research Center, Teachers College, Columbia University. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=204>.
- ¹² Carnevale, A. P. et al. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Georgetown University Center on Education and the Workforce. Available at <http://www.cew.georgetown.edu/jobs2018>.
- ¹³ Hine, S. (2008). *Minnesota Labor Markets: What's In Store?* Presentation to the Governor's Workforce Development Council. Available at http://www.gwdc.org/committees/Full_Council/Docs/11-13-08-full_council_steve_hines_presentation.ppt.
- ¹⁴ *American Community Survey*. (2008). U.S. Census Bureau.
- ¹⁵ Berker, A. and Horn, L. J. (2003). *Work First, Study Second: Adult Undergraduates Who Combine Employment and Postsecondary Enrollment*, NCES 2003-167. U.S. Department of Education. Available at <http://nces.ed.gov/pubs2003/2003167.pdf>.
- ¹⁶ Ibid.
- ¹⁷ Johnson, J. et al. *With their Whole Lives Ahead of Them*. Public Agenda. Available at <http://www.publicagenda.org/files/pdf/theirwholivesaheadofthem.pdf>.
- ¹⁸ Soares, L. (2009). *Working Learners: Educating our Entire Workforce for Success in the 21st Century*. Center for American Progress. Available at http://www.americanprogress.org/issues/2009/06/working_learners.html.
- ¹⁹ Prince, D. and Jenkins, D. (2005). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study (The "Tipping Point" Research)*. Community College Research Center, Teachers College, Columbia University. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=204>.
- See also Bailey, T. et al. (2004). *The Return to Sub-Baccalaureate Education: The Effects of Schooling, Credentials, and Programs of Study on Economic Outcomes*. Community College Research Center, Teachers College, Columbia University. Available at <http://www2.ed.gov/rschstat/eval/sectech/nave/subbac-ed.pdf>.
- See also Grubb, W. N. (2002). *Learning and Earning in the Middle, Part I: National Studies of Pre-Baccalaureate Education*. Economics of Education Review 21: 229-231. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=61>.
- ²⁰ For more information on Career Pathways, see Jenkins, D. (2006). *Career Pathways: Aligning Public Resources to Support Individual and Regional Economic Advancement in the Knowledge Economy*. Workforce Strategy Center. Available at http://www.workforcestrategy.org/images/pdfs/publications/WSC_pathways8.17.06.pdf.
- ²¹ Prince, D. and Jenkins, D. (2005). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study (The "Tipping Point" Research)*. Community College Research Center, Teachers College, Columbia University. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=204>.
- ²² Alphonso, M. et al. (2005). *The Educational Outcomes of Occupational Sub-Baccalaureate Students: Evidence from the 1990s*. Economics of Education Review, 24: 197-212. Available at http://www.cew.wisc.edu/docs/resource_collections/Supplemental_Research/Alfonso_TheEducationalOutcomes.pdf.
- See also Grubb, W. N. (2002). *Learning and Earning in the Middle, Part I: National Studies of Pre-Baccalaureate Education*. Economics of Education Review 21: 229-231. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=61>.
- ²³ Such careers are often termed "high growth, high demand." The U.S. Department of Labor defines such industries as those that are "projected to add substantial numbers of new jobs to the economy or affect the growth of other industries; or they are existing or emerging businesses being transformed by technology and innovation requiring new skills sets for workers." In this paper, the term "family-sustaining wages" refers not to a specific dollar amount, but to a general concept. Family-sustaining wages may vary geographically.
- ²⁴ This type of advising, often called intrusive academic advising, "Differs from the more traditional prescriptive and developmental models of advising because advisors are not only helpful and encouraging of students, but they proactively make the initial contact with students, rather than waiting in their offices for students to schedule an appointment. Most students know they have an advisor but may be unaware of how and when they are able to contact the advisor or what the advisor can help them accomplish." For more information, see the http://www.academicaffairs.mnscu.edu/AccessandOpportunity/Best_Practices/Intrusive_Advising.html.
- ²⁵ In addition to Minnesota, these states are Illinois, Michigan, Ohio, Wisconsin, Washington, and Oregon. For more information, see Strawn, J. (2010). *Shifting Gears:*

- State Innovations to Advance Workers and the Economy in the Midwest*. The Joyce Foundation. Available at <http://www.shifting-gears.org/images/PDF/ProjectResources2/shiftinggearsstateinnovationtoadvanceworkersandtheconomyinthemidwest0710.pdf>.
- ²⁶ I-BEST stands for Integrated Basic Education Skills Training.
- ²⁷ Jenkins, D. et al. (2009). *Building Bridges to Postsecondary Training for Low-Skill Adults: Outcomes of Washington State's I-BEST Program*. Community College Research Center, Teacher's College, Columbia University. Available at <http://www.eric.ed.gov/PDFS/ED505705.pdf>.
- ²⁸ Ibid.
- See also *I-BEST: A Program Integrating Adult Basic Education and Workforce Training*. (2005). Washington State Board for Community and Technical Colleges. Available at <http://www.sbctc.ctc.edu/Data/rsrchrpts/Resh05-2-I-BEST.pdf>.
- ²⁹ *See Ready to Assemble: A Model State Higher Education Accountability System*. (2008). Education Sector. Available at http://www.educationsector.org/usr_doc/HigherEdAccountability.pdf.
- ³⁰ Reyna, R. (2010). *Complete to Compete: Common College Completion Metrics 2010-2011*. NGA Center for Best Practices, Education Division. Available at <http://www.nga.org/Files/pdf/1007COMMONCOLLEGEMETRICS.PDF>.
- ³¹ These states are Tennessee, Pennsylvania, Washington, Virginia, Colorado, Texas, South Carolina, Florida, Oregon, and Kansas. For more information, see *Ready to Assemble: A Model State Higher Education Accountability System*. (2008). Education Sector. Available at http://www.educationsector.org/usr_doc/HigherEdAccountability.pdf.
- ³² For more information, see *Student Achievement Initiative*. Washington State Board for Community and Technical Colleges. Available at http://www.sbctc.edu/college/e_studentachievement.aspx.
- ³³ *Student Achievement Initiative*. (2010, August). Presented at the National Governors Association Pacific Northwest Learning Lab on August 13, 2010. Washington State Board for Community and Technical Colleges. Available at <http://www.subnet.nga.org/downloads/1008EHSWPrince.pdf>.
- ³⁴ Prince, D. and Jenkins, D. (2005). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study (The "Tipping Point" Research)*. Community College Research Center, Teachers College, Columbia University. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=204>.
- ³⁵ *Minnesota Measures: 2009 Report on Higher Education Performance*. (2009). Minnesota Office of Higher Education. Available at <http://www.ohe.state.mn.us/pdf/MinnesotaMeasures2009.pdf>.
- ³⁶ *Fast Facts*. National Center for Education Statistics, U.S. Department of Education. Available at <http://nces.ed.gov/fastfacts/display.asp?id=76>. Author's calculation.
- ³⁷ Johnson, J. et al. *With their Whole Lives Ahead of Them*. Public Agenda. Available at <http://www.publicagenda.org/files/pdf/theirwholivesaheadofthem.pdf>.
- ³⁸ For more information, see http://www.sbctc.edu/college/s_opportunitygrants.aspx.
- ³⁹ Prince, D. and Jenkins, D. (2005). *Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Statewide Longitudinal Tracking Study (The "Tipping Point" Research)*. Community College Research Center, Teachers College, Columbia University. Available at <http://ccrc.tc.columbia.edu/Publication.asp?UID=204>.
- ⁴⁰ The baby boomer generation refers to those born between the years of 1946-64. See *Current Population Study* (2009). Bureau of Labor Statistics. Available at <http://www.bls.gov/cps>.
- ⁴¹ McMurry, M. (2007). *Minnesota Population Projections, 2005-2035*. Minnesota State Demographic Center. Available at <http://www.demography.state.mn.us/documents/MinnesotaPopulationProjections20052035.pdf>.
- ⁴² Frey, W. (2009). *The Great American Migration Slowdown: Regional and Metropolitan Dimensions*. Metropolitan Policy Program, Brookings Institution. Available at http://www.brookings.edu/~media/Files/rc/reports/2009/1209_migration_frey/1209_migration_frey.pdf.
- ⁴³ Hine, S. (2008). *Minnesota Labor Markets: What's In Store?* Presentation to the Governor's Workforce Development Council. Available at http://www.gwdc.org/committees/Full_Council/Docs/11-13-08-full_council_steve_hines_presentation.ppt.
- ⁴⁴ Gillaspay, T. (2006). *The Demographics of Ruralplexes*. Rural Minnesota Journal 1: 33-40.
- See also Sohmer, R. (2005). *Mind the Gap: Reducing Disparities to Improve Regional Competitiveness in the Twin Cities*. Metropolitan Policy Program, Brookings Institution. Available at http://www.brookings.edu/~media/Files/rc/reports/2005/10cities_sohmer/20051027_mindthegap.pdf.
- ⁴⁵ Myers, D. (2008). *Old Promises and New Blood: How Immigration Reform Can Help America Prosper in the Face of Baby Boomer Retirement*. The Reform Institute. Available at <http://www.policyarchive.org/handle/10207/bitstreams/15660.pdf>.
- ⁴⁶ Hine, S. (2008). *Minnesota Labor Markets: What's In Store?* Presentation to the Governor's Workforce Development Council. Available at http://www.gwdc.org/committees/Full_Council/Docs/11-13-08-full_council_steve_hines_presentation.ppt.
- ⁴⁷ Gillaspay, T. (2006). *The Demographics of Ruralplexes*. Rural Minnesota Journal 1: 33-40.
- See also McMurry, M. (2006). *Minnesota Age Trends, 2000 to 2005*. Minnesota State Demographic Center. Available at <http://www.demography.state.mn.us/documents/MinnesotaAgeTrends20002005.pdf>.
- ⁴⁸ Kelly, P. J. (2005). *As America Becomes More Diverse: The Impact of State Higher Education Inequality*. National Center for Higher Education Management Systems. Available at <http://www.nchems.org/pubs/docs/Inequality%20Paper%20Jan2006.pdf>.
- ⁴⁹ Munnell, A. H. et al. (2009). *The National Retirement Risk Index: After the Crash*. Center for Retirement Research, Boston College. Available at http://crr.bc.edu/briefs/the_national_retirement_risk_index_after_the_crash.html.
- ⁵⁰ Blewett, L. (2005). *Retirement Security and Minnesota's Elderly Population*. State Health Access Data Assistance Center, School of Public Health, University of Minnesota. Available at http://www.dhs.state.mn.us/main/idcplg?IdcService=GET_FILE&RevisionSelectionMethod=LatestReleased&RenderItem=Primary&allowInterrupt=1&noSaveAs=1&dDocName=dhs_id_052633.
- ⁵¹ Johnson, R.W. (2007). *Should People Work Longer, and Will They?* Retirement Policy Center, The Urban Institute. Available at http://www.urban.org/UploadedPDF/411584_work_longer.pdf.
- ⁵² Aquina, J. A. et al. (1996). *Employment Status, Social Support, and Life Satisfaction among the Elderly*. Journal of Counseling Psychology 43(4): 480-489.
- ⁵³ A recent longitudinal study suggested that over a period of six years, retirement can lead to a 5-16% increase in physical and mobility difficulties, a 5-6% increase in physical illness, and a 6-9% decline in mental health. See Johnson, R.W. (2007). *Should People Work Longer, and Will They?* Retirement Policy Center, The Urban Institute. Available at http://www.urban.org/UploadedPDF/411584_work_longer.pdf.
- See also Dhaval, D. et al. (2008). *The Effects of Retirement on Physical and Mental Health Outcomes*. Southern Economic Journal 75: 497-523.
- ⁵⁴ *Buddy, Can You Spare a Job? The MetLife Study of the New Realities of the Job Market for Aging Baby Boomers*. (2009). Delong, D. & Associates. Available at <http://www.metlife.com/assets/cao/mmi/publications/studies/mmi-buddy-can-you-spare-a-job.pdf>.
- See also *Working After Retirement: The Gap Between Expectations and Reality*. (2006). Pew

Endnotes continued

- Research Center. Available at <http://pewresearch.org/pubs/320/working-after-retirement-the-gap-between-expectations-and-reality>.
- See also Helman, R. et al. (2009). *The 2009 Retirement Confidence Survey: Economy Drives Confidence to Record Lows; Many Looking to Work Longer*. Issue Brief, 328. The Employee Benefit Research Institute. Available at http://www.ebri.org/pdf/briefspdf/EBRI_IB_4-2009_RCS2.pdf.
- ⁵⁵ Sok, E. (2010). *Record Unemployment Among Older Workers Does Not Keep Them Out of the Job Market*. U.S. Bureau of Labor Statistics. Available at http://www.bls.gov/opub/ils/summary_10_04/older_workers.htm.
- ⁵⁶ *Dislocated Workers Program Data*. (2009). Minnesota Department of Employment and Economic Development.
- See also *Employment Status by Demographic Group for States, Current Population Survey*. (2010). Bureau of Labor Statistics. Available at <http://www.bls.gov/cps/demographics.htm>.
- ⁵⁷ *WorkForce Center System Customer Registration System (CRS)*. 2009. Minnesota Department of Employment and Economic Development (DEED).
- ⁵⁸ *Buddy, Can You Spare a Job? The MetLife Study of the New Realities of the Job Market for Aging Baby Boomers*. (2009). Delong, D. & Associates. Available at <http://www.metlife.com/assets/cao/mini/publications/studies/mini-buddy-can-you-spare-job.pdf>.
- ⁵⁹ Ibid.
- See also *Working After Retirement: The Gap Between Expectations and Reality*. (2006). Pew Research Center. Available at <http://pewresearch.org/pubs/320/working-after-retirement-the-gap-between-expectations-and-reality>.
- ⁶⁰ Midternships refer to a pilot program developed by SHiFT and the Minnesota Department of Employment and Economic Development (DEED) to help people at midlife gain hands-on work experience in a new career field.
- ⁶¹ Bluestone, B., et al. (2010). *After the Recovery: Help Needed*. Civic Ventures. Available at <http://www.encore.org/files/research/JobsBluestonePaper3-5-10.pdf>.
- See also *The Boomer Solution: Skilled Talent to Meet Nonprofit Needs*. (2010). RespectABILITY Initiative Report, National Council on Aging. Available at <http://www.ncoa.org/strengthening-community-organizations/community-action-volunteering/boomer-solutions-skilled.html>.
- ⁶² *Minnesota Measures: 2009 Report on Higher Education Performance*. (2009). Minnesota Office of Higher Education. Available at <http://www.ohs.state.mn.us/pdf/MinnesotaMeasures2009.pdf>.
- ⁶³ Minnesota Legislative Session 86: HF 72 and SF 147 (available at <https://www.revisor.mn.gov/bin/bldbill.php?bill=H0072.0.html&session=ls86>) and <https://www.revisor.mn.gov/bin/bldbill.php?bill=S0147.0.html&session=ls86>
- ⁶⁴ For more information, see <http://www.cael.org/LiLA/demos.htm>
- ⁶⁵ Horrell, M. and Litan, R. (2010). *After Inception: How Enduring is Job Creation by Startups?* Ewing Marion Kauffman Foundation. Available at <http://www.kauffman.org/uploadedFiles/firm-formation-inception-8-2-10.pdf>.
- ⁶⁶ Ali, A. et al. (2009). *What Entrepreneurs Are Up To: 2008 National Entrepreneurial Assessment for the United States of America*. Global Entrepreneurship Monitor. Babson College and Baruch College. Available at http://www3.babson.edu/ESHIP/research-publications/upload/GEM_2008_US_Executive_Report.pdf.
- ⁶⁷ Fairlie, R. W. (2010). *Kauffman Index of Entrepreneurial Activity*. Available at http://www.kauffman.org/uploadedfiles/kiea_2010_report.pdf.
- See also Stangler, D. (2009). *The Coming Entrepreneurship Boom*. Ewing Marion Kauffman Foundation. Available at <http://www.kauffman.org/uploadedFiles/the-coming-entrepreneurial-boom.pdf>.
- ⁶⁸ *Awareness, Attitudes and Impact of the Americans with Disabilities Act Among Minnesota Businesses: A Qualitative and Quantitative Research Study*. (2010). Minnesota Governor's Council on Developmental Disabilities. Available at http://www.mn-ddc.org/extra/customer-research/GCDD_ADA_Study10.pdf.
- ⁶⁹ *Employment Status of the Civilian Population by Sex, Age, and Disability Status. Table A-6*. Bureau of Labor Statistics. Available at <http://www.bls.gov/news.release/empsit.t06.htm>.
- ⁷⁰ Ibid.
- ⁷¹ *Employer Focus Research*. (2005). Prepared for the Minnesota Governor's Council on Developmental Disabilities, the Minnesota Department of Employment and Economic Development, the Minnesota Department of Human Services, and the Minnesota State Council on Disability. Available at http://www.mn-ddc.org/extra/customer-research/employer_survey_rpt.pdf.
- ⁷² Siperstein, G. N., et al. (2005). *National Survey of Consumer Attitudes towards Companies that Hire People with Disabilities*. Journal of Vocational Rehabilitation 22: 1-7. Available at <http://www.mdworkforcepromise.org/docs/business/National%20Survey.pdf>.
- ⁷³ Wartzman, R. (2008). *Leveraging the Strengths of the Disabled*. Businessweek. Available at http://www.businessweek.com/managing/content/jul2008/ca2008073_159972.htm.
- See also McNeil, J. M. (2000). *Employment, Earnings, and Disability*. U.S. Bureau of the Census. Available at <http://www.census.gov/hhes/www/disability/emperndis.pdf>.
- ⁷⁴ *Workplace Accommodations: Low Cost, High Impact*. (2010). Job Accommodation Network, Office of Disability Employment Policy, U.S. Department of Labor. Available at <http://www.jan.wvu.edu/media/LowCostHighImpact.doc>.
- ⁷⁵ Lengnick-Hall, M. L. (2007). *Hidden Talent. How Leading Companies Hire, Retain, and Benefit from People with Disabilities*. Available at http://books.google.com/books?id=r6hbVjBktgC&p=g=PA1&lpg=PA1&dq=%22hidden+talent%22+disability&source=web&ots=6XsKBUwZDV&sig=6uTPqzj6FFNkXKE0N1glcwpKWg&hl=en&sa=X&oi=book_result&resnum=7&ct=result#PPA2,M1
- ⁷⁶ *Workplace Accommodations: Low Cost, High Impact*. (2010). Job Accommodation Network, Office of Disability Employment Policy, U.S. Department of Labor. Available at <http://www.jan.wvu.edu/media/LowCostHighImpact.doc>.
- ⁷⁷ Thomas, D. A. (2004). *Diversity as Strategy*. Harvard Business Review. Available at http://cb.hbsp.harvard.edu/cb/web/product_detail.seam?R=R0409G-PDF-ENG&conversationId=2385508&E=71999.
- ⁷⁸ *Workplace Accommodations: Low Cost, High Impact*. (2010). Job Accommodation Network, Office of Disability Employment Policy, U.S. Department of Labor. Available at <http://www.jan.wvu.edu/media/LowCostHighImpact.doc>.
- ⁷⁹ Jayne, M. E. A. and Dipboye, R. L. (2004). *Leveraging Diversity to Improve Business Performance: Research Findings and Recommendations for Organizations*. Human Resource Management 43, No. 4. Available at <http://web.mit.edu/cortiz/www/Diversity/Jayne and Dipboye 2004.pdf>.
- ⁸⁰ *Assessing the Impact of Societal Issues: A McKinsey Global Survey* (2007). McKinsey and Company. Available at http://www.mckinseyquarterly.com/Assessing_the_impact_of_societal_issues_A_McKinsey_Global_Survey_2077_abstract.
- ⁸¹ *Minnesota's State Workforce is Aging*. (2001). PopBites 01-21, Minnesota Demographic Center. Available at <http://www.demography.state.mn.us/DownloadFiles/pdf/workforcepb.pdf>.
- ⁸² *Annual Workforce Planning Reports*. (Multiple years). Minnesota Department of Employee Relations. Data account for all executive branch agencies, excluding MnSCU. Disability status is self-reported, so official counts likely underestimate actual numbers. Reports for years 2006-
- 2009 are available at <http://www.mmb.state.mn.us/wfp-annualreport>. These annual reports have been discontinued, and reports for years 2001-2005 are no longer online.
- ⁸³ *U.S. Census*. (2000). U.S. Census Bureau.
- ⁸⁴ Governor Pawlenty signed the Accessible Technology bill on May 22, 2009. For the full text of the bill, see https://www.revisor.mn.gov/revisor/pages/search_status/status_detail.php?b=House&f=HF1744&ssn=0&y=2009. This new law requires the state to adopt Section 508 standards and Web Content Accessibility Guidelines 2.0 (WCAG 2.0) to develop and maintain accessible statewide information and telecommunications technology systems and services. For more information, see http://www.starprogram.state.mn.us/Accessibility_Usability.htm.
- ⁸⁵ *ADA Toolbox*. Minnesota Management & Budget. Available at <http://www.mmb.state.mn.us/ada-toolbox>.
- ⁸⁶ Pathways to Employment is a collaborative effort to increase the competitive employment of people with disabilities involving the Minnesota Department of Human Services (DHS), the Minnesota Department of Employment and Economic Development (DEED), and the Minnesota State Council on Disability (MSCOD). For more information, see http://www.positivelyminnesota.com/All_Programs_Services/Pathways_to_Employment/.
- ⁸⁷ Minnesota Rule 3905.0600 (see <https://www.revisor.mn.gov/rules/?id=3905.0600>) and Minnesota Statute 43A.191 Subd. 3 (b) (see <https://www.revisor.mn.gov/statutes/?id=43A.191>).
- ⁸⁸ *Information Technology Customer Research Study 2009*. (2009). Minnesota Governor's Council on Developmental Disabilities. Available at http://www.mn-ddc.org/extra/customer-research/GCDD_IT_Study09-summary.html.
- ⁸⁹ See the GWDC Disability Employment Workgroup minutes for its December 15, 2009 meeting, available at http://www.gwdc.org/committees/disability_employment_workgroup/.
- ⁹⁰ Pathways to Employment is a collaborative effort to increase the competitive employment of people with disabilities involving the Minnesota Department of Human Services (DHS), the Minnesota Department of Employment and Economic Development (DEED), and the Minnesota State Council on Disability (MSCOD). For more information, see http://www.positivelyminnesota.com/All_Programs_Services/Pathways_to_Employment/.
- ⁹¹ The listening session was facilitated by the Minnesota Employment Policy Initiative. For more information, see the MNCDHH employment website (<http://www.mncdhh.org/employment/>), and in particular, http://www.mncdhh.org/file_download/118/Proposal+to+Pathways+to+Employment+from+the+Minnesota+Employment+Center+%282%29.docx.
- ⁹² For more information, see http://www.eeoc.gov/facts/final_states_best_practices_report.html#two.
- ⁹³ Chapter 131, HF 1744, available at https://www.revisor.mn.gov/revisor/pages/search_status/status_detail.php?b=House&f=HF1744&ssn=0&y=2009. On September 1, 2010, State Chief Information Officer Gopal Khanna put forth a policy directive that defines accessibility standards for all executive branch agencies. For more information, see http://www.mn-ddc.org/news/pdf/Standard_OET000_Accessibility_090110.pdf.
- ⁹⁴ WorkForce Center System Customer Registration System (CRS). 2009. Minnesota Department of Employment and Economic Development (DEED).
- ⁹⁵ In this publication, the GWDC defines accessibility and usability as follows. Accessibility: The degree to which a product, device, service, or environment (physical, communicational, and otherwise) is accessible to people of all abilities, as further defined and required by guidelines set by the Americans with Disabilities Amendments Act of 2008, the 2009 Minnesota Technology Accessibility Law (Chapter 131, H.F. 1744), Section 508 of the Rehabilitation Act, and the Web Content Accessibility Guidelines 2.0. Usability: In general, usability refers to how well users can learn and use a product to achieve their goals and how satisfied they are with that process. Usability is not a single property, but has a number of dimensions: 1) Effective—the completeness and accuracy with which users achieve their goals; 2) Efficient—the speed (with accuracy) in which users complete their tasks; 3) Engaging—how pleasant, satisfying or interesting a site is to use; 4) Error tolerant—the ability of the interface to prevent errors to help users recover from those that occur; 5) Easy to learn—how well the product supports both initial orientation and deeper learning. For more information on usability, see <http://www.wqusability.com/articles/more-than-ease-of-use.html>.
- ⁹⁶ Minnesota Department of Human Rights Act, Chapter 363; Americans with Disabilities Act – ADA Title II as amended; Workforce Investment Act 29 CFR, Part 37, Section 188 of WIA; Rehabilitation Act/Section 504 and others
- ⁹⁷ Universal design for the workforce development system is defined as the design of environments, products, and communication practices as well as the delivery of programs, services, and activities to meet the needs of all customers of the workforce development system. The key premise of Universal Design is that developing services that are accessible to the largest number of people will reduce the need for specialized assistance. For more information, see <http://www.onestops.info/>.
- ⁹⁸ Disability Program Navigators also play an important role in increasing program access for people with disabilities. Disability Program Navigators are funded by the Social Security Administration and the US Department of Labor, and housed under Pathways to Employment. Their job is to help customers navigate services and to ensure programmatic access. They also work to train staff about programs available to people with disabilities. For more information, see http://www.doleta.gov/disability/new_dpn_grants.cfm.
- ⁹⁹ *Minnesota WorkForce Center System Certification Standards*. (2010). Minnesota Department of Employment and Economic Development. Available at http://www.positivelyminnesota.com/Programs_Services/Workforce_Investment_Act/WIA_Policies/Word/etpsdcertification.doc.
- ¹⁰⁰ Ibid.
- ¹⁰¹ The MWCA's Mystery Shopper program uses unplanned visits gauge customer service at each WorkForce Center annually.
- ¹⁰² Hall, J.P., and Parker, K. (2010). *Stuck in a loop: Individual and System Barriers for Job Seekers with Disabilities*. The Career Development Quarterly 58: 246-255. While this study does not address quality of services in Minnesota's WorkForce Centers, the study's findings are instructive to any one-stop career center that serves individuals with disabilities.
- ¹⁰³ Tucker, M. (2004). *High School and Beyond: The System Is the Problem—and the Solution*. Harvard Education Letter 20: 4. Available at <http://www.hepg.org/hel/article/271>.
- See also *Double the Numbers: Increasing Postsecondary Credentials for Underrepresented Youth*. (2004). Kazis, R. et al., editors. Harvard Education Press. Available at <http://www.hepg.org/hel/book/44>.
- ¹⁰⁴ Carnevale, A. P. et al. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Georgetown University Center on Education and the Workforce. Available at <http://www.cew.georgetown.edu/jobs2018>.
- ¹⁰⁵ For this paper, college is defined inclusively to mean both 2- and 4-year programs, as well as career and technical certification programs.
- ¹⁰⁶ Carnevale, A. P. et al. (2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Georgetown University Center on Education and the Workforce. Available at <http://www.cew.georgetown.edu/jobs2018>.
- ¹⁰⁷ Ibid.
- ¹⁰⁸ *Minnesota Measures: 2009 Report on Higher Education Performance*. (2009). Minnesota Office of Higher Education. Available at <http://www.ohs.state.mn.us/pdf/MinnesotaMeasures2009.pdf>.

- ¹⁰⁹ *Investment in Education: Private and Public Returns*. (2000). Joint Economic Committee Study, U.S. Congress. Available at <http://www.house.gov/jec/educ.htm>.
- ¹¹⁰ *Economic Benefits of Halving the Dropout Rate: A Boon to Businesses in the Nation's Largest Metropolitan Areas*. (2010). Alliance for Excellent Education. Available at <http://www.all4ed.org/files/EconBeneCityCardBooklet011210.pdf>.
- ¹¹¹ Levin, H., et al. (2007). *The Costs and Benefits of an Excellent Education for All of America's Children*. Teachers College, Columbia University. Available at http://www.cbce.org/media/download_gallery/Leeds_Report_Final_Jan2007.pdf.
- ¹¹² *Getting Prepared: A 2008 Report on Recent High School Graduates who Took Developmental/ Remedial Courses*. (2008). Minnesota State Colleges and Universities and University of Minnesota. Available at <http://www.mnscu.edu/media/publications/pdf/gettingprepared08.pdf>.
- ¹¹³ *Preparing the Workers of Today for the Jobs of Tomorrow*. (2009). Executive Office of the President, Council of Economic Advisors. Available at <http://www.whitehouse.gov/administration/eop/cea/jobs-of-the-future/>. See also Grubb, W. N. (2001). *From Black Box to Pandora's Box: Evaluating Remedial/ Developmental Education*. Paper presented at the Conference on Replacing Remediation in Higher Education, Stanford University. Available at <http://www.eric.ed.gov/PDFS/ED455865.pdf>.
- ¹¹⁴ *Paying Double: Inadequate High Schools and Community College Remediation*. (2006). Alliance for Excellent Education. Available at <http://www.all4ed.org/files/archive/publications/remediation.pdf>. Estimates are based on data from the National Center on Education Statistics, U.S. Department of Education.
- ¹¹⁵ Wirt, J. et al. (2004). *The Condition of Education 2004, Indicator 31: Remedial Course-taking*. NCES 2004-077, National Center for Education Statistics, U.S. Department of Education. Available at http://nces.ed.gov/programs/coe/2004/pdf/31_2004.pdf.
- ¹¹⁶ The Postsecondary and Workforce Readiness Working Group of the Minnesota P-20 Education Partnership has recommended this definition for career and postsecondary readiness in Minnesota. The Minnesota P-20 Education Partnership is a voluntary organization made up of the statewide education groups in Minnesota, plus others from government, business, and other private sectors. It provides a forum where critical policy issues can be collectively identified and addressed, and where data-driven decision-making structures can be developed and implemented statewide. Available at <http://mnp20.org/>. The definition is based on a definition originally formulated by Achieve, Inc. For more information, see *Ready or Not: Creating a High School Diploma that Counts*. (2004). Achieve, Inc. Available at http://www.achieve.org/files/ADPreport_7.pdf.
- ¹¹⁷ *Minnesota Measures: 2009 Report on Higher Education Performance*. (2009). Minnesota Office of Higher Education. Available at <http://www.ohe.state.mn.us/pdf/MinnesotaMeasures2009.pdf>.
- ¹¹⁸ *Measuring Up 2008: The State Report Card on Higher Education Minnesota*. (2008). National Center for Public Policy and Higher Education. Available at http://measuringup2008.highereducation.org/print/state_reports/long/MN.pdf.
- ¹¹⁹ Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion from High School through College*. U.S. Department of Education. Available at <http://www2.ed.gov/rschstat/research/pubs/toolboxrevisit/toolbox.pdf>.
- ¹²⁰ *Graduation Rates*. (2010). Minnesota Department of Education. Available at http://education.state.mn.us/MDE/Data/Data_Downloads/Student/Graduation_Rates/index.html.
- ¹²¹ *Measuring Up 2008: The State Report Card on Higher Education Minnesota*. (2008). The National Center for Public Policy and Higher Education. Available at http://measuringup2008.highereducation.org/print/state_reports/long/MN.pdf.
- ¹²² *Minnesota Measures: 2009 Report on Higher Education Performance*. (2009). Minnesota Office of Higher Education. Available at <http://www.ohe.state.mn.us/pdf/MinnesotaMeasures2009.pdf>.
- ¹²³ Ibid.
- ¹²⁴ Ibid.
- ¹²⁵ The Governor's Education Council recommended in 2007 that "all students shall complete early career [and] postsecondary planning with parents and adult mentors." See *From Nation-Leading to World-Competing*. (2007). Minnesota Department of Education. Available at http://education.state.mn.us/MDE/Academic_Excellence/High_School_Initiatives/index.html. See also *Helping Students Navigate the Path to College: What High Schools Can Do*. (2009). Institute for Education Sciences, U.S. Department of Education. Available at http://ies.ed.gov/ncee/www/pdf/practiceguides/higher_ed_pg_091509.pdf.
- ¹²⁶ Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion from High School through College*. U.S. Department of Education. Available at <http://www2.ed.gov/rschstat/research/pubs/toolboxrevisit/toolbox.pdf>. Part IV. Available at <http://www2.ed.gov/pubs/Toolbox/Part4.html>.
- See also *High School Academic Curriculum and the Persistence Path Through College*. (2001, August). National Center for Education Statistics U.S. Department of Education. Available at <http://nces.ed.gov/pubs2001/2001163.pdf>.
- ¹²⁷ Connolly, F. (2008). *Results of a State Survey on Individual Learning Plans*. Naviance, Inc.
- ¹²⁸ Ibid.
- ¹²⁹ *Minnesota College- and Career-Readiness Policy Action Plan*. (2010). College- and Career-Ready Policy Institute, Minnesota P-20 Council.
- See also *Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Completion*. (1999). U.S. Department of Education. Available at <http://www2.ed.gov/pubs/Toolbox/toolbox.html>.
- ¹³⁰ Data from the Minnesota Department of Education. Available at http://education.state.mn.us/MDE/Academic_Excellence/College_Career_Read/PSEO/index.html.
- ¹³¹ Evaluation Report: MnSCU System Office (2010). Office of the Legislative Auditor, State of Minnesota. Available at <http://www.auditor.leg.state.mn.us/ped/2010/mnscu.htm>.
- ¹³² Ibid.
- ¹³³ *Minnesota College- and Career-Readiness Policy Action Plan*. (2010). College- and Career-Ready Policy Institute, Minnesota P-20 Council.
- ¹³⁴ *U.S. Department of Education Biennial Evaluation Report: FY 93-94*. (1994.) U.S. Department of Education. Available at <http://www.ed.gov/pubs/Biennial/134.html>.
- ¹³⁵ Conley, D. T., (2005). *College Knowledge: What it Really Takes for Students to Succeed and What We Can Do to Get Them Ready*. Available at http://www.avid.org/dl/res_research/research_collegeknowledge.pdf.
- ¹³⁶ Yazzie-Mintz, E. (2010). *Charting the path from engagement to achievement: A report on the 2009 High School Survey of Student Engagement*. High School Survey of Student Engagement 2009, Center for Evaluation & Education Policy. Available at <http://ceep.indiana.edu/hssse/index.htm>.
- ¹³⁷ McClenney, K. et al. (2007). *Student Engagement and Student Outcomes: Key Findings from CCSSE Validation Research*. Available at <http://www.ccsse.org/publications/CCSSE%20Validation%20Summary.pdf>. See also Csikzentmihalyi, M. et al. (1993). *Talented Teenagers: The Roots of Success and Failure*.
- ¹³⁸ 2006 Minnesota Statutes § 120B.023, subd. 2. Available at https://www.revisor.mn.gov/bir/getpub.php?pubtype=STAT_CHAP_SEC&year=2007§ion=120B.023.
- ¹³⁹ *Teacher Supply and Demand: FY 2008 Report to the Legislature*. (2009). Minnesota

Department of Education. Available at <http://www.education.state.mn.us/mdeprod/groups/Communications/documents/Report/036669.pdf>.

- ¹⁴⁰ *Teacher Supply and Demand: FY 2008 Report to the Legislature*. (2009). Minnesota Department of Education. Available at <http://www.education.state.mn.us/mdeprod/groups/Communications/documents/Report/036669.pdf>.
- ¹⁴¹ Fitzgerald, J. (2007). *Growing Gap: Minnesota's Teacher Recruitment & Retention Crises*. Minnesota 2020. Available at <http://www.mn2020.org/issues-that-matter/education/growing-gap-minnesota-s-teacher-recruitment-retention-crises>. See also *Teacher Supply and Demand: FY 2008 Report to the Legislature*. (2009). Minnesota Department of Education. Available at <http://www.education.state.mn.us/mdeprod/groups/Communications/documents/Report/036669.pdf>.
- ¹⁴² *Teacher Supply and Demand: FY 2008 Report to the Legislature*. (2009). Minnesota Department of Education. Available at <http://www.education.state.mn.us/mdeprod/groups/Communications/documents/Report/036669.pdf>.
- ¹⁴³ Fitzgerald, J. (2007). *Growing Gap: Minnesota's Teacher Recruitment & Retention Crises*. Minnesota 2020. Available at <http://www.mn2020.org/issues-that-matter/education/growing-gap-minnesota-s-teacher-recruitment-retention-crises>. See also *Teacher Supply and Demand: FY 2006 Report to the Legislature*. (2007). Minnesota Department of Education. Available at <http://education.state.mn.us/mdeprod/groups/Communications/documents/Report/030485.pdf>.
- ¹⁴⁴ *Policy Brief: The High Cost of Teacher Turnover*. (2007). The National Commission on Teaching and America's Future. Available at http://www.nctaf.org/resources/demonstration_projects/turnover/documents/NCTAFCostofTeacherTurnoverpolicybrief.pdf.
- ¹⁴⁵ Hanushek, E. A. and Rivkin, S. J. (2006). *Teacher Quality*. Hanushek, E. and Welch, F. eds., Handbook of the Economics of Education.
- See also Sanders, W. and Rivers, J. (1996). *Cumulative and Residual Effects of Teachers on Future Student Academic Achievement*. Value-Added Research Center, University of Tennessee. Available at <http://www.mccsc.edu/~curriculum/cumulative%20and%20residual%20effects%20of%20teachers.pdf>.
- See also Gordon, R. et al. (2006). *Identifying Effective Teachers Using Performance on the Job*. The Hamilton Project, The Brookings Institution. Available at http://www.brookings.edu/~media/Files/rc/papers/2006/04education_gordon/200604hamilton_1.pdf.
- ¹⁴⁶ Clotfelter, C. et al. (2007). *How and Why Do Teacher Credentials Matter for Student Achievement?* National Center for the Analysis of Longitudinal Data in Education Research. Available at http://www.caldercenter.org/pdf/1001058_teacher_credentials.pdf.
- ¹⁴⁷ Gordon, R. et al. (2006). *Identifying Effective Teachers Using Performance on the Job*. The Hamilton Project, The Brookings Institution. Available at http://www.brookings.edu/~media/Files/rc/papers/2006/04education_gordon/200604hamilton_1.pdf.
- ¹⁴⁸ Clotfelter, C. et al. (2007). *Teacher Credentials and Student Achievement in High School: A Cross-Subject Analysis With Student Fixed Effects*. National Center for the Analysis of Longitudinal Data in Education Research. Available at http://www.caldercenter.org/PDF/1001104_Teacher_Credentials_HighSchool.pdf. One-third of the black-white achievement gap would be eliminated if "the teachers assigned to black students had the same credentials on average as those assigned to white students."
- ¹⁴⁹ Villar, A. and Strong, M. (2007). *Is Mentoring Worth The Money?* New Teacher Center, University of California Santa Cruz. Available at http://www.newteachercenter.org/pdfs/Spectrum_Villar-Strong.pdf.
- ¹⁵⁰ Hare, D., and Nathan, J. (1999). *The Need is Now: Dealing with Minnesota's Teacher Shortages*. Center for Rural Policy and Development. Available at <http://www.mnsu.edu/ruralmn/pages/Publications/reports/needisnow.pdf>.
- ¹⁵¹ Ibid.

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Primary Health Care Workforce Project

A one-year, \$150,000 planning grant awarded under the Affordable Care Act. The GWDC will work with HealthForce Minnesota to develop a comprehensive plan to increase the number of full-time primary care professionals over the next ten years.

Return on Investment Initiative

In order to help Minnesota achieve more with its limited resources, the GWDC is developing a comprehensive return-on-investment system that will help the state make smarter investments in workforce training and education.