

July 2019

Future Skills: Preparing for the Changing World of Work



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Mission

SEMCOG, the Southeast Michigan Council of Governments, is the only organization in Southeast Michigan that brings together all governments to develop regional solutions for both now and in the future. SEMCOG:

- Promotes informed decision making to improve Southeast Michigan and its local governments by providing insightful data analysis and direct assistance to member governments;
- Promotes the efficient use of tax dollars for infrastructure investment and governmental effectiveness;
- Develops regional solutions that go beyond the boundaries of individual local governments; and
- Advocates on behalf of Southeast Michigan in Lansing and Washington



Mission

The Metropolitan Affairs Coalition (MAC), a non-profit public/private partnership, is the only group that brings business, labor, government and education leaders together to build consensus and seek solutions to regional issues. It promotes regional cooperation and dialogue, and works to advance policies and programs that enhance the region's economic vitality and quality of life. With its partner organization SEMCOG, and the diverse perspectives of its members, MAC is uniquely positioned to be a catalyst for change and help move the region and state forward. For more information about MAC, please go to www.mac-web.org.

Future Skills: Preparing for the Changing World of Work

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Abstract

Educating and preparing our workforce for the changing world of work is critical to Southeast Michigan's future economic growth and success. The convergence of technological advances, business trends, and demographic and social changes require a transformation of education and training systems to meet the needs of employers and increase opportunities and access to family sustaining jobs for all. Preparing both the current and future workforce requires a comprehensive strategy for leveraging existing talent assets as well as developing new ones; updating education and training systems; accommodating evolving work environments; and broadening hiring practices. This report includes recommendations and actions necessary to strengthen Southeast Michigan's Talent Development system. It also identifies case studies that illustrate efforts to prepare the future workforce.

Preparation of this document may be financed in part through grants from and in cooperation with the Michigan Department of Transportation with the assistance of the U.S. Department of Transportation's Federal Highway Administration and Federal Transit Administration, and other federal and state funding agencies, as well as local membership contributions.

Permission is granted to cite portions of this publication, with proper attribution. The first source attribution must be "SEMCOG, the Southeast Michigan Council of Governments." Subsequently, "SEMCOG" is sufficient. Reprinting in any form must include the publication's full title page. SEMCOG documents and information are available in a variety of formats. Contact SEMCOG Information Services to discuss your format needs.



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Acknowledgements

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Executive Summary

Preparing Southeast Michigan's workforce for the changing world of work is critical to sustained economic growth and regional success. The convergence of technological advances, changing business models, and demographic trends require a transformation of education and training systems to meet the needs of employers and increase opportunities and access to family-sustaining jobs for all.

Technology is transforming the economy and just about every aspect of our lives, including communication, transportation, and employment. Technology is a skill in demand across industries and occupations at every level.

Business trends, such as increased emphasis on outpatient care in the health industry and growing online shopping in the retail industry, require a workforce with a combination of technology and customer service skills, and the ability to prepare for future business trends.

Demographic and social changes, including an aging population and projected future labor shortages, make growing the labor force a business imperative. This requires broadening hiring practices to actively include populations with education and employment challenges.

Preparing both the current and future workforce for the changing world of work requires a comprehensive strategy. For Southeast Michigan, this means leveraging the region's many talent assets including quality schools, community colleges, universities, labor organizations, apprenticeship programs, workforce development agencies, and training organizations, as well as business/education partnerships. In addition, we need to update education and training systems to incorporate different ways of learning, content, curriculums, transfer agreements, and broader delivery mechanisms.

The SEMCOG/MAC Future Skills Task Force was established to identify and help develop policies that support the necessary education and training infrastructure to address future workforce skills, and position Southeast Michigan for long-term economic growth. The task force was comprised of representatives from the three main components of Talent Development – education, employers, and workforce development.

Over the last year, the task force heard from leaders in each sector. Among the key findings are:

- labor shortages in almost every key industry sector
- misalignment of skills for available jobs
- inadequate funding and regulations limiting access to public education and training programs
- populations that are disconnected from opportunities
- need for more curriculum support by employers
- limited emphasis on career readiness, awareness, and pathways
- lack of support services that limit individuals with one or more employment barriers from entering the workforce

While the charge of the task force was to develop policy recommendations, a significant impact will be in developing partnerships to implement these recommendations, to address both short- and longer-term talent needs. Although the challenges are broad, many efforts are underway. The main problem is not lack of

innovation or creative solutions, but limitations on replicating or scaling them across the region and engaging disconnected populations.

This report includes many case studies that demonstrate it is possible to address these challenges if there is willingness on the part of decision makers and a strong commitment to collaborate. The first step is to establish a common understanding of the needs, and a pledge to help make the changes necessary. The ultimate goal of transforming the Talent Development System in Southeast Michigan is to help individuals develop the necessary skills to succeed in a changing economy and create sustainable economic growth and regional competitiveness. This requires developing a system that allows better alignment of workforce development and education with employer needs and opportunities.

Education, employers, and workforce development are the three main components of the Talent Development System, although there are other key stakeholders, including government. Each stakeholder group has specific roles and expertise, but they also collaborate on developing demand-driven and innovative approaches to address the defining challenges facing individuals, the region, and economy.

The report is divided into three main parts:

- Making the Case: Impact of Technology on Future Skills; Impact of Demographic and Social Changes on the Workforce; Impact of Business Trends on Future Skills
- The Changing Economic Landscape in Southeast Michigan; Strategies for Preparing for the Changing World of Work; Challenges facing Key Stakeholders in the Talent Development System
- Policy Recommendations for addressing the region's workforce challenges and growing the current and future workforce.

Case studies can be found in Appendix C. They are grouped into the four main recommendation areas:

- Create and promote a framework for Lifelong Learning
- Build support for multiple career pathways
- Promote collaboration with employers throughout the education and workforce development system
- Increase labor force participation by expanding the number of qualified workers from all segments of the population

Recommendations of the Future Skills Task Force

Overarching Recommendation

Transform the Talent Development System in Southeast Michigan by building on established talent assets and partnering with education, employers, workforce development, and government to develop, implement and evaluate strategies that support individual success and regional economic growth.

Create and promote a framework for Lifelong Learning

A system of Lifelong Learning provides individuals with opportunities and access to education, training and experiences for personal and professional development to support personal growth and career opportunities over a lifetime. The framework should increase awareness and appreciation of Lifelong Learning, identify measures to evaluate growth, and develop the necessary infrastructure to provide individuals with opportunities for continuous learning.

1. Partner with education, employers, and workforce development to identify their roles in the development and implementation of the Lifelong Learning framework.
2. Promote the value and necessity of Lifelong Learning to students and adults and identify positive outcomes.
3. Develop an effective system to identify in-demand skills in a rapidly changing economy.
4. Broaden opportunities for individuals to access flexible education options to fit their personal and work responsibilities.
5. Ensure employees have access to professional development that supports upskilling for career advancement.
6. Develop metrics to evaluate expansion of Lifelong Learning, such as data on increased enrollment in competency-based programs.

Build support for multiple career pathways

The region needs people with different levels of education, skills, abilities, and competencies to fill a broad range of jobs that contribute to a robust economy. It is important to increase awareness and respect for all career pathways that prepare individuals for the workforce and lead to business and individual success. Career pathways provide structure and guidance to students and job seekers to prepare for career advancement in growing occupations, and include innovative teaching and curriculum, support services, and employer connections.

1. Increase public awareness and interest in a wide range of different career fields and address negative perceptions by providing information on jobs, salaries, and other benefits.
2. Expand student awareness, exposure, exploration, and preparation for careers through teaching and counseling in K-12 and post-secondary education.
3. Provide statewide data and information on career pathways for teachers and counselors.
4. Align curriculum with job needs and in-demand skills.
5. Recognize the importance of education by providing adequate state funding for K-12, CTE, post-secondary, community colleges, and work-based learning.
6. Expand opportunities for competency based learning through Career Technical Education, Early Middle Colleges, Career Academies and other programs that help meet current and future employer needs.
7. Promote the value and understanding of a variety of post-secondary educational pathways including, but not limited to, two-year degrees, four-year degrees, apprenticeships, and certificates.
8. Improve high school and college graduation rates, including adult learners.
9. Identify and address challenges faced by students related to the transition from high school to post-secondary education.
10. Allocate special funding or incentives for attracting additional teachers/instructors in high-demand fields.

Promote collaboration between employers, education, and workforce development

An effective Talent Development System requires the sustained commitment and active participation of education, employers, and workforce development to prepare the future workforce. Understanding and meeting the needs of all partners are the foundation for success.

1. Recognize and build on successful education/business partnerships that can be replicated.
2. Provide state funding, coordination, incentives, and leadership to develop new multi-sector collaborations for talent development, and ensure funding among education and workforce development can be used together in complementary ways.

3. Elevate apprenticeships and work-based learning partnerships to develop a pipeline of qualified workers.
4. Promote programs that bring current and experienced professionals into the classroom as instructors.
5. Expand workplace exposure for teachers to understand current workplace environments, technology trends, industry timelines, and changing skill needs.
6. Encourage employers to be more visible and accessible at schools and colleges, and have input into curriculum to increase connections with students and educators.

Increase labor force participation by expanding the number of qualified workers from all segments of the population

Southeast Michigan has many individuals who do not participate in the labor force. Increasing participation will require increasing education attainment, support services, remedial education, training efforts, and a willingness on the part of employers to broaden hiring practices.

1. Expand employer support for education and training programs.
2. Encourage employers to expand professional development and work-based learning options.
3. Expand skills-based hiring.
4. Increase funding for wraparound services including transportation and childcare.
5. Ensure state and federal regulations enable individuals in work-based training programs to keep and access benefits.
6. Provide increased access to instructors, mentors, and caseworkers for adults in training programs, job seekers, and current employees to further career advancement
7. Incorporate life skills, financial literacy, and work-readiness into all training programs.
8. Promote competency-based learning including badging, credentials, and certifications with shorter timelines for training aligned with employer needs.
9. Increase training and employment opportunities for non-traditional populations including immigrants, returning citizens, veterans, seniors, and individuals with disabilities.
10. Support policies that promote legal immigration to help meet the region's workforce needs.

Background

Policymakers and businesses are increasingly identifying shortage of talent as the number one challenge for growing Southeast Michigan's economy. Sustainable economic growth and regional competitiveness depend on having the necessary workforce to "future-proof" our economy. If the region is unable to develop or attract a workforce with the necessary skills, future economic growth will be constrained.

For several years, the emphasis in education and workforce development in Michigan has been on Career Technical Education, STEM, and Skilled Trades – due to documented shortages in these fields. As there are approximately 100,000 job openings in the state, it makes good sense to build a pipeline for these in-demand sectors. Many of the occupations that are projected to grow in the next 30 years will build on STEM education, but will also require a higher level of analytical and interpersonal skills. We are already seeing more labor-intensive work being automated, so it is necessary for education systems to focus on both technical and soft skills. SEMCOG and MAC have previously studied the importance of [soft skills](#), along with the process for developing them over a lifetime – starting with parents, the community, K-12, and post-secondary education, and reinforced in the workplace. Extracurricular activities, career technical education, and liberal arts education also help in developing soft skills. Equipping individuals with both technical and soft skills will help make them more future-ready.

SEMCOG and MAC have also developed education and workforce related products including recommendations and marketing materials related to [STEM and Skilled Trades](#); recommendations for filling [infrastructure jobs](#); and, most recently, policies for [education reform](#). The Future Skills Task Force recommendations build on these efforts, while also planning for changes that result from technological advances, demographic, social, and industry trends.

SEMCOG/MAC Role in Economic Development

The SEMCOG/MAC Economic Development Strategy for Southeast Michigan, [Partnering for Prosperity](#), identifies 11 broad-based strategies for increasing jobs and prosperity in the region. Among the main recommendations related to talent development are:

- Educating our Future Workforce
 - Strengthen and build collaboration between education and business to ensure students develop problem solving, critical thinking, analytical, and other skills needed for Lifelong Learning and career success.
 - Develop career pathways in partnership with employers to help students identify potential areas of interest and make informed decisions about post-secondary education options and careers.
- Connecting People and Jobs
 - Develop recommendations, strategies, and tools to connect people with jobs and career advancement opportunities.
 - Analyze current and future labor market trends to better understand and address employment needs in high-growth industries.
 - Identify and address hiring-process barriers that hinder capable people from entering the workforce.

Making the Case

Impact of Technology on Future Skills

Technology is transforming the economy and just about every aspect of our lives, including communication, transportation, and employment. This will lead to changing demands for skills across industries and occupations at every level – not just Information Technology.

Technology that will have the most [impact](#) on the future of jobs include mobile internet and cloud technology; processing power, big data, new energy supplies and technologies; and the Internet of Things. In addition, robotics and autonomous transport, artificial intelligence, advanced manufacturing and 3D printing, and advanced materials will particularly impact the manufacturing industry. There have been a number of reports about the impact of technology on jobs – particularly in Artificial Intelligence and machine learning.

The narrative has swung from the possible [elimination of 47 percent](#) of all U.S. jobs due to automation to a more positive scenario with about [14 percent of jobs](#) actually being lost while the others are transformed. At the same time, others see technology as creating greater opportunities for growth and innovation rather than loss of jobs. The rate of change is unknown, but one [prediction](#) says we could see the equivalent of 20,000 years of change in the 21st Century due to computing power. One thing that is clear is that technological advances will continue to transform the future workplace and that change will happen at a rapidly increasing pace.

How will technology impact jobs?

Technological advances such as Artificial Intelligence, Virtual Reality, and Augmented Reality provide both opportunities and challenges for workforce development. With increased technology in the workplace, the skills, knowledge and education needed by the workforce will continue to change at unprecedented speed. This requires an education and training system that can adapt to changes rapidly and effectively.

While technology will impact every industry in some way, some are more affected than others. It is generally accepted that manual, repetitive jobs are most easily replaced by automation, while those that require more personalized approaches are more difficult to replace. However, increasingly, professions such as accountants and paralegals may be impacted as much as truck drivers and telemarketers because of technological improvements in computing and big data.

Industries such as construction and manufacturing are adopting technology to increase productivity but also address the declining labor force availability. Future professional trade jobs will require more technical skills and the ability to work alongside robots.

For Southeast Michigan, the impact of technology can be seen most dramatically on the manufacturing industry. While technology has reduced the number of jobs, the focus on connected and autonomous vehicles provides opportunities for new manufacturing jobs in the region.

Table 1 shows the projected change in manufacturing jobs by county. While the number of jobs will decline, productivity will continue to increase due to technology.

Table 1

Change in Manufacturing Jobs by County, Southeast Michigan, 2015-2045

	Manufacturing Jobs 2015	Manufacturing Jobs 2045	Number change 2015-2045	Percentage change 2015-2045
Livingston County	9,089	7,852	-1,238	- 13.6
Macomb County	65,306	49,345	-15,961	-20.6
Monroe County	5,798	4,089	-1,710	-29.5
Oakland County	67,488	48,523	-18,965	-28.1
St. Clair County	7,716	5,429	-2,286	-29.6
Washtenaw County	15,667	12,136	-3,531	-22.5
Wayne County	92,990	65,554	-27,436	-29.5
Southeast Michigan	264,055	192,929	-71,126	-26.9

Source: SEMCOG 2045 Forecast

How will technology impact work environments?

Technology has changed the workplace through the greater use of data analytics, cloud technology, robots, and increased digital and physical security enabling telecommuting and co-working office space.

Virtual teams/telecommuting

[Virtual teams](#) are a product of both technological advancement and globalization of the economy. Technology allows people to work remotely but communicate with colleagues and clients in different locations, with options for in-person meetings as needed. The main advantages for employers are cost savings, access to global talent, higher productivity, and lower costs. The disadvantages are cost of technology, lack of collaboration, and social isolation. For employees, the main advantage is the flexibility that telecommuting provides. More recently, some companies that previously encouraged remote work are rethinking this option finding that productivity can be reduced by lack of collaboration. However, telecommuting continues to [grow](#) in industries for workers who are not involved in location-based production or services.

How will technology impact the workforce?

The workforce will need to have digital literacy skills and technical knowledge, in addition to the skills to navigate a changing workplace. Occupations that are most resistant to being replaced by technology are those that require problem solving skills; the ability to develop complex human relations, such as in healthcare, and social work; and “creative” careers in the arts and sciences. Technology will be used increasingly for the administrative or technical parts of the jobs, rather than the human interaction.

It has been suggested that developing “[an agile mindset](#)” can help adapt to the impact of technology. This leverages human skills that have not yet been replaced by computers. They include empathy, divergent thinking, an entrepreneurial outlook, and social and emotional intelligence.

Although we may not know exactly how or when automation will transform whole occupations or industries, public policy needs to be ready for the change and continue working toward solutions for meeting the needs of the future workforce.

Gig economy/contract workers

Contract workers, also known as freelancers or flex workers are part of the “gig” economy and according to some [sources](#) are the fastest growing part of the workforce. They could make up half of all workers in the next ten years. The growth of industries such as Uber and Lyft have been an important part of this growth, although their employees may have full-time jobs and drive for ride hailing services to supplement their incomes. A poll by NPR and Marist on contract workers found that 51 percent do not receive benefits, 49 percent have incomes that vary by month or season, and 66 percent like their schedules.

According to the Bureau of Labor Statistics (BLS), only about 10 percent of the workforce is currently comprised of people whose income is primarily through contract work. BLS [data](#) suggests that, “an estimated 15.5 million U.S. workers have alternative arrangements for their primary employment – this includes independent contractors, on-call workers, temporary help agency workers, and workers provided by contract firms.” Companies use contract workers to save on salaries and benefits, and access a larger and broader labor pool – including in other countries where there are sufficient technology connections.

Regardless of the actual number of contract workers and whether they are employed full- or part-time, their numbers are increasing. Both small firms and large corporations use contract workers for administrative and professional services, including human resources and marketing.

Impact of Demographic and Social Changes on the Workforce

While technology is and will continue to transform jobs, other [research](#) indicates that the impact of demographic and socio-economic trends could be greater than technology. People will work longer as they live longer. They will also have many different careers in several fields. They will have to continue learning to remain relevant in the workplace even after the traditional retirement age. In addition, business models are changing – partly in response to technology and demographic changes but also as a result of changing customer preferences and evolving business outcomes. All these factors will influence the future of jobs and work. A [World Economic Forum](#) survey found that “demographic and socio-economic shifts are expected to have nearly as strong an impact on business models and organizational structures as technological change.”

What are the trends that will change Southeast Michigan?

Demographic Change and the Future Labor Force

SEMCOG’s *2045 Regional Development Forecast* shows that overall, the region will experience modest population growth of 8.1 percent from 2015-2045, compared to more than 20 percent for the nation.

Figure 1
Impact of Aging on the Labor Force

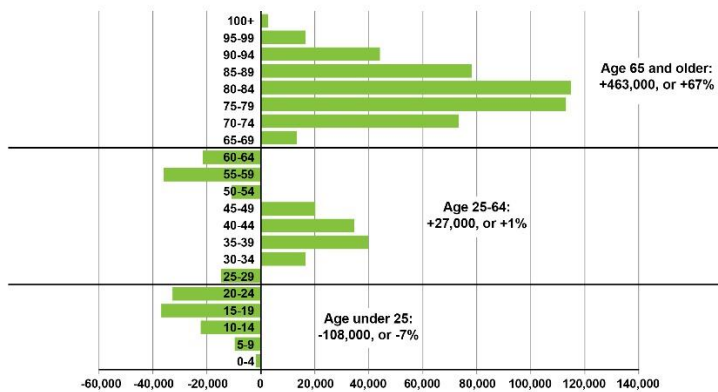


Figure 1 shows the number of people 65 and over will grow from about 700,000 in 2015 to reach 1,160,000 in 2045 – an increase of 67 percent in 30 years. More dramatically, the number of individuals aged 85 or over will increase by 150 percent during the same period, and the number of people below age 25 will continue to decline – by 108,000 people. By 2026, there will be more people in the region above the age of 65 than under the age of 17.

Figure 2
Change in School-Age Population, 1995-2045

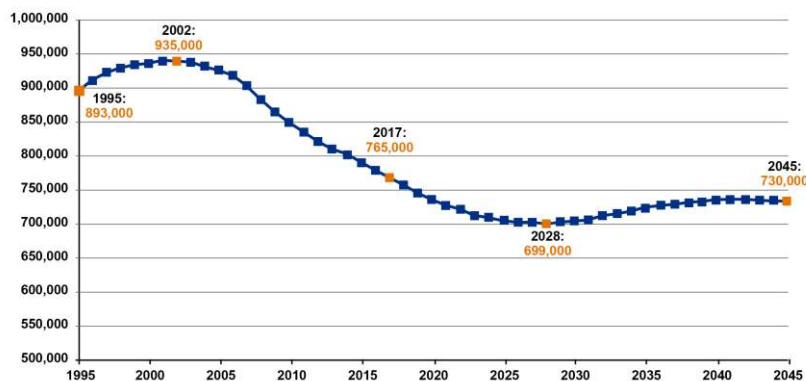


Figure 2 details the decline in the school-age population. The decline began in 2002 and will continue until 2028 by which time the total loss will be 25 percent. There will be growth after 2028, but this will be at a much slower pace than in previous decades.

Multi-Generational Workplaces

Population changes will create several generations in the workplace which will result in both opportunities and challenges for employers and the workforce. There are currently four major generations of workers in the workforce: Baby Boomers, Generation X, Generation Y (often known as Millennials), and Generation Z. Each has unique characteristics and expectations. Developing a collaborative environment which respects cultural and generational differences is critical to business success.

For example, Millennials, who are now the largest group in the workforce, are characterized by frequent job changes and a focus on work-life balance. With unemployment rates at the lowest level in about fifty years, skilled talent has a lot of options. Managing the strengths and meeting the expectations of each group will help employers attract and retain their employees. Table 2 identifies general characteristics of the four generations in the workforce

Table 2

Characteristics of Different Generations in the U.S. Workforce

	Baby Boomers	Generation X	Generation Y (Millennials)	Generation Z
Date of Birth	1946-1964	1965-1980	1981-1996	1997-
Number in the Workforce in 2016	41 million	53 million	56 million	9 million
Main work related characteristics	Loyal Hard workers Mission oriented	Eager to learn Multi-taskers Highly educated	Positive attitude Tech savvy Collaborative	Competitive Independent Entrepreneurial
What they want from their careers	Make a contribution Teamwork Clear job expectations	Flexibility Forward thinking Provide input Work-life balance	Engagement Work-life balance Challenge Make a difference Flexibility Coaching Collaboration Workplace culture	Instant feedback Money Job security Mentoring Develop Strengths

Source: Adapted from various sources including Forbes, Center for Creative Leadership, West Midland Family Center, and Pew Research Center.

Multiple Career Changes

Education has traditionally prepared people for one life-time career. This needs to change to preparing individuals for multiple careers because technology will reduce demand for certain skills and require the workforce to quickly develop new skills that can transfer from one career to another.

Millennials, who currently make up more than a third of the workforce, have the [highest rate](#) of job changes, with an average of four job changes in their first 10 years in the workforce compared to twice for Generation X workers. Certain industries see more turnover than others. These include media, government, and nonprofits. They often stay longer in manufacturing, possibly because of salaries and benefits, although interest in manufacturing has been declining. In a recent Gallup survey, 21 percent of Millennials changed jobs in the last year (compared to about six percent of non-Millennials), and 60 percent are open to new job opportunities. Millennials [focus](#) on work culture and work-life balance. Salary and career development are important, but some would be willing to take a pay cut for places where the work values match their own. Millennials get married later and are interested in exploring and relocating to other places. Companies that are able to offer this option, as well as meet their other priorities, may be able to keep them longer.

Education needs to prepare students for many jobs and careers, not just the first one. Individuals will need skills to help them navigate the changing workplace, and employers will need strategies to retain them longer.

The Impact of Business Trends on Future Skills

Businesses are having to change how they operate, partly as a result of technological advances and demographic trends, in addition to customer demands and profitability. This affects who and how they hire as well as expectations for training, compensation, and professional development. The changes differ from industry to industry, but focus on creating a more sustainable future. Some of the changes taking place in Southeast Michigan's main industries are discussed below.

Manufacturing

Throughout its history, the manufacturing industry has used technology to improve productivity. Current technology includes Artificial Intelligence such as computer vision, voice recognition, and autonomous vehicles.

Southeast Michigan's manufacturing industry has seen increasing levels of automation over several decades resulting in the need for fewer workers. At the same time, there is a worker shortage because of the need for higher levels of education and the ability to work side by side with machines and industrial robots. The specific needs and competencies include computer science and software development, additive manufacturing and virtual assembly. Companies are realizing that they need to train their own workers, partner with higher education institutions, and also use online learning skills-based education platforms to ensure their employees have the right skills and knowledge. A recent survey of manufacturing companies found that 38 percent are providing employees with training that meets their current needs, 28 percent are providing training that meets their future needs, and only 36 percent are budgeting for employee development.

Table 3 shows the 30-year forecast for different types of manufacturing jobs in Southeast Michigan. The largest job losses will be in metal, machinery, and motor vehicle manufacturing. The automobile industry, which has been the most important part of the region's manufacturing base for more than a century, will lose another 24,000 jobs, although productivity will continue to increase. As the industry transitions to the mobility industry there will still be a labor shortage. The main demand will be for electrical and software

engineers, as well as production workers with education and cross training that provide greater flexibility to take on a number of functions. Manufacturing companies are rethinking their hiring practices to ensure they have enough people with the right skills.

See Appendix C for case studies related to preparing people for changing careers in the manufacturing industry. These include Washtenaw Community Colleges' Advanced Transportation Center and Macomb Community College's M-CAM and Michigan Apprenticeship Program Plus (MAP+) programs.

Table 3

Manufacturing Jobs Forecast, Southeast Michigan

Industry	2015	2045	Percentage Change 2015-2045
Wood product manufacturing	1,268	1,051	-17.1%
Nonmetallic mineral product manufacturing	3,925	3,230	-17.7%
Primary metal manufacturing	8,741	5,884	-32.7%
Fabricated metal product manufacturing	36,494	26,297	-27.9%
Machinery manufacturing	32,966	18,955	-42.5%
Computer and electronic product manufacturing	7,151	4,485	-37.3%
Electrical equipment and appliance manufacturing	2,494	1,614	-35.35
Motor vehicles, bodies and trailers, and parts manufacturing	109,990	83,365	-24.25
Other transportation equipment manufacturing	3,210	2,857	-11.0%
Furniture and related product manufacturing	2,883	2,298	-20.3%
Miscellaneous manufacturing	9,935	6,910	-30.4%
Goods manufacturing	5,658	4,824	-14.7%
Beverage and tobacco product manufacturing	3,127	2,951	-5.5%
Textile mills; Textile product mills	1,008	485	-51.9%
Apparel manufacturing; Leather and allied product manufacturing	1,836	496	-73.0%
Paper manufacturing	3,054	2,598	-14.9%

Printing and related support activities	7,347	5,291	-28.0%
Petroleum and coal products manufacturing	1,175	970	-17.55
Chemical manufacturing	8,257	6,821	-17.4%
Plastics and rubber product manufacturing	13,536	11,547	-14.7%
Total Manufacturing	264,055	192,929	-26.9%

Source: SEMCOG 2045 Forecast

Healthcare

Nationally, the U.S. healthcare workforce is projecting 18 percent growth from 2016-26 adding 2.4 million new jobs, with a median annual wage of \$64,770 – nearly twice that of the median wage of all occupations. Growth is being driven largely by demographic changes including the aging population requiring more medical care; increased diversity in the patient population; healthcare coverage; and advances in technology. This will require changes in the skillsets of healthcare professionals.

In the future, there will be growth in Registered Nurses (RN) working in nursing homes, home healthcare, and ambulatory care. Specific skill needs in healthcare include collaboration, teamwork, communication, relationship building, efficiency, and customer service to improve the patient experience. In addition, technology is impacting healthcare jobs so workers must also be able to work side by side with robots, and use technology to increase efficiency, allowing more time spent on direct patient care.

Other changes in the healthcare landscape include a change from fee-for-service to value-based care – where professionals will be paid for improved health, not just volume of patients seen; virtual medicine; and a shift from in-patient to out-patient care.

In Michigan, the highest growth healthcare occupations are Physicians Assistants (19 percent), Physical Therapists (22 percent), Occupational Therapists (16 percent), and Registered Nurses (12 percent). In Southeast Michigan, registered nurses have been the most in-demand occupation for several years.

Southeast Michigan's healthcare organizations are working closely with colleges, universities and certificate programs to teach skills for working in different delivery settings, and with K-12 to introduce students to career opportunities. In addition, they are providing education opportunities, professional development, and mentoring to improve the skills of existing employees.

Information technology

The Information Technology industry is at the forefront of technological advances, but it is also transforming just about every other industry in the economy. Artificial Intelligence (AI) and Business Intelligence (BI) are reshaping the IT industry and technology within other sectors. In particular, they are replacing many routine human tasks and enabling other tasks to be done more efficiently. Increasingly, data driven solutions are driving business decisions. Probably the most important workforce challenge affecting the IT industry is the rate of change. The education pathway for IT requires continuous learning as older technology becomes obsolete. Higher levels of education do not guarantee success because of ever-changing technology. In addition, supply is much smaller than demand, with only about one percent of the population having the skills needed to support a growing IT industry. These include both soft skills such as

communications, problem solving, and analytical skills, as well as math skills and the ability to create business solutions.

Nevertheless, Southeast Michigan has the opportunity to be a major IT leader due to the commitment of industry leaders, education institutions, and availability of a trainable workforce. This has led to multiple programs to develop a strong IT pool in the region focusing on growing fields like cyber security. This is also helped by the availability of jobs requiring different educational levels, creating opportunities for developing robust career pathways.

As an example, IT offers a range of career options for people with different educational attainment:

- High school diploma: IT Boot camps (e.g., three-month Java boot camp)
- Post-secondary certificate (e.g., helpdesk or desktop support)
- Two-year degree (e.g., junior applications development)
- Four-year degree (e.g., data analysts)

Some employers require degrees, but many employers prefer to train candidates so they understand company culture and practices and are likely to remain with the company longer. Although in theory, IT workers can work remotely, this can lead to lack of collaboration, productivity, and communication, which are increasingly important to businesses.

Another major challenge for the IT industry is that many positions are held by non-citizens. With increasing restriction on visa renewals, recruitment will be more difficult. Supporting legal immigration, especially of highly educated workers, and training the local population for technology-based positions are priorities for many companies.

Energy/Utilities

Southeast Michigan's energy industry is one of the state's largest employers and is expected to grow nine percent by 2024. It is more deeply impacted by demographic changes than most, with up to 50 percent of workers eligible for retirement in the next 10 years, and the pipeline is narrow. There are nearly 100,000 energy jobs in Michigan, and more than 1,800 new jobs will be created each year. The main demand is for construction laborers and electricians.

Technology is also a challenge for the energy industry as aging infrastructure based on coal-fired generation is replaced by gas and renewable energy. This will require more workers with more technology skills.

See Appendix C for a case study of the Talent Pipeline Management (TPM) initiative hosted by Consumers Energy in partnership with business, education, workforce development and business associations. The project forecasts demand, identifies competencies, maps sources, and develops training partnerships with preferred providers for electric line workers.

Construction

Construction contributes 4.3 percent of Michigan's GDP – \$21 billion, plus \$10 billion in wages and salaries. It employed 175,000 workers in June 2018 – 18 percent less than 2000. This is a result of both increased technology with Artificial Intelligence, construction robots, and drones requiring higher levels of math and technical skills than in the past, and difficulty recruiting labor due to the negative perception and lack of interest in construction careers. The average worker is 41 years old and the average apprentice is 30, so it is important to continue building the future pipeline. Positions in construction range from union trade labor, generally requiring certification or an apprenticeship, to salaried professional services

traditionally requiring a four-year degree – such as project managers and engineers, superintendents and pre-construction estimators.

Most construction industry jobs are Skilled Trades. Eighty percent of members of the Associated General Contractors of America reported difficulty filling craft positions and 56 percent struggled to fill salaried positions.

Despite the number of new developments and the opportunity to work on major exciting construction projects in Detroit, including Little Caesars Arena, Hudson's, and the Wayne County Criminal Justice Center, perception of construction as a “dirty job” remains a challenge. The industry is working with youth to help rebrand the industry, and also with adults who can undergo short-term training to prepare for construction careers or enter into an apprenticeship.

There are many examples of efforts to build the construction pipeline in Michigan. Several of these can be found in Appendix C.

Public sector

Public-sector employment in the U.S. accounts for about 15 percent of total employment. About 64 percent of government jobs are at the local level, 23 percent at the state level, and 13 percent at the federal level. Local education accounts for about one of every three public-sector jobs. In Michigan, the public sector makes up about 14 percent of all jobs. Police and Fire/EMS departments generally employ the most workers, but can be the most challenging positions to fill. There are many administrative and professional positions in the public sector – including finance, accounting, IT, human resources, engineering, and planning.

While the public sector traditionally paid lower salaries than the private sector, it offered generous benefits and pensions. Michigan's local governments (and public schools) have seen declining state support and revenues over the last 20 years, resulting in the need to cut staff and benefits. Some of these tasks have been automated, and some privatized. The public sector has also pursued intergovernmental collaboration. This can be seen in public safety with joint dispatch and equipment purchase, and also in building departments with shared inspectors. From a talent perspective, public-sector employees need to be flexible about their roles and be willing to cross train to do the tasks in most need at any one time. In addition, some local governments are beginning to update their civil service hiring system to attract difficult-to-hire professionals such as IT, and creating workplaces valued by Millennials.

From a public-school perspective, recruiting and retaining teachers is a challenge. There has been a 40 percent decline in enrollment in teacher preparation programs in the last few years. Some schools are focusing on improved professional development and mentoring to keep teachers. Teachers are one of the most critical elements of the Talent Development System. Attracting talented people to teaching should be a priority for the state.

Entrepreneurship

While Southeast Michigan is world renowned for its manufacturing industry, it got its start with innovative ideas by entrepreneurs such as Henry Ford and Thomas Edison. That entrepreneurial spirit is making a comeback through efforts such as the [Centrepolis Accelerator](#) in Southfield and [TechTown](#) in Detroit. We lead the nation in terms of patents; universities are a hotbed for developing solutions for healthcare, manufacturing, and energy; and maker spaces are springing up all over the region. Renewed interest in entrepreneurship is supported by the universities, philanthropic community, economic development organizations, and even TV shows like *Shark Tank*.

The Changing Economic Landscape in Southeast Michigan

The impact of technology on healthcare, engineering, information technology, and other professional and technical services will continue to increase and these sectors will continue to dominate the economy and jobs. At the same time all of these industries are facing talent shortages. To prepare the future workforce, we need to understand the skills, competencies, and education attainment required for success in these areas, but also to analyze the current education landscape both from a workforce and provider perspective. This will help us ensure that the Talent Development System is aligned with the growth areas. For Southeast Michigan, the composition of the economy will change dramatically over the next 30 years. This has implications for how education, training, and professional development programs will be designed and provided.

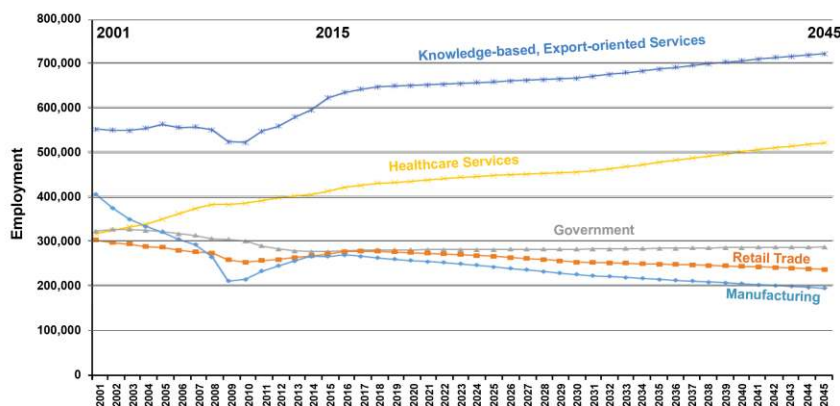
SEMCOG's 2045 *Regional Development Forecast* shows that the fastest growing occupations are:

- Professional Technical Services and Corporate HQ
- Healthcare Services
- Administrative, Support, and Waste Services
- Leisure and Hospitality

Professional and technical services jobs will grow by 29.2 percent (95,261 jobs) and healthcare jobs will grow by 28.4 percent (108,779). Retail and manufacturing will decline, but productivity will continue to rise largely due to technology. As both these industries are in a process of transformation, it is anticipated that new positions could be created although they will require different skill sets.

Figure 3 shows the job trends by major sector in Southeast Michigan from 2001-2045. Table 4 shows percentage change in jobs from 2015-2045 by industrial sector.

Figure 3
Jobs by Major Sector 2001-2045



Source: SEMCOG 2045 Forecast

Table 4

Forecasted Jobs by Industry Sector in Southeast Michigan 2015-2045

	2015	2045	Change 2015-2045	Percentage Change 2015-2045
Natural Resources, Mining and Construction	128,238	135,937	7,699	6%
Manufacturing	264,051	193,079	-70,972	-26.9%
Wholesale Trade	100,371	101,832	1,461	1.5%
Retail Trade	270,318	234,864	-35,454	-13.1%
Transportation, Warehousing, and Utilities	101,299	101,211	-88	-0.1%
Information and Financial Activities	294,740	299,188	4,448	1.5%
Professional and Technical Services and Corporate HQ	326,111	421,372	95,261	29.2%
Administrative, Support, and Waste Services	206,307	241,136	34,829	16.9%
Education Services	197,078	209,566	12,488	6.3%
Healthcare Services	382,516	491,295	108,779	28.4%
Leisure and Hospitality	248,362	277,003	28,641	11.5%
Other Services	162,934	161,592	-1,342	0.8%
Public Administration	91,898	91,923	25	0
Total Employment	2,774,223	2,959,998	185,775	6.7%

Source: SEMCOG 2045 Forecast

Education Attainment in Southeast Michigan

While population trends are important to understanding the potential labor force, and job numbers help us identify demand, our goal is to ensure that all working adults have the skills to participate in the workforce.

Table 5 shows education attainment in the region has improved over the last five years but we need to increase the number of people with post-secondary education, as 65 percent of jobs will require some education after high school – particularly in the region’s high growth industries. Education attainment levels influence income levels, unemployment rates, regional business attraction and expansion, as well as local site selection decisions. Governor Whitmer has set a goal of 60 percent for post-secondary education in Michigan by 2030. Even if all jobs do not require higher levels of education, the number of people not completing high school is a concern as there will be fewer jobs available to them.

Table 5

Highest Level of Education Attainment in Southeast Michigan for Population Aged 25 and Over, 2010-2015

	2010	2015	Percentage Change 2010-2015
Did Not Graduate High School	12.2%	10.8%	-1.4%
High School Graduate	28.5%	26.8%	-1.7%
Some College, No Degree	23.2%	23.4%	0.2%
Associate Degree	7.7%	8.5%	0.8%
Bachelor’s Degree	17%	18%	1%
Graduate/Professional Degree	11.5%	12.6%	1.1%

Source: SEMCOG Community Profiles and American Community Survey

In general, the higher the education level, the higher the income and the lower the unemployment rate. Although a more detailed analysis at the regional and county level will identify differences among different population groups and by field of study, higher levels of education have traditionally improved employment opportunities within each group. Table 6 shows declining unemployment rates and higher earnings as education attainment increases.

Table 6
Unemployment Rates and Earnings by Education Attainment

	Unemployment rate (%)	Median weekly earnings (\$)	Annual income (\$)
Doctoral	1.5	1,743	90,636
Professional	1.5	1,836	95,472
Master's	2.2	1,401	72,852
Bachelor's	2.5	1,173	60,996
Associate's	3.4	836	43,472
Some College, no degree	4.0	774	40,248
High School diploma	4.6	712	37,024
Less than a High School diploma	6.5	520	27,040

Source: Adapted from 2017 Bureau of Labor Statistics data.

Strategies for Preparing for the Changing World of Work

Education provides the basis for work and success. In a world with changing technology, demographic and business trends, we need to ensure that access to the best education and training opportunities are available to all. The region needs a larger, highly skilled talent pool to meet industry demands and grow economic prosperity in Southeast Michigan. The opportunities to get a good education are often influenced by income, geography, race, ethnicity, and other factors that are not linked to a person's abilities. This means we need to address factors such as inequities of geography and race.

The traditional education system begins with K-12 education followed by two to four years (or more) of post-secondary schooling leading to a career, which may or may not be in a related field. While education should focus on more than preparing for a career, in an era of severe labor shortages and the need to fill thousands of high paying, secure and in-demand jobs, the traditional model is not meeting the needs of business, the economy, or individuals who may be interested in alternate career pathways. Unless other viable education pathways are developed, promoted and validated, the traditional model remains the only acceptable path to most people.

While data shows that individuals with higher levels of education generally experience higher incomes and lower rates of unemployment, income and employment security are also influenced by the area of study. Science, Technology, Engineering, and Math (STEM) related studies at all levels provide both higher entry-level salaries and career opportunities because of the demand for these skills. While many [employers](#) value skills that build on liberal arts education, the main demand is for individuals who have both technical and soft skills.

Understanding the needs and preferences of employers and aligning education to these needs ensures that students and adults develop skills that are in demand and will keep them more employable over their working lives. This may mean updating programs to keep content relevant; more apprenticeships; industry credentials and certificates; and developing competency-based programs (with built-in practical experience) to complement two and four-year degrees. Certificates, credentials, and digital badges are all gaining popularity as “alternatives” to traditional education. However, there is a lack of knowledge about their value and how they can add to traditional education programs for students, adults and employers.

The economy requires all types of industries, occupations and jobs to succeed. We need to value the dignity of all work and occupations, to attract people to a broad array of careers that suit their abilities and interests. This includes industries that pay well such as manufacturing, and others that do not pay as well such as hospitality. The loss of restaurants and hotels in an area due to lack of available talent can affect a community’s attractiveness, so even if the lost jobs are not high paying, they provide people with incomes and the ability to participate in the economy. While some occupations require higher levels of education than others and are generally compensated well, those that have lower entry requirements should be valued for their role in supporting the economy.

Lifelong Learning

Lifelong Learning is one of the most important strategies for preparing the future workforce for the changing world of work. It can be defined as “formal or informal education, training and experiences for personal and professional development that improve personal growth and career opportunities for all individuals over a lifetime.”

Lifelong Learning builds on the skills and knowledge that individuals develop in their formal education and life experience; and continues with professional development in the workplace. A system of Lifelong Learning relies on an education and training infrastructure that directly connects K-12 to multiple post-secondary education pathways, with coordinated support from all levels of public and private education and workforce development, employers, labor, and government. It provides a combination of academic and experiential learning with integrated support systems that enables individuals to remain employable as technology, demographic, and business trends change the occupational landscape. Lifelong Learning addresses changing employer needs, workforce readiness, and regional economic competitiveness. At its core, it will provide the structure for a holistic Talent Development System.

Instituting a system of Lifelong Learning in Southeast Michigan has two main goals:

- Increase Southeast Michigan’s competitiveness by preparing a skilled workforce that supports the evolving needs of the economy.
- Provide individuals with lifelong career opportunities through enhancement of skills, knowledge, and qualifications.

Benefits and Challenges for Individuals, Providers and Employers

A system of Lifelong Learning can only be successful if people and institutions see value in it and make a commitment to engage. A SEMCOG/MAC Pulse of the Region public survey on Future Skills in 2018

found that people are willing to undertake continuous education if it will help their careers and is affordable. At the same time, we know that many people are not willing or able to make the commitment to continuous learning.

Some of the challenges facing individuals may include time, cost, competing responsibilities, transportation, child care, and fear of returning to the classroom. Certain populations may have specific concerns. Veterans may want their previous training/skills to be recognized. People on public assistance need to be reassured that they will not lose their benefits. Programs need to be flexible to meet the needs of all potential users.

Providers need to be assured of funding sources to cover new programs. Industry needs to ensure the training is relevant. Students need to be willing to engage and have realistic expectations about jobs and careers. Continuous learning can prepare employees for change and increase readiness for opportunities. For employers, having a workforce that is constantly learning will help in succession planning and addressing staff turnover.

To be effective, a system of Lifelong Learning must gain acceptance by the community at-large.

- It must be delivered in a convenient, flexible, accessible, and cost-efficient way “anytime, anywhere, any place.”
- It must be inclusive of all students and adults – regardless of education attainment or career goals.
- It must show how continuous learning/updating of technical and soft skills can help individuals to remain successful, relevant, and employable in a changing work environment.
- It must meet the needs of individuals, employers, and an evolving economy.
- It must be incorporated into the broader Talent Development System.

Lifelong Learning needs a number of providers to make it accessible, including adult education, community colleges, four year colleges and universities, workforce development agencies, labor, and employers. However, it is ultimately the role of the individual to brand themselves and determine their future based on the accumulation of soft, technical and career navigation skills developed along the way.

Support services are a necessary part of providing Lifelong Learning to all segments of our community. Without them, many people will not be able to access the programs. Services include information on career and educational opportunities that is easy to understand, accessible, and available to hard-to-reach populations. Other services may include tuition assistance, academic preparedness – focusing on remediation and tutoring, as well as wraparound services such as transportation and childcare.

Lifelong Skills

Each occupation needs specific skills, depending on the position, but there are also foundational and personal skills that are needed in every industry, many of which are developed over a lifetime.

So, what are these skills and what should they be called? The term “Lifelong skills” suggests that they are always needed – now and into the future. They will not change as industries and jobs evolve, and are just as important to life success as career success. They include soft, career navigation, and technical skills. All are important for success in a changing economy. Soft skills in demand by most employers include communications, teamwork/collaboration, cultural respect, self-esteem, curiosity, and leadership. Career navigation skills include managing change, grit and drive, interviewing skills, entrepreneurship, and

networking. Technical skills depend largely on the career and industry, but in an economy where people may work in many different industries, the ability to learn and adapt, as well as project management skills are very helpful.

Career Pathways

The region needs people with different levels of education, skills, abilities, and competencies to fill a broad range of jobs that contribute to a robust economy. It is important to increase awareness and respect for all career pathways that prepare individuals for the workforce and lead to business and individual success.

[Career pathways](#) can be defined as “a series of structured and connected education programs and support services that enable students, often when they are working, to advance over time to better jobs and higher levels of education and training. Each step on a career pathway is designed explicitly to prepare students to progress to the next level of employment and/or education.”

Career pathways are an important model for career development. Effective career pathways depend on exposing students early to a range of careers and programs. Work-based learning, extra-curricular activities, and career counseling all play a role in raising awareness and helping students prepare for a successful career.

Southeast Michigan’s intermediate and local school districts are leading a number of initiatives for career pathways in high demand fields. These include CTE programs, career-based early middle colleges, career focused high schools, and career academies with corporate support. Community colleges support career pathways in several ways, including connecting with and building on high school CTE programs and working with employers to develop training programs. Many of these efforts are identified in Appendix C.

Competency-Based Education

Competency-based education (CBE), or *personalized learning*, focuses on students demonstrating knowledge of academic content before moving on to the next stage of learning, rather than “seat time.” The main [components](#) of CBE are:

- Students advance upon demonstrated mastery
- Competencies include explicit, measurable, transferable learning objectives that empower students
- Assessments are meaningful and a positive learning experience for students
- Students receive timely, differentiated support based on their individual learning needs
- Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions

Competency-based education has been used for many years in different education settings as well as in business. For example, doctors need to show competency in the different aspects of their field before they are able to treat patients. They also take board exams every few years in order to retain their licenses. Teachers must take a certain number of professional development courses to remain certified. CBE has been limited in education, but there are opportunities to broaden its application through online and blended learning; dual enrollment and early middle college; and project-based learning, which provide students with increased flexibility. The Michigan Department of Education (MDE) is working with seven school districts on a three-year [CBE pilot program](#) to explore, develop and implement a quality CBE system. In addition, MDE is looking into using CBE for professional development for teachers.

CBE can help adult learners with professional development, by providing flexible programming that they can take on their own schedule. It may also provide them with the opportunity to complete degrees at their own pace by applying knowledge learned through additional education or professional experience. There is evidence to show that CBE provides accurate measures of quality student learning in a flexible, timely and cost effective way.

Competency-based education is often demonstrated through the use of credentials, certificates, and badges.

Credentials, Certificates, and Digital Badges

Like CBE, stackable and industry credentials, certificates and digital badges are becoming more popular as a way to complement traditional education programs. [Credentials](#) can be defined as, “A verification of an individual’s qualification or competence issued by a third party with the relevant authority to issue such credentials...”

Credentials and Certificates

They can effectively address the skills gap and help grow the labor force by training individuals with the right skills at the right time in alignment with business needs. Credentials include degrees, licenses, certificates and industry-based certifications, offered in a series. They are generally associated with short programs that do not result in a college degree, although there may be opportunities to combine them toward a degree. Credentials can be issued by government agencies to meet state licensing regulations; business and trade associations to show skill mastery such as in welding; and by education entities for career technical education at both the secondary and post-secondary levels. They are also used in extracurricular activities. Credentials and certificates are broadly used by community colleges to provide students with recognition of skills and competencies in addition to the more traditional degree. Nationally, community colleges award about 50 percent of certificates. In Michigan, our 28 community colleges awarded 7,852 certificates (ranging from less than one year to up to two years of study), 21,480 Associates degrees, and 49 Bachelor’s degrees.

The success of credentials depends on both how they are valued by employers, employees, and job seekers, and how they are marketed by educational institutions. A report by Jobs for the Future, *Four Ways to Increase the Value of Short-Term Credentials: A Guide for Community Colleges*, states that, “Educators and employers share the same goal when it comes to short-term credentials: developing transparent, flexible, and responsive programs where students can earn credentials that are trusted, respected, and hold labor market value...” The main challenges in growing the market for credentials are:

- Lack of uniformity and standards for credentials
- Lack of accreditation by third parties
- Lack of information on the value of different credentials for students
- Lack of employer input in development of credentials
- Concerns about costs for employers and students
- Gap between credentials awarded and those in demand by industry

Growing the market for credentials will be helped by targeted [strategies](#) such as:

- Building more effective business/educational partnerships to identify and communicate the skills and knowledge workers need; collaborating on curriculum design and return on investment measurements; and including credentials into hiring and promotion decisions.

- Marketing short term credentials more effectively to and through social media, alumni networks, legislators, and industry groups.
- Developing, approving, and reviewing programs with support of faculty.
- Building support among multiple stakeholders including workforce development, policy makers, business associations and funders.

Expanding credentials will require that education policy does not discourage them and allows key federal funding programs such as the Pell Grant to be used more broadly for a range of certificate/credential programs. In addition, education institutions need to look at credit and non-credit programs as part of a holistic education system rather than two different systems. Developing more stackable credentials will also help working students' access higher education as the need and opportunity arises.

Digital Badges

Digital Badges are generally awarded for shorter more specific “training” and competencies and recognize technical or other specific accomplishments. They are most commonly used in secondary education and extra-curricular activities such as [FIRST Robotics](#). There are efforts to incorporate digital badges into student transcripts because they provide a virtual validated record of accomplishments that can be used by educators and employers for evaluation of students or future employees.

It is anticipated that certificates, credentials and badges will become the “currency of labor markets” in the future as employers demand competencies that can be delivered in a timely, efficient and proven way. There are efforts to improve their relevance, transparency, assessment and value by organizations such as Corporation for a Skilled Workforce and the Lumina Foundation, in association with education and business. They are expected to complement degrees and longer education programs in the future, not replace them.

Skills-Based Hiring

Skills based hiring (SBH) – also known as competency-based hiring – is a response to the lack of alignment in employer demand and employee skills. SBH is characterized by companies hiring individuals based on specific competencies or skills rather than formal education. A [national survey](#) found that the top attributes that employers seek are:

- | | |
|----------------------------------|-----|
| • Leadership | 80% |
| • Teamwork | 79% |
| • Written communications | 70% |
| • Problem solving | 70% |
| • Verbal communications | 69% |
| • Strong work ethic | 69% |
| • Initiative | 66% |
| • Analytical/Quantitative skills | 63% |
| • Flexibility/Adaptability | 61% |
| • Technical skills | 60% |

For employers, a broad range of knowledge and skills, including soft skills, is more important than just technical skills. Another [survey](#) found that 96 percent of college academic officers were confident about

preparing their students for the workforce, but only 11 percent of business leaders agreed that college graduates have the skills and competencies needed by business.

SBH is still a fairly new concept in the U.S., and many businesses still hire in a “traditional” way – albeit on-line – with job postings that require specific skills, education, and experience. Some industries such as manufacturing are increasingly recognizing credentials as an indicator of competency. It is becoming more common in the technology sector where there is a shortage of qualified applicants. Businesses are training and hiring people who may not have a particular educational qualification, but are able to display an aptitude or interest in technology.

The Markle Foundation has been a pioneer in skills-based hiring practices. Its “Skillful” initiative in Colorado is focused on redesigning hiring to increase opportunities for displaced workers, and the underemployed, by helping them “articulate the skills they have, determine skills they need, and acquire those skills to become more employable.” The foundation also works closely with employers to identify skills needed and help address their needs.

Ultimately, the value of SBH to employers is access to a larger pool of workers to help fill current and future positions to help them grow. The value to job seekers is access to jobs that they may not have been considered for in the past. As employers, education, and workforce development continue to collaborate to strengthen the Talent Development System in the face of technological advances, demographic changes, and business trends, innovative strategies such as skills-based hiring will become more common.

Challenges Facing Key Stakeholders in the Talent Development System

Changing our Talent Development System requires support of the key stakeholders – **education**, **employers**, and **workforce development** – as well as consumers and influencers. Other stakeholders are the federal, state and local governments; the legislature; philanthropic community; parents; and students.

Education

Education is the foundation of the Talent Development System. It provides individuals with the skills, knowledge, and abilities to prepare for the future in terms of career and life success. It also provides the basis of learning to learn. Formal education providers include public and private early childhood institutions, K-12 systems, two and four-year colleges, technical schools, and community-based programs. Southeast Michigan has seven intermediate school districts, 113 local school districts, more than 150 public school academies, eight community colleges, five public universities, 17 [private colleges and universities](#), and many technical schools.

K-12 Education

Michigan’s K-12 education system is successfully preparing many students for the changing world of work, but others are left behind because they do not have access to quality education. Two issues that are particularly affecting quality are the difficulty recruiting and retaining teachers and school funding.

Teacher Recruitment

Despite the importance of teachers to student success, interest in education as a career continues to decline. Among the reasons provided by current teachers and those that have left the profession are:

- Parents are discouraging students from pursuing teaching careers

- Higher education debt
- Wide disparity in salaries by district
- Low starting salaries – 80 percent of teachers – even in higher salary districts – requiring a second job to support their families
- Lower entry standards for teaching makes the profession less attractive for high performing college students

The result is that many schools do not have enough teachers, particularly in fields such as Science, Technology, Engineering and Math (STEM); special education; and Career Technical Education, where there are more opportunities outside of teaching for college graduates. Addressing the concerns of current and future teachers is necessary to grow the profession.

School Funding

Student outcomes in Michigan have been declining compared to other states. This can be partly linked to declining school funding. A recent [report](#) from Michigan State University found that Michigan has seen the greatest decline in state K-12 funding in the nation over the last 25 years, which has impacted student achievement across the board.

For the last quarter century, Michigan’s funding for K-12 has been based on a per-pupil formula, where a certain amount of money is allocated for every student in a particular school district – known as the base foundation allowance – regardless of individual need or the cost to meet that need. In 2018, the Michigan School Finance Research Collaborative developed a formula that expands and strengthens funding for students with special needs, such as at-risk/poverty, English language learners, and special education. This creates a more equitable – not just equal – state funding system that is focused on the needs of students. While elements of this policy have been recognized in the Administration’s budget for K-12, it needs support by the Michigan Legislature to ensure that all students have access to a quality education with funding for necessary supports.

The per-pupil funding formula also needs to be adjusted for declining school populations as a result of demographic changes. As seen in Figure 2, the number of students has been declining by about one percent every year since 2002. This creates fiscal pressures on districts that are receiving less money overall but still need to provide students with the same quality of services. While the foundation allowance has increased by the rate of inflation, the total amount received by many local school districts in the region has continued to decline. At the same time, the State has been shifting about \$800 million a year from the state School-Aid Fund towards community colleges and universities, rather than funding these from the General Fund as had been the case before 2012.

To prepare Michigan’s secondary and post-secondary students for the changing world of work, there needs to be a commitment to provide adequate funding for quality education for all. In addition, there needs to be additional funding for students with special needs and policies to support districts with declining school populations.

Career Technical Education

With the increased demand for technical skills as well as workplace readiness, Career Technical Education (CTE) is becoming more popular. It focuses on providing students with a competitive advantage in post-secondary education and the workforce. It is redefining high school by providing students with academic and technical skills that give them a head start in their career training. CTE is nimble in adapting to the needs of business. Challenges facing CTE programs are student concern about the stigma of technical

careers that do not require a four-year degree, and adequate funding for hiring teachers with industry experience because they can earn significantly more in industry.

Graduates of CTE programs have the option of going to four-year universities, community colleges or into the workforce. Many students graduate from programs with certificates for high demand occupations. Surveys of Oakland Schools students who attended CTE showed that 88 percent of them plan to continue into post-secondary education and 60 percent plan to pursue a career in the CTE area studied.

Early College Programs

There are two types of early middle college experiences in Michigan. An Early Middle College (EMC) School and an Early Middle College Program. Early Middle College Schools are a five-year model that operates as a stand-alone public high school, a school within a school, a Public School Academy, or a Shared Educational Entity designed to allow a pupil to earn a high school diploma and either an Associate's degree, the Michigan Early Middle College Association (MEMCA) technical certification, or 60 transferable college credits at the same time. This model represents 17 percent of all EMCs in Michigan.

An Early Middle College Program is a five-year high school model designed to allow a pupil to earn a high school diploma and substantial college credit through an additional fifth year of study. A formal agreement with each postsecondary partner is required. This model represents 83 percent of all EMCs in Michigan.

EMCs are partnerships between an intermediate school district, local school districts, and a post-secondary partner – usually a community college. Students attend for three years and benefit from:

- College level classes while still at high school
- Ability to access regular high school activities
- No cost college education
- Ability to transfer credits to a four-year institution

There are EMCs in nearly every county in Southeast Michigan. Some are college based like those in Monroe, Oakland and Macomb County. Many EMCs have strong industry links and provide students with opportunities for work-based learning aligned with particular industries.

Community Colleges

Community colleges are one of the most effective institutions for preparing people for the changing world of work. They are nimble and able to develop programs that respond to employer needs and provide individuals with the skills needed to compete for in-demand positions.

Community colleges enroll more than a third of all undergraduates and 40 percent of low-income students. About one third of students complete an Associate's degree in six years and about 10 percent go on to get a Bachelor's degree. Community Colleges are community focused with open admission policies serving high school graduates, working adults looking to improve their skills and education, and community members who are looking for personal development opportunities. As a result they have a more diverse student body. [Data](#) from the Michigan Community College Association shows that minorities make up 28 percent of students, 36 percent are first generation college students, 17 percent are single parents, 12 percent have a disability, and 57 percent receive federal grants and loans. Thirty-seven percent of students are full time; 63 percent are part-time.

Community colleges are very collaborative. They work with employers, other colleges, K-12 and universities on transferring credits, articulation agreements, apprenticeship readiness, high-demand career,

and college success programs. For instance, at Monroe County Community College (MCCC), 23 percent of the head count is made up of dual enrolled high school students on a path for specific career tracks and college. Healthcare is the most popular area of study. MCCC also offers a five-year middle college on campus. In partnership with Monroe County ISD, a county-wide CTE program was created with classes offered at high schools and the college. Among the most popular programs are Artificial Intelligence, Healthcare, Computer Information Systems, and Welding.

Community colleges are funded through a combination of local property taxes, tuition, and state appropriations. Traditionally, their enrollment increases during periods of economic decline and declines when the economy is doing well. Declining enrollment is currently fueled by both a strong economy and aging of the population. This affects revenues and ability to provide programs. However, colleges continue to work towards providing an excellent education experience with most offering college sports teams, housing, support services, food pantries, and financial assistance for emergencies. They also work closely with business to provide skills most in demand by industry in a timely and cost-efficient way.

Beyond declining enrollment, community colleges in Michigan face a number of challenges including students not being prepared for college level classes and being recruited by employers before completing a certificate or credential; and difficulty recruiting faculty in CTE areas.

About two-thirds of community college students take at least one remedial class. Studies have shown that full time undergraduate students who take even one remedial class in their first year are 74 percent more likely to drop out of college. Students who do not graduate are four times more likely to default on their student loans. Those who do complete their degree will take about a year longer than their peers. This can cost \$30,000 more depending on type of institution, additional grants, scholarships, etc.

This is a major problem for the individual and the colleges. Some community colleges and states have developed successful strategies for helping students graduate. These include:

- Offering remediation classes alongside college level rather than prior, to enable students to stay on track.
- Ensuring that students are prepared for college by better assessments and interventions while still in high school. These include state supported math labs and dual enrollment programs.
- Aligning math classes with career goals – such as college algebra for future medical and engineering students, statistics for other students.

Four-Year Universities

Universities are critical to the region's economic development. They create a highly skilled workforce, improve business attraction, and serve as regional, national, and international assets.

We have many high quality, four-year universities in Southeast Michigan – both public and private. Five of the state's 15 public universities are in Southeast Michigan – University of Michigan, University of Michigan-Dearborn, Wayne State University, Eastern Michigan University and Oakland University. Some of the others also have regional campuses in Southeast Michigan. In addition, there are 17 private four-year institutions in the region. Southeast Michigan's universities provide a wealth of degrees, but also certificates that are valued in the workplace.

Among the challenges facing four year colleges are increasing tuition cost and student debt, degree completion, and the increase in the number of “non-traditional” students.

Unlike “traditional” college students – generally full time students from middle to high income families, 18-22 years of age, most likely living on campus – “non-traditional students” are much more diverse. Many are low-income, first generation, above the age of 23, financially independent, living off campus and/or attending part-time. In the last 10 years, non-traditional students have been the fastest growing group. This shows the importance placed on four-year degrees by students, but it also means that the institutions must change their programs to meet the needs of a more diverse student body. This may include more evening classes, flexible scheduling, online programs, and financial and academic supports to ensure that students can succeed.

Another challenge facing four-year institutions is the graduation rate. Only 60 percent of undergraduate students at Michigan’s public universities complete a Bachelor’s degree in six years with an average of \$30,000 in debt. This is a challenge for both the individual and the college because it affects public confidence if people are not able to obtain jobs which enable them to repay the debt. Some institutions have tried to limit tuition increases, and many are providing academic and financial supports to help students graduate. There needs to be more counseling to help students identify in-demand careers, understand the cost of college, and access different programs that may help them attain a four year degree through employer support, apprenticeship programs like MAT2, and beginning their degrees at a two year college or Early Middle College.

Employers

Employers are the second key stakeholder in the Talent Development System. They provide jobs for people and benefit from a good education system. They are also important partners – providing resources and supporting schools. Some provide expertise in curriculum development and offer work-based learning opportunities. In addition, they are responsible for professional development of their employees. They often work within industry groups or directly with colleges to provide employee growth and development opportunities.

Employers need to be at the table to support any discussion of future skills. Their input into the content, structure, and development of both degree and non-degree educational programs is essential for students to develop the skills they need for workplace success. Apprenticeships are a model of collaboration between employers, labor organizations, and educators. While apprenticeships have been common in construction and manufacturing, they are increasingly used in other sectors and occupations, such as Information Technology and Healthcare. They can provide a combination of academic knowledge and practical experience to meet current workforce demands in a shorter timeframe than traditional 4-5 year apprenticeships.

According to Manpower, 46 percent of employers in the U.S. are unable to fill current vacancies, due to candidate’s inadequate experience, technical skills, and soft skills. Our Talent Development System needs to address all three issues. Challenges differ by industry, but common obstacles include lack of foundational skills and the shortage of educators to teach in-demand fields such as Skilled Trades and nursing. Employers are also affected by the aging workforce.

Employer strategies focus on collaboration with education toward a collective goal of creating the future workforce. This includes providing opportunities for educators to learn about the current state of the industry and jobs; consideration of new hiring practices; sponsoring short or summer programs that provide on the job learning; raising awareness of careers through participation in events such as [Manufacturing Day](#) and [MICareerQuest Southeast](#); and supporting Career Technical Education, stackable credentials, and industry certifications in high growth fields.

Employers are also faced with retaining good employees over time. Increased turnover is due to a combination of generational preferences, with younger employees wanting to try different careers, as well as improved opportunities in a strong economy. [Recruiting](#) a new employee can cost an employer an average of nine months' salary, depending on the position and the business. Generally, the more senior the position, the longer it takes to fill and the more expensive it is. Replacement costs include cost of recruitment, orientation, and training. In addition, there are costs associated with lost productivity during the hiring process and also during the time needed to get the employee to full productivity. Finding ways to retain employees reduces costs for employers.

To improve retention, employers are developing programs and strategies to keep employees engaged through professional development and mentoring new hires. To attract employees, they are also participating in industry groups and business/education partnerships to expand the talent pool, and broadening hiring practices to attract new people to the industry, including women, minorities, and other non-traditional and underrepresented groups.

Regional economic growth will also require a change from traditional hiring practices that often exclude applicants who lack degrees and certificates even though they may have the practical skills and experience. Skills developed through non-formal education tracks, like non-credit programs, short credit-based training, and practical experience can provide job seekers with additional skills that complement their resumes and make them more marketable. The ability to evaluate these skills can be a challenge for employers, but through collaboration with education and workforce development, and participation in industry groups, they should be able to develop practices that address any challenges. Expanding the talent pool benefits everyone but requires new approaches, commitment and collaboration.

Workforce Development

Workforce development can be considered the third leg of the talent development stool. It serves job seekers, employers and employees through a combination of training programs, workplace readiness skills, recruitment and pre-testing. It also partners with education to provide professional development and industry-based credentials and certificates. Workforce development in Southeast Michigan includes the six public workforce agencies (known as Michigan Works!), labor organizations, and community based non-profits.

Workforce development has a particularly important role in preparing adult learners, unemployed, and underemployed workers for the workforce. The last recession forced many people in Michigan out of the workforce for twice as long as in previous recessions. Many people left the state, and some are no longer looking for work, despite a strong economy with very low unemployment rates, and huge demand for workers. Among the reasons for this is a lack of current skills, "giving up" on finding a job, and feeling disconnected from the labor market after a long gap.

As a result, at 62.3 percent, Southeast Michigan has a lower labor force participation rate than most of the largest metropolitan areas in the US. This indicates that there are many potential workers who could join the workforce with the right opportunities, training, and support services.

Public Sector System

There are 16 public workforce development agencies in the State of Michigan known as Michigan Works Agencies (MWA). Each has several service centers (known as American Job Centers) and is governed by a board with a majority private sector membership. Southeast Michigan has five MWAs which together operate 27 job centers.

MWAs have three main clients – job seekers, employers, and employees. This public workforce development system has evolved from serving as a human service agency to a demand-driven model that connects people to careers.

Employers are reaching out to MWAs because of the challenges with finding appropriate talent and the need to provide current employees with updated skills. Most are adapting to the changing economy and client needs by targeting training funds to high demand occupations only; greater commitment to developing work-based learning options; and career pathways awareness.

MWAs are funded and governed by the federal Workforce Innovation Opportunity Act which is coordinated by the State of Michigan Department of Talent and Economic Development. There are several state programs which are implemented at the MWA level and others that MWAs operate in partnership with K-12, employers, and labor organizations.

The public workforce development system serves a population with many challenges including lack of basic skills, awareness of career opportunities, work ethic, safety consciousness, transportation, and childcare.

MWAs are also challenged in serving the working poor, often known as Asset Limited Income Constrained Employed or ALICE populations. They do not qualify for many workforce programs because their incomes exceed eligibility limits – although they could benefit from the services. As a result, many people in Michigan are stuck in low-paying jobs with little opportunity to train for a career that provides a family sustaining income and opportunities for career advancement.

MWAs are addressing these issues in a number of ways, including providing a range of services and training for high-demand occupations, as well as career coaching. This enables clients to work towards long-term career goals rather than just immediate needs.

Nonprofit System

Organizations like Southwest Solutions, Focus: HOPE, Goodwill Industries, and JVS are among the largest and most effective non-profit human services agencies involved in workforce development. Each also provides more holistic services such as counseling and housing assistance, understanding that a job is important, but without housing or transportation it is difficult to retain employment. Their workforce services are focused mainly on providing work readiness and technical training for low-income residents, including homeless veterans, young minority males, chronically unemployed, returning citizens, and welfare applicants and recipients. Workplace literacy and re-entry programs help low income individuals achieve greater economic success. These programs use a combination of contextualized education, work readiness, financial literacy, job training and placement, and case management – with a view to eliminating barriers and serving the whole person. Southwest Solutions workforce programs have an 80 percent job placement rate.

Labor

Southeast Michigan's private sector labor organizations continue to be active in training the professional trade workforce as well as developing the future pipeline, particularly for the construction and manufacturing industries.

Among the main challenges facing labor organizations in a strong economy are negative perceptions of Skilled Trade careers by many individuals, lack of diversity among union members and recruits, and declining interest in labor organizations/unions partly due to employment laws.

Labor historically recruited apprentices from legacy families, rural areas, and technical and vocational schools. This led to lack of diversity in candidates, a dwindling pool of candidates, and dependence on financial support of technical schools. More recently, many labor organizations have developed a more inclusive recruitment process and have been focusing on new partners, new technologies, and increased outreach to ensure they are able to recruit a broader field of candidates.

For instance, the Operating Engineers 324 has worked with partners in industry, government and education to change the image of Skilled Trades to Professional Trades. Through working with organizations like the MI STEM partnership, FIRST Robotics and Randolph Career Technical Center, and events like the annual Construction Science Expo, they have expanded career awareness, pre-apprenticeship training and apprenticeships for in-demand, high growth careers. As a result of this effective outreach, there are more women and people of color entering the field.

Public-sector labor organizations such as the Michigan Education Association (MEA) and the American Federation of Teachers (AFT), focus on improving working conditions for educators and empowering students. They represent K-12 teachers, school counselors, social workers, psychologists, speech, physical and occupational therapists, school paraprofessionals, transportation, administration, services, and maintenance, as well as professors and other staff at universities and community colleges around the state. Their goal is to support an effective education system that develops empowered students regardless of where they live by providing professional development for all educators, advocating for quality teacher preparation programs, instructional practices, and wages and benefits to protect the teaching profession.

Other Stakeholders

Students

Students are our future. It is important to consult with students – both in secondary and post-secondary education and training – to understand their perspectives and needs. It is important to provide them with data and guidance on career and college pathways; academic and social support services; and cost and range of programming to help them meet their personal, career, and educational goals.

Focus groups conducted with high school students in the region revealed that they want fewer required classes and more electives – particularly related to career interests, college applications, art, and life skills, such as personal finance, teamwork and time management. Students asked for more information on understanding careers, the workforce, and opportunities for work-based learning to help them experience careers while still in high school.

Government

Government is a partner in the Talent Development System through its role in funding education and workforce development, establishing standards and laws for safety and workforce practices, providing an environment for economic development, and supporting business growth. In addition, the public sector has its own talent needs and can partner with education to develop a pipeline of people interested in public sector careers.

Governor Whitmer, the Michigan Department of Education, and the Department of Talent and Economic Development are leading education and workforce efforts in the state. The Governor recently announced proposals to improve post-secondary attainment to 60 percent by 2030 to “provide a clear metric to measure the economic health and competitiveness of our state and focus efforts across state government, educational institutions, and the community at large.”

She also announced two new programs. ***Michigan Reconnect*** would provide tuition-free pathways to an in-demand industry certificate or Associate degree for Michigan adults. The ***Michigan Opportunity Scholarship*** would provide high school graduates with two years of tuition-free education at a community college or four-year college for students with financial need.

Parents

Parents of K-12 students are stakeholders in the Talent Development System because of their influence on their children's education and career choices, but also as adults who can benefit from information on career and training opportunities to help keep their skills relevant in the changing world of work. Providing parents with real-time data and information on in-demand fields, and inviting them to career fairs and workplace visits, can better equip them to help their students make informed decisions.

Recommendations

The Future Skills Task Force developed the following recommendations and action steps. The goal is to help develop policies that:

Transform the Talent Development System in Southeast Michigan by building on established talent assets and partnering with education, employers, workforce development, and government to develop, implement, and evaluate strategies that support individual success and regional economic growth.

Recommendation 1: Create and promote a framework for Lifelong Learning

A system of Lifelong Learning provides individuals with opportunities and access to education, training and experiences for personal and professional development to support personal growth and career opportunities over a lifetime. The framework should increase awareness and appreciation of Lifelong Learning, identify measures to evaluate growth, and develop the necessary infrastructure to provide individuals with opportunities for continuous learning.

1. Partner with education, employers, and workforce development to identify their roles in the development and implementation of the Lifelong Learning framework.
2. Promote the value and necessity of Lifelong Learning to students and adults and identify positive outcomes.
3. Develop an effective system to identify in-demand skills in a rapidly changing economy.
4. Broaden opportunities for individuals to access flexible education options to fit their personal and work responsibilities.
5. Ensure employees have access to professional development that supports upskilling for career advancement.
6. Develop metrics to evaluate expansion of Lifelong Learning, such as data on increased enrollment in competency-based programs.

Recommendation 2: Build support for multiple career pathways

The region needs people with different levels of education, skills, abilities, and competencies to fill a broad range of jobs that contribute to a robust economy. It is important to increase awareness and respect for all career pathways that prepare individuals for the workforce and lead to business and individual success. Career pathways provide structure and guidance to students and job seekers to prepare for career advancement in growing occupations, and include innovative teaching and curriculum, support services, and employer connections.

1. Increase public awareness and interest in a wide range of different career fields and address negative perceptions by providing information on jobs, salaries, and other benefits.
2. Expand awareness, exposure, exploration, and preparation for careers through education and counseling in K-12 and post-secondary education.

3. Provide statewide data and information on career pathways for teachers and counselors.
4. Align curriculum with job needs and in-demand skills.
5. Recognize the importance of education by providing adequate state funding for K-12, CTE, post-secondary, community colleges, and work-based learning.
6. Expand opportunities for competency based learning through Career Technical Education, Early Middle Colleges, Career Academies and other programs that help meet current and future employer needs.
7. Promote the value and understanding of a variety of post-secondary educational pathways including, but not limited to, two-year degrees, four-year degrees, apprenticeships, and certificates.
8. Improve high school and college graduation rates including adult learners.
9. Identify and address challenges faced by students related to the transition from high school to post-secondary education.
10. Allocate special funding or incentives for attracting additional teachers/instructors in high-demand fields.

Recommendation 3: Promote collaboration between employers, education, and workforce development

A Talent Development System requires the sustained commitment and active participation of education, employers, and workforce development to prepare the future workforce. Understanding and meeting the needs of all partners are the foundation for success.

1. Recognize and build on existing successful education/business partnerships that can be replicated.
2. Provide state funding, coordination, incentives, and leadership to develop new multi-sector collaborations for talent development, and ensure funding among education and workforce development can be used together in complementary ways.
3. Elevate apprenticeships and work-based learning partnerships to develop a pipeline of qualified workers.
4. Promote programs that bring current and experienced professionals into the classroom as instructors.
5. Expand workplace exposure for teachers to understand current workplace environments, technology trends, industry timelines, and changing skill needs.
6. Encourage employers to be more visible and accessible at schools and colleges, and have input into curriculum to increase connections with students and educators.

Recommendation 4: Increase labor force participation by expanding the number of qualified workers from all segments of the population

Southeast Michigan has many individuals who do not participate in the labor force. Increasing participation will require increasing education attainment, support services, remedial education, training efforts, and a willingness on the part of employers to broaden hiring practices.

1. Expand employer support for education and training programs.
2. Encourage employers to expand professional development and work-based learning options.
3. Expand skills-based hiring.
4. Increase funding for wraparound services including transportation and childcare.

5. Ensure state and federal regulations enable individuals in work-based training programs to keep and access benefits.
6. Provide increased access to instructors, mentors, and caseworkers for adults in training programs, job seekers, and current employees to further career advancement.
7. Incorporate life skills, financial literacy, and work-readiness into all training programs.
8. Promote competency-based learning including badging, credentials, and certifications with shorter timelines for training aligned with employer needs.
9. Increase training and employment opportunities for non-traditional populations including immigrants, returning citizens, veterans, seniors, and individuals with disabilities.
10. Support policies that promote legal immigration to help meet the region's workforce needs.

Implementing Recommendations

Effectively implementing these recommendations requires:

- Collaboration of the key stakeholders
- Recognition of the need for continuous learning
- A change in culture and expectations about the nature of work and training by students, job seekers, and those that influence them
- A Talent Development System that provides individuals with opportunities to improve their existing skills or develop new ones in an accessible and affordable way

State government and the legislature can provide leadership and funding to help create a structure of education and training that meets the needs of all in a changing economy.

Appendix A: The Student Perspective

High School Focus Groups

SEMCOG and MAC held two focus groups with freshmen and sophomore high school students in Romeo, in Northern Macomb County, and at Dearborn Fordson High School in Wayne County. Both schools have adopted the Ford Next Generation Learning Academy model, a four-year high school experience where students identify one of three or four broad career tracks and take core classes aligned with the knowledge and experience required for multiple careers in that field.

The main takeaways from our conversations were:

- The top three career interest fields are healthcare, public/human services, and business.
- There is limited interest in construction, information technology, or manufacturing.
- The top career priorities are salary, work-life balance, and meaningful work.
- Nearly 80 percent of students plan to pursue a four-year degree, with about half planning to transfer to a four-year institution after completing a two-year degree.
- The majority of students plan to pay for college through scholarships/grants, in addition to working part-time, and family support. They did worry about the debt associated with college, but felt it was important enough to pursue because “it sounds better” and was important to employers.
- STEM and business are the most popular areas of post-secondary education. There was some interest in Professional Trades, but almost no interest in teaching careers. This was due to salary, and under-appreciation for teachers in general.
- Students feel that employers value communication skills, a college degree, and work experience.
- More than half felt their education was preparing them for college, while less than 30 percent felt it was preparing them for a career. However, the vast majority appreciate that the Academy model, which provides career exposure and work-based learning opportunities, would help them with their careers.
- There was limited knowledge of apprenticeships, industry certificates, early middle colleges, internships, and high growth fields.

When asked how to best prepare students for the changing world of work, they suggested:

- Fewer required classes and more electives – particularly related to career interests, college applications, arts, and life skills such as personal finance, teamwork, and time management. More “hands-on” opportunities to experience jobs first hand.
- Greater understanding of types of jobs available and workplace demands.
- Finally, students asked for more focus and support by social workers, counselors, and teachers for social anxiety, depression, and mental health.

Students want to learn more about careers, and take classes focused on their areas of interest. There was genuine appreciation for the academy model as well as the value of post-secondary education.

Appendix B: Other Input to the Task Force

Pulse of the Region survey

Increasing awareness and understanding of the changing skill environment is a critical part of preparing the future workforce. SEMCOG and MAC coordinated a Pulse of the Region public survey on Future Skills in early 2018 to collect public input on:

- Did their education experience prepare them for changes in the workplace
- What has helped them succeed
- On what factors should employers base hiring decisions
- Under what circumstances would they pursue additional training

The results showed that people are willing to pursue continuous education if it is related to their careers and is affordable. Respondents indicated their own success was due to skills such as problem solving, and believed employers should look for these skills when making hiring decisions. The majority of people were not worried about losing their jobs to automation.

I-275 Industrial Council

The [I-275 Industrial Council](#) was established in 2015 to bring together education, business, and workforce development and policy leaders from communities along the I-275 corridor in Wayne County to support employer talent needs and economic growth. The group provided feedback related to their most critical talent challenges at their November 2018 meeting.

The most in-demand skills identified were math, problem-solving, computer literacy, sales experience, willingness to work, and hands-on technical skills.

The jobs businesses most struggle to fill are engineers, Skilled Trades, including maintenance trades, electricians, tool and die, and general labor. Their main challenges include limited and shrinking skilled labor pools for engineering, architecture, and manufacturing jobs; negative perception of Skilled Trades; and inadequate soft skills. The cost of healthcare, demands for higher salaries, being able to keep up with technology, and providing opportunities for career advancement made it difficult to retain good employees. At the same time, some employees can be unreliable, have substance abuse and family issues, and a lack of interest in continuing education.

Employers indicated that it would be helpful for education and workforce development to focus on: workforce readiness skills, including soft skills; formalized alternative post-secondary career paths, including manufacturing awareness in K-12 curriculum; increased awareness of employer tuition reimbursement; and better equipping students with basic computer, sales, 3-D modeling skills, and other technology.

Education and workforce participants in the Council noted that it would be helpful for employers to provide more specific information on skill needs, funding assistance to adapt education programs to meet these needs, participation in program advisory committees for curriculum development, internship opportunities

for students, realistic expectations about skills for new employees, and willingness to invest in professional development.

CTE Educators/Administrators

SEMCOG and MAC presented an interactive session at the 2019 Michigan Career Education Conference along with partners from Wayne RESA and Macomb Community College. The objective was to discuss efforts to prepare the future workforce as well as re-tool adults who have been out of the workforce. The audience of mainly CTE educators and administrators identified the main barriers as restrictive labor laws, legal regulations that limit work-based learning opportunities (including for job shadowing), lack of collaboration across sectors, and limited resources for counseling and career focused education.

They encouraged more opportunities for career awareness/exposure in earlier grades; integrating career awareness into curriculum; more focus on contextualized and application-based education; and opportunities for counselors to teach career lessons/exploration/soft skills. They also suggested continuing career awareness in post-secondary education by partnering with K-12, requiring career education within teacher training programs, and requiring college faculty to pursue industry internships. They suggested employers should focus on creating more flexible work environments to meet employee expectations; offer creative rewards for retention; provide an inclusive culture; provide incentives that the workforce values, such as pay, flexible working conditions, and healthcare; and offer career mentors to help new employees understand the workplace environment.

CTE administrators and educators encourage policy makers to value Work Keys tests, not just standardized tests used by colleges, and promote all career/education tracks – not just 4-year degrees. They encouraged workforce development to take a more prominent role in educating adults and youth on career clusters, encouraging employers to provide work-based learning, and providing students with more opportunities to develop life skills.

Appendix C: Case Studies

Create and Promote a Framework for Lifelong Learning

Lawrence Technological University: Career Development Institute

Objectives: Provide access to relevant career development and career advancing certificate programs in high-demand occupations, and employer-driven lifelong learning programs that include stackable certificates and hands-on learning.

Description: Lawrence Technological University's (LTU) Career Development Institute (CDI) enhances the lives of high school graduates, high school students, and non-traditional students, working to pursue careers in today's most dynamic industries. It provides certification programs that give learners the practical job skills and credentials, including digital badges that are necessary to rapidly advance in today's fastest growing fields.

The CDI was launched in 2019. The initial programs have been developed in partnership with some of Southeast Michigan's largest employers in Information Technology, Advanced Manufacturing, Artificial Intelligence, Health Sciences, and Construction. They also include Continuing Education for Teachers, in areas such as Problem Based Learning. Some of the certificates provide credit toward a college degree.

Contact: Lisa Kujawa, Assistant Provost, Enrollment Management, Lawrence Technological University; 248-204-2403; lkujawa@ltu.edu

University of Michigan-Dearborn: Lifelong Learning Professional Development

Objectives: Help individuals and groups understand how changes in business are impacting organizations and industries through workshops that are suitable for both those with a business degree or no formal business education.

Description: University of Michigan-Dearborn's professional development workshops provide applied tools that individuals can take back to their teams and make a difference in their business or non-profit organization. They include leadership, communication, collaboration, innovation, and problem solving. The University of Michigan-Dearborn College of Business also offers customizable programming conducted by faculty for groups of employees. Companies such as Little Caesars and Hollingsworth have sent over 150 people. Hollingsworth now has an ongoing contract for quarterly training sessions for their employees. Full-day workshops can be taken individually or as a series and may count toward continuing education credits. Attendees who participate in six workshops in one calendar year will receive a credential from the University of Michigan-Dearborn College of Business.

More information can be found at <https://umdearborn.edu/cob/business-community/professional-development-programs>

Contact: Tim Davis, Director, iLabs, University of Michigan-Dearborn, 313-593-5248, tadavis@umich.edu

University of Michigan-Dearborn: Talent Gateway

Objectives: Provide students with skills required in today's workplace to develop creative, flexible, adaptable project leaders and problem solvers who can interact with the diverse world around them in a positive way.

Description: The University of Michigan-Dearborn's Talent Gateway is a voluntary program that provides students with the eight career-ready competencies defined by the National Association of Colleges and Employers, along with creativity and civic engagement. These provide a foundation for skill building opportunities for success in the workplace. Students complete “challenges” that stretch them to grow and practice their networking, leadership, public speaking and risk taking skills, while balancing lifelong learning and their personal lives.

More information can be found at <https://umdearborn.edu/academics/talent-gateway>

Contact: Laurie Sutch, Executive Director, Talent Gateway, University of Michigan-Dearborn, 313-593-5437, lasutch@umich.edu

Washtenaw Community College: Career Transitions Office

Objectives: Provide a place for individuals to get help in finding a new job or move ahead in their current career. It provides one point of contact to assist with career transitions due to layoffs or other circumstances.

Description: More than 15 percent of WCC students already have a four-year college degree or higher – anywhere from a bachelor's degree to a Ph.D. The Career Transitions Office recognizes that the skills people need for jobs in the 21st Century are constantly changing and adults need assistance to refresh their skills. In order to remain marketable in the workforce, individuals must constantly update their skills over a lifetime. The Career Transitions Office provides assistance with evaluation of skills and recommendations for next steps; Options for obtaining marketable skill sets including industry-based certification preparation and testing, workforce training, apprenticeship opportunities, and certificates or degrees; and job placement assistance including job search, resume development, interviewing skills and topical workshops.

Short-term, industry-based certificates can benefit people in the early stages of their careers or experienced professionals. Washtenaw Community College (WCC) works with the community, economic development agencies, and industry leaders to find out what employers need in terms of short-term technical training, and creates programming to meet these needs. These include credit-based degrees and certificates, workforce training and/or industry based certifications.

By establishing an office that can address the specific needs of employers, employees, and the community with regard to identifying skills gaps, and connecting to the relevant WCC department to create solutions, the process for job seekers and professionals becomes much more transparent and easy to navigate.

Contact: Ms. Cheryl Harvey, Director of Career Transitions, Washtenaw Community College, 734-677-5014, chharvey@wccnet.edu

Wayne State University: Warrior Way Back program

Objectives: Improve student success and degree completion rates, increase the number of Bachelor's degrees held by Metro Detroiters, decrease student debt, and strengthen the financial stability of local communities.

Description: The Warrior Way Back program is a groundbreaking debt forgiveness program – the first in the nation to welcome students to earn their way back to school. A small balance can shut off access to higher education for many students. The Warrior Way Back program reopens that path to a degree. Former students with debt to the University – but no Bachelor’s degree – can utilize this program and reduce their balance, one third at a time. Students in the program who successfully complete three semesters will have up to \$1,500 forgiven and regain their financial standing at the University. Over those three semesters and beyond, program participants will have access to newly invigorated services aimed at improving student success. A team of dedicated staff works with students to ensure they have the support they need academically and financially. Every student is required to meet with their academic advisor and speak with a financial aid officer each semester. The Warrior Way Back program is dedicated to finding a path back for the 25,000 former Wayne State students who left without a degree.

In the first semester since its inception, the program welcomed 56 students back to Wayne State, nine of them graduated and had their full balances forgiven. The program now has 76 students, eleven of which are expected to graduate in May. The program is on track to bring more than 100 students back to Wayne State University before Warrior Way Back’s first anniversary.

It is expected that this program and Wayne State will become a model for student success driven debt forgiveness programs across the United States.

Contact: Amanda Rosales, Enrollment Management Project Director, 313-577-9760, aw1324@wayne.edu

Build Support for Multiple Career Pathways

Beaumont: School at Work Program

Objectives: Address staff turnover, employee engagement, professional development, and career advancement in the healthcare industry.

Description: The School at Work Program is a national program brought to healthcare organizations across the U.S. that targets frontline associates of the organization – specifically employees who have a high school level education with no college degree. It is designed as a stepping stone to a certificate or degree program (Associate’s Degree or Bachelor’s Degree), and is used in more than 540+ acute care hospitals, including many that are nationally recognized for their efforts in providing education and career opportunities for their employees. This is a six-month program that focuses on professional development and career advancement. Curriculum topics include, math, grammar, communication, life management, and medical terminology. Students attend classes during working hours with other co-workers and peers and get the support of a “site coach.” Their department managers may also serve as mentors. Throughout the course of the program, the students may meet with an advisor for help with career goals and education concerns.

Contact: Lisa A. Ouellette, V.P. Human Resources, Beaumont Health, 248-964-6143, lisa.ouellette@beaumont.org

Detroit Public Schools Community District: Student Work-Based Learning Program

Objectives: Provide workplace readiness and job specific skills to high school students; help employers with training and recruitment costs; and increase representation of people of color in the workplace.

Description: Detroit Public Schools Community District (DPSCD) established the Work-based Learning program to provide on-the-job training for students in grades 11 and 12. The program is organized to

combine classroom instruction with paid work-based learning experience and is aligned with the student's career pathway. The program goals are to teach student learners workplace readiness skills; develop job specific skills such as personal responsibility; gain exposure to "opportunity" environments; and foster working relationships with adults in the workplace. Beyond the workplace connection, mentoring and employability skills training are afforded to the students.

More than 300 students will have participated by the end of the 2018-19 school year, along with over 50 employer partners from the following industry clusters: culinary arts, automotive technology, information technology, business management, professional trades, law enforcement/public safety, graphic design, and education.

Contact: Brenda Belcher, Executive Director, Office of College and Career Readiness, Detroit Public Schools Community District, 313-873-7637, Brenda.belcher@detroitk12.org

Livingston Educational Services Agency: Livingston Career and College Access Network

Objectives: Help Livingston County students achieve postsecondary credentials and degrees.

Description: The Livingston Career and College Access Network (LCCAN) was established in 2015. County-wide, more than 70 percent of high school graduates enroll in college, but less than 45 percent complete a degree. The LCCAN team comprised of education, industry, and community leaders established two focus areas to increase enrollment and degree completion to 60 percent by 2025:

- Increase the number of students completing the Free Application for Federal Student Aid (FAFSA).
- Increase the number of students having career and college experiences in high school.

These goals address the two main issues the LCCAN Leadership Team identified as barriers for students; the cost of postsecondary education, and knowing what direction to take to complete a degree.

LCCAN is coordinated by the Livingston Educational Service Agency, with support and partnerships with employers, higher education, government, and youth service agencies to align strategies to create a stronger, more educated, adaptable workforce in Livingston County. Partners include all five school districts in the county; Washtenaw, Mott and Lansing Community Colleges; University of Michigan-Flint; as well as chambers of commerce and businesses.

There are several initiatives at both the district and community level. Savings Plan representatives attend elementary open houses. There is increased support for students completing financial aid applications. Additionally, the LCCAN sponsored a Road Rally that raised \$12,000 in scholarships for students pursuing Skilled Trades. The event raised more than \$12,000 for scholarships. This [promotional video](#) gives an overview of the event.

County schools and employers are encouraging the use of MI Bright Future, which connects students, teachers and businesses. These connections provide opportunities to ask career related questions; learn about job shadowing, company tours, and internships; and hear from guest speakers.

Contact: Michelle Radcliffe, Executive Director of Secondary Options, Livingston Educational Services Agency, 517-540-6830, michelle.radcliffe@livingtonesa.org

Livingston Educational Services Agency: Livingston County Early College

Objectives: Increase the number of people with skills and knowledge for high growth industries in Livingston County.

Description: The [Livingston County Early College \(LCEC\)](#) is a unique opportunity for students to earn college credits, an Associate's degree, industry credentials, or technical certificates in a Career Pathway while still in high school. The LCEC was created to provide students a tuition free college education that will lead to a career in a high demand profession and transfer into a higher degree program.

Students begin blending their high school course work with CTE programs and college level coursework in 11th grade, adding additional college courses in 12th grade, and complete a full schedule of college coursework in a 13th year. Students may still participate in all 12th grade activities including graduation. They receive their high school diploma at the end of year 13, along with their college credential.

The programs of study align with local industry needs including: Nursing, Welding, Cyber Security, Construction, Data Analytics, Hospitality Management, Automotive Technology, Mechatronics, and Engineering Technology-Manufacturing.

Along with earning college credits and industry credentials, students will also be building their resumes with work experience including clinical rotations or paid internships.

Early college courses are offered at local area high schools, community colleges and extension campuses such as Mott Community College at M-Tech, Lansing Community College at Parker Middle School in Howell, Washtenaw Community College in Ann Arbor, and Cleary University in Howell.

The Livingston County Early College is available to Livingston County high school students through a partnership of Livingston County public school districts and the Livingston Educational Service Agency (LESA).

Contact: Michelle Radcliffe, Executive Director of Secondary Options, Livingston Educational Services Agency, 517-540-6830, michelle.radcliffe@livingtonesa.org

Macomb Community College: M-CAM Career Pathways Model

Objectives: Provide students with employer-driven pathways with embedded industry credentials leading to employment, along with the support of wraparound services.

Description: The Michigan Coalition for Advanced Manufacturing (M-CAM) is a coalition of eight community colleges in Michigan that agreed to align transfer credits among their advanced manufacturing programs. It was funded by a U.S. Department of Labor grant. The colleges include Macomb Community College and Schoolcraft College in Southeast Michigan. The agreement supports student mobility – providing the ability to apply credits earned through an M-CAM program at any one of the coalition colleges, and encouraging continued education and training for ongoing advancement. The four program areas covered by the agreement are CNC/machining, multi-skill technician/mechatronics, production operations, and welding. Those targeted for training include displaced and underemployed workers, veterans, and incumbent workers who require skills upgrading. In addition to connecting skilled candidates to workplace opportunities in advanced manufacturing, M-CAM has also made great strides in developing new educational programs and training methods, as well as supporting significant upgrades to each college's manufacturing technology – ensuring students have hands-on training using current equipment and technology.

The M-CAM career pathways model was designed to progressively develop the occupational, academic, and life skills that students need to find well-paying, stable employment. The structure allows participants to enter a short-term program, gain in-demand skills quickly, find employment, and then continue training to earn advanced degrees. The M-CAM model is based on ensuring that students receive strong support throughout their educational journey including intensive wraparound services from recruiters, intake coordinators, career coaches and job developers.

For Macomb Community College (MCC), support professionals provided overlapping services to create a seamless support system for 1,347 students. For example, recruiters worked closely with the Intake Coordinator to identify and address obstacles and barriers that would prevent success. The Intake Coordinator kept close tabs on students during the entire program, addressing attendance issues, as well as providing ongoing support. The Career Coach worked with students to develop not only a learning plan but prepare them for employment through the delivery of foundational skills and workplace competencies, including study skills, financial literacy, communication skills, resume-building, and job search skills. The Job Developer worked with students on interview skills, and often brought employers to the classroom to talk about what they expect from potential employees. A targeted job fair was held for each graduating class. By eliminating or easing outside negative influences, the completion rate was increased to 93 percent. MCC's placement rate was 83 percent – exceeding project goals by 31 percent. The project successfully graduated 853 individuals and awarded 294 industry credentials in advanced manufacturing, machining, and welding.

The program also resulted in an increase of MCC students pursuing degrees. Data showed that the college typically sees a crossover from non-credit to credit at a rate of four percent but this increased to 10 percent after the program. MCC's model for intrusive wraparound services were key to the successful outcomes.

Contact: Holger Ekanger, WCE Director, Engineering and Advanced Technology, Macomb Community College, 685-498-4108, ekangerh@macomb.edu

Macomb County and Macomb Intermediate School District: Manufacturing Day in Macomb County

Objectives: Introducing students to what advanced manufacturing is today and displacing the myth of dim, grimy work places. It also provides students with the opportunity to hear professionals explain jobs and career advancement opportunities firsthand and be able to understand the relevance of their classwork.

Description: Macomb County Planning & Economic Development recruits local manufacturers who wish to engage in Manufacturing (MFG) Day each year. It meets several times with Macomb Intermediate School District, Macomb Community College, and Macomb/St. Clair Michigan Works, as well as employers and other stakeholders to plan the event. This helps to fine tune the number of students interested as well as number of manufacturers needed to support the event. In 2018, 71 host companies opened their doors to students. A total of 2,182 students in Macomb County attended from all 21 public schools and MI Works young adult programs.

Host sites offer hands on activities to students and explain available career opportunities as well as advancement opportunities and apprenticeships. The event has led to several new hires for local companies, and awareness of the skills required to enter advanced manufacturing. Ninety percent of employers said they would host again. Eighty-eight percent of students found the tours very or extremely interesting, and about 57 percent could see themselves working in manufacturing someday.

Student videos have been created to stir awareness among the manufacturing community. This year's student-led video challenge will inspire students to participate in upcoming MFG days. It is being offered

to math and science as well as CTE students. Macomb County Manufacturing Day is the largest MFG day in Southeast Michigan. In 2018, approximately 24 new companies participated. Manpower recently joined the committee and will be attending high school fall open houses to explain to parents and their children what MFG Day is and why students should participate.

Contact: Maria Zardis, Macomb County Department of Planning & Economic Development, 586-469-6489, maria.zardis@macombgov.org or Shannon Williams, CTE Consultant, Macomb Intermediate School District, 586-228-3488, swilliams@misd.net

Macomb Intermediate School District: Counselor Workshop Series

Objectives: Increase counselor awareness of business needs to help them understand and connect students with employers and industry demand; create awareness for employers regarding student challenges and how to connect; connect industry and education to develop a stronger talent pipeline.

Description: Macomb Intermediate School District's (MISD) Counselor Workshop series features a number of activities to increase connections between business and education. These include a panel presentation of business leaders in the areas of IT, construction, health and manufacturing to discuss best practices and current demand, as well as the necessary soft-skills that students also need; an apprenticeship roadshow introducing school counselors to local union-based apprenticeship programs in manufacturing and construction fields where counselors are able to participate in hands-on activities to increase their knowledge; a demonstration by local manufacturers on their manufacturing processes; as well as a military career exploration at Selfridge Air National Guard base to introduce counselors to military options and benefits.

Contact: Shannon Williams, MISD CTE Consultant, Macomb Intermediate School District, 586-228-3488, swilliams@misd.net

Michigan Department of Education: Early Middle Colleges

Objectives: Provide more social and emotional supports for at-risk students; create access and opportunities for college for economically disadvantaged students, as well as for those who are first generation college students, and those who are underserved, underachieving and underrepresented; help address the urgent need to better prepare students for career and college readiness by adding a fifth year in high school to help shore up academic proficiency, thereby reducing the need for remediation.

Description: There are two types of early middle college experiences in Michigan. An Early Middle College (EMC) School and an Early Middle College Program. Early Middle College Schools allow pupils to earn a high school diploma and either an Associate's degree, the Michigan Early Middle College Association (MEMCA) technical certification, or 60 transferable college credits at the same time. An Early Middle College Program is a five-year high school model designed to allow a pupil to earn a high school diploma and substantial college credit through an additional fifth year of study.

Early Middle Colleges can begin as soon as 9th or 10th grade. Students follow a specific, five-year program of instruction approved by the Michigan Department of Education. EMCs may have a general college readiness focus or may include a focus on specific career technical education (CTE) programs. Support services are an important part of Early Middle Colleges. Ninety-seven percent offered social emotional support/mental health counseling; 94 percent offered college readiness skills and success classes; 94 percent offered a formal tutoring program; and 88 percent offered mentoring by adults.

EMCs help significantly reduce the cost of college education because there is no cost to the student. They have continued to grow – increasing by 69 percent from 2013-2017. More than 11,000 students in Michigan were enrolled in 135 programs and schools in 2016-17. They can be found in urban and rural areas, economically advantaged and disadvantaged areas, but have high rates of success for the majority of students. Analysis of data for twenty Michigan Early Middle College programs found that 93 percent of students passed college courses and earned between 24 and 38 college credits during the 2016-17 school year.

Contact: Beverly Brown, Early Middle College Manager, Michigan Department of Education, 517-335-4670, brownb21@michigan.gov

Michigan Department of Education: Michigan Career Development Model

Objectives: To encourage school districts to take a more active role in career development, establish grade level targets for career development, and to provide instructional strategies for educators.

Description: Massive changes taking place in all areas of employment in America present new challenges to those seeking productive careers. The impact of rapidly changing technology and an expanding global economy is being felt across all career areas and all levels of education. Employers have expectations for well-prepared, motivated employees possessing academic skills in mathematics, communications, and science. People who possess soft skills such as good work ethic, teamwork, problem-solving, critical thinking, technological literacy, and a desire for continued learning are in high demand. No longer can people graduating from one of Michigan's high schools, colleges, or universities be assured of commensurate employment unless they have the necessary knowledge and skills to meet an employer's needs.

The Michigan Career Development Model (MI CDM) provides required targets and suggested instructional strategies to meet those targets, designed to assist schools in developing a local or regional model program. Although the model is organized by K-12 grade level bands, the district is expected to deliver career development at each grade level. The bands were designed to allow flexibility in delivery, not to omit instruction in a grade level.

The Michigan Department of Education is bringing together thought partners from 10 separate agencies with the purpose of designing and developing a career development model across the K-12 spectrum, and implementing the new law (PA 229 of 2018). The department, in consultation with the Michigan Department of Talent and Economic Development, will have developed or adopted, and made available to schools, a model program of instruction in career development for the 2019-20 school year.

Contact: Dana Hughes, CTE Educational Consultant, office of Career and Technical Education, Michigan Department of Education, 517-335-0359, hughesd9@michigan.gov

MIAT College of Technology: Aviation Maintenance Training Pathways

Objectives: Expand awareness and understanding of career opportunities in the aviation maintenance industry.

Description: There are only six schools in the State of Michigan that are authorized by the Federal Aviation Authority (FAA) to teach individuals to work on aircraft, and the MIAT College of Technology is the only school in Southeast Michigan that is authorized to provide aviation maintenance training.

At a median wage of \$29 per hour, Aircraft Mechanics and Service Technicians earn more than many other manufacturing and construction trades which have similar projected growth. However, because of lack of promotion and awareness of these careers among high school students, there is a limited pipeline of workers for career opportunities in the aviation field. Aviation is not currently offered as a CTE program, but MIAT has established coursework in collaboration with the Downriver Career Technical Consortium and Romulus High School that CTE students can complete while in high school. Making this programming more robust throughout the region will help to close talent gaps.

MIAT is reaching out to career counselors, and other front-line advising professionals in education and workforce development to help them understand the opportunities within the aviation maintenance industry. More than 60 counselors, advisors, and administrators from Wayne, Oakland, and Washtenaw counties recently toured the college, heard from an industry panel of six companies, including two airlines, and toured the Spirit Airlines hangar at Detroit Metro Airport.

Contact: Chris Davis, Assistant Director of Community Partnerships, MIAT College of Technology, 734-423-2126, cdavis@miat.edu

Monroe County Community College: Advanced Welder Education

Objectives: Help fill the urgent need for skilled welding operators, fabricators, and tool and die technicians, by creating a pipeline of high school students with basic welding education who can transition to higher level welding at the postsecondary level. Also, reduce the length of time for college completion.

Description: Monroe County Community College (MCCC) received a National Science Foundation (NSF) Advanced Welder Education grant with the goal of increasing the region's supply of qualified welders with advanced levels of education, and furthering research, development, and innovation in the field. Using grant funds, MCCC is offering entry-level welding instruction (American Welding Society (AWS-QC-10) to area high schools, as well as AWS-QC-10 Welding Certification Teacher Workshops for high school welding teachers. Partnering with local high school career and technical education instructors to help them implement the entry level welding program will help MCCC develop a direct articulation credit pathway so that students can earn up to 10 credits toward the college's welding program while still in high school. While the college will still offer some entry-level welding classes, its focus will be on teaching advanced-level welding standards (AWS-QC-11) and incorporating the latest additions to these standards.

MCCC is an important resource for developing welders needed for Southeast Michigan's growing pipeline construction industry, fabrication and production, automotive, and local marine industry which are all competing for skilled welders. The shortage has impacted the ability of businesses to grow and expand. MCCC's project will support regional growth in oil and gas production and transportation, as well as the Nexus pipeline project connecting multiple states via natural gas pipeline.

Contact: Parmeshwar "Peter" Coomar, Dean of Applied Science and Engineering Technologies, Monroe County Community College, 734-384-4209, pcoomar@moneorccc.edu

Oakland County: Manufacturing Day

Objectives: Increase student awareness and exposure to careers in advanced manufacturing through hands-on interaction. Also, increase teacher and counselor awareness to provide students interested in advanced manufacturing careers with current information.

Description: In celebration of National Manufacturing Day, Oakland County Manufacturing Day takes place the first Friday of October each year. On October 5, 2018, over 1,000 high school students from

seventeen Oakland County school districts and the four Oakland Schools Technical Centers visited 43 manufacturing companies across the county. Since its inception in 2015, Oakland County Manufacturing Day has tripled in size and impacted thousands of students, encouraging them to pursue careers in advanced manufacturing through hands-on, interactive, engaging tours at some of Oakland County's premier advanced manufacturing companies. Large corporations, including General Motors and Magna International, join with small manufacturers like MPD Welding and Wenzel America, to open their doors and provide students, teachers, and counselors with an up-close tour of the technologies and careers in an advanced manufacturing business. The goal is to inspire our next generation of workers to explore careers in advanced manufacturing in Oakland County, and encourage employers to increase their direct engagement with students to develop the next generation of talent. This annual event is brought to life by a collaboration between Oakland County Michigan Works!/Oakland County Workforce Development, Oakland Community College, Oakland Schools (Intermediate School District), and Oakland County Economic Development and Community Affairs.

Since beginning in 2015, Oakland County Manufacturing Day has inspired over 2,000 students from across Oakland County. However, the social media impact reached far beyond the students and companies who participated. Hashtag #MfgOak trended on Twitter throughout the entire morning of Manufacturing Day, reaching 88,739 accounts for a total of 248,575 impressions. Oakland County Michigan Works! Twitter account was one of the three most active users of the national hashtag #MfgDay18. Survey results from companies, students, and school districts reflected the excitement and success of Oakland County Manufacturing Day. One hundred percent of the participating companies who responded to the survey indicated that they would participate again next year.

Contact: Jennifer Llewellyn, Director, Oakland County Michigan Works!, 248-452-2256, llewellynj@oakgov.com

Oakland County: MiCareerQuest Southeast

Objectives: Increase student awareness/exposure to occupations that they didn't know existed. Provide students with the ability to experience occupations through hands-on interaction. Build teacher/counselor awareness of occupations for students to pursue.

Description: MiCareerQuest Southeast is Southeast Michigan's largest career awareness event. On November 28, 2018, the inaugural MiCareerQuest Southeast was hosted at the Suburban Collection Showplace in Novi. Over 8,000 high school students from 100 high schools across a six-county region (Oakland, Macomb, Wayne, Washtenaw, Livingston, and Monroe counties) attended the event. Students spent two hours in four career quadrants – advanced manufacturing, construction, health sciences, and information technology. They were exposed to 114 occupations exhibited by 1,000 volunteers from business, labor organizations, and education partners.

MiCareerQuest Southeast was led by Michigan Works! Agencies from across Southeast Michigan and coordinated by Oakland County and Oakland County Michigan Works! The 2019 event will take place on November 8, at the Suburban Collection Showplace. It will provide the region's future workforce with a glimpse of the broad range of rewarding career possibilities after high school. Approximately \$250,000 in sponsorships are available to organizations to cover expenses, including facility rental, staging and booth equipment rental, security, signage, volunteer t-shirts, exhibitor items and food. In addition to a presenting sponsor, there is one platinum sponsorship available per career quadrant, which includes a seat on the event's executive committee and quadrant steering committee. Gold, silver and bronze sponsorships also are available. Last year's platinum quadrant sponsors included Beaumont Health (Health Sciences), Society of Manufacturing Engineers (Advanced Manufacturing) and Consumers Energy, DTE Energy, Michigan

Building Trades and Construction Council, and MUST – Management and Unions Serving Together (Construction).

Surveys of students, exhibitors, chaperones, and educators were very positive: 82 percent of students said they learned about employment opportunities they didn't know existed; 71 percent said the event would help them make plans after high school; 88 percent of exhibitors said the event was an effective way to showcase their industry to the future workforce; and 93 percent of chaperones said they would be interested in having their school participate again.

Contact: Jennifer Llewellyn, Director, Oakland County Michigan Works!, 248-452-2256, llewellynj@oakgov.com

Oakland Schools: Career Readiness Parent Expo

Objectives: Close the skills gap by helping students and parents understand all postsecondary opportunities and careers in high-demand occupations.

Description: The Oakland Schools Career Readiness Parent Expo was an evening for 400 K-12 parents and students to learn about essential career information related to the advanced manufacturing, construction, health sciences, information technology, transportation, mobility, logistics and energy industries. This includes technology, employment trends and needs, hiring trends, and all postsecondary options. It also advised parents on helping their children develop soft skills needed by all employers, navigating career selection, and supporting career readiness. The expo offered hands-on activities for STEM fields as well as industry panels. Industry representatives offered information on career pathways, positions within their companies, and myths and realities associated with their industries.

Employers indicated the event provided the opportunity to share necessary information regarding workforce needs. Parents indicated they learned ways to help their children better develop soft/employability skills. Students said they learned about careers they never knew existed, and about demand for different occupations.

Contact: Patty Adolfs, Career Focused Education Consultant, Oakland Schools, 248-209-2317, patricia.adolfs@oakland.k12.mi.us

Oakland Schools: Education in Industry – Pontiac Tech Trek

Objectives: To establish collaborative relationships between education and the business community; connect academic learning to real world applications; and increase awareness about technology careers, local employer needs, and labor market trends.

Description: Oakland Schools partnered with technology firms located in the City of Pontiac to spotlight current trends in the Information Technology industry. They included small and large employers including DASI Solutions, PC Miracles, GM Powertrain, and Downtown Pontiac Surveillance Group. The goal of the event was to connect educators and students with business and industry to better understand how to prepare the next generation to be career-ready.

Each business partner provided a short presentation about their company and why they have invested in a footprint in Pontiac. Attendees were able to engage with business professionals to better understand what skills will be necessary to be successful in information technology careers in the future. Attendees were also exposed to postsecondary opportunities, such as certification programs and apprenticeships that can prepare them to work in the information technology ecosystem.

Educators and students were very positive in their feedback from the event and many have made plans to follow up directly with their newly made professional contacts. Oakland Schools is seeking business and industry partners in other cities so it can increase the number of students and educators who are able to benefit from this experience.

Contact: JaCinda Sumara, Consultant, Oakland Schools, 248-209-2183,
jacinda.sumara@oakland.k12.mi.us

Oakland Schools: The Oakland Opportunity Academy (Competency-Based Model)

Objectives: Providing alternative education students with meaningful academic and career technical education, by creating a culture that allows students who have been unsuccessful in school with a chance to succeed by applying concepts of competency-based education.

Description: The Oakland Opportunity Academy (OOA), in the southwest part of Oakland County, provides an alternative education program for students from six surrounding districts. Students, who attend OOA have the option of being in a career technical education program for half of the day and in academic courses the other half. Students are mostly eleventh and twelfth graders and come to OOA significantly behind in credits. The program is built on a number of elements that help insure student success. These include a trauma informed approach to working with students, an on-site social worker and counselor, small student population, three-to-five certified teachers in every academic classroom, a strong emphasis on student writing, and project based academic work.

One of the most important elements of the program is that it was built on principles of competency-based education. One of these principles is that the work students are asked to do is based on outcomes that are broader than a single subject area or skill. This provides an opportunity to involve students in more authentic and engaging academic tasks. A second principle of competency-based education at OOA, is the way students are graded. Students must demonstrate that they have successfully mastered the course material before they can move on to new work. This means there are no failures. Competency-based education allows students to advance at their own pace. While there is often concern that students will fall further behind, the experience at OOA has been the opposite. When students have more control over what content they work on, and at a pace that allows them to be successful, they are more motivated and move through the curriculum more quickly. While this approach requires teachers to be skillful at managing the demands the system places on them, recognizing the success students are having is motivating for them as well. The results at the Oakland Opportunity Academy speak for themselves as graduation rates have been consistently high with a population of students that have faced repeated failure in school, and often significant challenges in their personal lives.

Contact: Elaina Holsey, Program Director, Oakland Opportunity Academy, 248-668-5678,
elaina.holsey@oakland.k12.mi.us

Oakland Schools: Pathways to Apprenticeship School to Work (STW) Summer Program

Objectives: Provide access to high skill, high demand and high paying careers through exposure to career pathways within registered apprenticeships.

Description: The partnership between Oakland Schools and the Michigan Laborers' Training and Apprenticeship Institute (MLTAI) provides School to Work (STW) training opportunities for students interested in the construction industry. Any current junior or senior enrolled in a construction related course

exhibiting a passion for the construction industry, and interested in pursuing an apprenticeship, is able to apply to the Oakland Schools Pathways to Apprenticeship STW summer program. Students work with certified instructors for each discipline throughout the 10-week program, receive mentoring from contractors, and the opportunity to access industry certifications. The program provides compensation during instructional class time and on-the-job training with local contractors. The program helps students become apprenticeship ready while in high school, and prepares them to meet the minimum standards for entrance into a registered apprenticeship with the Construction Craft Laborers.

Contact: Cynthia Scherphorn, Instruction, Resource and Career Development Consultant, Oakland Schools, 248-209-2054, Cynthia.scherphorn@oakland.k12.mi.us

Oakland Schools STEM Middle School Summer Camp

Objectives: Provide a fun and exciting way for middle school students to explore STEM concepts; create career readiness, awareness, and exploration through activities with the support of business and industry partners, as well as Oakland University; help create a connection to STEM related concepts in Career and Technical Education programs.

Description: Middle School students participate in a week long hands-on, project based learning experience at the four Oakland Schools Technical Campuses. Each camp is grade specific and enables students to explore the integration of STEM in engineering, information technology, visual imaging, health science, culinary arts and robotics. Students also have the opportunity to visit STEM-related programs at Oakland University and create professional portfolios during career day. Since the camp's inception in 2017, survey results of students and parents have been overwhelmingly positive about the camp with over 90 percent of both groups reporting they would most likely return the next year.

In 2018, the camps had students from every school district in Oakland County. In addition, 11 Oakland County districts also offered STEM-related summer camp opportunities, a significant increase from 2017. Oakland Schools wants all students to experience rich STEM activities and was able to offer access to all families through scholarship opportunities. In 2018, 80 percent of the scholarships were used compared to 51 percent in 2017. An intentional campaign with superintendents and their districts can be credited for the increase in equitable access.

The 2019 summer camp experience will continue to provide career readiness awareness and exploration for middle school youth in the STEM fields. The Oakland Schools STEM Summer Camps provide two spectrums of experiences for students: first, an affirmational experience that solidifies the students' interest in STEM; and a needed primer experience for students that have not had any STEM related opportunities.

The camp costs \$190 per week and runs from 8:30 am-3 pm Monday-Friday; aftercare is available until 6 pm at no additional cost. The camp is available for incoming sixth, seventh, and eighth graders. There are four locations to choose from: Clarkston, Pontiac, Royal Oak, and Wixom. Registration and more information can be found at www.oaklandstem.com.

Contact: Tammy Brown-Williams, Career Focused Education Supervisor, Oakland Schools, 248.209.2160, Tamela.Brown-Williams@Oakland.k12.mi.us

Oakland Schools: Your Future So Bright

Objectives: Establish collaborative relations between students and the business community, prepare students to engage in a professional manner, and increase student awareness about local employer needs, labor market trends, and new technologies.

Description: Oakland Schools partnered with United Shore and Evans Distribution Systems to spotlight hot careers in a two day event called Your Future So Bright in spring 2019. The goal of this event was to connect students with companies in industries that are experiencing labor shortages, and help them imagine “a future so bright with possibilities.” The event also focused on building student comfort in communicating and networking with professionals.

Each business partner provided students with an overview of their industry, a tour of their facility, and exploration of future career possibilities. Students worked directly with human resource professionals to learn skills for resume writing, interviewing, communication, and presenting themselves professionally. Each site also prepared a fun activity – to give students insight into work life balance. To provide students with an opportunity to practice some of the new professional skills they developed, the event ended with a networking lunch with several Oakland Schools business and industry partners. It is anticipated this event will be offered again in the future with increased industry participation.

Contact: JaCinda Sumara, Consultant, Oakland Schools, 248-209-2183,
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Operating Engineers 324: Detroit Workforce of the Future

Objectives: Expose students to construction careers.

Description: The Detroit Workforce of the Future & Career Readiness Coalition program is a rigorous, 16-week apprenticeship readiness (pre-apprenticeship) youth pilot program. The program is the result of a partnership between several organizations including professional Skilled Trades unions, contractors, industry associations, and community groups. The program introduced Detroit high school juniors and seniors to a variety of new skills and tools they can use in careers in the growing building trades in Detroit. These careers have excellent pay and benefits and apprenticeship programs are available at no cost to the participant. The program has graduated multiple cohorts of students, and is the recipient of a state funded grant awarded for programs that exhibit a quality path into rewarding careers for underserved populations.

Each spring, this coalition also participates in the Construction Science Expo, an event that brings hundreds of Detroit high school students (who have signed a drug-free pledge) to spend a day being exposed to careers in the engineering and construction fields through a variety of speakers and hands-on experiences: <https://vimeo.com/273544057>

Contact: Dan McKernan, Communications Director, Operating Engineers 324, 248-451-0324,
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SEMCA: Wayne County College Access Network – College and Career Professional Development Team

Objectives: Enhance career and college counseling for Wayne County students by streamlining professional development for counselors; update professional development for counselors to meet the requirements of the Michigan Career Model and College Access best practices.

Description: The Wayne County College Access Network-College and Career Professional Development Team was the result of a meeting of advisors from Advise Michigan and career counselors from Wayne RESA, along with high school counselors from various Wayne County districts. Each group shared their roles in serving high school students on college access and to discuss opportunities for collaboration when they are working in the same schools.

At the first meeting, there were eight Wayne RESA career counselors, five high school counselors and twelve Advise MI advisors. The counselors presented their needs, best practices, performance measures, and coordination of services to serve students. The groups generated a list of 15 topics to offer at future professional development (PD) sessions for the larger out-Wayne counseling community. Featured topics will focus on College Access issues, College to Career Pathways, and the Michigan Career Model.

As a follow-up, an action team was established in order to plan and host multiple events for the next school year in support of out-Wayne high school counselors. For the 2019-20 school year, the team will organize and implement all logistics for hosting PD Sessions, and create agendas that are approved by the Michigan Department of Education for professional development credits.

Contact: Mark Litt, Coordinator, Wayne County College Access Network, SEMCA, 734-229-3514, mark.litt@semca.org

Southwest Solutions: YouthBuild

Objectives: Provide employment skills related to careers in carpentry for young people with different learning styles.

Description: YouthBuild is a federal program that serves out-of-school youth aged 16-24 with a High School Equivalency (HSE) program and a specified industry certification. Southwest Solutions' program focuses on GED and carpentry for individuals from Detroit, Highland Park and Hamtramck who have an interest in the building trades. It is a free, 26-week program; students earn certifications in OSHA training, first aid, customer service and Work Keys, as well as the North American Building Trades Certification (MC3). This is recognized by both industry and unions as a pre-apprenticeship readiness program that prepares successful students to enter employment in the construction trades. Students receive a stipend while participating in the program.

There are currently 21 students in the program and there will be an additional 15 in the third cohort. Students are recruited by an outreach coordinator and through social media. Fifteen students have been placed in permanent employment.

YouthBuild offers students different supports as needed to ensure their success. For example a student in the first cohort who had difficulty with math was referred to the Southwest Solutions Adult Learning Specialist to diagnose the issue. He was offered contextualized math lessons that helped him learn carpentry math with the help of a job readiness trainer, as well as the hands-on skills needed for employment success. As a result, he started work and receives full time benefits with his job. He also received help with driver's responsibility fees. He passed his driving test and will be purchasing a vehicle in the next four weeks.

Contact: Karyn Goven, Director, Workforce Development, Southwest Solutions, 313-297-0090, kgovern@swsol.org

Wayne County Community College District: Cybersecurity Workforce Program

Objectives: Create a successful pathway to industry certification for cyber security jobs by preparing potential workers with required skills and knowledge, and also create a trained faculty pool.

Description: The WCCCD Cybersecurity Program prepares talent for entry to mid-level positions in Cybersecurity and IT careers. Using a U.S. Department of Labor Grant, WCCCD's Cyber Center offers a virtual environment designed to enhance an individual's or organization's capability to boost cybersecurity performance. It trains cyber professionals and students to actively take on "live fire" exercises and

simulations that test detection, reaction, and mitigation skills across a variety of black-hat hacking situations.

The Cybersecurity program offers a two-year Associate's degree in Applied Science, a one-year certificate, as well as three short-term certificates. This program is based on the National Initiative for Cybersecurity Education (NICE) framework, and provides students with a solid foundation in the fundamentals of secure information technology system design, construction, and maintenance of cyber infrastructure and systems defense. Students use virtual environments, including video games/simulations, to demonstrate mastery of competencies, knowledge, and skills. This prepares them for industry-recognized cybersecurity certifications, and integration of cybersecurity in a number of different industries, including law enforcement, finance, and healthcare.

Contact: Shawna Forbes, Vice-Chancellor of SCEWD, Wayne County Community College District, 313-496-2587, sforbes1@wcccd.edu

Wayne County Community College District: Retail Management Certificate Program

Objectives: Retention of employees in the retail industry and increased employer support for non-traditional employees.

Description: The Retail Management Certificate (RMC) is an accredited business program that enhances management skills in the retail industry. The program is geared to provide incumbent workers with a clear career pathway. This 30-credit hour, one-year certificate is aligned to the Associate Business Degree. The RMC is a nationally-recognized program endorsed by the Western Association of Food Chains (WAFC) and Food Marketing Institute (FMI). One of the most attractive features of the RMC program is its flexibility, which allows employers and employees to have input on location and instructional delivery. According to testimonials from many program participants, learning outcomes have had a positive impact on their work performance, and employers report improvement in job performance evaluations, improved customer feedback, and a keener sense of employment goals and future opportunities.

Contact: Shawna Forbes, Vice-Chancellor of SCEWD, Wayne County Community College District, 313-496-2587, sforbes1@wcccd.edu

Wayne RESA: Ready to Launch Career Counselor Initiative

Objectives: Address the challenges of students who do not have access to qualified career counselors; increase student and parents' awareness of resources that can benefit postsecondary planning; ensure that students not on a college career path receive counseling for other available career paths.

Description: Wayne RESA has hired six full-time professional career counselors to increase access for students to career and postsecondary options. Each counselor is highly qualified, with a master's degree in counseling, counseling certification, and a minimum of five years of high school counseling experience. These career counselors work closely with high school counseling staff, providing customized career counseling to individual high school seniors and small groups. Individualized postsecondary action plans give high school seniors a roadmap to achieving their goals. By June 2018, the six counselors had served 590 high school seniors in 24 high schools. They are expected to meet with 1,500 seniors in the 2018-19 school year and facilitate career and postsecondary exploration with over 2,500 students.

Contact: Donna McDowell, Consultant, Workforce Development Initiative; 734-334-1402; mcdowed@resa.net

Workforce Intelligence Network: MI Bright Future

Objectives: Increase career awareness and readiness; provide resources for postsecondary planning; help strengthen the talent pipeline.

Description: MI Bright Future is a collaborative strategy developed by the Workforce Intelligence Network in 2013 to begin solving workforce shortages. It is an interactive web-based system that addresses talent needs through an easy-to-use online portal connecting employers directly with their future workforce. During dedicated career development time in the classroom, students can go beyond reading about occupations, using MI Bright Future, to easily locate and explore local employers through company profiles, virtual mentoring, company-focused discussion boards, and more than 20 work-based learning activities such as guest speakers, job shadowing, and internships. MI Bright Future connects what is happening in today's classroom with current and projected needs among employers, and helps students to understand the relevance of what they are learning for the "real world." MI Bright Future strengthens the entire community involved in career development. It helps managers of existing work-based learning and career-readiness programs in the K-12 system (such as counselors and teachers) to scale their initiatives and reach their goals, while employers have access to a streamlined system to promote and manage all types of engagement with schools and students. It is now available in schools in 13 counties in Michigan.

Contact: Sarah Sebaly Gregory, Director, youth Strategy, Workforce Intelligence Network, 734-934-4510, sarah.gregory@winintelligence.org

Promote Collaboration between Employers, Education, and Workforce Development

Consumers Energy: Michigan Talent Pipeline Management Academy and Network

Objectives: Improve communications between business/industry and providers of talent to more closely align supply and demand. Create talent pipelines for high demand occupations – particularly in the Skilled Trades.

Description: The U.S. Chamber of Commerce Foundation – Center for Education and Workforce, developed a groundbreaking system that applies the principles of supply chain management to talent development and acquisition. This system called Talent Pipeline Management (TPM), is made up of six strategies that provide end-to-end management of the talent supply chain.

Consumers Energy was an early adopter of the U.S. Chamber of Commerce Foundation TPM System in Michigan. In 2015, The Michigan Energy Workforce Development Consortium applied the methodology for the high-demand Skilled Trade positions of electric line workers and gas line workers. With a large percentage of the Consumers Energy Skilled Trade workforce eligible for retirement in the next three years, an aggressive strategy for talent development was needed.

Through the TPM process, Consumers Energy successfully projected demand, identified competencies, mapped sources and went on to expand two training partnerships with preferred providers who became sole source providers of entry-level electric line workers for the company. This initiative has enabled Consumers Energy to meet new hire needs for both of these critical functions – hiring more than 100 people from these

programs over two years. The TPM methodology led to a triple win – the company met new hiring needs, the schools gained enrollment, and the students had a clear pathway to a fulfilling career.

Consumers Energy hosted the Michigan-based TPM Academy to enable businesses in Michigan to access the resources of this unique system. The Michigan TPM Academy launched in October 2017, establishing the first statewide network of TPM professionals in the nation. The first 20 TPM Academy participants represented chambers of commerce, economic development entities, workforce development, the State Talent Investment Agency, and business associations. The second academy was launched in December 2018 with 25 more organizations.

To date, the network of Michigan graduates has convened 11 employer TPM groups, engaging nearly 200 businesses in Michigan. These groups are focused on the following industries: IT, healthcare, manufacturing, energy, hospitality, logistics and insurance.

Consumers Energy will continue to lead this network of professionals and promote continuous improvement, sharing of effective strategies, and improvement of the business talent solutions provided by the network.

Contact: Sharon Miller, Michigan Talent Architect, Consumer Energy, 248-514-1963, Sharon.miller@cmsenergy.com

City of Detroit: Detroit CTE Partnership

Objectives: Help fill more than 100,000 high-demand, high-wage jobs available in Michigan and also help address the immediate need for Skilled Trades talent in Detroit, especially with the anticipated retirement of a significant percentage of the Skilled Trade’s workforce over the next five years.

Description: Detroit Public Schools Community District (DPSCD) identified effective education and exposure to career pathways as a national best practice to improve attendance, grades, and educational outcomes for youth. As part of a 10-year partnership between the City of Detroit and Detroit Public Schools Community District (DPSCD) to revitalize career technical education and prepare Detroiters for high-demand careers, Detroit’s Career Technical Centers (CTC) have been transformed into modern, updated schools with better equipped classrooms, more programs and teachers, and a wide range of other building improvements. This partnership’s focus on workforce development provided an opportunity to rebuild employer and industry partnerships with the education system after years of disinvestment and emergency management in the Detroit Public Schools.

The Mayor’s Workforce Development Board (MWDB) partnered with DPSCD in an effort to build career pathways into Detroit’s five high growth employment sectors (construction/Skilled Trades, manufacturing, healthcare, IT, retail and hospitality). With funding and in-kind support from key philanthropic partners (including Ballmer Foundation, Ralph C. Wilson Foundation, JP Morgan Chase, General Motors, Penske Corp, Lear Corp, Quicken Loans Community Fund, and DTE Energy), this partnership has led to an over \$20 million investment in the renovation of Randolph (construction/Skilled Trades) and Breithaupt Career Technical Centers (hospitality). A third school, Golightly Technical Center, scheduled for 2019-2020, will focus on careers in advanced manufacturing.

In addition to the physical renovations, this partnership has added much needed support to upgrading and aligning equipment with industry needs; providing work-based learning opportunities to students; development of enrollment and marketing strategies; updating curriculum to align with industry standards; hiring additional teachers with industry experience; and building industry and job connections for each

program. The partnership has also added training for adults during evenings and weekends for related high-demand jobs. Work-based learning staff were added to each CTC, as well as internship programs to increase industry-alignment and career exposure for students.

The program has already attracted additional collaboration and investment, including a youth apprenticeship program from Urban Alliance, a nationally-recognized youth workforce development organization. In addition, a partnership was formed between DPSCD and the Hamtramck public schools district to expand CTE courses and credentialing opportunities to its high school students.

As a result of these efforts, enrollment increased from 610 in 2017-2018 to a projected 2,000 in 2019-2020.

Contact: Omar Hasan, CTE Manager, Mayor's Office of Workforce Development, City of Detroit, 248-703-7744, ohasan@detempsol.org

Downriver Career Technical Consortium: Career Technical Education Programs

Objectives: Prepare students with the necessary academic, technical, and work behavior skills to enter, compete, and advance in education and careers.

Description: The Downriver Career Technical Consortium (DCTC) is a collaboration between nine school districts that focuses their collective resources to provide high school students with access to over 25 career and technical education (CTE) programs. The consortium districts in Southern Wayne and Monroe Counties are Airport Community Schools, Gibraltar School District, Flat Rock Community Schools, Grosse Ile Township Schools, Huron School District, Riverview Community Schools, Southgate Community Schools, Trenton Public Schools, and Woodhaven-Brownstown Schools. By leveraging the strengths of each high school, the consortium is able to offer a range of programs that no one individual school could afford to provide. DCTC has created a natural partnership with business and industry who are looking to find students interested in starting their careers, while gaining experience in the work force.

DCTC has partnered with local colleges to offer dual enrollment or articulated credit for all programs, helping students accelerate their career choices. For example, students in the dual enrolled Mechatronics program is a partnership with the Ford Flat Rock Assembly Plant and the UAW and is housed at the plant. In this program, students graduate with 26 college credits through Henry Ford College, and receive many job opportunities through the Michigan Advanced Technical Training program (MAT2). The MAT2 program typically offers students a five-year contract where all of their college is paid for, along with living expenses. Further, on scheduled breaks between quarters of school, students gain experience in the workplace with possible wages of over \$20/hour. Upon graduation, students receive a journeyman wage in their career specialty. DCTC continues to expand opportunities for students and partnership with employers. Current students from this program are employed by Brose, ZF North America, LINK Engineering, U.S. Steel, EMAG, and many others.

Contact: John Nasarzewski, Director, Downriver Career Technical Consortium, 734-782-3194; jnasarzewski@dctc-cte.org

Environment Testing and Consulting: Going PRO Talent Fund project

Objectives: Increase staff of skilled technical workers, allow expansion of laboratory, increase skill sets among new hires through new technical training

Description: Environmental Testing and Consulting (ETC) has been able to leverage the grant monies received from the Going Pro Talent Fund (GPTF) to increase technical staff levels and provide training for all new employees that provides them marketable skills fit for the 21st Century. This funding has allowed the company to successfully receive contracts to address lead-based paint and poisoning issues in Detroit and Flint, survey hundreds of homes for asbestos in Detroit's Hardest Hit Fund (HHF) Program prior to demolition, and increase laboratory analysis capacity threefold for national contracts. As a result of the funding, the company staff increased from 45 to 85. It has the ability to handle and complete extensive lead poisoning investigations for a State of Michigan contract, and double its capacity for certified analysis of asbestos and mold samples according to EPA requirements. The GPTF has allowed ETC to provide staff members with more and better training. It has created a staff that is among the best trained in the State and insures safe working conditions and general safety on the job for clients.

Contact: Tammy Wall, Quality Assurance Director, ETC, 734-649-9685, tammy.wall@2etc.com

Ford Next Generation Learning: A Transformation Model of Community-Connected Learning

Objectives: Transform the high school experience so that graduates are prepared for career, college, lifelong learning, and leadership; fill the talent pipeline with young people who possess skills needed to fill job openings in high-skill, high-wage, high-demand sectors; connect business and community leaders to teachers and students to collaborate and bring relevance, relationships, and rigor to secondary schools in a structured and meaningful way.

Description: Ford Motor Company Fund (Ford Fund) has a long history in education and is particularly interested in sustaining models that truly make a positive difference for students. Supported by an investment of over \$30 million from the Ford Fund, Ford Next Generation Learning (Ford NGL) has spent the last 12 years working on ways to strengthen and build upon the career academy model.

Ford NGL assists communities with designing and implementing community-connected career academies by providing a framework, process, facilitation, and tools. Through the Ford NGL Roadmap process, coaches guide communities to develop a unique, community-connected Master Plan for implementing pathways and academies aligned with academic and local workforce needs. In the beginning stages of this process, communities create a "Powerful Partnerships System" that rallies the community around education, breaks down silos, engages a range of community partners in planning and continuous improvement, aligns work across sectors, and facilitates school-level partnerships between employers, postsecondary partners, community partners, teachers, and students.

Ford NGL also provides training and coaching support in Ford NGL Community-Connected Learning, an approach through which core academic and CTE pathway teacher's team with employer partners to infuse career-related relevance into core subjects by developing projects, problem-solving, and challenge-based learning opportunities for students that address real-world workplace challenges. As part of this approach, students engage in an intentional sequence of work-based learning experiences including career exploration activities, industry field trips, job shadows, internships, and capstone projects.

Ford Next Generation Learning is a blueprint for creating community-based systems and structures that effectively support, scale, and sustain models that make a positive difference for students. It is a community-wide transformative initiative that is used in over 40 communities across 17 states and the United Kingdom.

Contact: Scott Palmer, Community Coach/ State of Michigan Advocate, Ford Next Generation Learning; 586-255-6313; spalmer@fordngl.com

Lawrence Technological University: Centrepolis Accelerator

Objectives: Provide access to intellectual capital, expertise, and collaboration in the areas of product design, engineering, prototyping and manufacturing to assist entrepreneurs and small manufacturers in creating, launching, and growing physical product and manufacturing businesses in Michigan.

Description: The Lawrence Technological University (LTU) Centrepolis Accelerator is on a mission to fuel the growth of Southeast Michigan's advanced manufacturing, innovative hardware (physical product), entrepreneurs, and small manufacturers by providing access to funding, expertise and key business and product development resources. The Accelerator operates from a 6,300-square-foot facility on the campus of Lawrence Technological University, in partnership with the City of Southfield and the Southfield Centrepolis SmartZone, to foster economic development within the region.

By focusing on hardware and manufacturing, the Centrepolis Accelerator leverages Michigan's strengths, talent and history in product development and manufacturing expertise, product design, engineering and manufacturing supply chain, and intelligent integration of hardware (IoT).

Centrepolis Accelerator collaborates with partners on an annual Hardware Tech Summit and the Accelerate Michigan Innovation Competition, and provides funding to top hardware companies through pitch and business plan competitions. More information can be found at: www.centrepolisaccelerator.com

Focusing on growing manufacturing businesses will provide many economic advantages for the region. These include the higher multiplier effect and economic impact of manufacturing jobs compared to other industries; higher wages and benefits – which at an average of \$82,023 are 12 percent higher than non-manufacturing jobs; higher number of jobs for workers without a college degree; and increased innovation and patents resulting from direct involvement in production processes.

Contact: Mark J. Brucki, Executive Director, Corporate and Community Partnerships, Lawrence Technological University, 248-204-2310, mbrucki@ltu.edu or Dan Radomski, Director, Centrepolis Accelerator, Lawrence Technological University, 248-721-3192, dradomski@ltu.edu.

Macomb Community College: 4M Group Increasing Employer Participation

Objectives: Support employer attraction, retention, growth and access to talent by funding required education and training.

Description: The 4M Group is a Macomb County Collaborative effort focused on the coordination of services for addressing the economic and workforce development needs of new and existing businesses. The group specifically supports employers through business retention, attraction and expansion; local, county and state incentives; and workforce development through coordinated client outreach, response and follow-up.

4M is comprised of Macomb County Planning & Economic Development Department, Macomb/St. Clair Workforce Development Board (MI Works!), Macomb Community College, and the Michigan Economic Development Corporation. The group integrates all available services into a seamless approach for each client, group of employers, and across industry sectors. Addressing talent needs and skill gaps is a key component of these efforts. Macomb Community College is actively working with the 4M partners and employers to secure economic development funds including the State of Michigan's Going Pro Talent Fund and the Michigan New Jobs Training Program (MNJTP). Thirty-one Going Pro Talent Fund applications were approved for the counties of Macomb and St. Clair for a total of \$ 1,342,669, and another \$1.7 million in approved projects for the MNJTP, creating more than 1,100 new jobs. The 4M Group is an effective

model for key stakeholders and employers by allowing each partner to leverage their specific expertise and work seamlessly together.

Contact: Holger Ekanger, WCE Director, Engineering and Advanced Technology, Macomb Community College, 586-498-4108, ekangerh@macomb.edu

Macomb Community College: UAW-Ford Workforce Readiness

Objectives: Create a program that responds directly to specific employer's talent needs for technical, foundational, and workplace skills.

Description: In 2016, Macomb Community College (MCC) began offering a series of courses in support of UAW-Ford's strategy to allow full-time employees to be added to a facility's Apprenticeship Eligibility list – provided they successfully completed certain courses. The program, UAW – Ford Industrial Readiness Certificate (IRCP) consisted of three (3) classes to be delivered nationwide in Shop Math, Drafting – Machine Tool Blueprint Reading, and Trade Related Preparation. MCC's Engineering & Advanced Technology (EAT) department provided the respective curriculum outlines for consistent on-ground delivery nationwide. The last series of classes for the UAW-Ford ended in December 2018 with more than 400 employees successfully completing the three-course sequence.

In January of 2019, UAW-FCA launched their program using the identical approach as the UAW-Ford model. Macomb Community College will be one of two educational providers in Michigan contracted to offer the on-ground series of courses to fall in line with existing approved apprenticeship training providers. Those interested in being placed on the UAW-FCA eligibility list must successfully complete all three courses by July 31, 2019. More than 1,000 have registered at Macomb Community College for the three-course sequence.

Contact: Holger Ekanger, WCE Director, Engineering and Advanced Technology, Macomb Community College, 685-498-4108, ekangerh@macomb.edu

Michigan Department of Talent and Economic Development: Going Pro Talent Fund

Objectives: Closing worker skills gap with training resulting in transferable skills and credentials recognized by industry; meeting industry-driven talent needs quickly and seamlessly; and assisting small business.

Description: The Going PRO Talent Fund (Talent Fund), formerly known as the Skilled Trades Training Fund, provides competitive awards to employers to assist in training, developing and retaining current and newly hired employees. The Talent Fund helps to ensure Michigan's employers have the talent they need to compete and grow, and individuals have the skills they need for in-demand jobs. Training funded by the Talent Fund must be short-term, fill a demonstrated talent need for the employer, and lead to a credential for a skill that is transferable and recognized by industry. The Talent Fund is an employer demand-driven model that funds diverse training and diverse industries, and allows multiple employers to apply jointly, using a collaborative training plan. It also provides training resources for workers without the eligibility requirements of federal workforce program funding, and promotes collaboration among key partners and stakeholders such as employers, industry associations, Michigan Works! Agencies, economic development organizations, training providers, community-based organizations, Project Rising Tide communities, and Michigan workers.

Contact: Keenan Wade, Administrative Manager, Work-based Learning, Michigan Department of Talent and Economic Development, 527-243-0161, wadek@michigan.gov

Michigan Department of Talent and Economic Development: Marshall Plan for Talent

Objectives: Foster business and education collaboration to identify specific talent gaps and develop innovative solutions to close that gap; address the projected 811,000+ high-demand career opening through 2024 in fields like information technology and computer science, healthcare, manufacturing and other business and Professional Trades careers.

Description: The Marshall Plan for Talent (MPT) set forth a revolutionary approach to expand K-12 education programs that focus on creating competencies and early credentials in high-demand fields. Funds can support new curriculum creation, project-based learning projects, equipment, full-time staff, industry mentors, testing fees, and professional development.

The MPT provides tools and resources for K-12 schools to transition to a more competency-based education model, allowing students to learn at their own pace, and earn industry-recognized credentials for mastery of courses; increase the number of individuals with stackable credentials and/or certificates for high-demand, high-wage occupations, such as Professional Trades, manufacturing, engineering, information technology and computer science, machine learning and artificial intelligence, mobility, healthcare and business; increase workforce planning by balancing the supply and demand for a qualified, diverse, and adaptable talent pool; increase career awareness and exploration by creating awareness among Michiganders of the critical need for a skilled workforce and the opportunities for education that can lead to a high-demand, high-wage career pathway.

The program was designed and implemented by the Michigan Department of Talent and Economic Development (TED), and the Michigan Department of Education (MDE).

Contact: Michelle Cordano, Talent Innovation Program Catalyst, Michigan Department of Talent and Economic Development Department, 517-643-3459, cordanom@michigan.gov

Oakland Schools: Teachers in Industry

Objectives: Meet the needs of employers in four key sectors in Southeast Michigan – Advanced Manufacturing, Information Technology, Construction and Health Sciences – by providing educators with an opportunity to visit, tour, experience, explore, and understand the skill needs of businesses in these industry sectors.

Description: The Teachers in Industry program allows educators to learn about current skill needs in high-demand industries. Many have not had the opportunity to experience industry firsthand either as a student or a teacher. This makes it difficult to help students with preparing for careers.

Teachers, counselors and administrators from schools throughout Oakland County and southeast Michigan are offered the opportunity to visit and learn directly from business and industry partners in the four key sectors. Companies such as: Fiat Chrysler Automobiles, Henry Ford Health Systems, FANUC Robotics, HelloWorld, and Commercial Contracting Corporation have welcomed teachers from grades 5-12 in all subject areas to experience the various careers available for their students. Teachers are able to share what they learned from industry to help better prepare their students to enter the workforce. An awareness is also developed of any potential gaps in their instruction. Teachers connect what is happening in business and

industry with what they are teaching, creating interest and increasing motivation as to “why” students need to learn certain things.

Over the past 12 months, 17 different Teachers in Industry events have been hosted by Oakland County industry partners. 363 teachers, counselors and administrators have participated in an event, and connected with over 33,000 students to share their experiences of spending a day in industry.

Contact: Andrew Maurer, Career Focused Education Consultant, 248-209-2213, andrew.maurer@oakland.k12.mi.us

St. Clair County Blue Meets Green Initiative: FIRST Robotics

Objectives: Address worker shortages in technical occupations; improve career and college readiness for high school students; increase participation in First Robotics programs.

Description: St. Clair County’s Blue Meets Green Initiative is a county-wide economic development strategic plan established in 2009-10 to stimulate economic growth and prosperity. To implement this plan, people, businesses, and organizations from all across St. Clair County are working together to develop the Blue Water Region into a prosperous, sustainable economic environment through the united effort and commitment of the private, public, and non-profit sectors. It is facilitated by the Economic Development Alliance of St Clair County (EDA). Goals of the plan focus on People, Place and Prosperity. People-related initiatives include supporting a career and college readiness system and developing a pipeline of talent.

Four teams from St. Clair County are qualified for the FIRST Robotics Championship in Detroit in 2019. This is a great achievement since the county began its program just four years ago. Student participation has doubled in only three years with eleven teams as well as several LEGO League and Jr. Robotics teams in the county. The EDA organized a privately funded regional Robotics Showcase in 2016 which led Michigan First Robotics to select the county to host a sanctioned district event for each of the past three years. A collaboration of organizations and private sector manufacturers are funding the costs to host the district event. In addition, manufacturing plant tours have been arranged each October in conjunction with National Manufacturing Day. Every 10th Grader in public school in the county attends these events and on average 18 manufacturers host students. The tours have helped to raise the awareness of today’s manufacturing environment and encourage young people to consider careers related to the industry.

In 2019, the Blue Meets Green priority is to expand the County’s FIRST Robotics programs by developing a permanent, safe and secure Robotics Field, equipped with state of the art machinery and technology, for students to use after school and on weekends. Within two weeks of identifying this priority, the initiative had received financial commitments of \$40,000 from philanthropic partners including AT&T Foundation, Acheson Foundation, the Community Foundation of St. Clair County, and EDA. In addition, a Port Huron manufacturer is making space available in its facility as the host site of the official practice field. It is working with the Blue Water Area Robotics Alliance to plan the permanent field area and further strengthen opportunities for students to become career and college ready.

Contact: Dan Casey, CEO, Economic Development Alliance of St. Clair County, 810-982-9511, www.edascc.com

Washtenaw Community College: Advanced Transportation Center

Objectives: Integrating and aligning skills for careers in the autonomous vehicle industry and defining skills for undefined jobs.

Description: Washtenaw Community College (WCC) has focused on curriculum and professional development over the last five years by adapting courses, curriculum, teaching and learning experiences to prepare students with the skills related to growing opportunities in the autonomous vehicle industry. The work in this area includes engaging with industry to understand developing standards and defining required skills. The college developed a new programming course; integrated programming, networking and communication skills into auto courses; and updated the cyber security program. New equipment has been purchased and is used in a variety of classes.

Modules on Intelligent Transportation Systems have been added to all auto and IT courses to help students understand this growing field. Adding career education to all of the courses as well as involving students in industry experiences has aided in placing students in internships, and permanent positions supporting autonomous vehicle work.

WCC has advisory boards for all of its occupational programs that include businesses, K-12 partners and four-year colleges and universities. Members were added to each relevant advisory committee to inform the curriculum as it relates to autonomous vehicles. A separate cyber security advisory committee was also created separate from the general information technology advisory committee. An Engineer-in-Residence was sponsored through the Center for Connected and Autonomous Transportation grant to work directly with both automotive and information technology faculty to update and integrate course content. K-12 partners are included on the advisory boards to help educate students about potential career paths and work collaboratively to create smooth transitions to the programs and four-year college transfers.

Consistent with the diversity of the college's student population, the students who have engaged with the Advanced Transportation Center include high school graduates, adults training for new careers, and professionals who are updating their skills.

The college continues to work on programming options for students taking classes. Expansion to a more defined program that partners with employers to provide flexible credit courses to upskill employees is being planned

Contact: Eva Samulski, Dean, Washtenaw Community College, 734-973-3724, esamulski@wccnet.edu

Wayne State University: Cyber Range Hub

Objectives: Address shortage of cyber security professionals in the workforce by providing undergraduate and graduate training to increase the number of credentialed professionals in this fast growing field.

Description: The Cyber Range Hub at Wayne State University is a collaborative effort between the university, Michigan Economic Development Corporation, Merit Network, Michigan Cyber Range, Macomb Community College, Michigan Automotive and Defense Cyber Awareness Team (MADCAT), and various business partners across Macomb County. The Cyber Range Hub provides training for individuals for the cyber career pathway at many levels. Some are introductory level courses designed to get people up to speed for certifications, while others provide for industry credentials. The Hub also offers workshops for working professionals, academic credit courses for undergraduate and graduate students, learning space for students at Macomb Community College, and a forum for increased partnerships with the Macomb ISD to encourage more interest by K-12 students in the field.

The hub provides access for vulnerability testing of technologies, which is valuable for small businesses.

Contact: Michael Kelly, Associate Director, Executive and Professional Development, Wayne State University, 313-577-6581, Michael.kelly9@wayne.edu

Winning Futures: Workforce Prep Model

Objectives: Prepare students for career success while helping businesses fill vacancies with well-qualified employees.

Description: Winning Futures is a nationally-recognized, evidence-based organization founded in 1994 that prepares high school students for postsecondary education and career success. Students are mainly low-income and/or first-generation college students, many of whom face an uphill battle in obtaining the education and connections to a financially-stable career. Winning Futures has built an in-class workforce prep mentoring program to help students overcome challenges and prepare for life after high school while addressing the workforce gap. It currently operates within seven high schools in Southeast Michigan. Since 1994, it has impacted about 49,000 students and awarded \$1.9 million in scholarships. Of alumni recently surveyed, 91 percent have enrolled in continuing education and 94 percent are currently employed. About 500 students are enrolled in the program from schools in Detroit, Harper Woods, Madison Heights, Pontiac, Sterling Heights, and Warren each year, but this will increase to 1,250 as the new Workforce Prep Model is fully implemented.

The Workforce Prep Model is a new structured, four-year experiential curriculum that begins in 10th grade and continues through one year after high school. Through mentoring and experiential activities, students develop a vision and strategic plan for their futures while learning critical skills based on the Department of Labor's "[foundational competencies](#)" for adults entering the workforce. These include interpersonal skills, integrity, professionalism, initiative, dependability, and flexibility. In 10th grade, students are matched with business mentors from the community who help them explore various careers. In the newly designed 11th and 12th grade programs, students develop strategic career plans, and explore business functions through a structured company rotation program. They also learn about interviewing and the hiring process from Human Resources partners. After high school graduation, students receive on-going mentoring for the first year in postsecondary education.

There is very strong corporate support for Winning Futures. Business partners include automotive companies and suppliers such as Lear Corporation, FCA Foundation, Ford Motor Company, Magna Seating, and General Motors; as well as healthcare, banks, and foundations. There are currently 150 volunteer mentors from more than 100 businesses who commit to 22, one-hour weekly mentoring sessions, and also provide connections with other professionals at their businesses. These partnerships with the business community help transform students into self-reliant, employable, and productive adults with defined academic and career goals and highly desirable workforce skills. Students leave the program with increased confidence and professionalism, broader professional networks, completed resume, and workplace experience.

Contact: Carla Wellborn, Director of Programs, Winning Futures, 586-698-4536, carla@winningfutures.org.

Workforce Intelligence Network: Michigan Alliance for Greater Mobility Advancement

Objectives: Convene Original Equipment Manufacturers (OEM), Tier 1 automotive suppliers, education institutions, state government, and nonprofit organizations to identify skills gaps and training opportunities, and implement industry-approved short-term training programs.

Description: The Michigan Alliance for Greater Mobility Advancement (MAGMA) was established in 2009. Its mission is to provide rapid skill growth in emerging technologies for advanced mobility to meet industry needs. MAGMA's governing board includes industry members: FCA, Ford, GM, Nissan, Toyota, MALHE, BorgWarner, Robert Bosch LLC, and GKN Driveline. Non-industry board members include Center for Automotive Research, Society for Automotive Engineers, University of Michigan, Macomb Community College, University of Detroit Mercy, Michigan Technological University, State of Michigan Talent Investment Agency, and SEMCA Michigan Works!

At quarterly advisory council meetings, partners learn from industry leaders and education partners on topics such as embedded vehicle systems, autonomous vehicles, cyber security, and postsecondary education pathways. In 2019, MAGMA will partner with the American Center for Mobility to conduct research critical to informing the talent ecosystem on skills gaps, and the evolving workforce needs in mobility and autonomous vehicles. MAGMA serves as a critical convener of automakers, suppliers, education, and workforce development. This partnership provides critical market intelligence and shapes education and curriculum throughout the region. For more information, visit www.miautomobility.org

Contact: David Palmer, Senior Director, Workforce Intelligence Network, 734-478-0736, david.palmer@winintelligence.org

Workforce Intelligence Network: Advance Michigan Center for Apprenticeship Innovation (AMCAI)

Objectives: Build regional apprenticeship capacity, increase number of apprentices and participating employers, and expand partnerships across sectors.

Description: Since 2015, the Workforce Intelligence Network (WIN) has led the Advance Michigan Center for Apprenticeship Innovation aimed at increasing the number of apprentices in Southeast Michigan and strengthening the region's apprenticeship ecosystem. AMCAI provides information, support, and services to regional partners including employers, education and workforce development. It has produced standard processes and templates, an online apprenticeship management system that enables easy, web or app-based apprenticeship progress reporting and tracking, and an intermediary program which provides employers referred by AMCAI partners to receive heightened support to develop and launch an apprenticeship program. The online tracking system has also enabled simpler management of competency-based apprenticeship programs. The website, www.miapprenticeship.org, aims to collect and present apprenticeship contacts and guidance in a single location for statewide stakeholders. Through AMCAI efforts, WIN is able to continue supporting the momentum and growth of apprenticeship in Michigan.

Contact: Rana Al-Igoe, Director, Work-Based Initiatives, Workforce Intelligence Network, 734-255-8277, Al-Igoe@winintelligence.org

Increase Labor Force Participation by Expanding the Number of Qualified Workers from all Segments of the Population

Beaumont: Project SEARCH

Objectives: Address lack of skills training and employment opportunities for disabled adults, and broaden diverse talent streams in the healthcare industry that match organizational labor needs.

Description: The Project SEARCH Transition Program is a unique, business led, one-year school-to-work program that takes place entirely at the workplace for people with disabilities. It provides total workplace immersion, and facilitates a seamless combination of classroom instruction, career exploration, and hands-on training through worksite rotations. The program follows the school year calendar and includes 10-15 interns in each class. Each student participates in three rotations within the workplace. The goal for each student intern is competitive employment. The program provides real-life work experience combined with training in employability and independent living skills to help young adults with significant disabilities make successful transitions from school to productive adult life. The Project SEARCH model involves an extensive period of career exploration, innovative adaptations, and specific job skills training. The monthly employment meetings provide the interns and their families with continuous feedback from instructors, skills trainers, vocational rehabilitation counselors, and host businesses. As a result, at the completion of the one-year school program, students with significant intellectual disabilities can be employed in non-traditional, complex and rewarding jobs.

Beaumont, Troy is in its eighth year participating with the Project SEARCH program. In those eight years, more than 70 interns have been hosted with 27 hired into permanent positions. To learn more, check out “Project SEARCH 101,” a 20-minute introductory course to the model, available to the public. It can be accessed via <http://projectSEARCH.us/EDUCATION/ProjectSEARCHAcademy.aspx>

Contact: Lisa A. Ouellette, Vice President, Human Resources, Beaumont Troy, Grosse Pointe and Shared Services, 248-964-6143, lisa.ouellette@beaumont.org

Dearborn Public Schools: 107 Adult Education Contextualized Dual-Enrollment Program

Objectives: Support adults with attaining a General Education Diploma (GED) and entry into a Career Technical Education (CTE) pipeline.

Description: The Dearborn Public Schools 107 Adult Education Contextualized Dual–Enrollment program provides students who seek to attain a GED the opportunity to also obtain marketable certifications and credentials to assist their transition into the workforce. It is offered in partnership with the District’s Michael Berry Career Center which also serves high school students. This innovative program provides stackable credentials for in-demand career pathways for adults who meet the Test of Adult Basic Education (TABE) in math, reading and language. It has a strict attendance policy for both GED and CTE classes. There are 15 students in the Business Accounting cohort and fifteen in the Allied Health cohort. Successful students will leave the program with a GED, along with a training certificate they can use to obtain a job, or use the credit to enroll in further education.

Contact: Maha Makki, College and Career Navigator, Dearborn Public Schools, 313-827-4820, makkim@dearbornschools.org

Focus: HOPE: Earn and Learn Program

Objectives: Address the high unemployment rate of minorities in Detroit, Highland Park and Hamtramck by providing training and skill development that will lead to permanent placement into un-subsidized employment.

Description: Earn and Learn (E+L) began as a two-year statewide initiative in 2011. The program has served more than 1,500 participants in high demand training that includes truck driving, healthcare, blight removal, construction, machinist training, information technology and production worker. Participants complete a four-week work readiness program. Participants are trained and certified in the areas of customer

service, business communications, and safety; and complete assessments for the various work readiness and academic components of the program.

To be eligible for this program, students will need to be drug free, live within the designated area (Detroit, Highland Park, Hamtramck), have a sixth grade math and reading proficiency, or be either a returning citizen or chronically unemployed. Students must pass a drug screen and background check. The participants receive one-on-one services from a case manager. Common barriers, such as transportation, are addressed through gas cards, bus tickets, and completion stipends. Participants receive ongoing follow-up beyond job placement including additional coaching on time management and professional development.

The Earn and Learn program prepares individuals for success in the workplace and in further training and education programs. E+L covers topics that include: professional work skills; learning styles; time management; personal brand building; conflict resolution; career coaching; business communication; customer service; financial literacy; professional work skills; and preparation for placement/employment. Case Managers play a critical role in the delivery and navigation of services at E+L and serve as career coaches. Participants receive counseling to help in setting personal goals, articulating and documenting personal strengths, role-play, problem solving, leadership skill development, and basic needs.

Participants also have access to an array of support services such as expungement fairs, tax preparation assistance, and the food center.

In 2018, the Earn and Learn program focused on preparing students for truck driving training through contextualized work readiness. This includes Commercial Driver's License (CDL) writing sample, mock interviews geared toward trucking, and how to read a road map. Many graduates of the Earn and Learn program subsequently enroll in the U.S. Truck Driver Training School, Inc. (USTDTS) Class A CDL training program. This 160-hour program is designed to prepare students for the minimum entry-level requirements for obtaining their Class A CDL. Students receive classroom, lab, range, and road instruction throughout the duration of the course. Graduates will be prepared to begin a career in commercial truck driving. According to the U.S. Department of Labor's Bureau of Labor Statistics, 2017 median pay for truck drivers was \$42,480 per year and the number of jobs is expected to grow by six percent between 2016 and 2026. Over 80 percent of graduates from each class are working in the industry of their training. Many of them come back to speak to students about their success.

Contact: Linda D. Tinsley, Project Manager, Earn and Learn, Focus: HOPE, 313-494-4560, tinslel@focushope.edu

Jobs for Michigan Graduates: JMG Program for Southeast Michigan

Objectives: Increase high school graduation rates, and build a youth talent pipeline to help fill the talent gap in high demand industries in Southeast Michigan.

Description: Despite steady positive gains in the state's graduation rate, Michigan students are still graduating at a rate that is 4.4 percent lower than the national average, and unemployment rates for youth ages 16-19 and 20-24 in Michigan, at 23.9 percent and 14 percent respectively, are at least one percentage point lower than national levels.

Jobs for Michigan Graduates (JMG) is the state affiliate of the national Jobs for America's Graduates (JAG) program, which has been serving youth in Michigan since 2008. It ensures that Michigan's most at-risk youth graduate from high school and have the skills to succeed in post-secondary education and the

workplace. Through JMG, youth are able to overcome significant barriers, including poverty, prior academic failure, homelessness, and lack of a support structure, to achieve their academic or employment goals.

In 2017, JMG impacted the lives of 1,269 youth, ages 13-27, through dropout prevention, dropout recovery, and school-to-career/college transition services. JMG equips young people with the skills employers need in the changing workforce and exposes youth to high demand careers like manufacturing, healthcare, and construction/Skilled Trades, all while working to complete their high school diploma or recognized equivalent. Using a school-based model that is grounded in soft-skills training, JMG is working to ensure that “every young adult in Michigan is educated, employed and career bound.”

While over 60 percent of the youth served by JMG in Southeast Michigan are in traditional high schools, a growing number of youth who have dropped out of school are taking advantage of JMG at Adult Education Centers, offered at Michigan Works! Service Centers. Young people in the dropout recovery program are pursuing their high school diploma or recognized equivalent at their own pace while learning work ready skills, exploring careers, and getting connected to employers. The 2017 Southeast Michigan JMG dropout prevention program achieved a 94 percent graduation rate, and an 85 percent positive outcome rate – which includes placement in employment, post-secondary education or the military.

Contact: Mollie Waller, Deputy Director, Jobs for Michigan Graduates, 630-432-2055, wallerm@kinexus.org or Sony Blanzys, Director of Operations, Jobs for Michigan Graduates, blanzys@kinexus.org

Macomb Community College: First Friday Field Trips/LIFE Course Site-Tours

Objectives: Provide support for “undecided” college students through expanded employer outreach and connecting students to careers.

Description: Macomb Community College’s (MCC) Career Services department organizes free First Friday Field Trips which provide all students with a snapshot of employers in the community. Students are able to explore and hear from experts in various areas of industry. They recently visited Comerica Bank corporate offices, City of Sterling Heights municipal offices, Selfridge Air Force base and the Detroit Foundation Hotel. Students have indicated that this exposure to industry has been positive – especially for those who have not had such opportunities in the past.

Another opportunity for “undecided students” is the LIFE1010 course. MCC Career Services partners with faculty to bring alumni to speak to current students to present “their journey” from the classroom to career, and arranges tours of alumni workplaces. Students get to hear from employees from various areas of the companies. This type of exposure has assisted the student who is undecided in selecting a possible career course. Many students have had eye-opening experiences as a result of these efforts and are better able to make informed education and career decisions.

Contact: Robert S. Penkala, Director of Career Services, Macomb Community College, 586-445-7636, penkalar@macomb.edu

Macomb Community College: Michigan Apprenticeship Program Plus (MAP+) Industrial Readiness Program

Objectives: Create a pipeline for students interested and ready for skilled trade apprenticeships, to help employers fill current and future open positions due to an aging workforce. The program supports an education pathway for students to enter college and progressively earn stackable credentials starting from

a skill-specific certificate, to an Associate's degree and continuing on to a Bachelor's degree through one of Macomb Community College's (MCC) university partners.

Description: The Michigan Apprenticeship Program Plus (MAP+) is a program developed by MCC as part of an American Apprenticeship Initiative grant to provide foundational skills training to individuals seeking to start a career in the Skilled Trades or manufacturing industry with an apprenticeship or similar work-based learning opportunity.

The basis for the MCC MAP+ Industrial Readiness Program is the Industrial Readiness Certificate (IRC) developed in conjunction with local employers. Employers suggested basic skills that were needed by candidates that would lead to gainful employment in the industry. The IRC classes deliver these foundational skills to students. The MAP+ program is grant-funded for those who meet eligibility requirements and has workplace or soft skill development embedded into the class schedule. This short-term program has students graduating every semester seeking employment in a wide variety of career paths in manufacturing, Skilled Trades or apprenticeship. This pipeline serves to address current and future employer needs as the established IRC will continue to be offered to general enrollment college students after the grant-funded MAP+ Industrial Readiness Program ends.

After successful completion of the program and earning the IRC, students can continue their education path on their own, in an apprenticeship, or similar work-based learning opportunity, for a general certificate in a skilled area. All the credits earned for these certificates can be applied toward an Associate's degree. Students can elect to continue their education for a Bachelor's degree using a transfer pathway with one of MCC's university partners.

The number of applicants for the MAP+ Industrial Readiness Program has grown from 31 in 2015 to 87 in 2018, motivating the College to offer the program every semester. The active participation by employers in the MAP+ Industrial Readiness Program interview day has resulted in approximately 1,281 speed interviews during the event held at the end of the training. An adaptation of the Industrial Readiness Certificate was incorporated into the UAW Skilled Trades Program at Ford and FCA as an eligibility requirement for incumbent workers.

Contact: Vikki Gordon, Apprenticeship Coordinator, Macomb Community College, 586-445-7519, gordonv@macomb.edu

Monroe County Community College: Pre-Apprenticeship Skilled Trades Readiness Program

Objectives: Address financial barriers and anxiety of attending college level classes for individuals interested in skilled trades careers.

Description: Monroe County Community College's (MCCC) Pre-Apprenticeship Skilled Trades Readiness program provides individuals with the foundational skills for a career in the manufacturing Skilled Trades or to begin an apprenticeship. Successful completion demonstrates that a student has the aptitude for specialized training. There are two tracks – the non-credit Pre-Apprenticeship Manufacturing Trades Track and the for-credit Welder Training Certification Track.

The Manufacturing Trades Track includes Shop Arithmetic (26.5 classroom hours), Machine Tool Blueprint Reading (26.5 classroom hours), Trade-Related Preparation (26.5 classroom hours), and OSHA 10-Hour Training Course-General Industry. Those who successfully complete the non-credit program

receive a certificate of completion from MCC, an OSHA 10-General Industry Certification, and interviewing opportunities.

The Welder Certification Track is a 10-week, for-credit American Welding Society (AWS) training certification is designed to prepare an individual to begin a career in welding. The AWS SENSE program identifies a comprehensive set of minimum standards and guidelines for welding education programs. It covers technical training in the main welding skills, as well as machine functions, codes and procedure requirements for a variety of industrial needs. Students who successfully complete the Entry-Level Welder Certification Track will receive 12 academic credits, an AWS Entry Level Welding Certification, and interviewing opportunities.

Contact: Barry Kinsey, Director of Workforce Development, Monroe County Community College, 734-384-4124, bkinsey@monroeccc.edu

Monroe County Intermediate School District: Marketable Credential for Youth

Objectives: Expose young adult learners to a variety of career paths in the manufacturing industry leading to family sustaining employment opportunities - while also meeting the skilled employment needs of the community.

Description: Monroe County Youth Opportunity Program (YOP) is partnering with Monroe County Community College (MCCC) to provide in-demand training to eligible adults for the Manufacturing Boot Camp and America's Promise Catalyst grant funded programs.

The Manufacturing Boot Camp is a six-week introductory program designed to introduce adult learners to a variety of skills utilized in a manufacturing environment. The training programs offered are: Robotics; CAD Design; Welding; Electronics and CNC. Participants will also learn employability skills: soft skills and basic computer skills. Program funding is for those 18 years or older who have completed their high school diploma or equivalent (or close to completing). Support services are available to each participant to assist with needs that might arise during training, including childcare, transportation, etc. The goal is for those who successfully complete the Manufacturing Boot Camp to further their education by enrolling in the America's Promise Catalyst program.

The America's Promise Catalyst is a 10-week program, which results in a certificate upon completion. Participants have the option to choose training in one the following fields: CNC, CAD, Robotics, Automation, Advanced Manufacturing, and Welding. The program is designed for adults aged 18 years and older who have obtained a high school diploma or equivalent, and are either underemployed or unemployed. Additionally, support services are available to each participant to assist in successfully completing training.

These programs have a high success rate because they are geared toward the young adult learner who excels in hands-on training. The classroom instructors and other professionals involved are dedicated to ensuring students have a positive experience at MCCC and complete the training. The planning process for each cohort of students involves the President of MCCC and multiple referring agencies to ensure that students are able to address potential barriers with support of the college.

Contact: Cara Morrison, YOP Coordinator, Monroe County Intermediate School District, 734-342-8523, cara.morrison@monroeisd.us

Oakland Community College: Man-Up Program

Objectives: Assist male students in Oakland County to more easily transition from high school to college life through personal and academic supports.

Description: Man-Up is a dual enrollment program at Oakland Community College (OCC). Its mission is to help male students more easily transition into college life. It is supported by a student organization that provides academic and co-curricular workshops designed to help students achieve personal, educational and professional goals during the winter semester. It is housed at OCC's Southfield campus and accommodates about 40 students per year. The 10-week program began in 2011 and to date, more than 300 young men have participated. It began in Southfield Public Schools, and has expanded to 10th-12th grade students in Birmingham, Hazel Park and Oak Park School districts.

The program recognizes the large achievement gap between men of color and other college going populations and focuses on improving study skills, time management and note taking, as well as maintaining healthy relationships, financial well-being and career readiness. The program is co-directed by Jahquan Hawkins, Dean of Student Services at the OCC Auburn Hills campus. It teaches participants how to navigate potential pitfalls, work with other people, as well as the value of networking.

Contact: Jahquan Hawkins, Dean of Student Services, Oakland Community College-Auburn Hills, jchawkin@oaklandcc.edu

Oakland Community College: PowerPath Program

Objectives: Assess vision and hearing, visual stress syndrome, attention and information processing for clients at Oakland County workforce development programs with a view to customizing services and training.

Description: PowerPath facilitators from Oakland Community College screen individuals to help identify strengths and challenges to learning that can have an impact on work and school. The individual learns to build on his or her strengths and also learns simple adaptations and strategies to use to address challenges to their learning.

Since 2007, facilitators have screened over 3,500 people through a program funded by an Oakland County workforce development grant in collaboration with One-Stop Career Centers. During this time, the OCC PowerPath team has found that nine out of 10 individuals screened had challenges with visual stress syndrome, eight out of 10 had attention challenges, three out of 10 had vision challenges, and two out of 10 had hearing challenges. These often unidentified and unmanaged challenges can have a significant impact on performance, both in employment and school settings. In many cases, the strategies and interventions for the participants are very simple but can lead to big results. Participants identify barriers to their success and strategies for addressing them.

Visual stress syndrome (VSS) and vision challenges usually interfere with the ability to read, an important skill for success in college or employment. Surprisingly, simple interventions, such as controlling lighting, and inexpensive resources such as colored filters and magnifying sheets, have resulted in significant improvements for many people in reading fluency and comprehension without any additional reading instruction. The goal is to show the participant how he or she can change things – sometimes just small things – to overcome challenges.

A capstone of the PowerPath screening and strategy identification is the SMARTER process, which helps with goal setting one step at a time, while incorporating interventions to help guarantee success. This

process helps create successful learning pathways by helping the individual understand how to manage time effectively, accomplish short-term goals (and, in turn, long-term goals), and transfer learning from one situation to another.

The OCC PowerPath program has been recognized by many education and training organizations for their impact on job seekers. More information can be found at <http://www.powerpath.com>

Contact: Laurie Trafton, Continuing Education Manager, Oakland Community College-Auburn Hills Campus, 248-232-4166, ljtrafto@oaklandcc.edu

Oakland County: Recruitment and Retention of a Qualified Workforce

Objectives: Address competition for public sector technology professionals, by enhancing workplace and employment conditions.

Description: Oakland County government employs a highly skilled technology workforce. As the technology industry began booming in recent years, it became more difficult to recruit new team members and retain seasoned staff. The county took a five-step approach. It employed a recruiter who could seek professionals from across the country; performed a salary study to ensure that the compensation model was competitive; created flexible work schedules that include telework, flexible shifts, and four by ten-hour workweeks; remodeled much of the IT facility to incorporate open work spaces and sit-to-stand desks; and continued to invest heavily in professional development for the entire team. The five-step approach helped create an innovative environment and change the way the technology operation was viewed by prospective recruits. Oakland County is ranked as a top digital county in America. The team can have work/life balance while participating in innovative projects.

As a result of these changes, recruitment of new team members is more effective and successful, existing seasoned team members are more likely to stay on board, and overall vacancy in the IT Department fell by double digits. Oakland County continually improves processes and practices that help recruit/retain the best people possible.

Contact: Phillip R. Bertolini, Deputy County Executive, CIO, Oakland County, 248-858-0815, bertolinip@oakgov.com

Operating Engineers 324: Access for All Pre-Apprenticeship Training Program

Objectives: Expand the construction trades workforce and pipeline by providing Detroiters with academic, life, and work-based learning skills for construction careers.

Description: Access For All is a building and construction trade apprenticeship readiness (pre-apprenticeship) program supported by the Detroit Regional Workforce Fund (DRWF). The initiative offers free, multi-week training with a curriculum designed to prepare students for apprenticeship readiness in the building and construction trades, such as operating engineers, bricklayers, carpenters, electricians, or cement masons. Students spend up to 13 weeks in the classroom and hands-on education, learning about a variety of skilled trades, as well as receiving instruction on math skills, industry culture, and career readiness. They meet for three hours in the evening and all day on Saturday which allows working adults to participate in the program and earn valuable industry certifications. The final week is a community improvement project, in which students and their volunteer instructors take part in efforts to assist neighborhoods with clean up, demolition, and improvement tasks.

The success of Access for All is the result of an innovative partnership with the building and construction trades, labor unions, contractors, Michigan Human Resources Development, Inc. (HRDI), and several other community-based partners and workforce development organizations, including the Detroit Regional Workforce Fund. More than 91 percent of Access for All graduates find employment. More than 67% enter two to five year construction apprenticeship programs, a significant increase for Detroiters who are underrepresented in the field.

The United Way documented the program in a video available at <https://youtu.be/B2Zcp1O62D4>. This highlights several students who have gone on to become Operating Engineer 324 Apprentices.

Contact: Dan McKernan, Communications Director, Operating Engineers 324, 248-451-0324, Dan.McKernan@iuoe324.org

Schoolcraft College: CNC Operator Training Program

Objectives: Help marginalized workers develop the skills and confidence to enroll in college classes by providing intense short term training to meet employer's immediate needs.

Description: The America's Promise Grant (AM-Catalyst) provided funds to upskill workers for advanced manufacturing jobs in Southeast Michigan. Schoolcraft College offered the CNC Operator Training Program as an eight-week class which included shop math, blueprint reading, manual machining and Computer Numerical Control (CNC) basic operations. Participants were recruited from Michigan Works! Many had barriers to employment. A significant factor in student success was the strong and supportive connection of faculty and staff with students.

Participants in the program came from varied backgrounds – ranging from youth with little work experience, to mid-life career changers, to returning citizens (formerly incarcerated). While most participants were male, 14 percent were female, a group that is under-represented in manufacturing. Schoolcraft ran four cohorts, averaging 12 people per class. In total, 49 participants were funded under the grant, with a 94 percent completion rate and 80 percent placement rate. Most earned their Schoolcraft College Certificate of Completion, a National Institute for Metalworking Skills (NIMS) Certificate, and an OSHA 10 credential. The latest cohort ended in April 2019 with 14 participants and all received all three program credentials. The college is expecting excellent placements, as one aerospace employer hired five people from this class and three from a previous class, with wages at \$16 per hour, plus benefits.

There was considerable success with returning citizens, who accounted for 27 percent of participants. While most were originally skeptical that they would gain employment upon completion, the skills training plus the program and faculty reputation lent credibility to employers. Program staff provided coaching on interviewing skills and highlighted work experience (received while incarcerated) on their resumes. This group had a high placement rate and were eager to return to Schoolcraft College to take credit classes in manufacturing.

This short-term entry level training greatly increases the confidence of participants who may not have experienced success in education in the past. Upon completion, the individuals have a new outlook on their future education and employment goals. Employers are eager to interview these students as there is such a great need for skilled employees.

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Schoolcraft College: Going PRO Apprenticeship Readiness Program (SC-GAP)

Objectives: Assist employers in strengthening their talent pipelines, by preparing students for registered apprenticeships through a pre-apprenticeship program, and contribute to closing the Skilled Trades gap.

Description: SC-GAP is a flexible, competency-based, credit education and training program that helps to fill the manufacturing industry technology-based skills gap. The initial phase of the program, under a State of Michigan grant, attracted new people into the industry by providing incentives to begin education and training in areas such as CNC/machining, welding, electronics, and mechatronics/multi-skilled technology, and also by providing a clear pathway to meaningful employment.

SC-GAP consists of two foundational courses and one trade-specific course that directly applies to programs leading to academic certifications. A fourth required course is a student success seminar designed to maximize potential for success in college and the workplace.

The program benefits employers by providing the opportunity to recruit students that have actively engaged in and successfully completed some professional trades training. This ensures that potential and/or current employees have the aptitude and motivation to be successful and have the ‘grit’ required to complete a Registered Apprenticeship program.

During the grant period (March-December 2018) tuition, fees, and book costs for the SC-GAP courses were covered. Employers were able to use the SC-GAP program as a tool for determining whether a current employee had the necessary soft and hard skills to continue in an apprenticeship, or to interview potential candidates. Once the participants get hired, successfully complete the SC-GAP courses, and become a registered apprentice, the tuition, fees and wages would be paid by the employer.

Throughout the program students were assured of individualized assistance in preparation to enter the workplace. This includes Career Services, Academic Success Coaches, free peer tutoring, counseling and academic counseling.

The program reached 52 individuals, including 10 from under-represented populations, placed 19 individuals into Registered Apprenticeships, and met with over 50 new and existing employer partners, with nine committing to creating Registered Apprenticeship programs at their companies.

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SEMCA: Connections Business Resource Network

Objectives: Support employee attendance, productivity, and retention by providing services and resources through an employer-funded Success Coach. *Connections* works to eliminate barriers to employment for all participating employees in the network.

Description: *Connections* is a Business Resource Network (BRN) coordinated by the Southeast Michigan Community Alliance (SEMCA). It is a multi-employer collaborative that supports a Success Coach whose sole purpose is to address challenges faced by individual employees. The most common issues facing employees are transportation, financial, childcare, and education. Success Coaches are able to connect employees with various public and private resources. These include assistance with utility bill payments, mortgage payments, and rental deposits.

Connections currently has five employers in the Wayne County network and five employers in the Monroe/Lenawee County network. Employers pay a membership fee based on the number of hours they want the Success Coach to spend at the employer site each week. Success Coaches are also available to assist employees by email, text, and phone during the remainder of the week. For the first year, SEMCA subsidizes half the cost of participation, but the goal is for the BRN to be self-sustaining beyond the first year with employers managing the network. Success Coaches maintain employee confidentiality by reporting in aggregate, and provide regular updates to the BRN board on metrics and challenges to retention and advancement. Employers benefit from the BRN through increased productivity, retention, employee loyalty, and reduced absenteeism, employee turnover, and recruitment costs. Employee retention for current BRN employers is nearly one 100 percent.

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SEMCA: Going PRO Pharmacy Tech Program

Objectives: Provide access to affordable training in a high demand career through an apprenticeship opportunity and help with removal of barriers for nontraditional workers.

Description: Southeast Michigan Community Alliance (SEMCA) was awarded a State of Michigan Going Pro grant to develop a Pharmacy Technician program in cooperation with Henry Ford College (HFC) and CVS Health. There has been increased demand for Pharmacy Technicians as a result of the aging population, increased access to healthcare services through the Affordable Care Act, and a more competitive market among the larger pharmacies. HFC and CVS worked together to reformat a one year curriculum into a six-week introductory class.

The program focused on minorities, women, and people with employment barriers, and enrolled in various workforce development programs. SEMCA funded licensing, finger printing, tuition, and work experience training. It also provided gift cards for food, gas cards, bus tickets, and helped pay for car repairs and childcare as needed to allow participants to focus on their education. Thirty-one of the thirty-four participants completed the training and twenty-five received a pharmacy license. More than half went on to take the 80-hour apprenticeship with CVS, working in all aspects of the operation. The company has hired several of the students who completed the apprenticeship, and others have been hired by other pharmacies. This program, as well as SEMCA and other Going Pro partners, were honored by the Michigan Works Association with an IMPACT award which recognizes economic impact in communities.

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Washtenaw Community College: Adult Transitions Central Sterile Processing Pathway

Objectives: Connect academically underprepared and economically disadvantaged adult students to a postsecondary pathway in the healthcare field, by providing career training and holistic supportive services during and after the program.

Description: The Adult Transitions Central Sterile Processing Pathway is a dual enrollment program for students who have demonstrated an interest, capacity, and commitment toward the successful completion of a 16-hour stackable credential. While co-enrolled in the Pathway and WCC's Central Sterile Processing Certificate programs, students continue to work toward the completion of their high school equivalency diploma. The program includes basic skills development, digital literacy skills, college and career readiness, and 21st Century skills such as critical thinking, problem solving, social skills, collaboration, teamwork and

leadership. They also get clinical experience, job interviews, and employment opportunities with hospitals in Southeast Michigan.

Participants continue to develop their academic plan as they receive on-going, intensive academic, financial, and emotional support by members of the pathway staff. They meet with the pathway coordinator on a weekly basis. Staff from both programs work collaboratively on moving students forward.

Success in this program is directly related to the intensive wraparound services that are provided. These include Pathway & Perkins scholarships that are related to the on-going cost of childcare, books/supplies, as well as assistance with some housing costs. Pathway students are enrolled with the general student population in the college.

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Wayne County Community College District: Adult Education Guided Pathway Program

Objectives: Prepare students at Wayne County Community College District's (WCCCD) Adult Education Programs to complete/obtain a secondary credential and help gain access to post-secondary education, workforce development training, and support services to succeed in high demand/high wage occupations.

Description: The Adult Basic Education (ABE), High School Equivalency (HSE), and General Education Diploma (GED) programs are presented separately, but the guided pathway approach offers flexibility to develop individual learning plans based on each student's specific strengths and interests. This approach provides students with the following supports:

- On-Ramping Systems: Guided entry into the adult education program
- Academic maps that detail the scope and sequence of student course work
- Proactive support systems during education and/or industry credential attainment
- Early alerts and interventions that help students stay on their pathway
- Internships and other applied learning experiences
- Exit-Ramping Systems: Assist students with employment, career advancement, and educational program matriculation

Through its partnership with regional partners such as Detroit Employment Services Corporation, SER Metro, and Michigan Works! Agency, WCCCD's Adult Education Program provides a robust array of services including: workplace adult education and literacy activities, family literacy activities, workforce development training, and integrated education and training that prepare students for the GED Exam and jobs.

As a result, there has been a substantial increase in the number of students who passed the official GED Exam since 2015. The strategies implemented include the utilization of the Learning through Internships (LTI), and an incentive program model to address student barriers. These strategies served to significantly improve program performance. Additionally, 91 percent of GED graduates enrolled in college courses at WCCCD.

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